

K. Todd Godsoe, P.Eng., SSS/ SFS
Senior Engineer, Kenexis Consulting Corporation

Fields of Competence

Safety Instrumented Systems (SIS)
Burner Management Systems (BMS)
Fire and Gas Systems (F&G)
Layer of Protection Analysis (LOPA)
Process Safety Management (PSM)
Process Hazards Analysis (PHA)
Alarm Management
Fault Tree Analysis (FTA)
Control System Engineering
SIS System Engineering
Instrument / Electrical Engineering
Electrical Area Classification

Experience Summary

Mr. Godsoe has worked in the risk management and process safety fields for over 15 years. He has been involved in numerous projects covering such diverse operations as oil & gas production, petroleum refining, specialty chemical and food / pharmaceutical processes. He has extensive experience with Process Control Engineering and Instrument Protective Systems.

Credentials

B.Sc., Chemical Engineering / Statistics Option, University of Waterloo, Canada (1996)

Registered Professional Engineer (Chemical Engineering),
Province of Ontario and Province of Alberta Canada

ISA84 SFS – Safety Instrumented Systems Fundamentals
Specialist, International Society of Automation

ISA84 SSS – SIL Selection Specialist, International Society of
Automation

Professional Affiliations

Professional Engineers Ontario (PEO)
The Association of Professional Engineers,
Geologists and Geophysicists of Alberta (APPEGA)
The International Society of Automation (ISA) – Member of ISA
SP18 Committee for Alarm Management

Relevant Courses

Kenexis Performance Based Fire and Gas
System Engineering

Kenexis Safety Instrumented Systems
Engineering – Part 1&2

ISA EC50 Safety Instrumented Systems –
Design, Analysis & Justification

ISA EC52 Advanced Safety Integrity Level (SIL)
Selection

Key Assignments

Managed / Lead Performance Based Fire and Gas
Engineering projects including: detector technology
assessment, fire and gas detector geographic
coverage assessment, Fire & Gas safety
requirements specifications, fire protection
strategy, and deluge system design for various
refining and oil and gas including:

- Hydrocracking / Hydrotreating
- Offshore oil and gas platforms
- Onshore oil, gas, and condensate processing
- Gas to Liquids facility
- HDPE polyethylene facility

Conducted Layer of Protection Analysis (LOPA),
Safety Integrity Level (SIL) Selection / verification,
and, Safety Instrumented System (SIS) design
including alarm system design for various oil & gas
and refining process units in the USA and Canada
including:

- Delayed Coking
- Onshore/Offshore oil and gas production
- Gas Liquefaction / LNG production
- Fired Heaters and Burner Management
Systems
- Compressor Systems
- Fluidized Catalytic Cracking (FCC)
- Sulfur Recovery Units (SRU)
- Crude / Vacuum Distillation
- Merox Mercaptan Removal

Managed safety instrumented system (SIS) + Fire
and Gas Systems (FGS) commissioning and
verification projects at various customer sites in
Africa on various oil & gas process units. SIS and
Alarm System design validation and field
programming changes

- Utility Boilers
- Onshore/Offshore oil and gas production
- Water Injection Systems for enhanced oil
recovery
- Oil production well gas lifting
- Compressor Systems

Key Assignments (cont'd)

Instructor for training classes discussing the principles and techniques employed in engineered safeguards.

- Process Control Systems Engineering
- Instrument / Electrical Engineering
- Advanced Alarming DCS Techniques

Chemical Accident Investigation, including forensic engineering, causal factors determination and root cause analysis:

- Reactive chemical hazard incidents
- Burner Management System failures

Hazard identification (HAZOP), failure modeling, fault tree analyses, LOPA, and, SIS system design. Recommended high-integrity interlock systems, alarm management, and other alternatives for risk reduction for:

- Specialty Chemical reaction / distillation processes

Facilitated numerous Process Hazard Analysis (PHA) studies for specialty chemical reaction and separation units required under OSHA PSM.

Techniques included HAZOP and What-If/Checklist.

Developed SIS system standards and management guidelines for a major U.S. and Canadian chemical company concerning Process Hazards Analysis and Management of Change elements of OSHA's PSM standard.