XCELERATE TRAINING INSTITUTE

your learning & development partner

ELECTRICAL ENGINEERING

Power Plant Operator Training Course

DURATION	LANGUAGE	FORMAT
10 days	**English**	**Classroom / Online**

Upcoming dates

Dates	Venue	Format	Fee
3 – 14 May 2027	Live online	Online (live)	**€1,800**
14 – 25 Jun 2027	Boston	Classroom	**€7,200**
8 – 19 Nov 2027	Live online	Online (live)	**€1,800**

Register or ask a question

Online: x8ti.com/course/power-plant-operator-training-course-2/

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Power Plant Operator Training Course

Introduction

A power plant is an engineering facility used to generate electricity with the help of one or more generators, transforming energy from different sources into electrical power. Power plant operators regulate and supervise boilers, turbines, generators, and auxiliary equipment in power-generating plants. These operators also balance power demands among generators, synchronize power outputs, and monitor devices to maintain voltage and regulate electricity flow from the plant.

This training course by Xcelerate Training Institute provides a comprehensive understanding of the basic principles and selected in-depth knowledge regarding the operation, control, construction, fabrication, and composition of popular fossil-fueled power plants, including thermal, gas, and diesel power stations.

Learning Objectives

Upon completing this Certified Power Plant Operator course, participants will be able to:

- Learn basic engineering principles associated with power plants.
- Understand the operation of power plants.
- Analyze power-related processes and control diagrams.
- Learn about different features of power plants, selection criteria, and optimization techniques.
- Become familiar with maintenance protocols, troubleshooting procedures, and control operations of power plants.
- Comprehend power plant parameters, disturbances, and control techniques.

Training Methodology

This collaborative training program includes:

- Lectures
- Seminars & Presentations
- Video Clips
- Group Discussions
- Assignments
- Case Studies & Functional Exercises Following the ‘Do-Review-Learn-Apply’ model.

Benefits for Your Organisation

Organizations can benefit from:

- Gaining an all-inclusive overview of power plant operation.
- Assisting technical committees in creating, publishing, and revising standards related to power plant operation.
- Studying examples and case studies to illustrate and ensure the material's relevance to the organization.
- Understanding roles and responsibilities related to power plant operation.

Benefits for You

Participants will gain:

- Awareness of the latest developments in power plant operation by studying new literature and other sources.
- Access to a tailor-made academic program for technicians or equivalent workforce involved in power plant operation.
- Training, assessment, and certification by experts in the power plant operation field.
- Opportunities to discuss issues encountered during normal work activities and find possible solutions.

Who Should Attend

This course is ideal for:

- Project engineers and project managers
- Power station maintenance crew
- Power station operators, technicians, engineers, and managers
- Electrical engineers and mechanical engineers of various competency levels
- University graduates, site engineers, and technical crew
- Professionals in related occupations, such as diesel engine specialists, computer-controlled machine tool operators, stationary engineers, boiler operators, gas plant operators, petroleum pump system operators, refinery operators, and gas pumping station operators

Course Outline

Fundamentals of Mechanical & Electrical Engineering

- Sensors and actuators
- Pumps, compressors, turbines, fans, and blowers
- Pneumatics and hydraulics
- Control valves and cylinders, electrical actuation
- Theory of heat transfer
- Electric generators, motors, and drives

Gas Power Station

- Overview of gas power stations
- Fundamentals and thermodynamics
- Gas turbine components
- Construction, lubrication system, fuel system, and auxiliary systems
- Protection, control, and instrumentation
- Installation, operation, and maintenance

Thermal Power Station

- Overview of thermal power stations
- Fuel combustion and steam generation process
- Boiler auxiliary plant, operation, and controls

- Boilers and power generation
- Waste heat recovery
- Boiler emission control, maintenance, and troubleshooting

Diesel Generator Power Station

- Power plant types and components, engine types
- Engine technology and classifications
- DG types, protection, insulation, earthing, and construction
- DG set assemblies and components
- DG plant layout
- DG operation and maintenance

Process Instrumentation & Control

- Process control fundamentals
- Measurement and control of pressure, level, flow, and heat
- Electronic controllers
- Process flow diagram (PFD), P&ID, transfer function
- Open and closed-loop controllers
- Operational amplifiers, analogue and digital controllers

Management and Organization of Plant Operations

- Functions and tasks of plant operations
- Operating policy
- Human resources and qualification of personnel
- Performance objectives and standards
- Interfaces with other plant groups

Shift Complement and Function

- Shift supervisor
- Operators
- Shift safety engineer or technical adviser
- Shift technical support personnel

Shift Routines and Operating Practices

- Shift arrangements
- Shift operations
- Shift turnover
- Availability and use of operating procedures
- Pre-job briefings
- Conduct in the control room
- Shift rounds
- Communications
- Shift records and log keeping

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Registration Form

Power Plant Operator Training Course

Preferred dates: ..... Venue or online: .....

Duration: 10 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

Payment

☐ Please invoice me ☐ Please invoice my company

Signature: ..... Date: .....

Call
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Email this form
info@x8ti.com

Register online
Open the course page