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**Siemens Power
Academy**

Your training program

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Siemens Power Academy

Training Course Code

T3000 Courses

Course	Course Name	No of Days
K-T3OVER	SPPA-T3000 System Overview	2
K-T3OPE	SPPA-T3000 Operation and Monitoring	2
K-T3BAS	SPPA-T3000 System Basics	4
K-T3ADE	SPPA-T3000 Advanced Engineering	4
K-T3MAIN	SPPA-T3000 Maintenance	4
K-T3OPER-C	SPPA-T3000 Operator Certificate	1*
K-T3READ	SPPA-T3000 Read-Only	1*
K-T3PCPG1	SPPA-T3000 Introduction to Process Control (Module 1)	2*
K-T3PCPG2	SPPA-T3000 Introduction to Thermal Power Plant Process Control and Operation (Module 2)	2*
K-T3PCPG3	SPPA-T3000 Steam Turbine Process Control and Fundamentals of Digital Electro-Hydraulic Governors (Module 3)	2*
K-T3PCPG4	SPPA-T3000 Application of Advanced Thermal Power Plant Process & Control (Module 4)	3*

T2000 Courses

Course	Course Name	No of Days
K-T2N-EAS	SPPA-T2000 Basic Course for Automation System AS 620 B	5
K-T2-ADM	SPPA-T2000 Administrator Course	10*
K-T2-ADM(C)	SPPA-T2000 Administrator Course (Compact)	5*
K-T2-OPE	SPPA-T2000 Operator Course for Process Control/Information System	2*
K-T2-EOM	SPPA-T2000 Basic Course for OM650 Engineering	5*

PCS7 Courses

Course	Course Name	No of Days
K-PCS7	SIMATIC PCS7 PS Commissioning and Planning	5
K-PCS7ST	SIMATIC PCS7 for Steam Turbine Process Controls	3*
K-PCS7SA	SIMATIC PCS7 System Administration	3*

Functional Safety Modules (FSM)

Course	Course Name	No of Days
FS-ENG-SIS	TUV Rheinland Functional Safety Program (FSEng)	4.5

*NOTE: Offer upon request & dates to be mutually agreed between Siemens & Customer

Siemens Power Academy Course Dates 2019

To book

Siemens conducts training for various I&C Systems depending on your requirements. To book, please call on +61 (02) 9491 5288 or email PPATraining.au@siemens.com. Bookings may also be made online at <http://siemens.com.au/training>

Category	Course No	No. of Days	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
T3000	K-T3OVER	2				30-1			2-3			1-2		
	K-T3OPE	2					2-3		4-5			3-4		
	K-T3BAS	4			6-9			18-21			11-14		6-9	
	K-T3ADE	4		12-15				25-28			18-21		13-16	
	K-T3MAIN	4			26-29				9-12					
	K-T3OPER-C*	1												
	K-T3READ*	1												
	K-T3PCPG1*	2												
	K-T3PCPG2*	2												
	K-T3PCPG3*	2												
	K-T3PCPG4*	3												
T2000(TXP)	K-T2N-EAS	5		5-8			6-10					28-1		
	K-T2-ADM*	10												
	K-T2-ADM(C)	5			18-22					19-23			4-8	
	K-T2-OPE*	2												
	K-T2-EOM*	5												
PCS7	K-PCS7	5						17-21					25-29	
	K-PCS7ST*	3												
	K-PCS7SA *	3												
FSM	FS-ENG-SIS	4.5			25-29			24-28					11-15 25-29	

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Power Generation Services

Siemens Power Academy – K-T3OVER SPPA-T3000 System Overview – Blended Learning

Brief Description

The course provides participants with an overview of the SPPA-T3000 system and concepts at a glance. Via WBT (web based training) the participants have to prepare themselves in advance, learning the SPPA-T3000 system's basic principles. A follow up seminar at the training centre covers the basic views, concept and performance data of the system. In a demonstration the basics of engineering, operating and diagnosis are shown. Additional applications beyond the I&C system are discussed.

Prerequisites

- Requirements WBT: PC with Internet access
- Requirements follow up seminar: Successful completion of the WBT
- Basic knowledge of I&C System

Contents

Overview and introduction to SPPA-T3000.

System functions: Login, plant display hierarchy, alarm sequence display, group alarm indication, dynamic function diagrams, diagnostic view, trend displays, reports, pictograms and faceplates, operation view, online help.

Practical exercises: Using a small process simulation on a T3000 installation. Normal operation and handling of exceptional situations. Reading and analysing plant displays, trends and reports. Handling of simulated exceptional situations.

Course Details

Size: Max 10 participants

Language: English

Duration of course: approx. 5 h WBT and 1 day seminar

Location of course: Siemens Training Offices / Customer Site

Dates: refer to training schedule

Duration

2 days

Contact:

PSCD Training Centre
Siemens Ltd. Australia

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Controls & Digitalisation
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Power Generation Services

Siemens Power Academy – K-T3OPE
SPPA-T3000 Operation & Monitoring

Brief Description

The course is applicable for power plant operating personnel. The participant will learn the SPPA-T3000 operating functions and how to use the Operating View for tasks associated with process management and information.

Prerequisites

Basic knowledge of digital control systems (DCS).

Contents

Overview and introduction to SPPA-T3000.

System functions: Login, plant display hierarchy, alarm sequence display, group alarm indication, dynamic function diagrams, diagnostic view, trend displays, reports, pictograms and faceplates, operation view, online help.

Practical exercises: Using a small process simulation on a T3000 installation. Normal operation and handling of exceptional situations. Reading and analysing plant displays, trends and reports. Handling of simulated exceptional situations.

Course Details

Size: Max 10 participants

Language: English

Duration of course: 2 days

Location of course: Siemens Training Offices / Customer Site

Dates: refer to training schedule

Contact:

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Siemens Power Academy – K-T3BAS
SPPA-T3000 System Basics

Brief Description

The participant will learn the basic principles and views of I&C engineering, diagnostics and operation of the SPPA-T3000 system. Each student will implement a basic control system model, using the workbench to create both function diagrams and plant displays. Emphasis will be placed on sensor processing/coupling for analog and binary signals, along with motor/actuator control applications.

Prerequisites

Basic knowledge of I&C principles
Knowledge of PC operations using MS Windows

Course

Overview: System hardware and software architecture, redundancy, peripherals System documentation

Engineering: function diagram, plant display, integrated engineering, using AF-blocks and prototypes, creating macros

Operation: faceplates, trends, alarms, displays navigation

Diagnostic: change of parameters, dynamic function diagram, forcing ports

Commissioning: point view

Basic graphics

Engineering examples: I/Os, logic, motor, graphics
Implementation of basic functions (practical exercises):

- hardware engineering using HW proxies
- processing binary and analogue values
- motor control, valve
- graphic layout of plant displays

Course Details

Size: Max 10 participants

Language: English or German

Duration of course: 4 days

Location of course: Siemens Training Offices / Customer Site

Dates: refer to training schedule

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Siemens Power Academy – K-T3ADE
SPPA-T3000 Advanced Engineering

Brief Description

Based on the basic class (T3BAS), participants will gain further knowledge about Engineering functions and details. The course is focusing on all users dealing with I&C Engineering, Commissioning and Service and also covers important modules of a system specialist training.

Contents

Project structure, Inheritance

Settings: System and user properties, colours, login, logout, access rights
Engineering: advanced graphics, individual mapping, controller, subgroup controller, device changeover

Copy & Modify, Import / Export, Spreadsheet Engineering
Installation of new Runtime Container, FUM and ET200M station
Black-box coupling

Sound alarms, configured Reports

Implementation of advanced functions (practical exercises):

- Closed loop controller, Device change over
- Processing functions, Trend Displays
- Subgroup controller, Step sequence
- XY-diagrams, navigation buttons
- Sound alarms
- Import / Export
- Zoo3 measurement

Course Details

Requirements: K-T3BAS Certificate

Size: Max 10 participants

Language: English

Duration of course: 4 days

Location of course: Siemens Training Offices / Customer Site

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Siemens Power Academy – K-T3MAIN
SPPA-T3000 Maintenance

Brief Description

The participant is able to carry out all necessary activities to maintain the automation and operation level of SPPA-T3000 of the running power plant under operation and in standstill.

Contents

- Application Server (Stratus ft4300) and Automation Server (S7-400-4H) hardware System Diagnostic Tools
- Shutdown and Reboot Handling
- Archive Management: Swap Out Handling
- Network Basics and Diagnostic of Network Component Faults
- Hardware Components Diagnosis and Replacement (Appl. Server, Automation Server and FUM)
- Profibus-DP: Electrical Network Diagnostic Field Device Diagnostic
- Practical Exercises (Maintenance Examples)
 - I/O Diagnosis, Replacement and Troubleshooting
 - Commissioning Automation Server
 - Management Proxy engineering
 - Alarm extension engineering

Course Details

Requirements: K-T3BAS Certificate

Size: Max 8 participants

Language: English

Duration of course: 4 days

Location of course: Siemens Training Offices

Dates: refer to training schedule

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Siemens Power Academy – K-T3OPER-C SPPA-T3000 Operator Certificate

Introduction

This course is targeted at Operators, Plant Engineers and Technicians. At the conclusion of the course, candidates will be asked to demonstrate their knowledge of the T3000 DCS. This certification is offered as an add-on to the standard Operator training.

Application

This certification will confirm the competency of Operators in using all the features of T3000 to diagnose problems and effectively operate and monitor a power station. This unit does not test specific plant or process knowledge.

Prerequisites

- The candidate should have a good knowledge of their plant and its process
- The candidate should have basic Windows operating system skills
- The candidate should have completed the KW-OPER course or similar
- The Candidate will be familiar with the Alarm Sequence Display (ASD)

Elements and Performance Criteria

- **Navigation**
 - Candidate will demonstrate knowledge of multiple ways of navigating to plant displays and function diagrams.
- **Operation**
 - Candidate will demonstrate the diagnosis of control logic and make operations to successfully put a difficult process into service.
- **Diagnostics**
 - Candidate will demonstrate the ability to diagnose field faults quickly and accurately.
- **Analysis**
 - Candidate will demonstrate the configuration of reports and identify the main events which demonstrate the root cause of an event.
- **Configuration**
 - Candidate will demonstrate the creation of a persistent operator-configured trend and a persistent operator-configured report
- **Alarms**
 - Both the default and user configured alarm displays will be demonstrated by the candidate.

Course Details

Location: Siemens Training Offices

Size: Min 5 Participants

Duration: 1 day

Contact:

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Siemens Power Academy – K-T3READ
SPPA-T3000 Read-Only

Introduction

This course is targeted toward groups and individuals that wish to extract data and information from the T3000 Control System in real time or from the archive.

The course introduces T3000 and shows how to navigate through the plant displays and function diagrams and how to get real time and historical data using reports, trends and the alarm display.

Course Content

The course is run using a live T3000 training system. The content will be delivered using visual presentations with printed course notes. The course will include exercises in information gathering and data extraction on a live system.

Introduction to Generic Process Control

- Starts with an **introduction to T3000** touching on the various hardware components and software components.
- The participants will receive **workbench familiarization**. They will learn how to navigate the operator plant displays and the logic function diagrams.
- The participants will learn how to use T3000 **trends** and how to make (temporary changes) to get the right

information for every situation.

- The participants will become familiar with the **Alarm Sequence Display (ASD)**. Both the default and custom configuration will be demonstrated.
- **Reports:** T3000 has a powerful reporting facility built in. The participants will be shown five main types of reports used to gain information.
 - Analog Status
 - Analog Interval
 - Binary Status
 - Event Sequence
 - Operation Sequence
- The participants will also manage **exporting data** from reports as a text file, for example for use in **excel**
- The participants will also use the **Archive Data Reader** tool to interrogate information on an archived DVD or disk array

Course Details

Location: Siemens Training Offices / Customer Site

Size: Min 5 Participants

Duration: 1 day

Contact:

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A photograph of three people in a professional setting. In the foreground, a man with glasses and a white shirt is smiling. Behind him, another man in a white shirt is also smiling. To the right, a woman in a green cardigan is smiling. They appear to be in a meeting or collaborative work environment.

Power Generation Services

Siemens Power Academy – K-T3PCPG Module 1
SPPA-T3000 Introduction to Process Control

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.

- Basic operation and use of **Field Devices**: switchgear breakers, actuators, analog transmitters, binary switches.
- Fundamental concepts for **Commonly Used Equipment**: pump and fan sizing and performance curves, valve sizing types and characteristics, power plant measurement technology (pressure, temperature, flow, level).
- **Layers of design, protection and control** for devices: mechanical design & interlocks, hardware interlocks, drive level protection and interlocking, remote/local and auto/manual modes.
- Basic **Modulating Control Concepts** (Field drive controllers / master controllers, Set-point Control Station, control loop auto/manual modes and bump-less transfer).
- Classical Control Design with simple **PID** (Proportional / Integral / Derivative) controllers.

Introduction to Generic Process Control

- Industrial process: **types** and **uses** (batch/continuous, manufacturing, processing, chemical, power generation). Concept of process control and automation.
- **Documentation**: Piping & Instrumentation Diagrams (P&IDs), electrical schematics and drawings, hydraulic schematics and mechanical arrangement drawings, loop diagrams, functional descriptions, functional logic block diagrams, Human Machine Interface graphics (HMIs) and trends. Operating Manuals and Procedures.

Course Details

Location: Siemens Training Office / Customer Site

Size: Max 6 Participants

Duration: 2 days

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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

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Siemens Power Academy – K-T3PCPG Module 3
SPPA-T3000 Steam Turbine Process Control and
Fundamentals of Digital Electro-Hydraulic
Governors

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.

Introduction to Generic Process Control

- **Turbine types**, design and layout
- Turbine **Auxiliary Equipment**: requirements and operation
- **Turbine Valve** requirements and design
- **Valve Position Control**
- **Turbine Warming**: requirements and concepts
- **Digital Electro-Hydraulic Governor** control modes and operation (speed control / load control / valve position control)

- **Special functions/devices** (Initial Pressure Regulator, Load Limiter, Vacuum Limiter, Anticipatory devices)
- **Generator Operation** and control considerations, AVR control.
- Turbine **Protection Systems** and Water Ingress Protection requirements.

Course Details

Location: Siemens Training Office / Customer Site

Size: Max 6 Participants

Duration: 2 days

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Siemens Power Academy – K-T3PCPG Module 4
SPPA-T3000 Application of Advanced Thermal
Power Plant Process & Control

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.

Introduction to Generic Process Control

- **Air & Gas** (furnace pressure and total airflow control) generic concepts and examples
- **Fuel & Mill** control generic concepts and examples
- **Feedwater** (drum level control) basics and examples
- **Steam Temperature Control** basics and examples
- **Unit Coordination** concepts and control examples
- **Advanced Grid** considerations (frequency control, automatic load dispatch)

Course Details

Location: Siemens Training Office / Customer Site

Size: Max 6 Participants

Duration: 3 days

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Siemens Power Academy – K-T2N-EAS
SPPA-T2000 Basic Course for Automation System
AS 620 B

Brief Description

The participants will learn the principle of operation of SPPA-T2000 and the design, generation and loading of basic applications of the AS 620 B. The participant will practice to use the standard documentation to solve the exercise tasks. Additionally the course will pass on the special knowledge and abilities required for initial commissioning and error diagnosis on the AS 620 B.

Target Group

SPPA-T2000 process control system users engaged in AS 620 B automation system engineering.

Prerequisites

Experience in handling power plant automation structures and identification systems.

Contents

System summary SPPA-T2000

Basic knowledge and engineering of the AS 620 B

Engineering of function diagrams with tec4function-Editor

Generation and transfer of tec4function diagrams to the target system ES 680

Engineering system ES 680:

- FUP - Editor to design HW-diagrams (topology and disposition)
- Code generation of diagrams
- Code-transfer (via ES-S7-server) to the AS 620 (offline und online)
- Dynamisation of diagrams, fast parameter change

Configuration of typical applications:

- Motor, actuator and control drive
- Analogue and binary sensor processing
- Practical exercises on config tool including verification of generated code on an AS 620 B

Course Details

Size: Max 10 participants

Language: English or German

Duration of course: 5 days

Location of course: Siemens Training Offices / Customer Site

Dates: Upon consultation

Contact:

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Power Generation Services

Siemens Power Academy – K-T2-ADM
SPPA-T2000 Refresher Course for Administration
(OM650, ES680, AS620)

Brief Description

This class teaches comprehensive system knowledge of AS620, ES 680, OM 650, LAN and web4txp. This knowledge will enable participants to perform the basic system administration of these components. Emphasis is put on maintaining the project database, the data communication and evaluation of the diagnostic files and system messages.

Target Group

Customer and Siemens personnel engaged in SPPA-T2000 system administration.

Prerequisites

Knowledge of the SPPA-T2000 components provided in our basic and advanced courses.

Contents

UNIX operating system and database system INGRES
Interactive work with the ES 680 Database using SQL
Hardware and Software layout of ES 680 (on PC with SOLARIS operating system) Backups, restore and administrative tasks
Function, tasks and structure of the AP software
Setup, handling and optimization of the automation system
AS 260 File system and addressing in the distributed OM 650 system
Evaluation of the diagnostic files

Communication ES-OM, OM-AS and ES-S7 server Engineering files OM 650

Detailed function, installation & system integration of web4txp

Explanation of the LAN structure with functions of Industrial Ethernet, OSM / ESM's and scalance

Practical exercises

Course Details

Size: Max 10 participants

Language: English or German

Duration of course: 10 days

Location of course: Siemens Training Offices

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Siemens Power Academy – K-T2-ADM (C)
SPPA-T2000 Refresher Course for Administration
(OM650, ES680, AS620)

Brief Description

This class teaches comprehensive system knowledge of AS620, ES 680, OM 650, LAN and web4txp. This knowledge will enable participants to perform the basic system administration of these components. Emphasis is put on maintaining the project database, the data communication and evaluation of the diagnostic files and system messages.

Target Group

Customer and Siemens personnel engaged in SPPA-T2000 system administration.

Prerequisites

Knowledge of the SPPA-T2000 components provided in our basic and advanced courses.

Contents

UNIX operating system and database system INGRES
Interactive work with the ES 680 Database using SQL
Hardware and Software layout of ES 680 (on PC with SOLARIS operating system) Backups, restore and administrative tasks
Function, tasks and structure of the AP software
Setup, handling and optimization of the automation system
AS 260 File system and addressing in the distributed OM 650 system
Evaluation of the diagnostic files

Communication ES-OM, OM-AS and ES-S7 server Engineering files OM 650

Detailed function, installation & system integration of web4txp

Explanation of the LAN structure with functions of Industrial Ethernet, OSM / ESM's and scalance

Practical exercises

Course Details

Size: Max 10 participants

Language: English or German

Duration of course: 5 days

Location of course: Siemens Training Offices

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Power Generation Services

Siemens Power Academy – K-T2-OPE SPPA-T2000 Operator Course for Process Control/Information System

Brief Description

The client's personnel is able to practice all operations for process control, fault analysis and documentation on a simulated power plant process. Faults are incorporated into the process where the participants can repeatedly practice the correct response in case of emergency. The participants thus become familiar with operating the system and will quickly be able to handle their power plant control room equipment using the familiar symbols.

Target Group

The course is applicable for power plant operating personnel. The participants will learn the functions of an OM650 system and how to operate it for tasks associated with process management and information.

Prerequisites

Experience in controlling power plant processes.

Contents

Introduction to the SPPA-T2000 control system with OM 650
Presentation of system functions and operating features

Exercises using a simulated process on an installed OM system. Normal operation will be practiced, process

information must be called and analyzed. Exceptional situations will be generated using simulated errors and must be handled.

Online-logs and online-curves are handled.

Course Details

Size: Max 8 participants

Language: English or German

Duration of course: 2 days

Location of course: Siemens Training Offices / Customer site

Dates: Upon consultation

Course can be adapted to match the client's shift routine.

Contact:

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Siemens Power Academy – K-T2-EOM
SPPA-T2000 Basic Course for OM650 Engineering

Brief Description

The participant will learn how to generate user data for process operation and information, maintenance and processing functions on an installed TXP system with the engineering system ES680 and how to transfer data to OM650 and to test them using a process simulation in the automation system.

Target Group

Users of the process control system SPPA-T2000 engaged in the engineering of the OM650 process control and management system.

Prerequisites

Knowledge of the topics discussed in course KW-T2-EAS.

Contents

Configuring operations required for process operation, information, maintenance and management with the OM650 in a power plant will be carried out using exemplary tasks on an installed ES680 system with a simple simulated process. Transferring data to OM650 and operation of the plant will then be practiced online in the OM650 using the resulting data model.

The tasks comprise the following subjects:

System structure, - functions, -operation

Design of plant and process displays by the MMI-Editor, process interfacing

Processing functions (calculations)

Logs, signal groups and plot

Dynamic function diagrams

Message processing

Course Details

Size: Max 8 participants

Language: English or German

Duration of course: 5 days

Location of course: Siemens Training Offices / Customer Site

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Siemens Power Academy – K-PCS7 PCS7 Course for Commissioning and Planning

Introduction

This course covers intensive engineering and maintenance training for PCS7 users. The training is suited for engineers and technicians for planning, commissioning and maintenance as well as beginners not familiar with the PCS7 system of power plant technology. After the course participants will be able to independently carry out engineering and commissioning tasks using the PCS7 process control system.

Course Content

The participants will be trained with the user interface of a power plant project where some of the power plant processes are simulated. The training will focus on the following topics:

- Introduction to the system components S7-400 PLC (AP and modules), OS (operator station),
- ES (engineering station)
- Simatic Manager, PC stations and communication
- Creating a PCS7 project
- Function and parameterization of the function modules (binary and analog acquisition and output, ESG, continuous controllers, step controllers)
- Continuous control – CFC
- Sequential control – SFC
- Process tag type, model and master data library
- Generation processes and log evaluation
- OS and graphics design in WinCC

- Archiving system
- Reporting, printing and User administration
- OS Server, client, redundancy and project download
- Power Solution library
- TEC4Function (option)
- Practical exercises.

Course Details

Preconditions: Experience in power plant systems, and basic Windows knowledge.

Location: Siemens Training Office / Customer Site

Size: Max 6 Participants

Duration: 5 days

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Siemens Power Academy – K-PCS7ST

PCS7 Course for Steam Turbine Process Controls

Introduction

This course provides the basic principles of engineering environment, diagnostics and operation and familiarisation of the Turbine Control Software.

Course Content

- System Overview
- Hardware and Software layout of PCS7 configuration
- Function and parameterisation of the function modules (binary, analog acquisition and output, ESG, continuous controllers, step controllers)
- Continuous control – CFC
- Sequential control – SFC
- Process tag type, module and master data library
- Operator Control and Monitoring
- Understanding each function group controls and Turbine controls philosophy
- Understanding the Turbine Protection Software components
- Downloading of project and testing using simulation
- Practical exercises

Course Details

Location: Siemens Training Office / Customer Site

Size: Max 6 Participants

Duration: 3 days

Contact:

PSCD Training Centre
Siemens Ltd. Australia

Power Generation Services
Controls & Digitalisation
ppatraining.au@siemens.com

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Siemens Power Academy – K-PCS7SA
PCS7 System Administration (PCS7SA) Course

Introduction

This course enables participants to perform basic system administration and normal day-to-day housekeeping, skills to maintain the control system and evaluation of the diagnostic files and system messages.

Course Content

- System Overview
- Hardware and Software layout of PCS7 configuration
- Familiarisation of a typical project structure
- Engineering Station, Backups, restore and administrative tasks
- Program using Step 7 editors like CFC charts and SFC
- Operator Control and Monitoring
- Downloading of project and testing using simulation
- Evaluation of the diagnostic files
- Function, tasks and structure of the Automation System and software
- Explanation of the LAN structure with functions of Industrial Ethernet, OSM / ESM 's and Scalance
- Practical exercises

Course Details

Location: Siemens Training Office / Customer Site

Size: Max 6 Participants

Duration: 3 days

Contact:

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Siemens Power Academy – FS-ENG-SIS
TÜV Rheinland Functional Safety Program

Brief Description

The TÜV Rheinland Functional Safety Program provides engineers and managers of the process industry with the knowledge necessary to design, implement and operate Safety Instrumented Systems (SIS) in compliance with the international safety standards IEC61508 and IEC61511. Mainly intended for experienced safety system practitioners, the course addresses all phases of the safety lifecycle from hazard and risk assessment through design and implementation to ongoing operation and maintenance.

All attendees will receive a Certificate of Attendance. Those who successfully complete the training, pass the exam and fulfill the degree and experience criteria will also be provided with a TÜV Rheinland Functional Safety Engineer certificate which will be valid for five years.

This course is particularly recommended for HSE and risk engineers, instrumentation and control engineers, safety systems engineers, corporate safety managers, and plant maintenance engineers.

Prerequisites

Requirements for attendance: basic knowledge of control and safety principles; exposure to safety systems; university degree or equivalent experience in engineering.

Eligibility for certification: active participation in the course; passing the exam; a minimum 3 years' experience in the field of functional safety; university degree, or equivalent engineering level approved by employer.

Contents

This course covers the following topics:

- Introduction to functional safety
- Safety standards IEC 61508/ IEC 61511
- Process hazard Identification
- Risk assessment and ALARP
- SIL determination and LOPA
- Safety requirement specification
- Reliability data and quantification of failure
- Diagnostics and proof testing
- SIS design and verification
- Human interface and SIS security
- SIS realization and validation
- SIS operation and maintenance
- Functional safety audit and assessment
- Functional safety management

Course Details

Size: Max 10 participants

Language: English

Duration of course: 4 days + 0.5 day exam

Location of course: Siemens Training Offices

Dates: Refer to training course schedule

Contact:

PSCD Training Centre
Siemens Ltd. Australia

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