FUNCTIONAL SAFETY

SAFETY INSTRUMENTED SYSTEMS, SIL VERIFICATION, LOPA, AND ALARM MANAGEMENT CONSULTING SERVICES

Greater process automation yields many benefits, yet control system failures and ineffective alarm systems are frequently cited as major contributing factors in industrial accidents. Instrumented safeguards are an integral part of overall process safety, however without careful design and management, can quickly become a root cause rather than a safeguard.

Alarms and operator intervention are typically the first line of defense against hazardous process conditions. A well designed and rationalized alarm system will improve response time, minimize the magnitude and duration of upsets, not only paying dividends in process safety, but also productivity and product quality.

To combat risks introduced by hazardous processes and complex control schemes, a fully independent, automated Safety Instrumented System (SIS) may be the last or only protection layer that can respond quickly and reliably enough to prevent a loss of containment. We can help develop robust systems that provide high levels of reliability, realistic maintenance and testing intervals, and low likelihood of costly and dangerous spurious trips – maximizing the effectiveness of your investment.

Primatech employs proven, structured techniques for risk-based decision making, and a lifecycle management approach for instrumented safeguards. We look beyond individual scenarios to examine your unique process, process control system, and operating environment. Our consultants are committed to helping process owners provide a safe and productive work environment through the use of good engineering practices, including International consensus Functional Safety standards IEC 61508 and IEC 61511 / ISA 84, as well as IEC 62682 / ISA 18.2 for Alarm Management Systems.

WE OFFER SERVICES IN THE FOLLOWING AREAS OF FUNCTIONAL SAFETY AND ALARM MANAGEMENT:

- Functional Safety Management Plans
- Layers of Protection Analysis (LOPA)
- Safety Instrumented Function (SIF) Definition
- Safety Integrity Level (SIL) Determination
- Safety Requirements Specifications (SRS)
- Safety Integrity Level (SIL) Verification
- Failure Modes, Effects, and Diagnostics Analysis (FMEDA)
- Functional Block Library and Logic Template Development
- Proof-Test Plans and Procedures
- Functional Safety Assessments and Program Audits
- Grandfathering and Prior-Use Justification
- Spurious Trip Studies
- Alarm Philosophy Development
- Alarm System Requirements Specifications (ASRS)
- Alarm Identification and Rationalization
- Alarm System Assessments and Audits

WE OFFER PUBLIC AND IN-HOUSE TRAINING IN THE FOLLOWING TOPICS OF FUNCTIONAL SAFETY:

- Layers of Protection Analysis for Process Safety Management – 3 days
- Understanding IEC 61511 / ISA 84 and Developing Safety Requirements Specification – 1 day
- Safety Integrity Level (SIL) Verification for Safety Instrumented Systems – 3 days

To learn more about our consulting services,
call: 614-841-9800
visit: www.primatech.com/consulting
or email: consulting@primatech.com

PrimaTech

50 Northwoods Blvd.
Columbus, OH 43235 USA