



Alarm Management

49 CFR 192.631(e)

AND

49 CFR 195.446(e)



49CFR : 192.631 & 195.446

- a) General
- b) Roles and Responsibilities
- c) Provide Adequate Information
- d) Fatigue Mitigation
- **e) Alarm Management**
- f) Change Management
- g) Operating Experience
- h) Training
- i) Compliance Validation
- j) Compliance and Deviation



Questions

- Please hold your questions until after all of the presenters have finished.
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Significant Definition

- **49 CFR 192.3 - Gas & 49 CFR 195.2 – Liquid**
 - **Alarm** means an audible or visible means of indicating to the controller that equipment or processes are outside operator-defined, safety-related parameters



Code Language

- **(e) Alarm management.**

Each operator using a SCADA system must have a written alarm management plan to provide for effective controller response to alarms. An operator's plan must include provisions to:

- (1) Review SCADA safety-related alarm operations using a process that ensures alarms are accurate and support safe pipeline operations;



Code Language

- (2) Identify at least once each calendar month points affecting safety that have been taken off scan in the SCADA host, have had alarms inhibited, generated false alarms, or that have had forced or manual values for periods of time exceeding that required for associated maintenance or operating activities;



Code Language

- Gas and Liquid Sections of Code for Alarm Management are very close with one exception:
 - (e) 3
 - Liquid has the following added requirement
“when associated field instruments are calibrated or changed and”

This difference will be highlighted in the appropriate location below.



Code Language

- (3) Verify the correct safety-related alarm set-point values and alarm descriptions ***when associated field instruments are calibrated or changed*** at least once each calendar year, but at intervals not to exceed 15 months;

**RED is only in the liquid (195 code), not in gas (192)*



Code Language

- (4) Review the alarm management plan required by this paragraph at least once each calendar year, but at intervals not exceeding 15 months, to determine the effectiveness of the plan;
- (5) Monitor the content and volume of general activity being directed to and required of each controller at least once each calendar year, but at intervals not exceeding 15 months, that will assure controllers have sufficient time to analyze and react to incoming alarms; and



Code Language

- (6) Address deficiencies identified through the implementation of paragraphs (e)(1) through (e)(5) of this section



Resources

- Accident/Incident Data
- Your Own Near Misses
- NTSB Scada Safety Study
 - NTSB Workshop 07.pdf
- ISA SP-18
- EEMUA 191
- API RP1167
- Others
 - OSHA 1910.119; NEP 03-00-004
 - NAMUR NA 102



Panel Members

- Carol Wallace
- Gary Medley
- Dan Scarberry
- Rick Kuprewicz



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