SIEMENS

Ingenuity for life

Siemens Power Academy

Course Catalogue

siemens.com.au/poweracademy

Contents Page

Contents	1
Course Code	2
Course Timetable	3
K-T3OVER: SPPA-T3000 System Overview	4
K-T3OPE: SPPA-T3000 Operation and Monitoring	5
K-T3BAS: SPPA-T3000 System Basics	6
K-T3ADE: SPPA-T3000 Advanced Engineering	7
K-T3MAIN: SPPA-T3000 Maintenance	8
K-T3OPER-C: SPPA-T3000 Operator Certificate	9
K-T3READ: SPPA-T3000 Read-Only	11
K-T2N-EAS: SPPA-T2000 Basic Course for Automation System AS 620 B	13
K-T2-ADM: SPPA-T2000 Administrator Course	15
K-T2-ADM(C): SPPA-T2000 Refresher Course for Administration	16
K-T2-OPE: SPPA-T2000 Operator Course for Process Control/Information System	17
K-T2-EOM: SPPA-T2000 Basic Course for OM650 Engineering	18
K-PCS7ST: SIMATIC PCS7 for Steam Turbine Process Controls	19
K-PCS7SA: SIMATIC PCS7 System Administration	20
K-FSLIFE: Functional Safety for Power Plants (Module 1)	21
K-FSCUST: Plant Specific Functional Safety (Module 2)	22
FS-ENG-SIS: TUV Rheinland Functional Safety Program (FSEng)	24

Siemens Power Academy Training Course Code

SPPA-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*

SPPA-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 Refresher Course for Administration	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-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
K-FSLIFE	Functional Safety for Power Plants (Module 1)	3
K-FSCUST	Plant Specific Functional Safety (Module 2) [*NOTE: Available on-site only]	2-4*
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 2020

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 https://new.siemens.com/au/en/company/training/power-academy.html

Category	Course No	No. of Days	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SPPA-T3000	K-T3OVER	2				29-30			1-2		29-30			
	K-T3OPE	2					6-7		8-9			7-8		
	K-T3BAS	4		4-7				16-19			15-18		10-13	
	K-T3ADE	4		18-21				23-26			22-25		17-20	
	K-T3MAIN	4		25-28					7-10					
	K-T3OPER-C*	1												
	K-T3READ*	1												
SPPA-T2000	K-T2N-EAS	5		10-14			4-8					26-30		
	K-T2-ADM*	10												
	K-T2-ADM(C)	5			16-20					17-21			2-6	
	K-T2-OPE*	2												
	K-T2-EOM*	5												
PCS7	K-PCS7ST*	3												
	K-PCS7SA *	3												
FSM	K-FSLIFE	3			17-19			16-18					3-5	1-3
	K-FSCUST*	2-4												
	FS-ENG-SIS	4.5		10-14				1-5					7-11 23-27	

Siemens Energy Pty Ltd

ABN 69 636 537 409

www.siemens.com.au

Telephone +61 (0)2 9491 5288 Facsimile +61 (0)2 9491 5573
New South Wales 160 Herring Road
Macquarie Park NSW 2113

SIEMENS

Technology for a Sustainable Future

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:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

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:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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

Contact:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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
- 2oo3 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

Contact:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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

Contact:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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 thought 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 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:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

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

Contact:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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

Contact:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

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:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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

Contact:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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 Details

Location: Siemens Training Office / Customer Site

Size: Max 6 Participants

Duration: 3 days

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

Contact:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

Siemens Power Academy – K-FSLIFE
Functional Safety for Power Plants (Module 1)

Introduction

This course outlines the overall concepts of functional safety (FS) for the power generation industry. An overview of functional safety in process industry is given; the key elements of the IEC61508/511 standards are discussed and the application of functional safety in Siemens automation system, T3000, is covered. Hands-on examples and simulated demonstrations are given to gain practical skills.

Course Content

All required instructional materials are provided to each student. The following topics are representative of those covered in the course. This course can be bundled with "Plan Specific Functional Safety," Module 2, to cover the specific customer requirements and plant configuration.

Functional Safety for Power Plants

- **FS Standards and Concepts** (what functional safety is; why it is required; and how it can be achieved)
- **FS Engineering and Management** (concepts of safety engineering and the management of functional safety in process industry, with a focus on power generation)
- **FS Operation and Maintenance** (what operation and maintenance teams need to do to achieve best practice functionally safe plant)
- **FS in T3000** (principles of functional safety in Siemens' T3000 system)
- **Hands-on** (practical work on T3000 safety system hardware/software)

Course Details

Location: Siemens Training Office / Customer Site

Size: Max 6 Participants

Duration: 3 days

Contact:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

Siemens Power Academy – K-FSCUST
Plant Specific Functional Safety (Module 2)

Introduction

This plant-specific course is aimed at providing operation and maintenance teams with an enhanced understanding of safety instrumented systems in their plants. The training course is in line with the IEC61511 guidelines on the training requirements for plant personnel. Participants will refresh their knowledge on operation and maintenance of the safety systems in their specific plant and, where plant simulator is available, they practice how to deal with safety scenarios.

Course Content

All required instructional materials are provided to each student. The following topics are representative of those covered in the course. It is highly recommended to bundle this course with "Functional Safety for Power Plants," Module 1, to gain general knowledge on functional safety concepts prior to attending this plant-specific course.

Functional Safety for Power Plants

- **Functional Safety Concepts** (reviewing understanding of functional safety)
- **Plant-Specific Safety Systems** (introducing the configuration of the safety system as utilised in the plant)
- **Plant Operation** (interfacing with safety systems, including HMI information provided by safety system and commands given by operators)
- **Plant Maintenance** (regular maintenance, trouble shooting, proof testing, management of change)
- **Hands-on; where possible** (practical work on dealing with safety scenario to prevent/minimise loss and damage)

Course Details

Location: Customer Site (site specific)

Size: Max 6 Participants

Duration: 2 to 4 days

Contact:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com

Power Generation Services

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:

Siemens Energy Pty Ltd
Controls and Digitalisation

SCD Training Centre
Email: ppatraining.au@siemens.com