

# SWITCHGEAR MASTERCLASS: SWITCHGEAR/CIRCUIT BREAKERS SAFE OPERATIONS, MAINTENANCE & TROUBLESHOOTING

*"Improve Electrical System Safety and Reliability with Expert Switchgear and Breaker Practices"*

## Schedule

Date	Venue	Fees
27 - 28 Aug 2026	Dubai, UAE	USD 1995 per delegate

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

## Introduction

Electrical switchgear and circuit breakers are foundational components in modern power distribution networks. Their safe operation and regular maintenance are crucial in preventing failures, minimizing downtime, and protecting personnel and assets.

This 2-day intensive course is designed to equip electrical professionals with essential knowledge and hands-on skills in the operation, troubleshooting, and maintenance of switchgear and circuit breakers. Participants will explore real-life case studies, safety protocols, and maintenance strategies to enhance reliability and operational performance.

## Objectives

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

- Understand various types of switchgear and circuit breakers and their operational principles
- Safely operate and maintain electrical switchgear in accordance with best practices
- Identify faults and implement corrective actions using proper troubleshooting methods
- Apply safety standards and risk control measures in switchgear environments
- Enhance system reliability through planned maintenance procedures

## Why Attend

- Gain critical expertise in switchgear and breaker operations
- Improve equipment reliability and reduce unplanned downtime
- Strengthen workplace safety with proper procedures and PPE
- Learn troubleshooting techniques from real-world failure cases
- Stay compliant with industry codes and safety standards

## Target Audience

This program is designed for:

- Electrical engineers and supervisors
- Plant and facility maintenance personnel
- Electrical technicians and electricians
- Safety officers and inspectors working with electrical systems
- Professionals managing switchgear systems in industrial settings

## Individual Benefits

Key competencies that will be developed include:

- Safe handling and operation of various types of switchgear
- Practical knowledge of fault diagnosis and problem-solving
- Familiarity with maintenance techniques and inspection routines
- Understanding of safety requirements and arc flash prevention
- Ability to improve reliability and lifespan of electrical systems

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Enhanced workplace safety and reduced risk of electrical incidents
- Increased reliability of power distribution equipment
- More effective maintenance planning and execution
- Reduced downtime and repair costs
- Improved compliance with electrical safety regulations

## Instructional Methodology

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

- Strategy Briefings - Deep dive into switchgear technologies, breaker operations, and safety standards
- Case Studies - Lessons from real-world switchgear failures and troubleshooting experiences
- Workshops - Hands-on exercises in maintenance planning, fault finding, and risk mitigation
- Peer Exchange - Discussion on operational challenges and improvement opportunities
- Tools - Maintenance checklists, inspection templates, and safety procedure guides

## 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: Principles and Safe Operation of Switchgear Systems

- Module 1: Overview of Switchgear and Circuit Breakers (07:30 – 09:30)
- Classification and functions of LV and MV switchgear
- Types of circuit breakers: ACB, VCB, SF6, MCCB
- Role in electrical system protection and control
- Module 2: Safe Operation and Risk Prevention (09:45 – 11:15)
- Arc flash risks and mitigation
- Lockout/tagout procedures
- Personal Protective Equipment (PPE) for electrical work
- Module 3: Workshop – System Identification and Operation (11:30 – 01:00)
- Interpreting single-line diagrams
- Hands-on activity with switchgear operating sequences
- Module 4: Peer Exchange – Lessons from Electrical Near Misses (02:00 – 03:30)
- Sharing of field experiences and incident root causes

### Day 2: Maintenance and Troubleshooting Techniques

- Module 1: Preventive Maintenance and Testing (07:30 – 09:30)
- Visual inspections and mechanical checks
- Electrical tests: insulation resistance, contact resistance, timing tests
- Maintenance schedules and documentation
- Module 2: Troubleshooting and Fault Diagnosis (09:45 – 11:15)
- Common failures in switchgear and breakers
- Analyzing fault indicators and tripping conditions
- Corrective actions and escalation procedures
- Module 3: Workshop – Planning a Maintenance Strategy (11:30 – 01:00)
- Drafting a customized maintenance checklist
- Evaluating inspection and testing tools
- Module 4: Final Review and Implementation Plan (02:00 – 03:30)
- Summary of key takeaways
- Developing a workplace action plan

## Certification

Participants will receive a Certificate of Completion in Switchgear and Circuit Breaker Operations & Maintenance, validating their ability to safely operate, maintain, and troubleshoot switchgear systems in accordance with modern safety and engineering practices.

## Why Choose MAWA Events

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