€TRAINING

Alarm Management

Alarm Management

Introduction:

The ease at which Distributed Control Systems DCS alarms can be created has removed the incentive to limit the number of such alarms. The result, operators today are potentially faced with more alarms than they can effectively monitor. Alarm Systems Management ASM should, therefore, identify unnecessary alarms, those set at the wrong value and general overall improvement to the systems and procedures.

Poor management and poor ownership of alarm systems with no agreed alarms policy inevitably leads to a situation where alarms are incorrectly set giving large numbers of irrelevant alarms which the operator, frustrated, begins to ignore or which may obscure more critical alarms. Rationalization and de-manning of control rooms without an awareness of human factors further increases potential risks.

Course Objectives:

At the end of this course the participants will be able to:

- Apply concepts and procedures for improving alarm management
- Assess the performance of your system with a range of improvement techniques
- Improve and apply Alarm Management techniques
- Evaluate their current operator readiness, state of training and ability
- Consider the opportunities for increased plant performance and safety
- Understand the number of ways of measuring the performance of an alarm system and its users
- Understand the costs of poor alarm performance or not implementing an alarm management philosophy

Targeted Audience:

- Automation, Chemical, and Process Engineers
- Installation and Maintenance Technicians
- Instrumentation and Control Engineers
- Process Operators
- Production and Project Managers
- Other Professionals who want a better understanding of the subject matter

Course Outlines:

Unit 1: Introduction, Aims, Objectives, and Key Issues:

- Guidance document EEMUA 191
- Basic Alarm Management philosophy, what does it include?
- 5 Justifications for Alarm Management
- Alarm Management, all plants need it!
- Project Plan Outline - not a one-off project!
- Benchmark & Assessment
- Alarm Management Philosophy
- Alarm analysis/rationalization
- Implementation and execution

- Continuous Improvement
- Functional definitions of systems

Unit 2: Principles of an Alarm Management Program:

- Managing an improvement program - who should be involved?
- Personal and Team targets
- Alarm proliferation
- Alarm review and control of modifications
- Increased hazards, use of alarms, control and protection
- Major commercial hazards will involve risks to people and the environment
- Strategy and / or Culture of Improvement
- Operator involvement and no-blame reporting
- Integrating Alarm Management to boost Plant Production

Unit 3: Measuring Performance Along With Human Factors:

- Alarms need people
- Human factor issues
- Human Factors - International Standard IEC61508
- Operator questionnaires, Improving operator procedures
- Dealing with unwanted alarms
- Logical processing of alarms
- Case Histories - some examples of loss
- Potential conflicts between various business needs

Unit 4: Legislation and Self Evaluation:

- Operator Interface. Are there problems with your existing alarm system? Take some measurements to find out
- How many alarms are there?
- Are you overwhelmed by alarm floods?
- Management Responsibilities - Legislation
- Physical Assessment Trees
- Learning from sample business cases studies
- Is your organization prepared? Self Evaluating Activity and questionnaires
- The Alerting process; Communications and Warnings
- Equipping and identifying Emergency Operations/Communications Centres
- Stress Levels of Control Room Operators & Emergency Responders

Unit 5: Should the System Catastrophically Fail and a Major Incident Follows:

- Departmental Roles & Responsibilities
- Role of First responders - Emergency Response Teams
- Role of the Incident On-Scene Commander
- Shelter or Evacuation
- Designing drills