



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

3 - 14 August 2025

Cairo (Egypt)

Holiday Inn & Suites Cairo Maadi, an IHG Hotel

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

Training Course code: EN235692 From: 3 - 14 August 2025 Venue: Cairo (Egypt) - Holiday Inn & Suites Cairo Maadi, an IHG Hotel Training Course Fees: 6600 € Euro

Introduction

This program focuses on the installation, maintenance, and testing of grounding networks in 30/11 kV substations. Proper grounding is critical for safety, operational efficiency, and protection of electrical systems. Participants will gain in-depth knowledge of grounding principles, design standards, installation techniques, and maintenance practices.

Objectives

- Understand the role and importance of grounding networks in electrical safety.
- Learn design considerations for grounding networks in 30/11 kV substations.
- Master the techniques for installation and testing of grounding systems.
- Develop skills for troubleshooting and maintaining grounding networks.
- Ensure compliance with industry standards and regulations.

Target Audience

- Electrical engineers and technicians.
- Substation maintenance teams.
- Electrical safety officers.
- Professionals involved in substation design and installation.

Outlines

Day 1: Introduction to Grounding Systems

- Purpose and benefits of grounding.
- Types of grounding systems TN, TT, IT.
- Overview of grounding in 30/11 kV substations.

Day 2: Principles of Electrical Grounding

- Electrical theory related to grounding.
- Ground resistance and its significance.
- Fault currents and their impact on grounding systems.

Day 3: Grounding Network Design for 30/11 kV Stations

- Key design considerations for substations.
- Soil resistivity and its effect on grounding.
- Design tools and software for grounding networks.

Day 4: Standards and Regulations

- International grounding standards e.g., IEEE, IEC.
- Local regulatory requirements for grounding networks.
- Ensuring compliance with safety codes.

Day 5: Installation Techniques

- Installation of ground rods, grids, and mats.
- Connecting equipment to the grounding network.
- Tools and materials for effective installation.

Day 6: Testing and Inspection

- Methods for measuring ground resistance e.g., fall-of-potential, clamp meters.
- Testing continuity of grounding systems.
- Ensuring the integrity of connections and conductors.

Day 7: Maintenance of Grounding Networks

- Routine inspections and checks.
- Addressing corrosion and wear in grounding components.
- Upgrading and enhancing existing networks.

Day 8: Troubleshooting Grounding Issues

- Identifying common grounding problems.
- Analyzing and resolving high ground resistance.
- Mitigating step and touch potential hazards.

Day 9: Grounding in Special Conditions

- Grounding in high-resistance soils.
- Techniques for substations in urban and industrial environments.
- Managing grounding in extreme weather conditions.

Day 10: Practical Applications and Case Studies

- Hands-on installation and testing in a simulated environment.
- Real-world case studies on grounding failures and successes.
- Participant project: Designing a grounding system for a 30/11 kV substation.

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

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