

Fire and Gas Systems

Applying performance-based standards to F&G design

Fire and gas systems are an important tool for safeguarding process plants and production facilities that handle flammable and toxic materials. In order to make a fire and gas system effective, a systematic risk-based approach should be used to make key design decisions such as the quantity and placement of detectors. This course presents practical insight into fire and gas system design. The course uses a blended approach where prescriptive standards are discussed in combination with performance-based standards including ANSI/ISA 84.01. New standards aid in making decisions about hardware selection and testing issues that are not adequately defined in the more prescriptive application specific standards for F&G systems.



Practical Skills Taught in this Course

- Understand the hazards of flammable and toxic gases
- Understand how to combine prescriptive requirements of application specific standards, such as NFPA 72 and NFPA 58/59, with performance-based analysis standards such as ISA 84.01 to develop optimal designs
- Understand the Safety Lifecycle and how it can provide a framework for functional safety of Fire and Gas Systems
- Review the prescriptive guidance in application specific standards such as NFPA 58/59 and the signaling system implementation guidance provided in NFPA 72
- Develop a philosophy and engineering process for detector placement
- Design safety instrumented functions that achieve selected safety integrity level performance targets

Our Advantage

Kenexis is an engineering and consulting firm specializing in the application of engineering safeguards, such as fire and gas systems, to the process industries. Our years of experience give us unparalleled insight into specifying and verifying the safety requirements of a wide range of processes.

The Fire and Gas Systems training course includes the following topics:

- ✓ Section 1 Fire and Gas System Overview
- ✓ Section 2 Standard and Regulatory Requirements
- ✓ Section 3 Overview of ANSI/ISA 84.01 Safety Lifecycle
- ✓ Section 3 Risk-Based Sensor Placement
- ✓ Section 4 F&G Safety Instrumented Functions
- ✓ Section 5 Signaling System Design Requirements
- ✓ Section 6 Overview of SIL Selection and Verification
- ✓ Section 7 Comprehensive Example

Who Should Attend?

- Control Systems Engineers
- Process Safety Professionals
- Process Engineers
- Process Hazards Analysis Leaders
- Engineering Management

Course Duration: 1 Day / \$495 per attendee

Kenexis courses are designed to instruct on the entire work process for engineering Fire and Gas Systems, from conceptual design through detailed specifications. In this way, we can ensure that the needs of the end user can be met, while achieving the greatest value for automation expenditures.

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