



Control Room Management

Metropolitan Gas System Operator Seminar

Princeton : May 5, 2011

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USDOT/PHMSA**



Background

- PHMSA has been examining Control Room operations for 10+ years
 - Three Advisory Notices on SCADA & Fatigue (1999, 2003, 2005)
 - SCADA System Check List Initiated (1998)
 - T&Q SCADA Training Class Developed (2001)
- Pipeline Safety Improvement Act of 2002 (Section 13b)
 - CCERT Study of control room operations to enhance pipeline safety (2003-2006)
 - Two CRM Workshops (2006, 2007)
 - OQ Report to Congress, Section 6 (Dec-2006)
- National Transportation Safety Board
 - SCADA Safety Study (2005)
 - 10 of 18 Hazardous Liquid accidents have potential CRM involvement (1998-2005)
- PIPES Act of 2006 (Sections 12, 19, 20)
 - Establish human factors management plan
 - NTSB Recommendations on Displays, Alarms and Training
 - Accident/incident form changes on Fatigue
 - Issue Regulations



Objective

- Create an environment to help assure controllers will be successful in maintaining pipeline safety and integrity
- Verify that procedures, systems and equipment are well thought out, and function as designed



49CFR : 192.631 & 195.446

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



Operators and Controllers

Operator Types	Final Rule	Limited* Inclusion, Controllers & Qualified Supervisors	Full Inclusion, Controllers & Qualified Supervisors
Master Meters & LPG	Excluded		
Gas Distribution : < 100k services	Limited*	1308	
Gas Distribution : 100k to 250k services	Limited*	488	
Gas Distribution : > 250k services	Included		1068
Gas-Trans without compressor station/s	Limited*	1307	
Gas-Trans with compressor station/s	Included		2354
LNG Plants (est. 436 controllers)	Excluded		
Haz-Liq : < 50 pipeline miles	Included		308
Haz-Liq : 50 to 250 pipeline miles	Included		551
Haz-Liq : > 250 pipeline miles	Included		1108
Estimated Totals		3103	5389

*- Limited Inclusion refers to Fatigue Management and Compliance Deviation



Impact on Operators

- Most pipeline operators are already performing the bulk of the new requirements
- For many, a large part of the effort is to create procedures for informal work practices
- Fatigue and alarm management requirements are likely to cause the most change
- New requirements do not change any established definitions or jurisdictional boundaries



Inclusion Criteria

- Does the operator have a SCADA system applied to regulated pipeline facilities?

And....

- Does the operator have controllers (individuals using computer-type displays and keyboard/mouse, etc.) using a SCADA system with operational authority and responsibility to monitor and control regulated pipeline facilities?

- [Gas only] Does the operator have 250,000 services?

Or....

- [Gas only] Does the operator have transmission pipe with a compressor?



Monitor and Control

- Authority & Responsibility – Assigned job duties
- Monitor - Individuals using computer-type displays and keyboard/mouse, etc.) using a SCADA system to observe, detect and react to abnormal and emergency situations
- Control – either by directly sending SCADA commands to field equipment, or prompting others to action.



2010 – 2011 Milestones

- Original Final Rule Effective Date : Feb-2010
- NTSB Recommendation Closures : Feb/Apr-2010
- NPRM to expedite Deadlines : Sep-2010
- Public Workshop : Nov-2010
- Finalize Hours of Service Criteria : Feb-2011
- Post Draft FAQ's : Feb-2011
- Technical Advisory Committee : Mar-2011
- Pilot Inspections : Mar/May-2011
- Finalize FAQs & Inspection Guidance : Jun-2011
- Inspector Training Begins : Jun-2011
- Phase I Implementation Date : Aug-2011
- Phase I Inspections Begin : Sep-2011

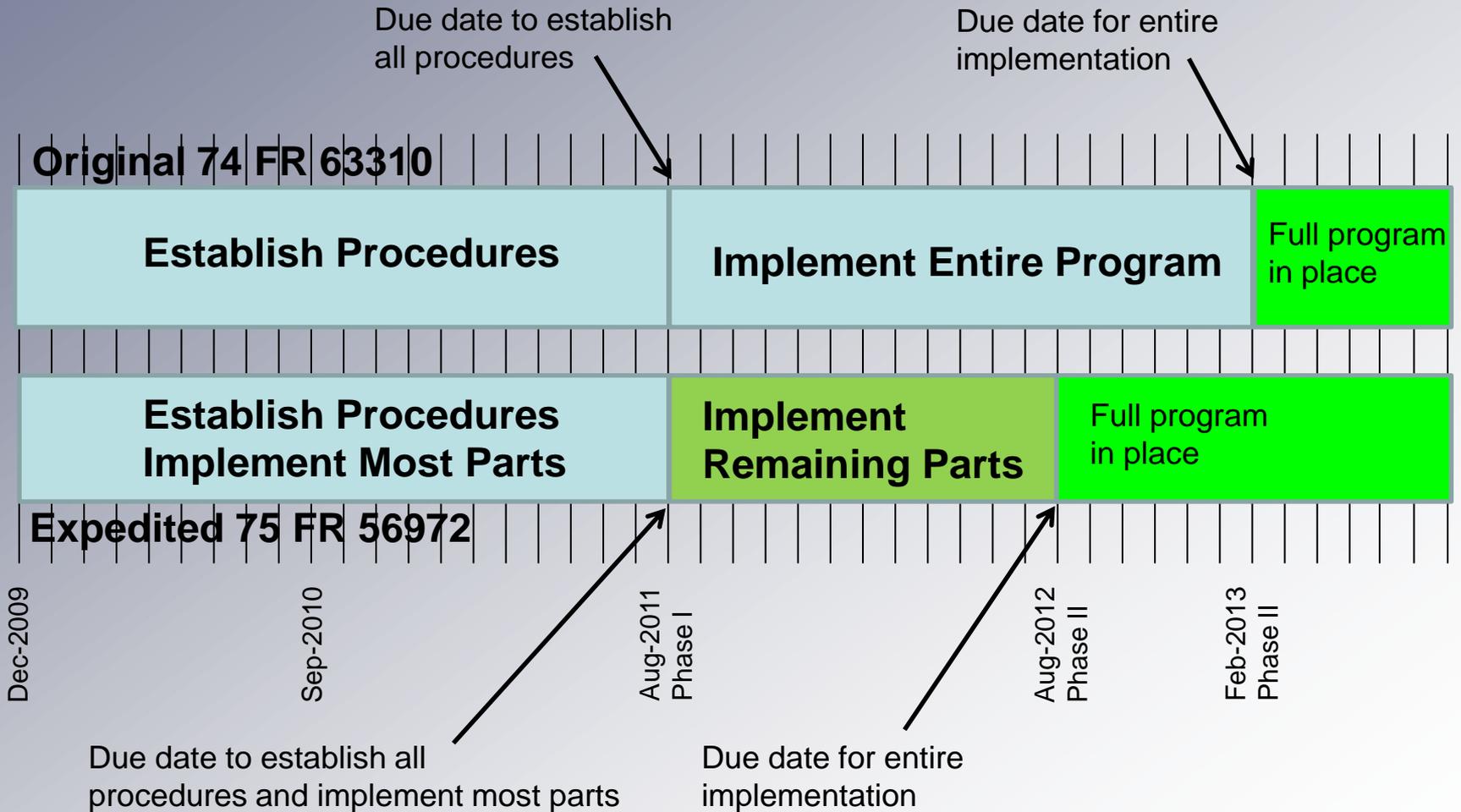


Pilot Program for Inspection Guidance Development

Operator	Type	Scheduled Week
Colonial Pipeline	Large Haz Liquid	Feb 28
Kern River Gas Transmission	Med Gas Trans	Mar 14
Enterprise Products	Large Liq/Gas	Apr 04
The Energy Cooperative	Small LDC	Apr 04
Portland Montreal Pipeline	Med Haz Liquid	Cancelled, Federal Budget Issues
City of Mesa	Med LDC	Apr 18
Southern Natural Gas	Large Gas Trans	Apr 25
Ameren Corporation	Large LDC/Trans	May 23



NPRM Impact on Timeline





Control Room Inspections

- Performed by inspectors from either PHMSA or our state partners, based on established federal or state jurisdiction
- Inspections will begin in Sep-2011, heavier in 2012
- Inspections will be based on control rooms
- Inspections may be parsed, dependent on the resolved timelines of the Expedite Final Rule
- Inspection checklists made public in June-2011
- After initial regulatory compliance is established, control room requirements will become a part of general regulatory review during traditional and specialized inspections.
- Control Room regulations will become an important part of incident and accident investigations



Frequently Asked Questions

- New regulations are mostly performance-based
- FAQs cover a broad range of topics
- First posted in mid February-2011
- A few more will be added
- Revised content made public in June-2011
- <http://primis.phmsa.dot.gov/crm/index.htm>



C – Adequate Information Notes

- Safety-related points
- Alarm'd points a subset of safety-related points
- Point-to-Point verification
- Test any back-up SCADA System
- Shift-change



D – Fatigue Management Notes

- Opportunity for (8) hours of continuous sleep between shifts
- Hours-of-Service : Schedule, Max & Min hours
- Based on 7 consecutive days, not weekly
- Probably can not use SCADA login's to tally hours
- Qualified Supervisors may have limited 'controller' hours available



CRM Workshop

November 17, 2010

- Fostered an understanding of the Control Room Management Rule issued on December 3, 2009
- Workshop was in conjunction with the National Association of Pipeline Safety Representatives (NAPSR)
- Broad base of Stakeholders
- 500+ attendees
- Panel discussions
- To provide input to further refine guidance material under development at the time



Potential CRM Webinar

- Rule Requirements
- Inspection Criteria & Expectations
- Frequently Asked Questions
- General Q & A
- Nov-2011 to Jan-2012 Timeframe



Control Room Development Team Current Members

- Dana Arabie (Louisiana)
- Tewabe Asebe (Regulations, HQ)
- Karen Butler (Operations Supv., CR)
- Byron Coy (Director, ER)
- Ben Fred (Legal, HQ)
- Charlie Helm, (Training & Qualifications, OKC)
- Max Kieba (Engineering, HQ)
- Wally McGaughey (Training & Qualifications, OKC)
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