

PAS Pre-Conference Training

Smart Alarm Management

Instructors: Tom Cabrey and Ronald Nijssen

One of the most common causes of unplanned downtime is a failure to respond effectively during plant disturbances and process upsets. Operating excellence and efficiency in today's manufacturing plants require operators to have effective support in dealing with such events.

With the release of SIMATIC PCS 7 V7.0, Siemens has set a new industry standard for “out-of-the box” alarm management capabilities that go beyond the limits of traditional DCS alarming. These advanced alarm management tools help minimize unplanned downtime and achieve operational excellence with state-based alarming and alarm shelving.

Students attending this workshop will learn how to use these features to optimize their alarm system. They will also learn how to use built-in statistical tools and key performance indicators to analyze if the alarm system is delivering the support they need. The session includes but will not be limited to:

- Function Block Alarm Message property settings (Class, Priority, Event, Single Acknowledgement, Any Acknowledgement, etc.)
- Use of Function Block Alarm Suppression and Lock Features
- The New Version 7.0 Alarm Hiding (Automatic and Manual) Feature
- Non controller-generated Alarms (HMI Generated Alarms, Life Beat Monitoring, OPC based Tags)
- The Alarm Group Display Object (and inherent Alarm Summary Roll-up through the Picture Hierarchy)
- Message Locking (by Loop or by Area)
- Alarm/Message Log Displays (including the Statistical Hit List, Message Lock Display and Hidden Alarm Displays)

Using PCS 7 to Optimize the Engineering Process

Instructors: Steffen Stang and Rob Purvy

This class will focus on optimizing the engineering workflow process when using SIMATIC PCS 7 (previous exposure to PCS 7 is recommended). We will focus on the techniques and best practices, which can be employed to minimize engineering costs during the design and engineering, installation and commissioning, and maintenance phases of the production lifecycle. The goal is for lead engineers to understand how to "get the most" out of the engineering toolset provided with PCS 7 by learning the when, how, and why to achieve smooth execution of a project with minimum risk. Specific topics include:

- Review major system configuration steps; including prerequisites, inputs, outputs, linkages, and major design considerations during each step
- Ideal formats for delivery and working with project data for easy configuration, maintenance, and change management (e.g. instrument index)
- Concurrent engineering practices
- How/when to best use the various tools provided within PCS 7 (e.g. Import Export Assistant, Process Object View)
- Defining/testing project standards that can be easily replicated and supported
- Up front design considerations which can minimize FAT time/cost
- Change management and planning for future configuration changes

Process Safety Lifecycle Workshop

Instructors: Charlie Fialkowski and Paul Morgan

This workshop is recommended for plant engineers, process engineers, and plant managers who are responsible for compliance to the latest process safety standards.

This workshop will provide a hands-on approach in covering every critical phase of the Safety Lifecycle based on the ANSI/ISA 84-2004 standard. Certified functional safety experts will present several methods used to achieve compliance using state-of-the-art tools and techniques including:

- Hazard/risk Analysis
- Safety Integrity level (SIL) selection
- SIL verification
- Safety requirement specifications
- Design and Engineering
- Installation, Commissioning, and Validation
- Operation, Maintenance, and Modification

DCS Migration Workshop

Instructors: Ken Keiser, Ed Wilson & Stacey Jarlsberg

Do you have APACS+, Bailey (ABB) Infi 90, Fisher PROVOX, or other legacy system and are interested in how to modernize to PCS 7? You *can* go to PCS 7 and *keep* your controllers or PLC! This workshop will explain Siemens Migration Strategy and the technical details of how to do it. Siemens migration experts will discuss techniques for any system and provide hands-on labs for APACS, Infi90, and PROVOX users as well as those users that have Allen Bradley or other PLCs.

Prerequisite: Experience with at least one distributed control system:

Topics Covered:

- SIMATIC PCS 7 Feature review.
- Your Migration Options to PCS 7
- What's in Siemens Migration Core Product Software
- SIMATIC PCS 7 / APACS OS Details and labs
- SIMATIC PCS 7 / 90 OS Details and labs
- SIMATIC PCS 7 / PVX OS Details and labs
- How to incorporate PLCs into PCS 7

PROFIBUS for the Process Industries training

In a recent ARC survey

- 85% of respondents agreed that the total lifecycle cost for a fieldbus installation was less than a conventional installation.
- 45% expected a payback in less than one year (27% in less than six months).
- 88% thought integration of discrete and process was important, very important, or extremely important.
- Attend this training to see how your company can reduce the TCO (Total Cost of Ownership) by using a fieldbus!

PTO (PROFIBUS Trade Organization) is conducting a training on the implementation of fieldbus in the process industry applications. This training will be conducted at Disney's Coronado Springs Resort preceding the Siemens Automation Summit on June 12th 2007.

“...PROFIBUS’ unique value proposition is its ability to seamlessly integrate process instrumentation like pressure transmitters and flow meters, with devices for the discrete and motion control side of the application, like drives and sensors. PROFIBUS’ common communication protocol creates a familiar environment, which can lower engineering, training and maintenance costs.” ARC Whitepaper, May 2004

Training Outline:

- PROFIBUS - History, market position today and support organizations
- PROFIBUS Technology - Choosing the right fieldbus for your plant
- Live demonstration of a working fieldbus based system
- Engineering and installation best practices
- Fieldbus in process safety applications
- Process industry end-user application case studies

Training Agenda:

8:00am Coffee and Snacks

8:30am Presentations begin.

Noon Hosted Lunch

4:00pm Wrap-up

Product Exhibits. Door Prizes awarded.

Attendees will receive a certificate for 5.5 Professional Development Hours (PDH).

Solutions for Process Control Security (4 hours)

Who should attend?

Managers, engineers, IT staff and operators of process control systems

Instructor:

Marty Edwards and Julio Rodriguez

US Department of Homeland Security Control Systems Security Program

Critical Infrastructure Protection and Resilience Division - Idaho National Laboratory

Course Description

The Solutions for Process Control Security training is a fast-paced course covering general control systems cyber security challenges. The training objectives include helping participants understand how attacks against control systems can be launched, identifying targets of opportunity, and providing mitigation strategies. Participants will gain an understanding on how to increase the cyber security posture of their control systems networks.

Topics Covered

- Process control network communications overview
- Common vulnerabilities of control systems
- Inadequate policies and procedures
- Poorly designed control systems networks
- Misconfigured or unpatched operating systems and embedded devices
- Inappropriate use of wireless communication
- Inadequate authentication of control systems communications
- Inadequate identification and control of access to control systems
- Lack of detection and logging of intrusions
- Dual use of control systems networks
- Lack of security checking of control systems software/applications
- Lack of change management/change control procedures and agreements
- Potential mitigation strategies based on multiple levels of implementation
- Cyber-security awareness demonstration video

This course was developed by the US Department of Homeland Security National Cyber Security Division, as part of the Control Systems Security Program (CSSP)