



*Training Course:
Modern Electrical Power System*

*27 September - 1 October 2026
Cairo (Egypt)*

Training Course: Modern Electrical Power System

Training Course code: EN12332 From: 27 September - 1 October 2026 Venue: Cairo (Egypt) - Training Course Fees: 4410 € Euro

Introduction

Modern electrical power systems are evolving rapidly to meet increasing demand, integrate renewable energy, and enhance reliability and efficiency. Advanced technologies such as smart grids, digital monitoring, and automated control systems are transforming the way electricity is generated, transmitted, and distributed.

This program, designed by Global Horizon Training Center, equips participants with comprehensive knowledge of modern power system concepts, technologies, and operational strategies to manage and optimize electrical networks effectively.

Course Objectives

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

- Understand the structure and operation of modern power systems
- Analyze generation, transmission, and distribution networks
- Apply concepts of smart grids and digital transformation
- Manage power system stability and reliability
- Integrate renewable energy sources into the grid
- Utilize monitoring and control systems SCADA/EMS
- Identify and mitigate system faults and disturbances
- Improve system performance and efficiency

Target Audience

This program is designed for:

- Electrical and Power Engineers
- Utility and Energy Sector Professionals
- Transmission and Distribution Engineers
- SCADA and Control Room Operators
- Maintenance and Operations Personnel
- Technical Specialists in power systems

Outline

Day 1: Fundamentals of Modern Power Systems

- Overview of power system structure generation, transmission, distribution
- Evolution of electrical power systems
- Key components and technologies
- Introduction to smart grids
- Power system challenges and trends

Day 2: Power Generation and Renewable Integration

- Conventional power generation systems
- Renewable energy sources solar, wind, hydro
- Grid integration challenges
- Energy storage systems
- Hybrid power systems

Day 3: Transmission and Distribution Systems

- Transmission line design and operation
- Distribution network configurations
- Voltage control and reactive power management
- Power losses and efficiency
- System planning and expansion

Day 4: Control, Protection, and Automation

- Power system protection schemes
- Relays and fault detection
- SCADA and Energy Management Systems EMS
- Automation and digital control
- Cybersecurity considerations

Day 5: Stability, Reliability, and Optimization

- Power system stability steady-state and transient
- Reliability indices and performance metrics
- Load forecasting and demand management
- System optimization techniques
- Case studies and real-world applications

Registration form on the Training Course: Modern Electrical Power System

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

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