





# **Course: Electrical Switchgear for Engineers**

Code	City	Hotel	Start	End	Price	Language - Hours
753	Barcelona (Spain)	Hotel Meeting Room	2025-10-20	2025-10-24	5950 €	En - 25

# **Objective**

This scope includes material that enables attendees to have in-depth understanding of theory of operation of electrical switchgear and essential issues relevant to daily operation and maintenance of motor control centers and low-voltage, medium-voltage and high-voltage switchgear

### Who should Attend

- Electrical Engineers.
- Senior technicians who work in the electrical control and power utilities.
- Technicians who would like to refresh their knowledge.
- Mechanical and chemical Engineers who are interested in control subjects.

## **Outline**

## **Introduction to Electrical Switchgear:**

- General information about switchgear.
- Switchgear use.
- Switchgear requirements.
- · Codes and Standards.

## **Types of Switchgear:**



- Classification of switchgear.
- Switchgear construction:
- The switchgear assembly.
- Switchgear enclosures.
- Mechanical degree of protection.
- Busbars.

### **Switchgear Earthing System**

- Switchgear Earthing Requirements
- Components Earthing

### Medium Voltage Circuit Breakers, Fused Contactors and Load Break Switch

- Description for Each Item
- Differences

## **Switchgear Arc Extinction Media and Theory**

- Types of Arc Extinction Media
- Advantages
- Differences

# **Switchgear Protection and Control**

- Switchgear Protection Scheme
- Control requirements

# Switchgear Metering

- Metering specifications
- Metering requirements



### **Current Transformers**

- Types
- Accuracy

### **Potential Transformers**

- Types
- Requirements.

## **Factory Acceptance Test (FAT)**

- Type test
- Routine tests
- Handling and Storage

## **Handling procedures**

• Storage requirements

### **Erection**

- Safety
- Erection Preparations

### **Site Acceptance Test (SAT)**

- Description
- Requirements

# ${\bf Commissioning\ and\ Start-up.}$

• Procedures



• Hand over system

# **Trouble Shooting**

- How to deal with
- Requirements



The Scandinavian Academy for Training and Development employs modern methods in training and skills development, enhancing the efficiency of human resource development. We follow these practices:

#### • Theoretical Lectures:

We deliver knowledge through advanced presentations such as PowerPoint and visual materials,
including videos and short films.

#### • Scientific Assessment:

 $\circ\,$  We evaluate trainees skills before and after the course to ensure their progress.

### • Brainstorming and Interaction:

 We encourage active participation through brainstorming sessions and applying concepts through role play.

#### • Practical Cases:

• We provide practical cases that align with the scientific content and the participants specific needs.

#### • Examinations:

• Tests are conducted at the end of the program to assess knowledge retention.

### • Educational Materials:

• We provide both printed and digital scientific and practical materials to participants.

### • Attendance and Final Result Reports:

• We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.

#### • Professionals and Experts:

• The programs scientific content is prepared by the best professors and trainers in various fields.

### • Professional Completion Certificate:

Participants receive a professional completion certificate issued by the Scandinavian Academy for
Training and Development in the Kingdom of Sweden, with the option for international authentication.

### • Program Timings:

 Training programs are held from 10:00 AM to 2:00 PM and include coffee break sessions during lectures.