exida Functional Safety, Security, & Reliability
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Introduction to Alarm Management Practices & Principles:

exida Can Show you the Way

Length: 2 Days

Description:

Poor alarm management can lead to unplanned downtime, increased operator stress, damage to equipment, personnel injury, or worse. With the release of the ANSI / ISA-18.2 standard "Management of Alarm Systems for the Process Industries" and increased attention from major incidents, companies are being pushed by regulators and insurance companies to demonstrate that they are following "good engineering practices" for alarm management. This interactive training seminar is designed to educate attendees on good engineering practices for alarm management as well as to prepare them for executing tasks in an alarm management program (such as development of an alarm philosophy document, performing rationalization, or resolution of alarm management issues). The seminar also focuses on creating an effective alarm management program and putting it into practice.

What You Will Learn by Attending:

- How to identify and resolve common alarm management issues (e.g., nuisance alarms and alarm floods)
- What goes into creating an effective alarm philosophy document
- How to rationalize alarms to ensure every alarm is needed and properly designed (limit, priority, deadband…)
- How to make the most of alarms as a layer of protection
- How to address system and instrument diagnostic alarms
- Techniques for improving the operator's response through improved HMI design, the use of alarm suppression and alarm response procedures
- How to put together an effective, sustainable alarm management program that delivers quantifiable benefits and complies with industry standards and guidelines such as ISA-18.2 and EEMUA 191

Syllabus:

Importance of Alarm Management
- Incidents and Lessons Learned
- Costs & Benefits
- Regulatory Impact

General
- Purpose of Alarm System
- Definitions
- Standards & Guidelines

The ISA-18.2 Alarm Management Lifecycle
- Getting Started
- Existing System (Brownfield) vs New System (Greenfield)

Common Alarm Management Issues
- Nuisance Alarms
- Alarm Overload
- Standing Alarms

Alarm System Performance Monitoring & Assessment
- Key Performance Indicators
- Identification of Bad Actors
- Typical Reports

Identification & Rationalization
- Methods for Identification
- Alarm Prioritization
- Alarm Objective Analysis
- Alarm Setpoint Determination
- Alarm Classification
- Documenting results in the Master Alarm Database (MADB)

Detailed Design
- Alarm Design Principles
- Special Alarm Design Considerations
- Treatment of Diagnostic Alarms
- Treatment of Safety-Critical Alarms
- Advanced Alarming & Alarm Suppression
- HMI Design Practices

Implementation, Operation & Maintenance
- Implementation Guidance
- Testing of Alarms
- Operator Training
- Alarm Response Procedures / Manuals
- Alarm System Maintenance

Audit
- Operator Interviews

Management of Change
- Process for Review & Approval

Creating an Effective Alarm Management Process
- Knocking Down Bad Actors
- Solving Common Alarm Management Issues
- Putting the Alarm Management Lifecycle into Practice
- Establishing the Business Benefits of Your Alarm Management Program

Attendees will receive a copy of the book "Alarm Management for Process Control", by D. Rothenberg

Instructor Bio:

Todd Stauffer, PE, is responsible for marketing and business development of exida's alarm management products and services (training, consulting, engineering tools). Previously he worked for Siemens Energy & Automation where he held Product Management responsibility for APACS and PCS 7, as well as led key activities around alarm management and control system security. He 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 has published and presented numerous papers on alarm management. Recent works include "Get a Life(cycle) – Connecting Alarm Management and Safety Instrumented Systems" and "Making the Most of Alarms as a Layer of Protection". His article "Don't be Alarmed: Avoid Unplanned downtime from alarm overload" was selected as Intech magazine's best article of the year in 2007.

A graduate of Penn State University, Todd holds a BS in Mechanical Engineering and earned a Master's degree in Mechanical Engineering from the University of Pennsylvania. Todd is currently a registered professional engineer in the State of Pennsylvania.