

**SIEMENS**

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# Power Generation Services

Siemens Power Academy – K-T3PCPG Module 2  
SPPA-T3000 Introduction to Thermal Power Plant  
Process Control and Operation

## Introduction

This course outlines the overall concepts of process control for the power generation industry. Specific focus is given to thermal power generation process, and application of the Siemens Power Plant Automation T3000 Control System. Hands-on examples and simulated demonstrations are given.

## Course Content

Some out of class study may be assigned. All required instructional materials are provided to each student. The following topics are representative of those covered in the course. Actual course content will be customized to the specific customer requirements and plant configuration.

## Thermal Power Plant Process Control and Operation

- Overview of **Major Functional Areas** for thermal power plant: Electrical, Cooling Water, Condensate, Feedwater, Steam, Air & Gas, Fuel, Turbine-Generator, Unit Controls.
- **Thermodynamics and Physics** for process control.

- Basics of **Boiler Operation**, fuel/ air/ ignition requirements.
- Basics of **Steam Turbine Operation** and the Steam/Water Rankine Cycle.
- Basics of **Critical Systems**: Boiler Protection Systems, Turbine Protection Systems, Ancillary protection systems (X&Y Electrical Protection, Burner Management Systems, Water Ingress Protection Systems).
- Additional **Modulating Control Concepts** (measurement signal filtering and integrity, system/measurement fault handling, parameter adaption, control loop limitation, mode and interlocking, manual/ automatic/ sequence control interface)
- Introduction to **Model Based Control** design methods.

## Course Details

**Location:** Siemens Training Offices / Customer Site

**Size:** Max 6 Participants

**Duration:** 2 days

**Contact:**

**PSCD Training Centre  
Siemens Ltd. Australia**

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