



◀ Safety Instrumented Systems Implementation

Instructor: Angela E. Summers, Ph.D., P.E.
Dates: To be determined
Time: 1st Day - 8:30am to 4:30 pm
 2nd Day - 8:30am to 4:30pm
 3rd Day - 8:30am to 2:30pm
CEUs: 1.8
Cost: To be determined

Audience: Control systems engineers, instrument engineers, and process safety specialists

Course Description: This 3-day course discusses the fundamentals of effective implementation of safety instrumented systems (SIS). The course content was developed using ANSI/ISA 84.00.01-2004 (IEC 61511), ISA TR84.00.04, ISA TR84.00.02, and Guidelines for Safe and Reliable Instrumented Protective Systems. This course is designed to provide the student with an understanding of the management system required for safety instrumented system (SIS), how to perform layer of protection analysis to assign the SIL, how to design to meet the safety integrity level (SIL), how to verify that the SIL has been achieved, and how to develop an operating basis to maintain the SIL of the SIS. Tests are given associated with each module to determine comprehension of course material. Successful completion (>80%) of the tests is required to obtain PRISM Certification.

SERIES 1 – GETTING STARTED

- Module 1 Introduction to the SIS Standards
- Module 2 The Grandfather Clause
- Module 3 The Protective Management System

SERIES 2 – RISK ASSESSMENT

- Module 4 Process Risk and Protection Layers
- Module 5 Establishing H&RA Criteria
- Module 6 Layer of Protection Analysis

SERIES 3 – DESIGN AND IMPLEMENTATION

- Module 7 Process Requirements Specification
- Module 8 Safety Requirements Specification
- Module 9 Selection of Devices
- Module 10 Software Specification

SERIES 4 – METRICS AND THE OPERATING BASIS

- Module 11 Verification Fundamentals
- Module 12 Data Decisions
- Module 13 Example Verification
- Module 14 Operating Basis