



Your Role In SIS



Time For A Sanity Check?

Defining the Process and Equipment

- Those involved
 - Process Engineers
 - Business Representatives
 - Other SME's
- Deliverables
 - Process Flow Diagrams
 - P&ID's

Define/Identify the Hazards PHA-LOPA

- Those Involved

- Process Engineers
- Mechanical/Equipment Engineers
- Safety Engineers

- Deliverables

- Potential scenarios and risk factors
- Target Factors to protect against
- Credits for Independent Layers of Protection
- SIS--a last resort



Develop Safety Requirements Specification (SRS)

■ Those Involved

- Process Engineers
- Safety Engineers
- Control Engineers
- (bring in Design and Maintenance)

■ Deliverables

- The detailed Safety Requirements Specification (SRS)--The Control Document for the SIS Life Cycle



Detailed Design

■ Those Involved

- Senior Instrument/Electrical Designer or Engineer
- Instrument/Electrical Designer
- (involve Maintenance Instrument/Electrical Personnel)
- (involve Control Engineers)

■ Deliverables

- Verified design against the Safety Requirements Specification
- Field Validation Procedures

Construction and Installation

- Those Involved
 - Construction
 - Owner Representatives
 - Plant Instrument/Electrical Maintenance

- Deliverables
 - SIS Instruments installed per installation documentation, proper tagging, etc.

Development of Proof Test Procedures

■ Those Involved

- Plant Instrument/Electrical Maintenance
- (Involve Design Engineering)

■ Deliverables

- Proof Test Procedures for a instrument or group of instruments
- Intervals loaded into Maintenance Tracking System
- Location identified for safe keeping of Procedures



Performance Validation

■ Those Involved

- Process Control
- Plant Instrument/Electrical Maintenance
- Plant Operations
- Instrument/Electrical Design

■ Deliverables

- SIS/SIF Validation Procedures
- Entire System Performance validated prior to start-up



Plant Operation

■ Those Involved

- Plant Instrument/Electrical Maintenance
- Operations

■ Deliverables

- Proof Test Performed as scheduled
- Performance data documented (as found/as left)
- Corrective actions documented
- SRS updated if necessary
- Strategic spares (MTTR)



Collecting Performance Data—Reliability Engineering

■ Those Involved

- Plant Instrument/Electrical Maintenance
- Reliability Engineers

■ Deliverables

- Failure rates per instrument group per application
- Data to support extend or decrease proof test interval
- Data to improve PPM for all instrument applications

Audits and Assessments

■ Those Involved

- Safety Engineers
- Plant Instrument/Electrical Maintenance
- Operations

■ Deliverables

- SRS modified as necessary
- Proof Test Procedures/Intervals followed
- Key players understand their role



SIS De-Commissioning

■ Those Involved

- Safety Engineers
- Process Engineeres
- Plant Instrument/Electrical Maintenance
- Operations SME's

■ Deliverables

- SRS Updated (MOC), follow your record retention guidelines



Thank You!



Questions/Comments