PHMSA
U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

Organization and Regulatory Overview

Contact Information

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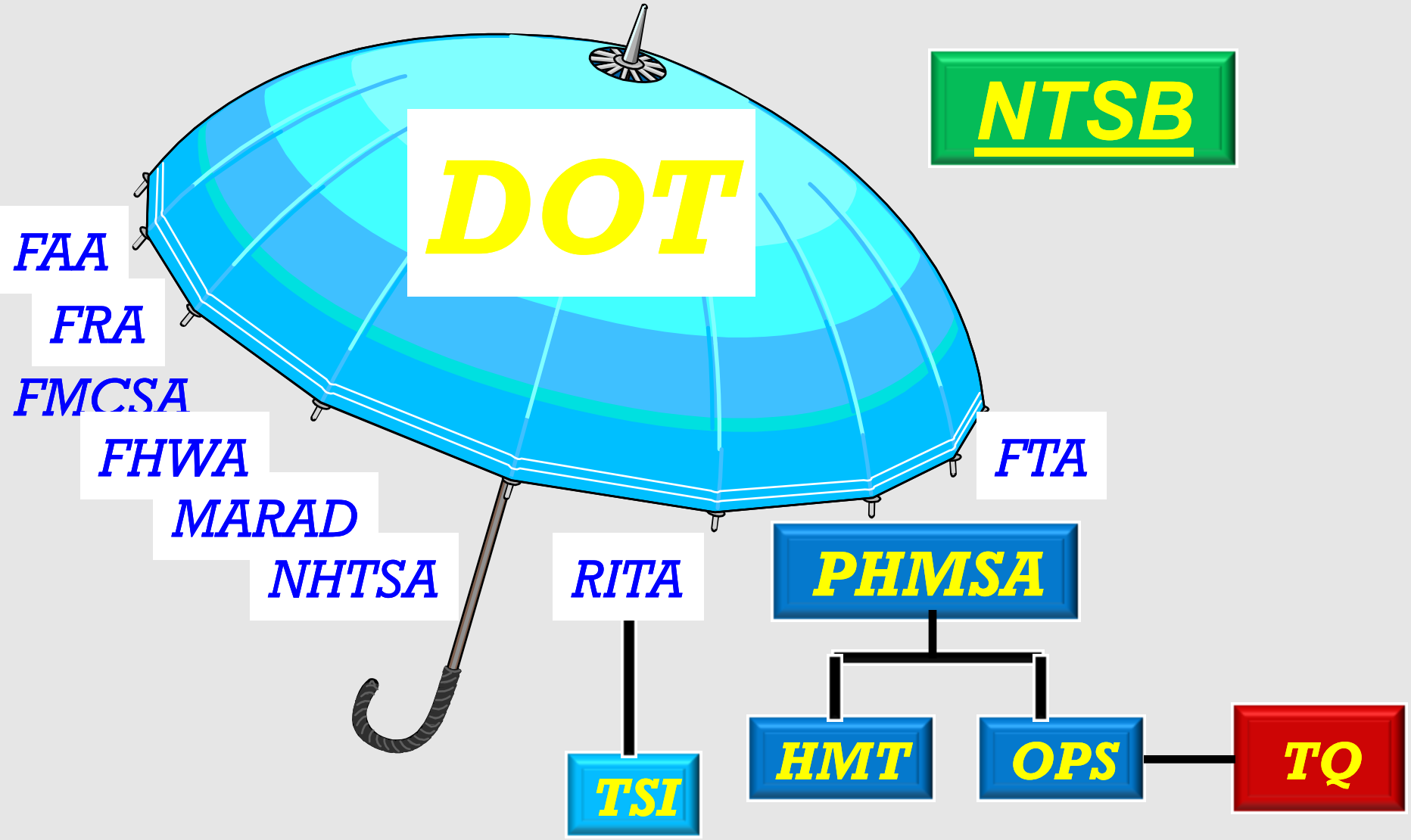
Pipeline and Hazardous Materials Safety Administration

DOT Reorganization



PHMSA's Mission Statement

To ensure the **safe, reliable, and environmentally sound** operation of the nation's pipeline transportation system.

PHMSA Regions

PHMSA Office of Training and Qualifications

Providing Training For:

- **State and Federal Pipeline Inspectors** (Courses in OKC)
- **Industry Personnel via Seminars**

PHMSA TQ

Oklahoma City, OK

U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

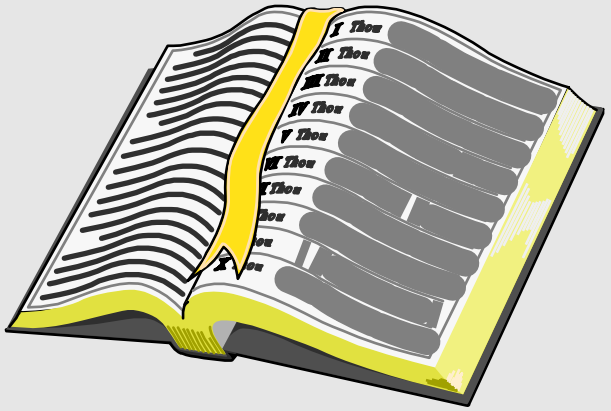
PHMSA TQ

Oklahoma City, OK

Compliance
Section 60118

Operator Shall:

- Comply with Applicable Safety Standards
- Prepare and Follow an O&M Plan
- Maintain Records Required by the Safety Standards

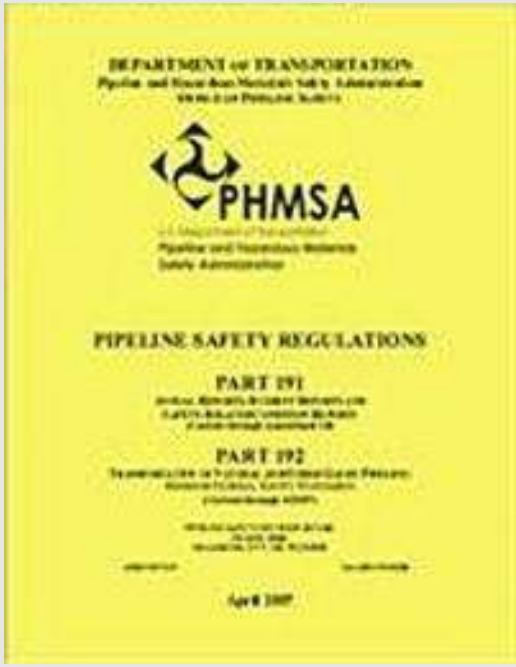


Pipeline Safety Law

State Programs
Section 60105
State Certifications

- **Adopted:**

Federal Pipeline Safety Regulations as a <u>Minimum</u> Enforcement Authority

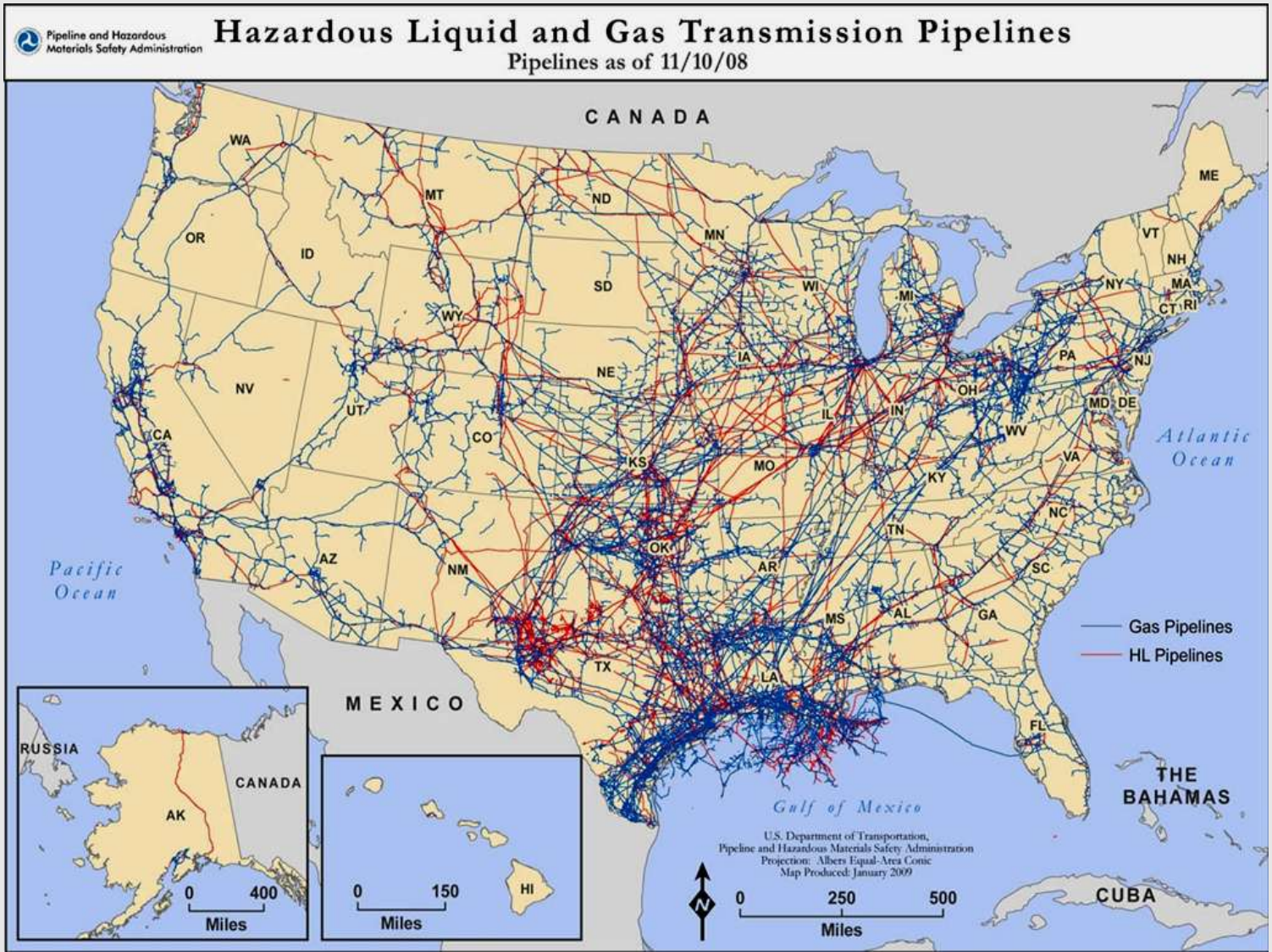


Pipeline Safety Law

Pipeline Mileage

- **Hazardous Liquid Pipelines 173,000 miles**
- **Natural Gas Transmission 324,000 miles**
- **Gas Distribution Pipelines 2,037,000 miles**
- **Liquefied Natural Gas (LNG) 113 Facilities**

U.S. Pipeline Transportation System



Strategic Focus

- Improve the safety of the Nation's pipelines
  - Reduce the number of serious incidents causing death & injury
  - Reduce the likelihood of incidents in high consequence areas
  - Reduce the potential for hazardous liquids spills into unusually sensitive areas
- Provide the basis for increased public confidence in pipeline safety

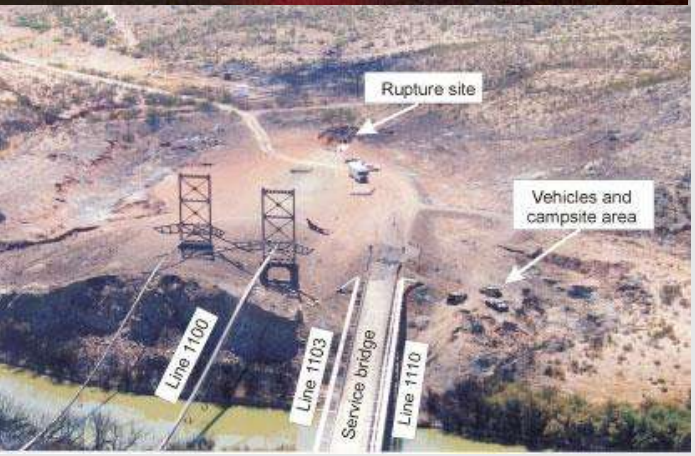
Pipeline Safety Challenges

- **March 23, 1994 Edison, NJ**
- 30” Natural gas transmission line operating at 970 psig ruptured
- Force of escaping gas excavated area around pipe and gas ignited
- Several apartment buildings burned
- Investigation found “teeth marks” on pipeline
- Crushed Ford Ranger pick-up truck excavated near rupture

Pipeline Safety Challenges

- **June 10, 1999 Bellingham, WA**
- 16” Gasoline pipeline leaked into a creek in a city park and stretched for 1 ½ miles
- 1 ½ hours after leak started, gasoline ignited
- 3 fatalities, 8 injuries
- $45 million in property damage
- Leak caused by damage to pipeline during 1994 water treatment plant construction

Pipeline Safety Challenges



- **August 19, 2000 Carlsbad, New Mexico**
- 30'' Natural gas transmission line ruptured, ignited, and burned, for 55 minutes
- 12 people who were camping near the pipeline failure site were killed
- Adjacent pipeline equipment was heavily damaged and three vehicles destroyed
- Property and other losses totaled approx. $998,296
- Investigation found significant pipe wall loss due to internal corrosion

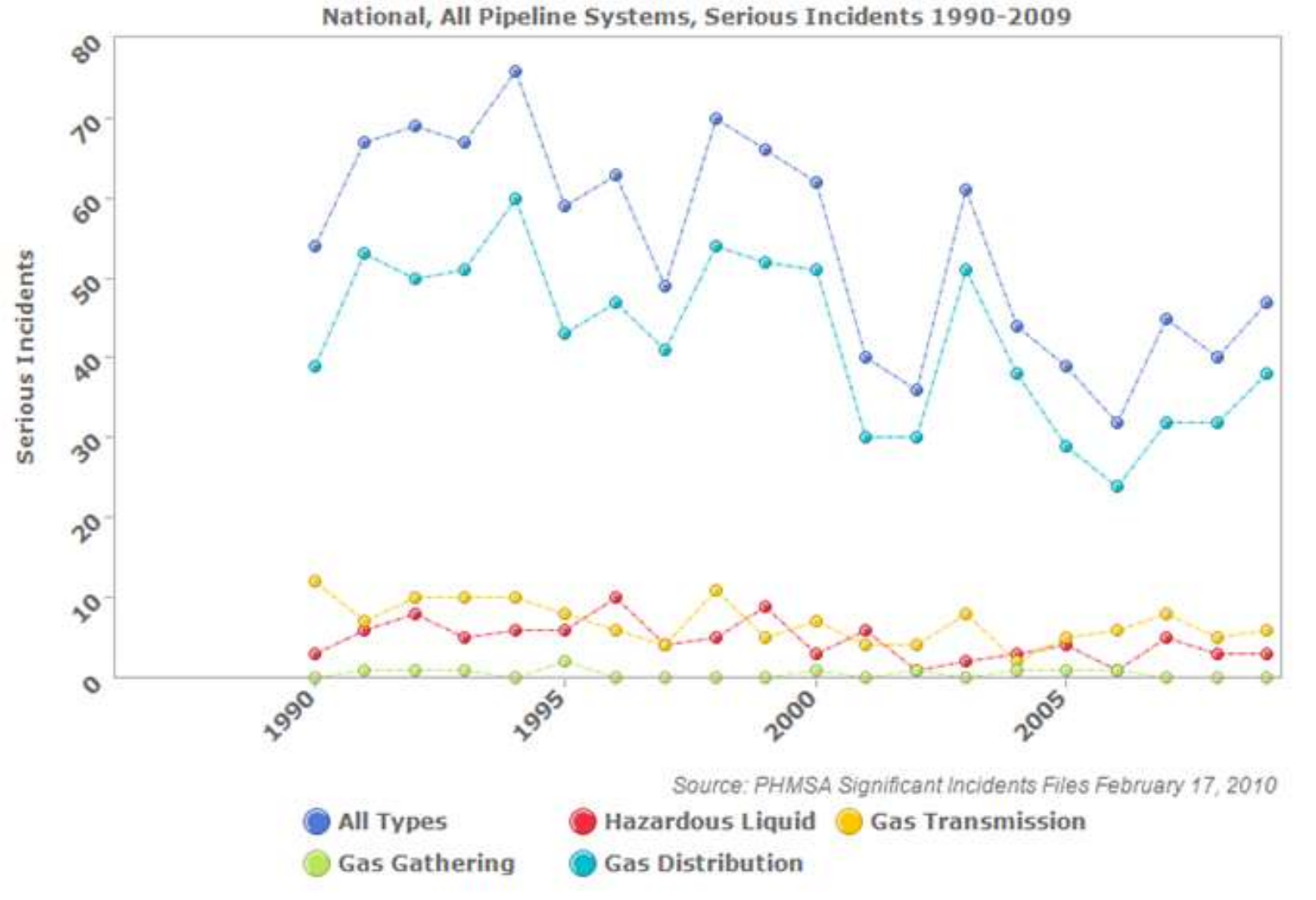
Pipeline Safety Challenges

- **September 14, 2008 Appomattox, VA**
- 30’’ 1955 Vintage Natural gas transmission line ruptured, ignited, and burned, for 45 minutes
- 32’ft section of pipe ripped from the ground at the failure site
- 5 people were injured and 23 families were evacuated.
- 2 homes destroyed and 4 others damaged
- Investigation found 40% pipe wall loss due to external corrosion.
- Property and other losses totaled over $3 million dollars

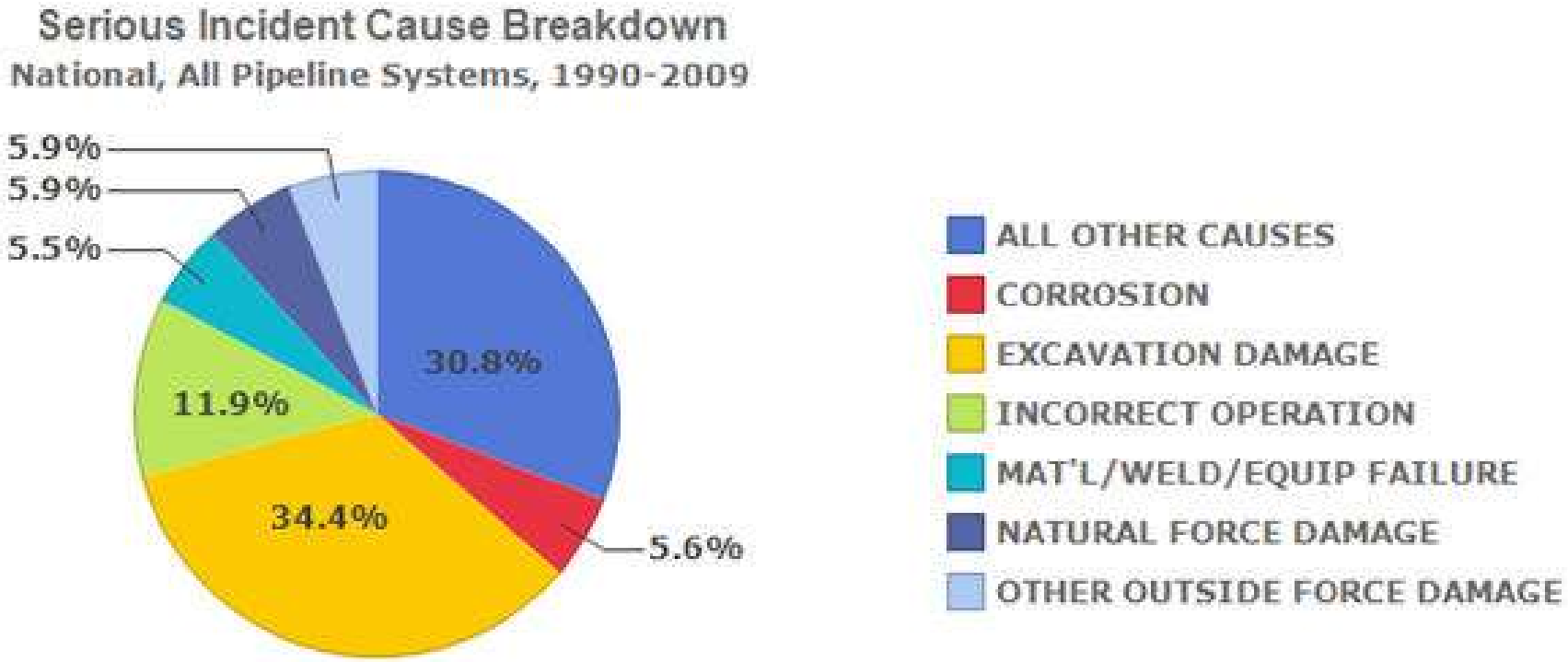
Pipeline Safety Challenges

- **September 09, 2010 San Bruno, CA**
- 30’’ 1956 Vintage Natural gas transmission line ruptured, ignited, and burned, for approx. 90 minutes
- 28’ft section of pipe ripped from the ground at the failure site
- Rupture created a crater approx. 72’ ft long and 26’ ft wide
- 8 fatalities and multiple people injured.
- 37 homes destroyed and 18 others damaged
- **Still Under Investigation**

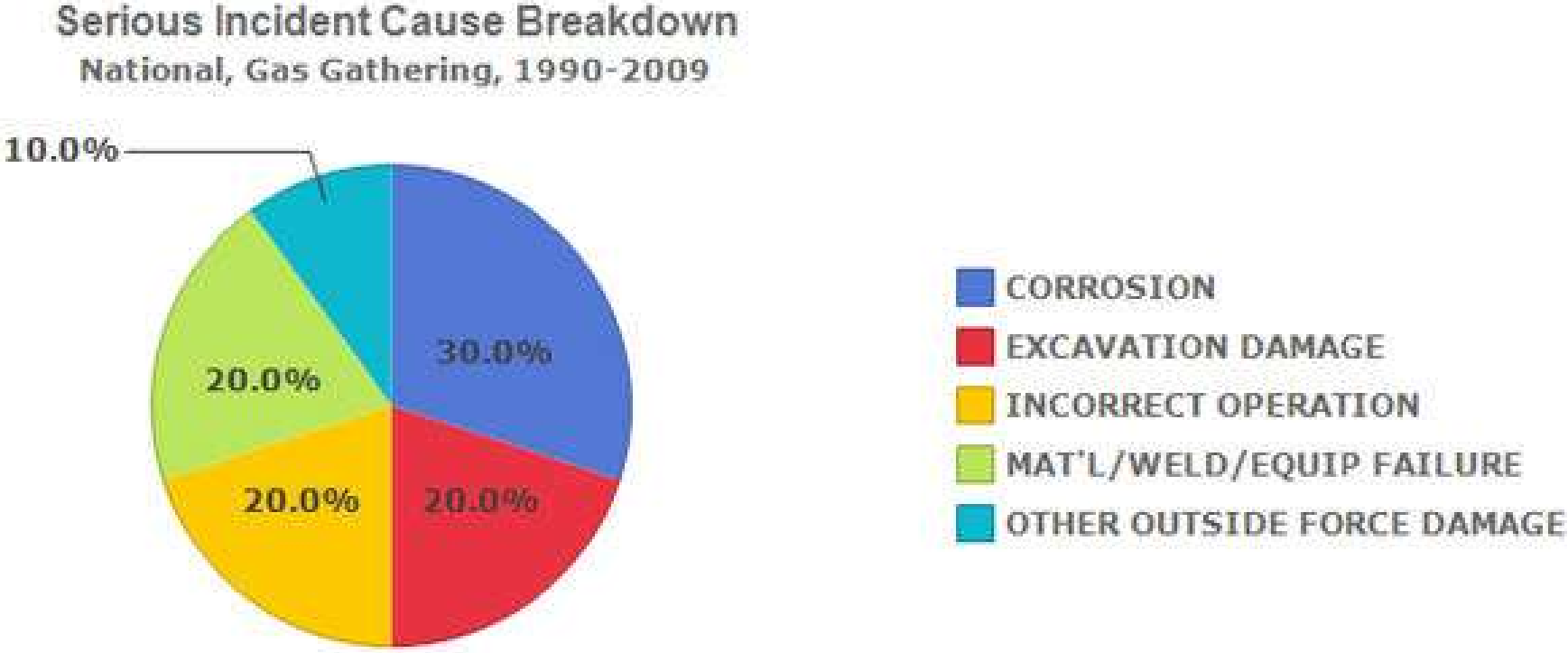
Good News on Serious Incidents



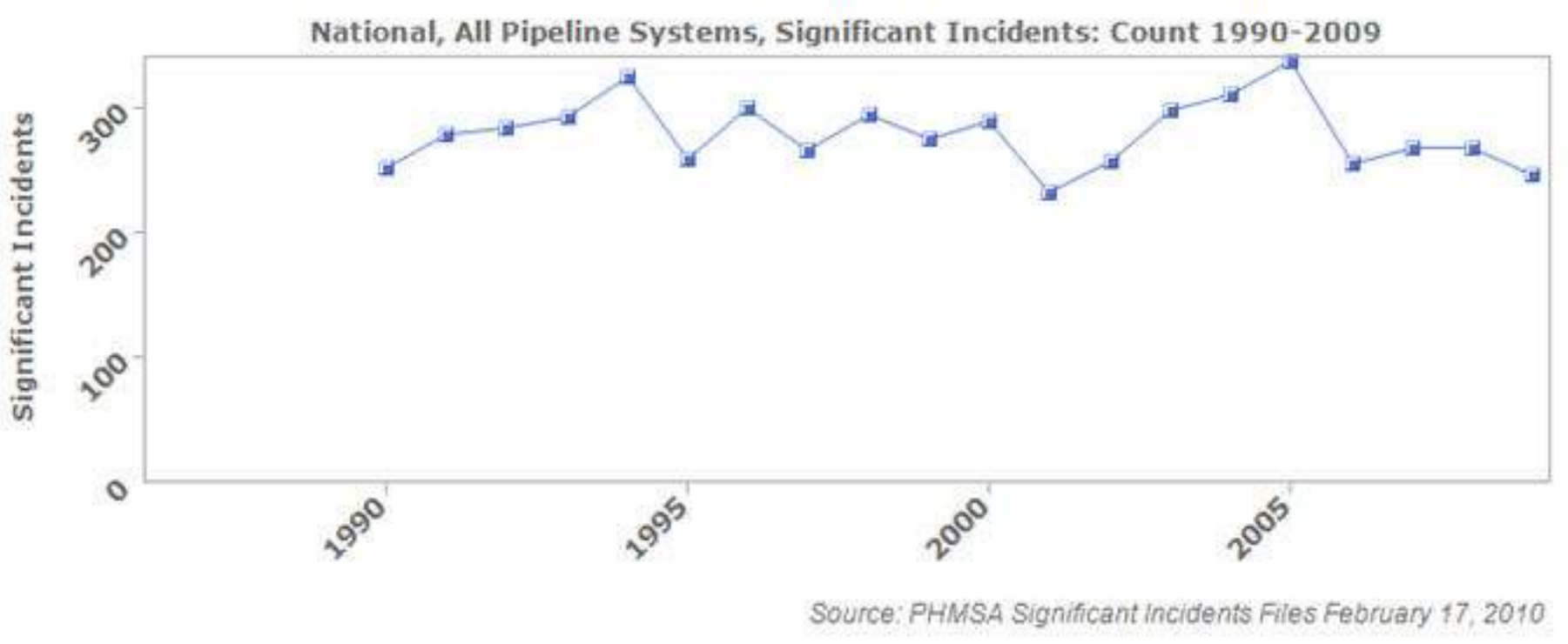
Causes of Serious Incidents



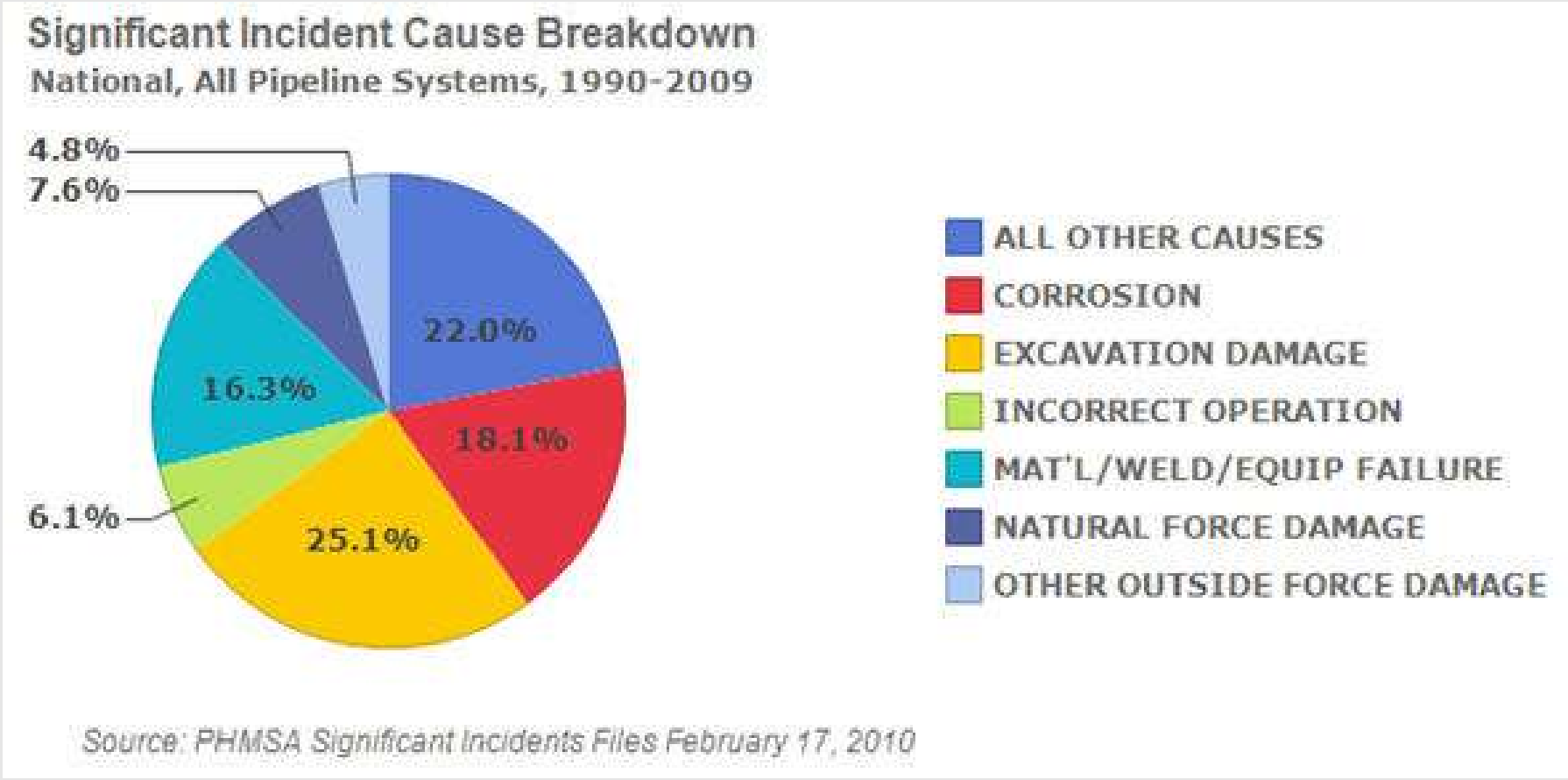
Causes of Serious Incidents (Gas Gathering)



Significant Incidents Rather Flat



Significant Incidents by Cause



PIPES Act Themes

- Damage Prevention
- Managing System Risk – Integrity Management
- Infrastructure, People, and Procedures, integrated to attain performance
- Operator Qualification for damage prevention tasks

Data Driven Organization

- More focus on root cause analysis of incidents
- Integration of inspection findings across regions
- Significantly improve availability of information through OPS web site:

Enforcement Transparency

- PHMSA Website will display Enforcement data
- Statistical summaries starting in 2002
- Enforcement documents from 2007 onward
  - Initial OPS Letter
  - Operator Response (optional)
  - Final OPS Letter
  - Warning Letters, Notices of Probable Violation, Corrective Action Orders

PHMSA

Rule Update

Advisory Bulletin No. ADB-09-04
Issued Jan 19, 2010
Pipeline Safety: Natural Gas and HL Pipeline Operators

- PHMSA advises operators, beginning with MIS reports due by March 15, 2010, OPS will begin collecting annual drug and alcohol testing data for contractor employees. **Contractors will be identified both by name and business tax identification number (BTIN) in the MIS report.** The inclusion of the BTIN will ensure employees of the same contractor are only counted once when OPS calculates the required random testing rate.

Advisory Bulletin No. ADB-09-04
Issued Jan 19, 2010
Pipeline Safety: Natural Gas and HL Pipeline Operators

- The total number of covered employees is **not** limited to those who physically worked in a maintenance, operations, or emergency response role during the previous calendar year. **The definition of "performs a covered function" in Part 199.3 includes actually performing, ready to perform, or immediately available to perform a covered function.** Operators need to be aware of this definition when calculating the number of covered employees for both the operator and contractors. **Employees who "perform a covered function", are required to be included in the random drug testing pool.** The average size of a properly maintained random drug testing pool defines the number of covered employees.

Advisory Bulletin No. ADB-10-03
Issued March 04, 2010
Pipeline Safety: Natural Gas and HL Pipeline Operators

- Owners and operators of recently constructed large diameter pipelines should evaluate these lines for potential girth weld failures due to misalignment and other issues by reviewing construction and operating records and conducting engineering reviews as necessary. The assessments should cover all 20-inch or greater, high strength line pipe transitions and cut factory bends or induction bends installed during 2008 and 2009.
- Evaluations should include material specifications, field construction procedures, caliper tool results, deformation tool results, welding procedures including back welding, NDT records, failures or leaks during hydrostatic testing, or in-service operations to identify systemic problems with pipe girth weld geometry.

Advisory Bulletin No. ADB-10-04
Issued April 22, 2010
Pipeline Safety: Natural Gas and HL Pipeline Operators

- Advises operators that the new electronic incident/accident reporting system is available online at **http://pipelineonlinereporting.phmsa.dot.gov**. The new online system can also be accessed through the old system at **http://opsweb.phmsa.dot.gov** and click on "Incidents on or after Jan 1, 2010". Each operator may use their current operator ID and PIN from the old system to access the new system. **The new online system is for incidents/accidents occurring on or after January 1, 2010.** The old online system is still available for filing supplemental reports for incidents/accidents that occurred prior to January 1, 2010, and is still the system for filing annual reports and Gas Integrity Management Program (IMP) reports.

Advisory Bulletin No. ADB-10-06
Issued August 03, 2010
Pipeline Safety: Natural Gas and HL Pipeline Operators Personal Electronic Device Related Distractions

- Remind owners and operators of natural gas and hazardous liquid pipeline facilities of the increased risks associated with the use of personal electronic devices (PEDs) by individuals performing operations and maintenance activities on a pipeline facility
- Recommends that operators integrate into their written procedures for operations and maintenance appropriate controls regarding use of PEDs, and provide guidance and training about the risks associated with PEDs

NPRM Issued July 2, 2009
49 CFR Part 191,192, 193, 195
Docket ID: PHMSA-2008-0291
Pipeline Safety: Updates to Pipeline and LNG Reporting Requirements

- Reporting Updates: As part of PHMSA's strategy to become a more risk-based and data-driven organization, PHMSA is proposing the following general data and data management improvements to the pipeline safety regulations:
- Would modify the scope in 49 CFR 191.1 to reflect the changes made in part 192 to the definition of gas gathering lines.

(Comments closed August 31, 2009)

(Also Referred to as One Rule)

NPRM Issued July 2, 2009
49 CFR Part 191,192, 193, 195
Docket ID: PHMSA-2008-0291
Pipeline Safety: Updates to Pipeline and LNG Reporting Requirements

- Reporting Updates: Would change the definition of an "incident" in 49 CFR 191.3 to require an operator to report an explosion or fire not intentionally set by the operator. The proposal also establishes a volumetric basis for reporting unexpected or unintentional gas loss.
- Would require operators to report and file data electronically whenever possible. The electronic submission of data will increase the accuracy and quality of data collected, reduce the reporting burden on operators, and improve PHMSA's data integration efforts.

NPRM Issued July 2, 2009
49 CFR Part 191,192, 193, 195
Docket ID: PHMSA-2008-0291
Pipeline Safety: Updates to Pipeline and LNG Reporting Requirements

- Reporting Updates: Would require operators of LNG facilities to submit incident and annual reports to provide valuable infrastructure and safety performance information to PHMSA.
- Would create and require participation in a National Registry of Pipeline and LNG Operators to provide PHMSA with timely updates on safety-impacting changes, and better monitoring of operator performance.
- Would require operators to use a standard form in electronically submitting Safety-Related Condition Reports and Offshore Pipeline Condition Reports.

NPRM Issued July 2, 2009
49 CFR Part 191,192, 193, 195
Docket ID: PHMSA-2008-0291
Pipeline Safety: Updates to Pipeline and LNG Reporting Requirements

- Reporting Updates: Would merge the natural gas transmission integrity management Semi-Annual Performance Measures Report with the annual reports and revise the leak cause categories listed in the annual report to include those nine categories listed in ASME B31.8S.
- Expand information on the natural gas transmission annual report to add information for miles of gathering lines by Type A and Type B gathering; class location information by SMYS, volume of commodity transported, and type of commodity transported.

Final Rule Issued December 03, 2009
49 CFR Part 192, 195
Docket ID: PHMSA-2007-27954
Pipeline Safety: Control Room Management/Human Factors

- Control Room Management: Requires operators of natural gas pipelines, and hazardous liquids pipelines to amend their existing written operation and maintenance procedures, OQ programs, and emergency plans to assure controllers and control room management practices and procedures are used to maintain pipeline safety and integrity.

(Effective Date: February 01, 2010)

(PHMSA Will Conduct a Public Meeting concerning CRM on Nov 17, 2010 in Houston, Texas)

https://primis.phmsa.dot.gov/meetings/RegNew.mtg?mtg=67

NPRM Issued September 10, 2010
49 CFR Part 192, 195
Docket ID: PHMSA-2007-27954
Pipeline Safety: Control Room Management/Human Factors

- Control Room Management: PHMSA published the Control Room Management/Human Factors final rule in the Federal Register on December 03, 2009, which became effective on February 1, 2010. The final rule established an 18-month program development deadline of August 1, 2011, and a subsequent 18-month program implementation deadline of February 1, 2013. **This proposed rule proposes to expedite the program implementation deadline to August 1, 2011, for most of the requirements, except for certain provisions regarding adequate information and alarm management, which would have a program implementation deadline of August 1, 2012.**

(Comments open until November 16, 2010)

CRM - BACKGROUND

- Pipeline Safety Improvement Act of 2002
  - Study control room operations to enhance pipeline safety (CCERT)
  - Provide report to Congress
- NTSB
  - Conducted study of hazardous liquid pipeline SCADA systems

CRM - BACKGROUND

- PIPES Act of 2006
  - Establish human factors management plan
  - Reduce risks associated with human factors
  - Program to assure safe operations of pipelines
  - Adopt NTSB Recommendations
  - Changes to reporting requirements to include Control Room and fatigue factors

CRM – FINAL RULE EXCLUSIONS

Excludes gas distribution operators with less than 250,000 services and gas transmission operators without compressor stations from certain portions of the rule

CRM – Final Rule Exclusions

- Still Must Comply with:
  - provisions of fatigue mitigation (192.631(d)),
  - compliance validation (192.631(i)), and
  - compliance and deviation (192.631(j))

CRM – FINAL RULE

- Addition of definitions
- Addition of new reference standards
- Provision for written CRM procedures as part of O&M Manual and Emergency Plan
- New section of code for Control Room Management

192.3 DEFINITIONS

ALARM

Means an audible or visible means of indicating to the controller that the equipment or processes are outside operator-defined, safety related parameters

192.3 DEFINITIONS

CONTROL ROOM

Means an operations center staffed by personnel charged with the responsibility for remotely monitoring **and** controlling a pipeline facility

192.3 DEFINITIONS

CONTROLLER

Means a qualified individual who remotely monitors and controls the safety-related operations of an entire, multiple or single section(s) of a pipeline facility via a SCADA system from a control room, and who has operational authority and accountability for the remote operational functions of a pipeline facility

192.3 DEFINITIONS

Supervisory Control and Data Acquisition (SCADA) System

Means a computer-based system or systems used by a controller in a control room that collects and displays information about a pipeline facility and may have the ability to send commands back to the pipeline facility

192.7 REFERENCES

Added to both Parts 192 and 195

- API RP 1165 "Recommended Practice for Pipeline SCADA Displays", First Edition (January 2007)

Added only to Part 195

- API RP 1168 "Pipeline Control Room Management", First Edition (September, 2008)

PROCEDURES

- **O&M Manual - 192.605(b)(12)**

  Implementing the applicable control room management procedures required by 192.631

- **Emergency Plan 192.615(a)(11)**

  Actions required to be taken by a controller during an emergency in accordance with 192.631

192.631 – Control Room Management

New Section of code to address control room management

- Final requirements for CRM
- Applies to all operators that use SCADA systems and have at least one controller and control room

ADDITIONAL INFORMATION

ADB 05-06, Countermeasures to Prevent Human Fatigue in the Control Room, August 11, 2005 (70 FR 46917)

API RP 1113 Developing a Pipeline Supervisory Control Center

API RP 1161 Guidance Document for the Qualification of Liquid Pipeline Personnel

API RP 1167 Alarm Management (still under development)

Final Rule Issued Dec 04, 2009
49 CFR Part 192
Docket ID: PHMSA-2004-19854
Pipeline Safety: Integrity Management Program for Gas Distribution Pipelines

- Distribution Integrity Management: The final rule revises 49 CFR Part 192 to add a new "Subpart P", and adds new integrity management requirements applicable to distribution pipelines.
- This addresses statutory mandates and builds on previous similar requirements established for gas transmission pipelines. The final rule also adds a requirement that operators install excess flow valves (EFV) on all new and replaced residential service lines serving single residences, as required by the 2002 PIPES Act.
- Rule is applicable to master meter and LPG operators as well, with fewer requirements. **(Effective Date: February 12, 2010)**

Final Rule Issued August 11, 2010
49 CFR Part 192, 193, 195
Docket ID: PHMSA-2008-0301
Pipeline Safety: Updates to Referenced Tech Std's and Misc. Edits

- Referenced Std. Updates: Incorporate by reference (IBR) all or parts of new editions of voluntary consensus standards to allow pipeline operators to use current technology, new materials, and other industry and management practices. Also makes non-substantive edits and clarify regulatory language in certain provisions.

(Effective Date October 01, 2010)

Final Rule Issued August 11, 2010
49 CFR Part 192, 193, 195
Docket ID: PHMSA-2008-0301
Pipeline Safety: Updates to Referenced Tech Std's and Misc. Edits

- Part 192 Updates: PHMSA **did not** incorporate by reference the following updated ASTM International standards:
- ASTM D638; Standard Test Method for Tensile Properties of Plastics (2008 edition)
- ASTM D2513; Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings (2007 edition)
- ASTM D2517; Standard Specification for Reinforced Epoxy Resin Gas Pressure Pipe and Fittings (2006)
- ASTM F1055; Standard Specification for Electrofusion-Type Poly Fittings for O.D. Controller Poly Pipe and Tubing (2006)

Final Rule Issued August 11, 2010
49 CFR Part 192, 193, 195
Docket ID: PHMSA-2008-0301
Pipeline Safety: Updates to Referenced Tech Std's and Misc. Edits

- Part 192 Updates: PHMSA has determined that the following updated National Fire Protection Association (NFPA) standards **will not** be incorporated by reference at this time.
- NFPA 58; Liquefied Petroleum Gas Code (LP-Gas Code) (2008 edition)
- NFPA 59; Utility LP-Gas Plant Code (2008 edition)
- PHMSA **did not adopt** the proposed requirement that Part 192 would prevail if there is a conflict between Part 192 and NFPA 58 or NFPA 59.

Final Rule Issued August 11, 2010
49 CFR Part 192, 193, 195
Docket ID: PHMSA-2008-0301
Pipeline Safety: Updates to Referenced Tech Std's and Misc. Edits

- PHMSA continues to have concerns regarding the level of safety required in NFPA 58 and 59 standards in certain subject areas. PHMSA believes that the NFPA 58 and 59 committees should analyze the following topics in consideration of public safety: Internal valves on tank penetrations transporting propane, relief valves, equipment separation and location distances, facility cathodic protection, and requirements for "retroactive" application of the standards.
- PHMSA will address the subject of NFPA 58 and 59 primacy under a separate rulemaking. **When a conflict exists, NFPA 58 or 59 continue to prevail.**

Final Rule Issued August 11, 2010
49 CFR Part 192, 193, 195
Docket ID: PHMSA-2008-0301
Pipeline Safety: Updates to Referenced Tech Std's and Misc. Edits

- Part 192 Updates: In 192.3, added definitions for "Active corrosion", "Electrical survey", and "Pipeline environment". (Moved from 192.465 (e))
- On April 14, 2009 (74 FR 17099), PHMSA published a Direct Final Rule that incorporated by reference the 2007 editions of API Specification 5L "Specification for Line Pipe" and API 1104 "Welding of Pipelines and Related Facilities." PHMSA has eliminated the use of the previous editions of these standards.

Final Rule Issued August 11, 2010
49 CFR Part 192, 193, 195
Docket ID: PHMSA-2008-0301
Pipeline Safety: Updates to Referenced Tech Std's and Misc. Edits

- Part 192 Updates: **Revised 192.711** to make clear that repair time conditions for Pipeline Integrity Management in High Consequence Areas (HCA), for pipelines covered by 192.711 pertain only to non-integrity management repairs.
- **Subpart K** does not require a new pressure test be conducted at the time of uprating unless the old pressure test cannot justify the uprated pressure. 192.555(c) explicitly allows the use of a previous pressure test as the basis for establishing a higher MAOP in higher stress pipelines. Since 192.555(c) allows a previous pressure test, PHMSA will now allow a previous pressure test for pipelines under 192.557 for steel pipelines and in plastic, cast iron, and ductile iron pipelines.

SHRIMP Now Online from APGA

- The Simple, Handy, Risk-based Integrity Management Plan (SHRIMP): is an online tool for preparation of a written Distribution Integrity Management Plan. The program was developed by the American Public Gas Association Security and Integrity Foundation (APGA SIF) and funded by PHMSA.
- **Starting August 4, 2010 the SHRIMP program will be available for operators to prepare their DIMP written plan.** For more information and to register to use SHRIMP please visit the APGA SIF website at:

http://www.apgasif.org

API Expands Access to its Safety Standards

- The American Petroleum Institute (API) announced it would provide free online public access to a large group of key industry standards, including a broad range of safety standards.
- Once changes to the API website are complete, 160 standards will be available online, and represent almost one-third of all API standards.
- Will include all that are safety-related or have been incorporated into federal regulation.

Information Available from PHMSA

- Latest News
- Training Calendar
- Joint Industry Training
- Operator Qualification
- Resource Links
- Regulatory Information
- Codes
- Pipeline Safety Laws
- Federal Regulatory Information

PHMSA Information Websites

PHMSA Training and Qualification
http://www.phmsa.dot.gov/pipeline/tq

PHMSA Pipeline Safety Regulations
http://www.phmsa.dot.gov/pipeline/tq/regs

PHMSA Rulemaking
http://www.phmsa.dot.gov/pipeline/regs/rulemaking

When Do You Know You're in too Deep?

Getting Closer

Yep, There it is!

PHMSA Training and Qualifications

Remember,

We're with the Government

and We're Here to Help!