Commissioning, Testing and Startup Of Electrical Systems Course

Venue Information

Venue: London UK

Place:

Start Date: 2025-12-15

End Date: 2025-12-19

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

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

- 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