

exida Can Show you the Way



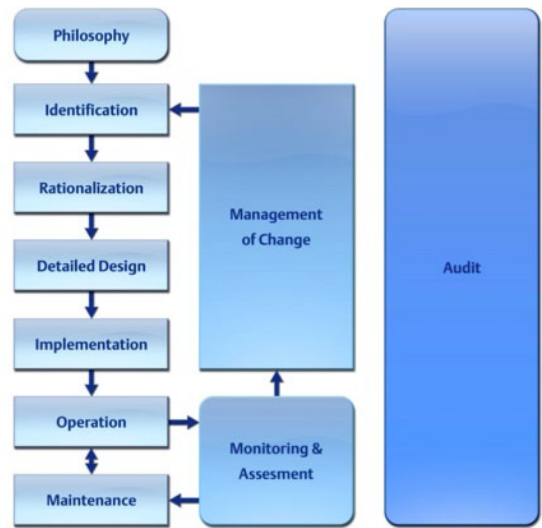
*Training Course: Alarm Rationalization with SILAlarm™*

**Alarm Rationalization: A Key Activity in the ISA-18.2 Alarm Management Lifecycle**

Modern control systems make it easy to add alarms without significant effort, cost, or consideration for whether they are truly needed. This has led to alarm systems that hinder, rather than help, operators via nuisance alarms, alarm floods, incorrectly prioritized alarms, and alarm overload. Alarm rationalization, one of the key activities in ISA-18.2's alarm management lifecycle, can address these issues and optimize the alarm system performance.

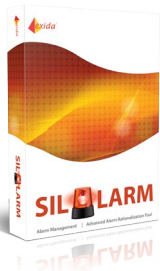
Alarm rationalization is the process of systematically reviewing existing or candidate alarms to make sure that they are justified and necessary. It includes defining the alarm's attributes (such as limit, priority, and classification) and documenting the cause, consequence, and corrective action all in a Master Alarm Database (MADB).

ISA-18.2 is expected to be accepted as good engineering practice by regulators (such as OSHA) and insurance bodies.



*Course Description:*

Attendees of this workshop will learn how to rationalize alarms for greenfield (new), or brownfield (existing) applications in order to optimize performance of their alarm systems and address common alarm management issues. The class immerses participants in discussion and hands on exercises which have been designed to demonstrate the best practices for rationalization as taken from the ISA-18.2 alarm management standard and EEMUA 191 guideline. It provides an overview of the entire alarm management lifecycle, allowing students to see how rationalization fits into an effective alarm management program. The class also discusses considerations for how to create an alarm philosophy document by reviewing some of the key topics that should be contained in this document.



exida's SILAlarm™ tool will be used to guide the participants through the rationalization process and capture the results.

*Focus on Addressing Common Alarm Management Issues*

- Reduce the number of alarms presented to the operator (to only those that are necessary)
- Prevent alarm floods
- Suppress alarms when they are not meaningful (when equipment is out-of-service)
- Eliminate nuisance alarms (chattering alarms, stale / standing alarms)
- Prioritize alarms so that operators know which ones to respond to first
- Eliminate frequently occurring alarms / "bad actors"
- Ensure that operators know how to respond to each alarm
- Improve the speed and consistency of operator response to alarm



### What Attendees Will Learn:

- Rationalization guidelines that should be defined in an alarm philosophy
- Information that is needed to create a Master Alarm Database
- Transferring alarm configuration settings to / from a control system
- Criteria for determining when an alarm is valid and necessary
- Prioritizing alarms based on potential consequences and time to respond
- Alarm classification: how to do it and what to use the results for
- Establishing alarm limits and evaluating operator response time
- Creating operator alarm response procedures from the results of rationalization
- Applying deadband and on / off delay to eliminate chattering alarms
- Configuring alarm shelving to allow operators to temporarily suppress alarms
- Use of state-based (static) suppression, alarm flood (dynamic) suppression, and state-based alarming to ensure alarms are relevant and meaningful when presented to the operator
- Techniques for treating system / instrument diagnostic alarms (e.g. PV BAD alarms) and alerts
- Benchmarking alarm system performance to identify rationalization goals / targets
- Implementing management of change (MOC) for the Master Alarm Database
- Techniques for managing / ensuring a successful rationalization project

Alarm List - Operator Decision Support			
LAHH103, LT103			
Base Response On	Process Safety Time (minutes)	Cause	Confirmation
Consequence of no action	30	Control Loop LIC-201 Fails Valve LV-201 Closed	KO Drum Level - LIC201 KO Drum High Level - LAH 202
Liquid carryover to K-102, equipment damage, personnel exposure	Design Intent Prevent KO Drum from overflowing		
Alarm Message		Corrective Actions	Comments
KO Drum High High Level		Manually Open Valve LV-201	Should Trip SIS Interlock I-101
Priority Level	<input checked="" type="checkbox"/> Include in Alarm Response Manual		
<b>Medium</b>			

### Who Should Attend:

Those responsible for leading/facilitating alarm rationalization, maintaining the master alarm database, and configuring the control system based on the results of rationalization.

### What the Course Includes:

- Course notes, SILAlarm User Manual/Best Practices Handbook
- Two (2) weeks of online access to SILAlarm after the class

**Course Length:** 2 Days

### Instructor Bio:



Todd Stauffer, PE, is responsible for marketing and business development of exida's alarm management products and services (training, consulting, engineering tools). He is the product manager for SILAlarm. Todd is an editor and voting member of the ISA-18.2 standards committee on alarm management and currently is the co-chair of ISA-18.2's Working Group 3 chartered with writing the Basic Alarm Design technical report. He is an instructor for ISA's training class "Introduction to the Management of Alarm Systems". Todd has published and presented numerous papers on alarm management.