Global Horizon
TRAINING CENTER

Training Course:
Installation and Maintenance of Grounding Networks for 30/11 kV Stations

20 - 31 December 2026
Dubai (UAE)

Training Course:
Installation and Maintenance of Grounding Networks for 30/11 kV Stations

Training Course code: EN235692 From: 20 - 31 December 2026 Venue: Dubai (UAE) - Training Course Fees: 9240 Euro

Introduction

Grounding earthing systems are fundamental to the safety, reliability, and performance of electrical substations. In 30/11 kV stations, properly designed and maintained grounding networks ensure effective fault current dissipation, protection of equipment, and safety of personnel against electric shock.

This 10-day advanced training program, developed by Global Horizon Training Center, provides a comprehensive understanding of grounding system design, installation, testing, and maintenance. It integrates theoretical principles with practical field applications, focusing on compliance with international standards such as IEEE 80 and IEC guidelines.

Participants will gain the expertise required to design, install, test, and maintain grounding systems in substations, ensuring safety and operational excellence.

Course Objectives

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

- Understand grounding principles and safety requirements
- Design grounding systems for 30/11 kV substations
- Calculate grounding resistance and grid design parameters
- Install grounding networks and components
- Perform testing and measurement of grounding systems
- Identify faults and deterioration in grounding systems
- Apply maintenance and inspection practices
- Ensure compliance with international standards

Target Audience

- Electrical and Power Engineers
- Substation and Transmission Engineers
- Maintenance and Reliability Engineers
- Protection and Safety Engineers
- Utility and Distribution Personnel

Outline

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Day 1: Fundamentals of Grounding Systems

- Purpose and importance of grounding
- Types of grounding system grounding, equipment grounding
- Grounding components and configurations
- Safety considerations

Day 2: Standards and Design Criteria

- Overview of IEEE 80 and IEC standards
- Grounding system design objectives
- Step and touch voltage limits
- Soil resistivity and site conditions

Day 3: Soil Resistivity Measurement and Analysis

- Methods of soil resistivity measurement Wenner, Schlumberger
- Interpreting soil data
- Seasonal variations and effects
- Practical field considerations

Day 4: Ground Grid Design and Calculations

- Grid layout design
- Grounding conductor sizing
- Fault current calculations
- Resistance and potential rise calculations

Day 5: Grounding Materials and Installation Practices

- Conductors, rods, plates, and connectors
- Installation techniques
- Welding and bonding methods
- Corrosion protection

Day 6: Substation Grounding Systems

- Grounding of transformers, switchgear, and structures
- Neutral grounding methods
- Lightning protection integration
- Grid interconnection

Day 7: Testing and Measurement of Grounding Systems

- Ground resistance testing methods
- Fall-of-potential test
- Clamp-on testing techniques
- Step and touch voltage testing

Day 8: Fault Diagnosis and Troubleshooting

- Identifying grounding system failures

- Corrosion and degradation issues
- High resistance faults
- Case studies

Day 9: Maintenance and Reliability Management

- Inspection and maintenance strategies
- Preventive and predictive maintenance
- Documentation and recordkeeping
- Compliance and audits

Day 10: Integrated Grounding System Design & Final Workshop

- Designing a complete grounding system for a 30/11 kV station
- Risk assessment and optimization
- Case study and group project
- Final review and evaluation

Registration form on the Training Course: Installation and Maintenance of Grounding Networks for 30/11 kV Stations

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

Delegate Information

Full Name (Mr / Ms / Dr / Eng): .....
Position: .....
Telephone / Mobile: .....
Personal E-Mail: .....
Official E-Mail: .....

Company Information

Company Name: .....
Address: .....
City / Country: .....

Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): .....
Position: .....
Telephone / Mobile: .....
Personal E-Mail: .....
Official E-Mail: .....

Payment Method

☐ Please find enclosed a cheque made payable to Global Horizon

☐ Please invoice me

☐ Please invoice my company

Easy Ways To Register

Telephone: +201095004484 to provisionally reserve your place.	Fax your completed registration form to: +20233379764	E-mail to us : info@gh4t.com or training@gh4t.com	Complete & return the booking form with cheque to:Global Horizon 3 Oudai street, Aldouki, Giza, Giza Governorate, Egypt.