

# Commissioning, Testing and Startup Of Electrical Systems Course

## **Venue Information**

Venue: London UK

Place:

**Start Date:** 2025-10-27 **End Date:** 2025-10-31

## **Course Details**

Net Fee: £4750.00

Duration: 1 Week

Category ID: EAPET

Course Code: EAPET-4

**Syllabus** 

#### Introduction

The safe and efficient operation of modern electrical equipment and control systems requires the successful testing, start-up, and commissioning of this equipment or system to ensure correct operation, plus:

- Accurate troubleshooting
- Subsequent repair of this equipment or system
- Ensuring continued productivity

## **Objectives**

- A better understanding of commissioning procedures
- A better understanding of troubleshooting procedures

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## The Technology of Electrical Equipment

- Transformers, Power supplies (UPS), Batteries
- Generators, Switchgear, Disconnect switches
- Neutral ground resistors (NGR)
- Motor control centers (MCC), Variable frequency/speed drives (VFD/VSD)
- Programmable logic controllers (PLC), Distributed control systems (DCS)
- Power monitoring
- Control relays/timers/switches, Motor/feeder protective devices
- Miscellaneous equipment: Heaters, solenoid valves, electric valve actuators, signalling/alarm devices

## **Commissioning and Testing of Electrical Equipment**

- Methods
- Principles
- Special techniques
- NEC checklists

# **Troubleshooting of Electrical Equipment**

- Methods, Terminology, Principles
- Special techniques
- Case studies/examples
- Single-line drawings
- Group exercises

#### The Use of Test Equipment

- Digital voltmeter (DVM)
- Megger
- Frequency meter
- Temperature probes/pyrometers
- Ammeters, Power meters
- Load banks
- Digital hydrometers
- Cable fault locators

#### The Interpretation and Use of Drawings

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- P&IDs
- Logic and standard symbols

## The Development of a Job Plan

- Identification of the troubleshooting step-by-step sequence
- Procedure preparation
- Follow-up
- Safety considerations and training

# The Identification and Repair of Problems/Failures

- Common mode failures, Phase imbalance
- Electronic component failure, Fusing
- Motor windings/bearings/brushes
- Excitation circuits
- Battery cells, Inverters/rectifiers
- Bushings, Switches
- Control circuits
- Ground faults

# **A Review of Safety Requirements**

- Area classifications
- NEC electrical codes
- Safety information

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