

Best Practices for Process Protection and Safety Shutdown

Bruce Albert
United Electric Controls Company

Thank You for Attending Today's Webinar:

**Best Practices in Process Protection and
Safety Shutdown**



Your Host

Mike DeLacluyse
President
Lesman Instrument Co
miked@lesman.com



Featured Speaker

Bruce Albert
North American Sales Director
United Electric Controls
balbert@ueonline.com



Follow the Conversation LIVE
@Lesman_Inst #LesmanWebinar

Best Practices for Process Protection and Safety Shutdown

- Modern demands led to advancement of process control components
 - “Process Control”= Control process within set conditions, optimize operation, attempt to keep variables within limits
 - Sensors, logic processors, valves, etc.
 - Increased reliability and availability via:
 - Communications
 - Diagnostics
 - “Control in the Field” (CIF)
 - 80% increase in MTBF compared to traditional DCS
(ARC, Business Value Proposition of Control in the Field, 2009)
 - Additional feature enhancements

Best Practices for Process Protection and Safety Shutdown

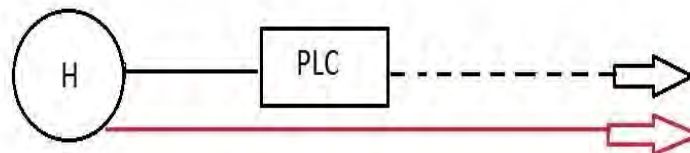
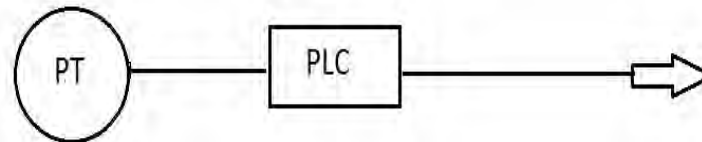
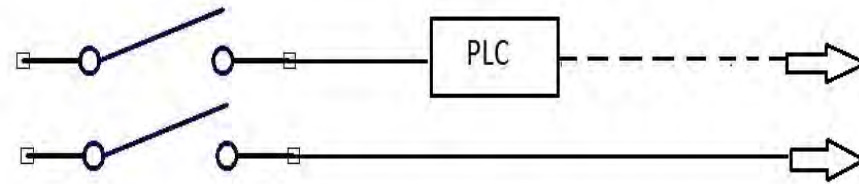
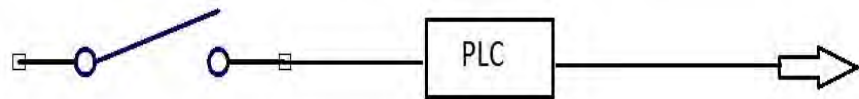
- Another area of operations: Process protection, safety shutdown
 - Alarm, Interlocks/Permissives, shutdown
 - Advancement limited
 - Considered “separate”
 - Sometimes is separate
 - Speed critical
 - Discrete function: little data, variables for capture, communication
 - Existing architecture, control scheme
 - Advancement by using process control devices
 - “Shoehorning”
 - Is this real advancement?

Best Practices for Process Protection and Safety Shutdown

- Process Protection and Safety Shutdown: Protecting people, process and equipment
 - Alarms
 - Speed of response (predetermined limit, faster know, react, faster action to correct)
 - Most significant improvement from faster response (ARC, 2009)
 - Alarms occur too often or too quickly (Exida, Alarm Management for Process Control)
 - Alarm “blizzard”
 - Move to less frequent, more meaningful alarms
 - Device needs
 - Fast enough to respond to fastest needs
 - Ability to recognize, differentiate real vs transient
 - Flexible to match existing architecture, scheme
 - Non-proprietary

Best Practices for Process Protection and Safety Shutdown

- Process Protection and Safety Shutdown: Protecting people, process and equipment
 - Alarms

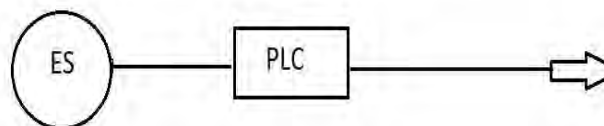
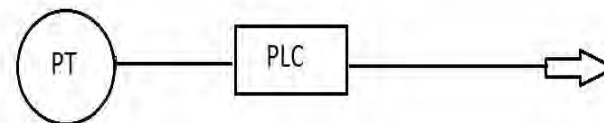
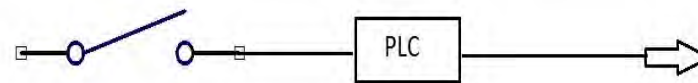


Best Practices for Process Protection and Safety Shutdown

- Interlocks/ Permissives
 - Not as speed dependent
 - Reliability key
 - “Go/ No Go” gate
 - Correctly identify current condition
 - Be “alive” and “healthy”
 - Device needs
 - Highest possible reliability (construction, components, testing)
 - Highly repeatable (in identifying condition)
 - Ability to recognize real vs transient
 - Self-health diagnostic
 - Non-proprietary
 - Flexible to match existing architecture, scheme

Best Practices for Process Protection and Safety Shutdown

- Interlocks/ Permissives

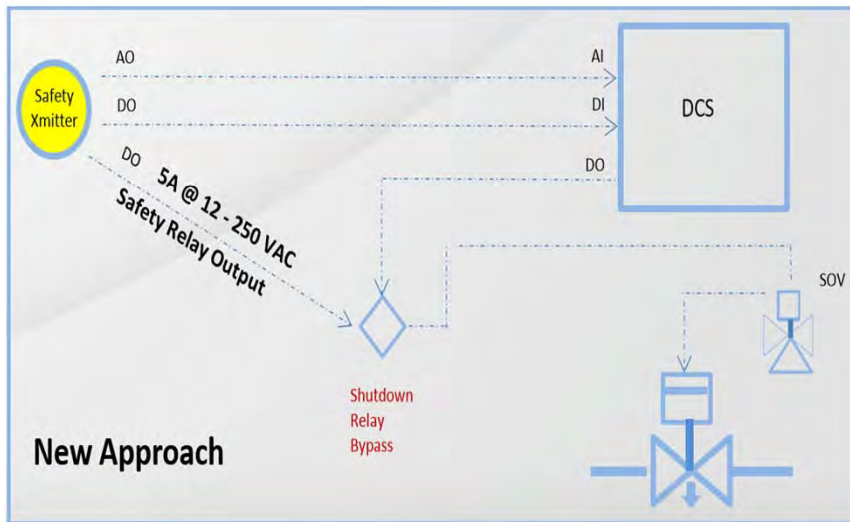
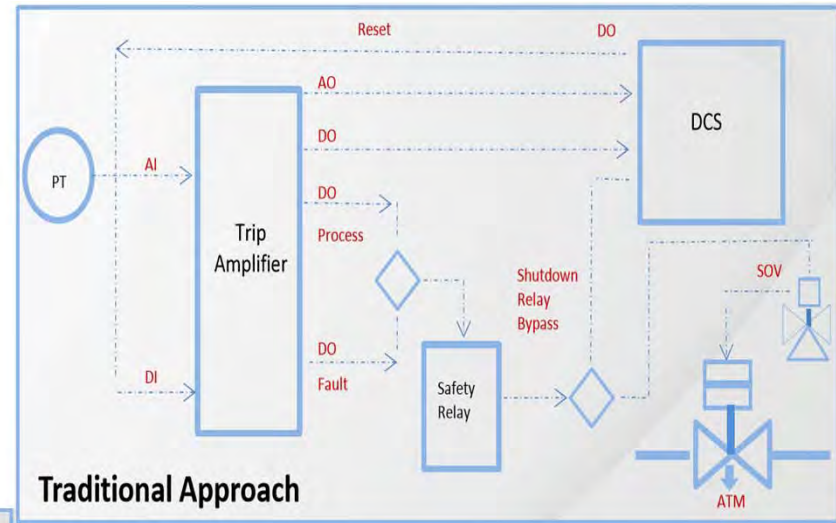


Best Practices for Process Protection and Safety Shutdown

- Shutdown, ESD Systems
 - Can require very fast response
 - Critical to correctly identify condition
 - Go/ No Go for entire process/ area/ plant
 - Critical to be available
 - Last defense
 - Redundancy
 - Eliminate/minimize single-point, common-mode and human factor failure
 - Minimize complexity
 - Can require specialized certification (Safety Instrumented Systems)
 - Device needs
 - Fast
 - Highest reliability
 - Ability to recognize real vs transient
 - Self-health diagnostic
 - Cost-effective to employ voting logic
 - Certified (if needed)
 - Non-Proprietary
 - Flexible to match legacy, current, future needs

Best Practices for Process Protection and Safety Shutdown

- Shutdown, ESD Systems



Best Practices for Process Protection and Safety Shutdown

- **Conclusions**

- Technology advancements in field elements have greatly increased reliability, integrity and performance of process control
- The same is not true for alarm, interlock, safety systems due to functional differences
 - Deploying process control devices into these systems doesn't provide good return
- The right device, built specifically for this arena, could bring substantially recognizable benefits
 - Device would need to meet all requirements or face "shoehorn" issues
 - It is time to bring technological advancement to the protection of people and property

Best Practices for Process Protection and Safety Shutdown

- Recommendations
 - Find a device with everything, designed specifically for this functionality
 - Fast
 - Programmability
 - Self-diagnostic
 - Flexibility
 - True drop-in replacement for mechanical switch
 - Transmitter-Switch hybrid
 - SIL Certification
 - Third-Party reliability data
 - Highly Repeatable
 - Hybrid technology
 - Redundancy “in-a-box”
 - Reduction of complexity
 - Cost effective

Get Social with Lesman



blog.lesman.com



[www.linkedin.com/company/
lesman-instrument-company](http://www.linkedin.com/company/lesman-instrument-company)



[@Lesman_Inst](https://twitter.com/Lesman_Inst)

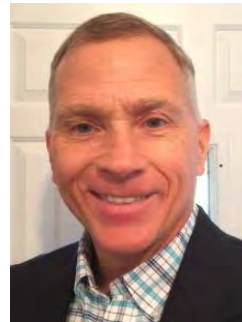


[www.youtube.com/user/
LesmanInstrumentCo](http://www.youtube.com/user/LesmanInstrumentCo)

Upcoming Webinar:

Transmitter Selection & Specification Made Easy

Wednesday, May 24, 9am Central



Featured Speaker

Chris Goepper

Regional Sales Manager

Honeywell Process Solutions

[Webinar invitation e-mail coming soon...](#)