Training Course:
GT Control System PCS7 – Operation, Protection, and Troubleshooting

9 - 13 November 2025
In-House

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Training Course:
GT Control System PCS7 ⬚ Operation, Protection, and Troubleshooting

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Training Course code: EN235979 From: 9 - 13 November 2025 Venue: In-House - Training Course Fees: ⬚ Euro

Introduction

This specialized training program focuses on the advanced control and protection systems of the Siemens SGT-800 Gas Turbine using the SIMATIC PCS7 platform. Participants will gain in-depth technical knowledge and practical skills in hardware configuration, alarm analysis, shutdown events, and diagnostic tools. The course integrates theoretical concepts with real-world troubleshooting case studies, enabling engineers and technicians to effectively manage, maintain, and optimize GT control system operations. Through focused sessions and hands-on simulations, this training equips professionals working in industrial or utility environments with the competencies required to ensure safe, efficient, and reliable turbine performance.

Target Audience

- Instrumentation & Control Engineers

- Electrical and Automation Technicians

- Maintenance and Reliability Engineers

- GT Control Room Operators

- PCS7 System Administrators and Engineers

- Engineering Supervisors involved in GT operation and diagnostics

Objectives

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

- Understand the architecture and components of the PCS7-based GT control system

- Analyze alarm messages and shutdown causes from HMI and interpret diagnostic events

- Perform effective troubleshooting and fault identification using CMS and HMI tools

- Execute backup and restore procedures for the turbine PLC control system

- Explain and monitor turbine protection systems including overspeed, vibration, and gas detection

- Access and evaluate key equipment such as vibration monitors and guide vane actuators

- Confidently navigate hardware configurations and system communication setups

- Apply structured methods for alarm handling and disturbance management

Training Outlines

Day 1:

Introduction to GT Control System & PCS7 Hardware

- Overview of SGT-800 Control and Protection System

- SIMATIC PCS7 Hardware Configuration and Troubleshooting

- Understanding PCS7 Network Architecture and Communication Flow

- Control System Configuration and Interface with Auxiliary Systems

- Identifying and Locating System Hardware within Electrical Cubicles

Day 2:

HMI Alarm Events and Shutdown Diagnostics

- Introduction to HMI Diagnostic Tools

- Alarm Categories and Shutdown Events: MBA, MBH, MBJ, MBL, MBP, SAG, MBV, MBX, MKA, SFY, SGJ, etc.

    - Hardware Fault Alarm

    - GT Start Block / Abort

    - GT Instant Shutdown

    - GT Unloading Shutdown 30 & 90 seconds

    - Baring Block 40 hours

- Fault Handling Procedures and Alarm Management Techniques

Day 3:

Turbine Operational Functions and Safety Monitoring

- Turbine Governing Functions: Controllers and Limiters

    - During GT Startup Conditions

    - During GT Normal Operation

- Turbine Protection System Overview:

    - Overspeed Monitoring

    - Vibration Monitoring

    - Fire and Gas Detection Systems

- Accessing and Using Vibration Monitoring Equipment

- Diagnosing the Inlet Guide Vane Driver Mechanism

Day 4:

PCS7 Utilities, Backup & Condition Monitoring

- PLC Program Backup and Restore Procedures

- Using the Condition Monitoring System CMS for Fault Identification

- Navigating HMI Utilities: Controller Access, Set-points, and Trends

- Alarm and Disturbance Interpretation from System Logs

- Understanding Fault Communication and Equipment Interlock Conditions

Day 5:

Practical Applications and Troubleshooting Case Study

- Troubleshooting Case Studies Based on Real System Events

- Hands-On Practice: Using HMI Tools for Live Fault Finding

- Interactive Scenarios: Fault Simulation and Corrective Actions

- Final Session: Review, Open Q&A, and Knowledge Check

- Wrap-up and Feedback Collection

Registration form on the Training Course:
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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

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Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): ....
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☐ Please find enclosed a cheque made payable to Global Horizon

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