Projacs
an egis company
بروجاكس للتدريب والتطوير
Projacs Training and Development

Risk Based Process Safety Management

28 October – 1 November 2019, London - UK

A Member of:
PROJACS ACADEMY

ProjacsAcademy.com

Introduction

In the process control industry, safeguarding is an important priority, especially when it comes to the installation of safety equipment and systems. Even so, advances in technology suggest that organizations take a fresh look at their safety systems, and have become the driving force for the renewed approach of safeguarding a process control system.

Process Control & Safeguarding training course covers the fundamentals of safety, and the major approaches for assuring system safety for process control, including an integrated and separate systems, Fieldbus solutions, intrinsic safety, functional safety, process control design solutions, SIS, safety alarms and various international standards.

This training course will highlight:

- How traditional Fieldbus is inadequate for safety-related controls
- Identify processes applicable to Process Safety Management (PSM) and describe relevant terms used.
- Identify which standards are to be applied for managing process hazards.
- Apply programs and tools for managing a PSM system.
- Choose appropriate decision making methods and tools to identify process hazards
- Existing safety systems that are ready to be used
- The current approach to a safe communication bus
- Checks and balances to meet safety requirements and protection
- How to share infrastructure between the safety bus and conventional communication channels
- All aspects of process control, where it is affected by safeguarding

Objectives

At the end of the course, the participants will be able to:

- Provide an overview of safety systems related to process control systems
- Discuss intrinsic and functional safety solutions
- Understand Safety Integrity Levels (SIL) and techniques
- Consider the appropriate Fieldbus choices that are available
- Implement safe design and risk management, and consider safety approvals

Who Should Attend?

- HSE professionals
- The more technical aspects of process safety engineering are covered in PS-4, Process Safety Engineering.
- Technical Service Personnel and Management Team.
- Automation Engineers, Chemical Engineers, Consulting Engineers and Process Engineers
- Electrical and C&I Engineers, Electricians and Technicians
- Installation and Maintenance Technicians
- Maintenance Engineers
- Production Managers
- Supervisors and Process Operators
- Project Managers, System Integrators and other Professionals who require a better understanding of the subject matter
- Professionals involved in designing, selecting, specifying, installing, testing, operating and maintaining safety systems for process control
- Professionals involved in safeguarding processes control systems of any kind
- Any individual that needs to get to grip with the ever expanding and complex field of safety in the industrial environment

Course Outline

Day One

Overview of Process Control, Instrumentation and Fieldbus

- Process Control Systems
- Control Algorithms and the PID Controller
- Intelligent (Smart) Sensors and Transmitters
- Valves and Actuators
- Fieldbus Systems
- Foundation Fieldbus
- Profibus (PA)

Day Two

Dependability Concepts, Safe Design, Failures and Standards

- Dependability Concepts
- Safety Systems in Process Control and Safe Design
- Device-, Communication-, and Control Failures
- Failure Modes
- Error Detection and Avoidance Mechanisms
- Safety Instrumented Systems (SIS)
- Risk Management
- Safety Standards, Safety Integrity Level (SIL) and Layers Of Protection Analysis (LOPA)

Day Three

Dependability Concepts, Safe Design, Failures and Standards

- Fieldbus Safety Solutions *(with specific reference to intrinsic safety)*
- Implementation Options *(specifically considering integrated and separate systems)*
- The Various Benefits of the Implementation Options
- FISCO
- Safety with Foundation Fieldbus
- Safety with Profibus PA
- Safety with PROFIsafe

Day Four

Functional Safety, and SIS Aspects

- (Functional Safety) Process Control Safety Solutions
- Achieving Target SILs
- Safe Control System Design
- Safety-related Controls
- Safety Control Loops
- SIS Protocol
- SIS Function Blocks
- SIS Diagnostics

Day Five

Testing, Intervention and Analysis

- Testing
- Process Alarms
- Operator Intervention
- Safety Approvals
- Economic Analysis

Training Method

- Pre-assessment
- Live group instruction
- Use of real-world examples, case studies and exercises
- Interactive participation and discussion
- Power point presentation, LCD and flip chart
- Group activities and tests
- Each participant receives a binder containing a copy of the presentation
- slides and handouts
- Post-assessment

Program Support

This program is supported by interactive discussions, role-play, case studies and highlight the techniques available to the participants.

Schedule

The course agenda will be as follows:

- Technical Session 08.30-10.00 am
- Coffee Break 10.00-10.15 am
- Technical Session 10.15-12.15 noon
- Coffee Break 12.15-12.45 pm
- Technical Session 12.45-02.30 pm
- Course Ends 02.30 pm

Course Fees: 4,500 USD