
API RP 1168

Greg Chapman

Enterprise Pipeline

- Manager, Liquid Controls**
- Houston, Texas**

API RP 1168

How API RP 1168 dovetails with NPRM, PHMSA-2007-27954

- Background on RP 1168
- Discuss How the RP relates to NPRM
- Impact on Control Center

API RP 1168

Background on RP 1168

Letter sent to Jeffrey Wiese

- Associate Admin for Pipeline Safety, Washington DC
February 08, 2008

- Associations .

Liquids

- **API**, American Petroleum Institute
- **AOPL**, Association of Oil Pipe Lines

Gas Transmission and Distribution

- **AGA**, American Gas Association
- **APGA**, American Public Gas Association
- **INGAA**, Interstate Natural Gas Association of America

Enhancement Areas

USDOT/PHMSA: CRM, 10-29-2007

9 Enhancements:

1. **Roles and Responsibilities** **RP 1168**
2. Controller Qualifications API RP 1161
3. **Fatigue Mitigation** **RP 1168**
4. **Shift Change** **RP 1168**
5. SCADA Displays API RP 1165
6. Alarm Management *being developed* API RP 1167
7. Operating Experience
8. **Change Management** **RP 1168**
9. Validation

RP 1168

Pipeline Safety Enhancement

- This recommended practice would specifically address the following (4) elements from PHMSA's areas of pipeline safety enhancement.
- Several of the other enhancement areas identified by PHMSA for control room management under its Prevention Through People initiative are already being addressed through established consensus standards or recommended practices.

API RP 1168 Committee

Honorable Mentions:

Karen Haase & Ed Baniak API
Byron Ables EPCO Inc.

Chairman: Greg Chapman EPCO Inc.

Liquid Transmission

Jill Derise

Jarid Kling

Jerry Johnson

George Shaw

Shell Pipeline

Alyeska Pipeline

Wolverine Pipeline

Colonial Pipeline

Gas Distribution

Charles Driggs

Joe Kindernay

Dave Spencer

Gordon King

Gas Transmission

Steve Baroni

Gary Hines

Williams Pipeline

API RP 1168

Background on RP 1168

Kickoff conference call

February 27, 2008

RP Team F2F meeting

“Straw Man” March 07, 2008

Jill Derise, Steven Baroni, Greg Chapman

RP Workgroup April 1st and 2nd

Enterprise Pipeline, Houston Texas

Tentative Targets

1Q/09 Completion

2Q/09 Balloting

RP 1168 Committee leads

Sub-Groups:

Jill Derise - Shell Pipeline Houston TX

Steve Baroni – Williams Pipeline Houston TX

- Roles and Responsibilities
- Fatigue Mitigation

Greg Chapman EPCO Inc. Houston TX

- Shift Change
- Change Management

RP1168 Committee

Pipeline Safety Enhancement Milestones and Timeline

- Houston April 1 - 2
 - Net-Web Jill and Steve April 16th
 - Net-Web Greg April 22nd
 - RP1168 released for comment - RP Group April 30th
- Washington DC May 21 – 22
 - Reviewed RP addressed comments
 - RP 1168 was released June 2nd to CRW
 - Net-Web w/RP Team June 16th & 20th
- Official RP release for CRM Ballot June 23
 - Net-Web meeting to approve FINAL draft for ballot July 14th
- Notification of API OTC Ballot on RP 1168, July 16
- Review all comments August 27th in Atlanta, Ga
- API RP 1168 was approved and sent to publication Sept 3
- PHMSA-2007-27954 release on **September 12, 2008**

Enhancement Areas

Roles and Responsibilities

RP 1168...

4.1 PIPELINE CONTROLLER AUTHORITIES AND ASSOCIATED RESPONSIBILITIES

Pipeline Controllers perform duties necessary for safe operations. To ensure these responsibilities are discharged without failure and that Pipeline Controllers understand their scope of authority, individual Pipeline Operators should have a document that defines pipeline authorities and associated responsibilities under both normal and emergency/abnormal operating conditions.

Enhancement Areas

Roles and Responsibilities

PHMSA-2007-27954

§ 195.454 Control room management

(b) Roles and responsibilities.

Each operator must define the roles and responsibilities of a controller during normal, abnormal, and emergency operating conditions. To provide for a controller's prompt and appropriate response to operating conditions, each operator must define:

- (1,2,3) Define controller roles during Normal, Abnormal, Emergency
- (4) Controller responsibility to provide timely notification and coordination of another pipeline in a common corridor
- (5) Controller specific Log In, record time and name in shift records

Enhancement Areas

Fatigue Mitigation

RP 1168...

6. Control Room Fatigue Management

Fatigue could affect performance on cognitive tasks. Therefore, Pipeline Operators **shall** consider fatigue when developing policies and guidelines. Pipeline Operators **should** consider establishing control room fatigue mitigation policies and guidelines that include staffing considerations as well as methods for maintaining alertness of Control room personnel while working. Control room personnel **should** be trained in and/or notified of fatigue mitigation methods.

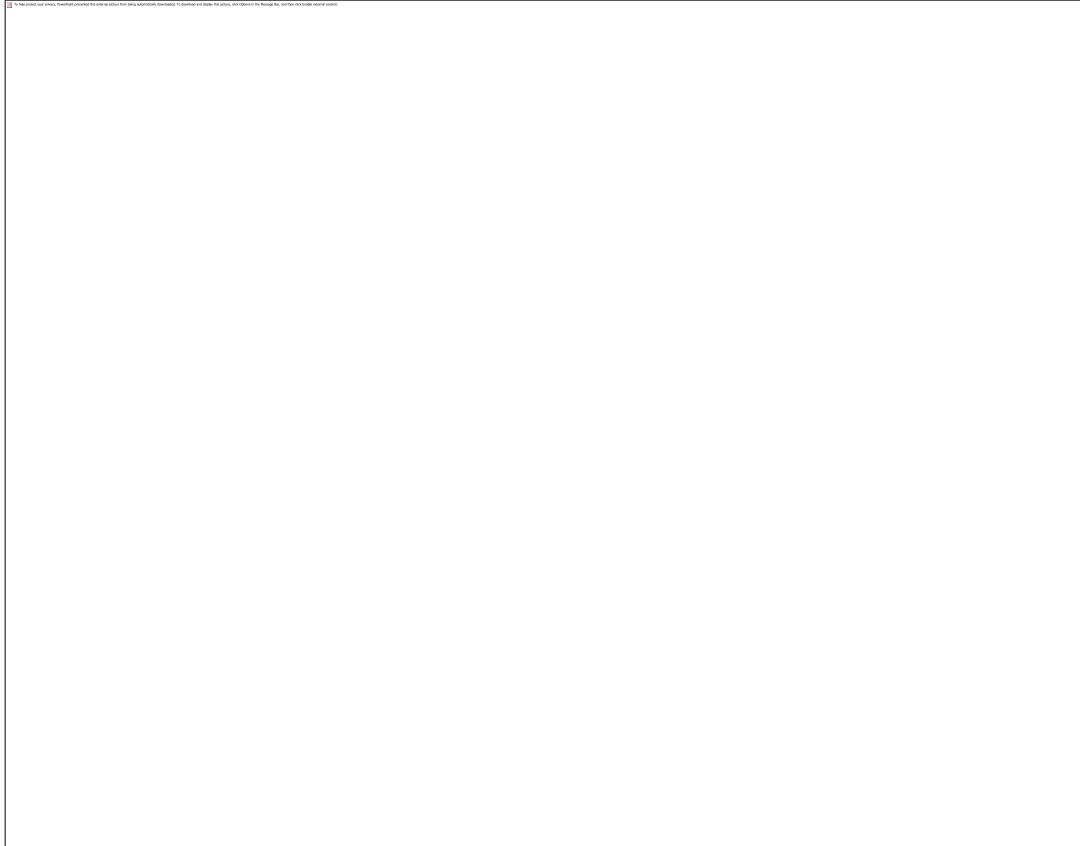
Enhancement Areas

Fatigue Mitigation



Enhancement Areas

Fatigue Mitigation



Enhancement Areas

Fatigue Mitigation

PHMSA-2007-27954

Pg 53085

H. Fatigue

Fatigue is a key safety issue for PHMSA. The NTSB also considers fatigue one of its “top ten” safety concerns for all modes of transportation. Fatigue can result in a loss of vigilance or a lack of effective attention by a pipeline controller. All pipelines and facilities normally have safety systems in place to protect against accidents. The prudent use of safety systems, however, does not reduce the importance of controllers as the first line of defense in preventing accidents.

Enhancement Areas

Fatigue Mitigation

PHMSA-2007-27954

§ 195.454 Control room management

(d) Fatigue mitigation.

Each operator must implement methods to prevent controller fatigue that could inhibit a controller's ability to carry out the roles and responsibilities defined by the operator. To protect against the onset of fatigue, each operator must:

- (1) Establish shift lengths
- (2) Educate controller(s) and supervisor(s) in fatigue mitigation strategies
- (3) Train controller(s) and supervisor(s) to recognize and mitigate fatigue
- (4) Implement additional measures when a single controller is on duty
- (5) Establish max limits on hours-of-service, to include emergency exception by manager approval

Enhancement Areas

Shift Change

RP 1168...

5. Guidelines For Shift Turnover

Establishing practices for shift turnover reduces the possibility of an incident and improves general pipeline operations. Pipeline Operators should establish a shift turnover process that includes overlap time between outgoing and incoming control room personnel to ensure that relevant operating information is transferred.

Enhancement Areas

Shift Change

PHMSA-2007-27954

§ 195.454 Control room management

(c) Provide adequate information.

Each operator must provide each controller with the information necessary for the controller to carry out the roles and responsibilities defined by the operator and must verify that a controller knows the equipment, components and the effects of the controller's actions on the pipeline or pipeline facilities under the controller's control. Each operator must:

Enhancement Areas

Shift Change

PHMSA-2007-27954

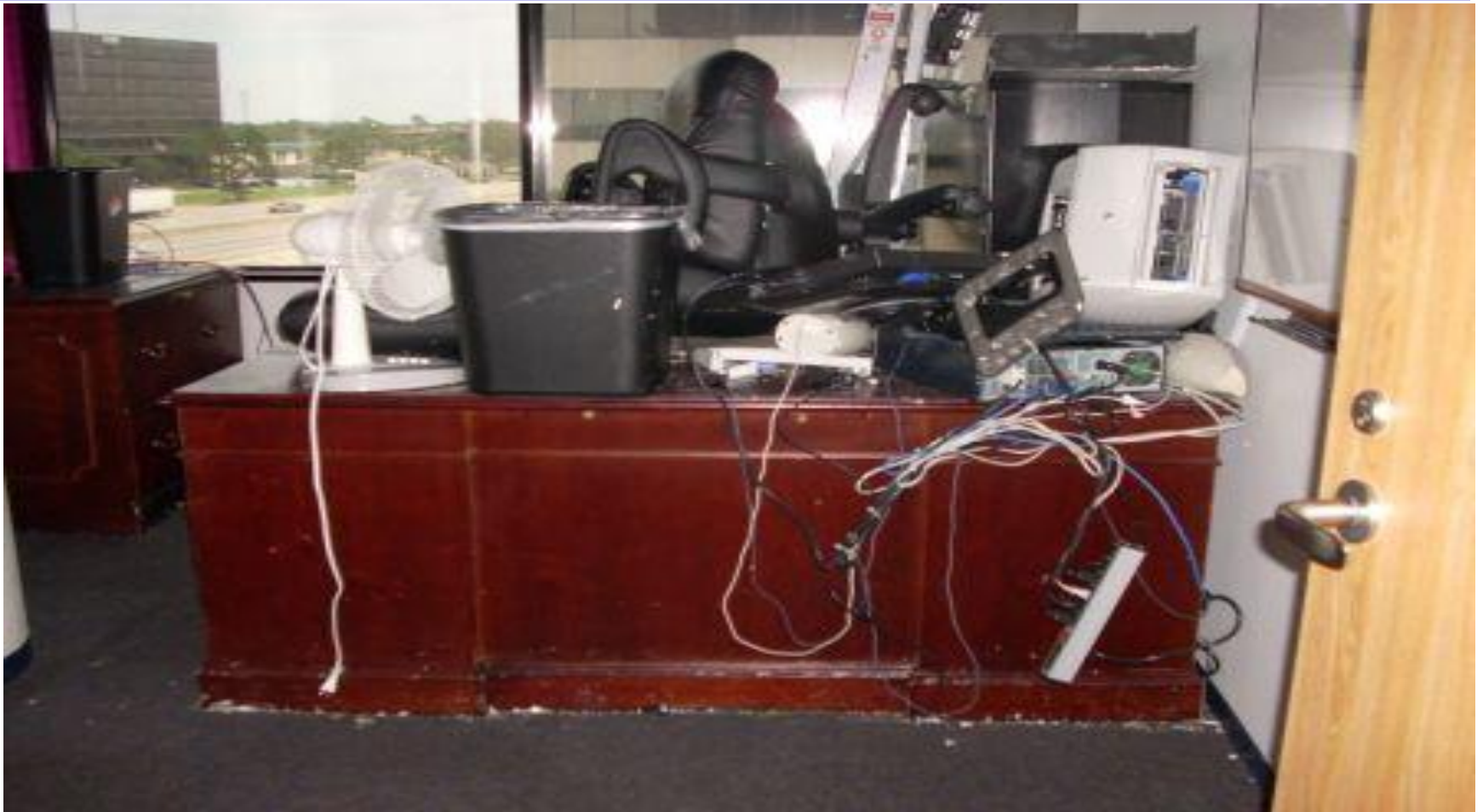
§ 195.454 Control room management

(c) *Provide adequate information.*

- (5) Define and record critical information during each shift.
- (6) Provide for the exchange of information when a shift changes or when another controller assumes responsibility for operations for any reason.
- (7) Establish sufficient overlap of controller shifts to permit the exchange of necessary information.

- (8) Periodically test and verify a backup communication system or provide adequate means for manual operation or shutdown of the affected portion of the pipeline safely.

Hurricane Ike



Enhancement Areas

Change Management

RP 1168...

7. Control Room Management of Change (MOC)

Change is a regular part of control room operations that must be managed and governed by effective processes and procedures. For Management of Change (MOC) to be effective, all affected personnel should be a part of the decision and implementation.

7.1 INCLUSION OF CONTROL ROOM PERSONNEL

Control room personnel should be included in the project or change design and planning process. Pipeline Operators should require the control room personnel to review and provide input on MOC and have the authority to request changes as appropriate. System changes may impact control center operations and Pipeline Operators should solicit input on operational impact from the control center early in the project development. Adequate notification, time and resources should be devoted to training Control room personnel on the impact of the change to operations

7.4 EMERGENCY MOCs

An emergency MOC procedure allows the change to be implemented and commissioned immediately in order to address an immediate safety, operational, health, or environmental situation. Because of the immediacy of an emergency MOC, some process steps may be done verbally. Control center personnel should be involved with review, approval and communication of the MOC at the time of implementation.. The follow-up formal review and approval is conducted as soon as practical after the change has been made. Examples of emergency MOCs:

- pressure reductions
- mainline leaks
- critical equipment failure

Enhancement Areas

Change Management

PHMSA-2007-27954

§ 195.454 Control room management

(f) *Change management.*

Each operator must establish thorough and frequent communications between a controller, management, and field personnel when planning and implementing physical changes to pipeline equipment and configuration. Field personnel must be required to promptly notify a controller when emergency conditions exist or when performing maintenance and making field changes.

Enhancement Areas

Change Management

PHMSA-2007-27954

§ 195.454 Control room management

(f) *Change management.*

1. *Maintenance must include tracking and repair of controller identified problems*
2. *SCADA system modifications must be coordinated in advance*
3. *Operators shall seek CR input when making hydraulic/configuration changes*
4. *Mergers, Acquisitions, must include controller training prior to implementation*
5. *Alarm settings, automated routine software, relief valve settings must be communicated to the controller*
6. *Thoroughly document and retain records*

Definitions

- Wrap up 4 Enhancements
- Definitions

Definitions

Pipeline Controller (PC)

RP 1168...

3.8 Pipeline Controller:

An individual whose primary job is to remotely monitor and/or control the operations of entire or multiple sections of pipeline systems via a SCADA system from a centralized control room, and who has full operational authority and accountability for the daily remote operational functions of pipeline systems.

PHMSA Definition

Pipeline Controller (PC)

PART 195—TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE

§ 195.2 Definitions.

* * * * *

Controller

Means an individual who uses a control panel, computerized device, or other equipment to monitor or control all or part of a pipeline facility that the individual cannot directly observe with the naked eye. An individual who operates equipment locally, but who cannot see the equipment respond without using a closed circuit television system or other external device, is a controller when performing this activity regardless of job title or whether actions are overseen by another controller or supervisor. An individual who performs these functions on a part time basis is considered a controller only when performing these functions.

Defintion

Pipeline Control Room

RP 1168...

3.7 Pipeline Control Room:

A centralized operations center staffed by qualified Pipeline Controllers charged with responsibility for remotely monitoring and/or controlling entire or multiple sections of pipeline systems.

PHMSA Definition

Pipeline Control Room

PART 195—TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE

§ 195.2 Definitions.

* * * * *

Control room:

Means a central location or local station at which a control panel, computerized device, or other instrument is used by a controller to monitor or control all or part of a pipeline facility or a component of a pipeline facility.

The End

- I would like to thank API for the opportunity to participate
- Proud of the commitment from the RP 1168 committee...thanks
- Comments:
 - Novemeber 12, 2008

Really The End

DATES:

Anyone interested in filing written comments on this proposal must do so by November 12, 2008. PHMSA will consider late comments filed so far as practical.

ADDRESSES: Comments should reference Docket No. PHMSA–2007–27954 and may be submitted the following ways:

- *E-Gov Web site:* [http:// www.regulations.gov](http://www.regulations.gov). This Web site allows the public to enter comments on any **Federal Register** notice issued by any agency. Follow the instructions for submitting comments.
- *Fax:* 1–202–493–2251.
- *Mail:* DOT Docket Management System: U.S. Department of Transportation, Docket Operations, M– 30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590–0001.
- *Hand Delivery:* DOT Docket Management System; West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590–0001 between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.