

SWITCHGEAR MASTERCLASS: SWITCHGEAR/CIRCUIT BREAKERS SAFE OPERATIONS, MAINTENANCE & TROUBLESHOOTIN

“Mastering Safe, Reliable Operations and Maintenance of Switchgear & Circuit Breakers”

Schedule

Date	Venue	Fees (Face-to-Face)
28 – 29 Aug 2025	Dubai, UAE	USD 1995 per delegate

Introduction

Switchgear and circuit breakers play a vital role in the protection and control of electrical power systems. Failures due to poor maintenance or improper operation can lead to equipment damage, safety hazards, and power interruptions.

This intensive 2-day masterclass is designed to provide participants with in-depth technical knowledge and practical skills in operating, maintaining, and troubleshooting switchgear and circuit breakers. The training is focused on real-world applications, emphasizing safety, reliability, and industry best practices.

Objectives

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

- Understand different types of switchgear and circuit breakers and their operational functions
- Apply safe operation techniques and follow appropriate maintenance protocols
- Identify and troubleshoot common issues in switchgear and breakers
- Perform inspections and testing using the correct tools and procedures
- Enhance safety and system reliability through effective asset management

Why Attend

- Gain hands-on technical knowledge to operate and maintain switchgear effectively
- Minimize electrical hazards and enhance workplace safety
- Learn practical troubleshooting and fault detection methods
- Reduce equipment failure and downtime
- Comply with international electrical safety standards

Target Audience

This program is designed for:

- Electrical and instrumentation engineers
- Maintenance technicians and supervisors
- Facility and plant operations personnel
- Safety officers and compliance inspectors
- Professionals working with LV and MV electrical systems

Individual Benefits

Key competencies that will be developed include:

- Proficiency in switchgear and breaker operations
- Skills in performing preventive and corrective maintenance
- Enhanced fault detection and troubleshooting abilities
- Improved knowledge of electrical safety measures
- Confidence in planning and executing inspection routines

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Enhanced electrical system reliability and uptime
- Reduced risk of equipment failure and safety incidents
- Improved maintenance efficiency and planning
- Compliance with international standards and regulations
- Strengthened internal capability for electrical safety management

Instructional Methodology

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

- **Strategy Briefings** – Deep dive into switchgear classifications, operations, and safety procedures
- **Case Studies** – Analysis of real-world failures and preventive strategies
- **Workshops** – Practical exercises in testing, maintenance, and fault diagnosis
- **Peer Exchange** – Collaborative discussion of site-specific challenges and solutions
- **Tools** – Diagnostic checklists, maintenance templates, and safety procedure manuals

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: Switchgear Systems and Operational Safety

Module 1: Introduction to Switchgear and Breaker Technologies (07:30 – 09:30)

- Types of switchgear: LV, MV, and HV systems
- Circuit breaker types and applications (ACB, VCB, SF6, MCCB)
- Switchgear functions in electrical protection and distribution

Module 2: Electrical Safety in Switchgear Operations (09:45 – 11:15)

- Arc flash hazards and risk mitigation
- Lockout/tagout procedures and safety checklists
- Overview of relevant safety standards (NFPA, IEC)

Module 3: Workshop – Safe Operation and Visual Inspection (11:30 – 01:00)

- Identifying critical components and safety features
- Safe isolation and energization techniques

Module 4: Peer Exchange – Safety Incidents and Lessons Learned (02:00 – 03:30)

- Reviewing operational challenges and best practices

Day 2: Maintenance and Troubleshooting Techniques

Module 1: Preventive and Predictive Maintenance (07:30 – 09:30)

- Inspection intervals and procedures
- Testing methods: insulation resistance, timing tests, thermal imaging
- Maintenance documentation and reporting

Module 2: Troubleshooting Common Failures (09:45 – 11:15)

- Fault indicators and typical breaker malfunctions
- Corrective maintenance strategies
- Use of diagnostic tools

Module 3: Workshop – Maintenance Planning and Fault Simulation (11:30 – 01:00)

- Developing maintenance schedules and logs
- Simulated fault identification exercises

Module 4: Wrap-Up and Action Planning (02:00 – 03:30)

- Key takeaways and lessons
- Personal and team-based implementation plans

Certification

Participants will receive a **Certificate of Completion in Switchgear and Circuit Breaker Safe Operations and Maintenance**, recognizing their technical proficiency and readiness to apply best practices in real-world electrical environments.

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