



*Training Course:
Power Generation*

*25 - 29 July 2027
Cairo (Egypt)*

Training Course: Power Generation

Training Course code: EN6029 From: 25 - 29 July 2027 Venue: Cairo (Egypt) - Training Course Fees: 4410 € Euro

Introduction

Power generation is a fundamental sector that supports industrial growth, economic development, and modern infrastructure. It involves the conversion of various energy sources—such as fossil fuels, nuclear energy, and renewables—into electrical power. Understanding generation technologies, system operations, and efficiency optimization is essential for reliable and sustainable energy production.

This program, designed by Global Horizon Training Center, equips participants with comprehensive knowledge of power generation systems, including conventional and modern technologies, operational practices, and performance optimization.

Course Objectives

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

- Understand the principles of power generation and energy conversion
- Identify different types of power plants and their components
- Analyze thermodynamic cycles used in power generation
- Operate and monitor power generation systems
- Evaluate plant performance and efficiency
- Apply maintenance and troubleshooting techniques
- Integrate renewable energy into power systems
- Ensure safe and reliable plant operations

Target Audience

This program is designed for:

- Mechanical and Electrical Engineers
- Power Plant Operators and Supervisors
- Maintenance and Reliability Engineers
- Energy and Utility Professionals
- Technical staff involved in power generation
- Professionals seeking foundational power generation knowledge

Outline

Day 1: Fundamentals of Power Generation

- Overview of energy sources and power generation methods
- Basic thermodynamics and energy conversion
- Types of power plants thermal, hydro, nuclear, renewable
- Power plant components and systems
- Safety considerations

Day 2: Thermal Power Plants and Steam Systems

- Steam generation and boiler systems
- Rankine cycle operation
- Steam turbines and condensers
- Auxiliary systems
- Efficiency improvement techniques

Day 3: Gas Turbines and Combined Cycle Plants

- Gas turbine operation and components
- Brayton cycle fundamentals
- Combined cycle integration
- Heat Recovery Steam Generator HRSG
- Performance optimization

Day 4: Renewable Energy and Modern Technologies

- Solar, wind, and hydro power systems
- Energy storage technologies
- Smart grids and digital transformation
- Environmental impact and sustainability
- Integration challenges

Day 5: Operation, Maintenance, and Optimization

- Plant operation and control systems
- Preventive and predictive maintenance
- Troubleshooting techniques
- Performance monitoring and KPIs
- Case studies and real-world applications

Registration form on the Training Course: Power Generation

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

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