PHMSA Regulatory Update Focusing on Meaningful Metrics and API RP 1173

SGA Distribution Integrity Management Workshop

Tuesday, March 24TH 8:15 – 10:00 AM

Chris McLaren, Office of Pipeline Safety

Topics Areas for Discussion

- Latest Rules and regulations Updates
- Information Collection Activities
- Advisory Bulletin Updates
  - Overview of the 2014 ADBs
  - Specific ADBs on Meaningful Metrics
- Safety Management Systems – API RP 1173

Rule Making Process

The following rules are in one of the following stages:

- NPRM
- Final Rule
- Information Collection Activities

- Significant Rulemaking(s)

www.**dot**.gov/regulations/report-on-significant-rulemakings

www.dot.gov/regulations/report-on-significant-rulemakings

Pipeline and Hazardous Materials Safety Administration

93. Pipeline Safety: Enforcement of State Excavation Damage Laws

94. Hazardous Materials: Safety Requirements for External Product Piping on Cargo Tanks Transporting Flammable Liquids (Wetlines) (MAP-21)

95. Pipeline Safety: Safety of On-Shore Liquid Hazardous Pipelines

96. Pipeline Safety: Excess Flow Valves In Applications Other Than Single-Family Residences in Gas Distribution Systems

97. Pipeline Safety: Gas Transmission

98. Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains

99. Pipeline Safety: Operator Qualification, Cost Recovery, Accident and Incident Notification, and Other Changes (RRR)

100. Pipeline Safety: Amendments to Parts 192 and 195 to require Valve installation and Minimum Rupture Detection Standards

101. Hazardous Materials: Review and Update of Rail Carrier Regulations in Part 174

102. Hazardous Materials: Oil Spill Response Plans for High-Hazard Flammable Trains

Safety of Gas Transmission and Gathering Lines

NPRM moved past PHMSA - ANPRM Published 8/25/2011

- Expansion of IM requirements beyond HCA's
  - Repair criteria for both HCA and non-HCA areas
- Assessment methods
- Corrosion control
- Gas gathering
- Integrity Verification Process – Pipe of Concern
  - Grandfather pipe
  - Pipe with inadequate records
  - Legacy pipe
  - Pipe tested below 1.1 MAOP

GT and GG IM Rulemaking

Dates for NPRM:

Milestone	Originally Scheduled Date	New Projected Date	Actual Date
To OST	03/25/2013	03/28/2014	03/12/2014
Returned to Mode			04/28/2014
Returned To OST		06/26/2014	06/27/2014
To OMB	04/25/2013	04/13/2015	
OMB Clearance	07/25/2013	07/13/2015	
Publication Date	08/05/2013	07/31/2015	
End of Comment Period	10/04/2013	10/30/2015	

Explanation for any delay: Additional coordination necessary

EFV Expansion beyond Single Family Residences

NPRM moved past DOT - ANPRM published 11/25/2011

- Rule will propose to require EFVs for:
  - branched service lines serving more than one single family residence
  - multi-family residential dwellings
  - commercial buildings

Expanded Use of EFVs

Dates for NPRM:

Milestone	Originally Scheduled Date	New Projected Date	Actual Date
To OST	02/04/2013	08/01/2013	07/30/2013
To OMB	03/01/2013	03/17/2014	04/30/2014
OMB Clearance	06/03/2013	05/18/2015	
Publication Date	06/12/2013	05/29/2015	
End of Comment Period	08/12/2013	08/28/2015	

Explanation for any delay: Additional coordination necessary

Operator Qualification, Cost Recovery and Other Pipeline Safety Proposed Changes

NPRM moved past PHMSA

- This rule will address issues related to:
  - Operator Qualification for new construction
  - Incident Reporting
  - Cost Recovery
  - Assessment methods for HL lines (NACE petition)
  - Renewal process for special permits
  - API 1104 and in-service welding
  - Includes Farm Taps

OQ and Other Rulemaking

Dates for NPRM:

Milestone	Originally Scheduled Date	New Projected Date	Actual Date
To OST		12/19/2014	05/28/2014
To OMB		05/19/2015	
OMB Clearance		08/20/2015	
Publication Date	06/10/2013	08/31/2015	
End of Comment Period	09/10/2013	11/30/2015	

Explanation for any delay: N/A

Plastic Pipe

NPRM to address the following plastic pipe topics is scheduled to be issued in Spring 2015

- AGA petition to raise design factor from 0.32 to 0.40 for PE pipe
- Enhanced Tracking and traceability
- Authorized use of PA12
- Miscellaneous revisions for PE and PA11 pipelines
- Additional provisions for fittings used on plastic pipe

Excavation Damage Prevention

Final Rule moved past PHMSA - NPRM published 4/2/2012

- Pursuant to the PIPES Act, PHMSA is proposing criteria and procedures for determining whether a state's enforcement of its excavation damage prevention laws is adequate.
- Excavation damage is a leading cause of natural gas and hazardous liquid pipeline failure incidents.
- Better, more effective enforcement of state excavation damage prevention laws is a key to reducing pipeline excavation damage incidents.
- Though all states have a damage prevention program, not all states adequately enforce their state damage prevention laws.

Excavation Damage Prevention

Dates for Final Rule:

Milestone	Originally Scheduled Date	New Projected Date	Actual Date
To OST	03/25/2013	10/01/2013	07/29/2013
To OMB	04/25/2013	05/20/2015	
OMB Clearance	07/25/2013	08/20/2015	
Publication Date	08/05/2013	08/31/2015	

Explanation for any delay: Additional coordination necessary

Standards Update

Final Rule- published 1/5/2015

- Major Topics
  - Addresses the set of Incorporated by Reference (IBR) standards throughout PHMSA's part 192, Part 193 and Part 195 code with updated revisions of standards from all standard organization bodies.
  - This Rule impacts 22 of the 60+ standards that we currently IBR.
  - Per recent statute (Section 24, revised) all IBR standards pertaining to PSR must be available for free to the public. (Most SDOs comply)
  - ANSI IBR portal – ibr.ansi.org

Standards Update (continued)

- Effective March 6, 2015, PHMSA amended the Federal pipeline safety regulations to IBR new, updated or reaffirmed editions of the voluntary consensus standards that are applicable to pipelines subject to the requirements of the Federal pipeline safety regulations.
- Of specific interest is revision to PE standard:
  - ASTM D2513–09a—PHMSA incorporates ASTM D2513–09a, ‘‘Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings,’’ except section 4.2, ‘‘Rework Material.’’

Valve installation and Minimum Rupture Detection Standards

This rule would propose installation of automatic shutoff valves, remote controlled valves, or equivalent technology and establish performance based meaningful metrics for rupture detection for gas and liquid transmission pipelines. The overall intent is that rupture detection metrics will be integrated with ASV and RCV placement with the objective of improving overall incident response. Rupture response metrics would focus on mitigating large, unsafe, uncontrolled release events that have a greater potential consequence. The areas proposed to be covered include High Consequence Areas (HCA) for hazardous liquids and HCA, Class 3 and 4 for natural gas (including could affect areas).

Valve installation and Minimum Rupture Detection Standards

Dates for NPRM:

Milestone	Originally Scheduled Date	New Projected Date	Actual Date
To OST	08/22/2014	05/06/2015	
To OMB	09/22/2014	06/10/2015	
OMB Clearance	12/22/2014	09/10/2015	
Publication Date	01/06/2015	09/22/2015	
End of Comment Period	02/26/2015	11/22/2015	

Explanation for any delay: N/A

Miscellaneous Rulemaking

Final Rule issued March 11-Effective October 1, 2015

- Major Topics
  - Performance of post-construction inspections
  - Leak surveys of Type B onshore gas gathering lines
  - Requirements for qualifying plastic pipe joiners
  - Regulation of ethanol
  - The transportation of pipe

Information Collection Activities

- Distribution Annual Report modifications to align leak causes with the Incident Report have initiated
- Other modifications are being discussed and solutions identified for their implementation, and these include:
  - Easier data input fields for mileages and services
  - Definition of the type of operator
  - Definition of the commodity transported.
  - New material category to gather information on the amount of cast iron that has been lined (e.g., cured in place liners).

DIMP Enforcement Guidance

- DIMP Enforcement Guidance is posted and publicly available on PHMSA's website with the other Enforcement Guidance documents at http://www.phmsa.dot.gov/foia/e-reading-room
- This posting allows Operators to understand Regulators' expectations with regards to the DIMP Regulation and other regulations and supports their implementation of their programs

Questions?

Advisory Bulletin (ADB)

http://www.phmsa.dot.gov/pipeline/regs/advisory-bulletin

List of 2014 Advisory Bulletins

- Advisory Bulletins (ADB)
- 2014-05 - Guidance for Meaningful Metrics
- 2014-04 - Guidance for Pipeline Flow Reversals, Product Changes and Conversion to Service
- 2014-03 - Notification(s) required prior to certain construction-related events
- 2014-02 - Lessons Learned from the Marshall, Michigan, Release
- 2014-01 - Guidelines for the Preparation of Part 194 On-shore Oil Spill Response Plans

2014 Advisory Bulletins

Advisory Bulletins (ADB)

- 2014-05 - Guidance for Meaningful Metrics
  - ADB–2012-10 Using Meaningful Metrics in Conducting Integrity Management Program Evaluations
- 2014-02 - Lessons Learned from the Marshall, Michigan, Release

NTSB Failure Investigation Report of San Bruno, CA incident

NTSB concluded that the company's self-assessments were ''superficial and resulted in no improvements to the integrity management program.''

As a result, NTSB recommended that PG&E: "Assess every aspect of your integrity management program, paying particular attention to the areas identified in this investigation, and implement a revised program that includes, at a minimum, .."

Recommendation P–11–29 .. (4) an improved self-assessment that adequately measures whether the program is effectively assessing and evaluating the integrity of each covered pipeline segment

ADB – 2012-10

- Remind operators of their responsibilities, under Federal IM regulations, to perform evaluations of their IM programs using meaningful performance metrics. Program evaluation is a required integrity management program element as established in §192.911(i)
- A critical program element of an operator's integrity management program is the systematic, rigorous evaluation of the program's effectiveness using clear and meaningful metrics.
- When executed diligently, this self-evaluation process will lead to more robust and effective integrity management programs and improve overall safety performance.
- This process is critical to achieving a mature IM program and a culture of continuous improvement.

ADB – 2012-10

- Metrics that measure and provide insights into how well an operator's processes associated with the various IM program elements are performing.
- Specific threats that include both leading and lagging indicators for the important integrity threats on an operator's systems, including:
  - Activity Measures that monitor the surveillance and preventive activities that are in place to control risk
  - Deterioration Measures that monitor operational and maintenance trends to indicate if the program is successful or weakening despite the risk control activities in place
  - Failure Measures that reflect whether the program is effective in achieving the objective of improving integrity.

NTSB Failure Investigation Report of San Bruno, CA incident

NTSB Findings 25 & 26

25 - Because PG&E and the CaPUC have not incorporated the use of effective and meaningful metrics as part of their performance-based pipeline safety management programs, neither PG&E nor CaPUC is able to effectively evaluate or assess the integrity of PG&E's pipeline system

26 - Because PHMSA has not incorporated the use of effective and meaningful metrics as part of its guidance for effective performance-based pipeline safety management programs, its oversight of state public utility commissions regulating gas transmission and hazardous liquid pipelines needs improvement.

NTSB Failure Investigation Report of San Bruno, CA incident

NTSB Recommendation P-11-19 to PHMSA

(1) Develop and implement standards for integrity management and other performance-based safety programs that require operators of all types of pipeline systems to regularly assess the effectiveness of their programs using clear and meaningful metrics, and to identify and then correct deficiencies; and (2) make those metrics available in a centralized database. (P-11-19)

ADB – 2014-05

Pipeline Safety: Guidance for Meaningful Metrics

- Root cause analysis reveal:
  - Management systems and Organizational program deficiencies contribute to pipeline accidents
- Finding #19 - The PG&E gas transmission integrity management program was deficient and ineffective.
- Finding #21 - The deficiencies identified during this investigation are indicative of an organizational accident.
- Finding #22 - The multiple and recurring deficiencies in PG&E operational practices indicate a systemic problem
- Weakness in implementing and using Meaningful Metrics is one of the issues identified

ADB – 2014-05

Overview …

- Operators need an established method to measure program effectiveness – TIMP & DIMP provide methodologies
  - IM as a part of QA/QC program
- Liquid: API 1160 “Managing Integrity for Hazardous Liquid Pipelines” provides guidance on evaluating and improving performance.
- Gas Transmission: using guidance from B31.8S-2004
- Gas Distribution – SubPart P provides structure

ADB – 2014-05

- PHMSA developed guidance on the elements and characteristics of a mature program evaluation process that uses meaningful metrics
- Major topic areas addressed in the guidance document include:
  - Establishing Safety Performance Goals
  - Identifying Required Metrics
  - Selecting Additional Meaningful Metrics
  - Metric Monitoring and Data Collection
  - Program Evaluation Using Metrics

ADB – 2014-05

- Tables 1 & 2 are lists of metrics required by Part 192 and ASME B31.8S-2004 **TO BE USED!**

Table 3 - IM Programmatic Performance Metrics

	Leading ----------Indicators----------*Lagging*		
Program Element	**Selected IM Process, Operational or Activity Metrics**	**Operational Deterioration Indicators**	**Failure or Direct Integrity Metrics**
1. Identification of pipeline segments that could impact HCAs	• Frequency of updates to segment identification analysis • Frequency and nature of reviews conducted to identify new HCAs • Frequency of field district surveys or ROW inspections identifying new HCAs – or segments that could affect HCAs • Frequency and nature of review of procedures and assumptions made in identifying segments that could affect HCAs • Frequency of updates to aerial photography used for HCA segment analysis • Frequency of contacts with public safety officials and others having local knowledge for information on potential "identified sites" or could affect segments	• No. of newly acquired or newly identified assets not incorporated within the IMP within the required timeframe • No. of previously mis-identified HCAs identified as HCAs in updates to the segment identification analysis • No. of PIR calculations using an inappropriate formula for product transported (Gas Trans) • No. of new HCAs or could affect segments identified due to changing conditions (pipeline modifications, new public construction, change in public use of existing buildings, etc.) • No. of abnormal weather conditions (e.g., stream flow rate) that exceed assumptions used in HCA or could affect segment identification	• No. of releases which reached an HCA from pipe that was not determined to be a "could affect" segment (Haz Liq) • No. of releases with adverse impacts beyond the PIR (Gas Trans) • No. of releases which had different impacts to HCAs than determined by the "could affect" analysis • No. of releases which reached different HCAs than determined by the "could affect" analysis • No. of releases that exceeded the highest estimated volume that could be released in a segment (Haz Liq)
2. Threat Identification and Risk Assessment	• Threat identification program • Identification of interacting threats	• No. of mitigation activities for interacting threats (e.g., cyclic fatigue interaction with	• No. of releases involving a previously unidentified threat

ADB – 2014-05

Table 4 - System and Threat-Specific Performance Measurement

	Leading ----------Indicators----------*Lagging*		
Failure Mechanism	**Selected Process or Operational Activities for Threat Prevention or Management**	**Deterioration Indicators**	**Failure or Direct Integrity Metrics**
Mechanical Damage			
First-party (operator) and second-party (contractor) damage	• Operator procedures for excavation on or near its own pipeline • Contractor procedures for excavation on or near the pipeline • Use of current system / facility maps	• No. of improper locates • No. of excavations outside locate area • No. of incidents / accidents where procedures were not followed or where appropriate care was not exhibited • No. of damages not reported • No. of enforcement actions taken by enforcement authority • Increase in frequency of damage	• Releases due to first or second party damage
Third-party excavation, construction or other work at the time of failure Excavation, construction or other work activity occurring at some time prior to failure	• Damage prevention program • Public awareness program • Active participation in appropriate one-call systems • Notification of public and specific others on use of one-call system • Identification of public and other stakeholders along the ROW and notification of pipeline location, threats, etc.	• No. of ROW encroachments • No. of one-call tickets (comparison of third-party damage to one call tickets) • Timeliness of one-call notification ticket responses • No. of improper and inaccurate locates or other inadequate one-call follow-up • No. of unreported excavation damage • No. of unmonitored excavations	• Releases due to third-party damage • Third-party damage from excavations that should have been monitored by operator but that were not • Releases following targeted ILI tool run or pressure test • Third party damage incidents / accidents without a release • Cover increases causing load issues

ADB-2014-02

- Lessons Learned from the Marshall, Michigan, Release.
- NTSB identified specific deficiencies in three of Enbridge programs:
  - Integrity Management (IM)
  - Control Center Operations
  - Public Awareness.

ADB-2014-02 - Summary

Pipeline owners and operators are encouraged to:

- Review IM programs for deficiencies and take corrective action
- Consider training control room staff as teams to recognize and respond to emergencies or unexpected conditions.
- Review the effectiveness of their public awareness programs and whether local emergency response teams are adequately prepared to identify and respond to early indications of ruptures.
- Review NTSB recommendations that the NTSB provides to pipeline operators following incident investigations.
- Operators should proactively implement these improvements to their pipeline safety programs

NTSB Failure Investigation Report of Marshall, MI incident

NTSB Findings 7 & 28

7 - Enbridge's integrity management program was inadequate because it did not consider the following: a sufficient margin of safety, appropriate wall thickness, tool tolerances, use of a continuous reassessment approach to incorporate lessons learned, the effects of corrosion on crack depth sizing, and accelerated crack growth rates due to corrosion fatigue on corroded pipe with a failed coating.

28 - Pipeline safety would be enhanced if pipeline companies implemented safety management systems.

NTSB Failure Investigation Report of Marshall, MI incident

NTSB Recommendation P-12-17 to API

Facilitate the development of a safety management system standard specific to the pipeline industry that is similar in scope to your Recommended Practice 750, Management of Process Hazards. The development should follow established American National Standards Institute requirements for standard development. (P-12-17)

- Thus, API RP 1173 on Pipeline Safety Management Systems which we will discuss later

PHMSA Safety Posture Initiative

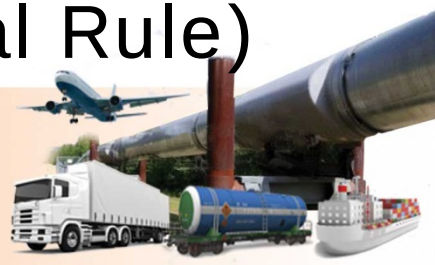
- PHMSA's mission is to protect people and the environment from the risks of hazardous materials transportation. Safety is PHMSA's number one priority.
- The Office of the Chief Safety Officer (CSO) has initiated the PHMSA Safety Posture Initiative that supports DOT's strategic priorities, and builds upon DOT's legacy of safety.
- The CSO serves as the primary advocate for safety within PHMSA and is the safety conscience of the agency.
  - Establishes and reviews PHMSA-wide safety and security policies,
  - Evaluates risk and agency performance,
  - Coordinates and harmonizes PHMSA's emergency planning and incident response, and
  - Fosters continuous improvement in PHMSA's safety programs and the safety of PHMSA's employees

PHMSA Chief Safety Officer

- As part of a healthy safety and reporting culture to maintain and foster continuous improvement in employee safety within PHMSA, PHMSA Employees are encouraged to report accidents or near-misses in the workplace.
  - OSHA defines NEAR MISS as an incident where no property was damaged and no personal injury was sustained, but where, given a slight shift in time or position, damage and/or injury easily could have occurred.
- Identifying initiatives, both short- and long-term to bring our safety regime in line with confronting the biggest safety risks and concerns across our transportation network; and
- Identifying perceived vulnerabilities in the Department's safety priorities and activities that represent unacceptable risk to the traveling public and address them.

Safety Initiative Goals

- Advance priority rulemakings, including:
  - Pipeline Safety: Safety of Gas Transmission and Gathering Pipelines (NPRM)
  - Pipeline Safety: Excess Flow Valves in Applications Other than Single-Family Residences in Gas Distribution Systems (NPRM)
  - Pipeline Safety: Enforcement of State Damage Prevention Laws (Final Rule)



Safety Initiative Goals

- Continue to pursue and foster non-regulatory approaches to effect continuous improvement in safety, such as Safety Management Systems, Safety Culture, and incentivizing regulated entities to move beyond mere compliance with regulations by adopting and institutionalizing voluntary, meaningful, comprehensive programs that will advance safety.
- Advance PHMSA's pipeline damage prevention program.
- Plan for wider adoption and shifting uses and transportation of natural gas: liquefaction, transport, distribution, export, intermodal connections

Safety Initiative Goals

- Address aging pipeline infrastructure and rapid modernization and expansion (e.g., to include new construction; replacement).
- Continue to address pipeline operations and management (e.g., continuous improvement of integrity management; information collection on existing pipeline systems; and other operational changes such as flow reversals and conversions).

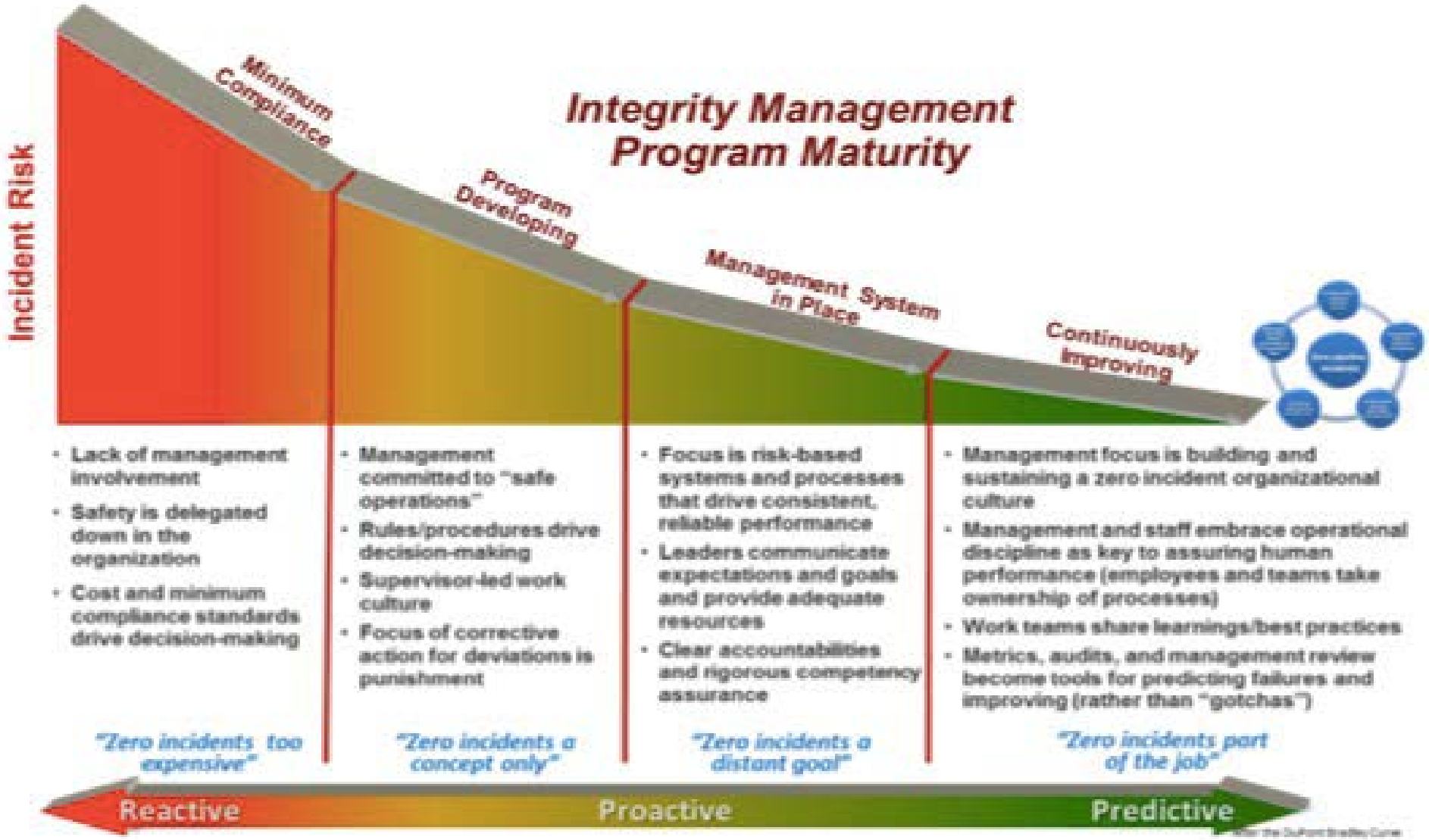
Recent Events Illustrate Weaknesses in Managing Risk

- Effective risk analysis might have prevented or mitigated recent high consequence accidents
- Weaknesses identified include inadequate:
  - Knowledge of pipeline risk characteristics including recordkeeping
  - Processes to analyze interactive threats
  - Evaluation of ways to reduce or mitigate consequences
  - Process to select P & M measures
  - Lack of objective, systematic approach
- Much work remains to improve tools and techniques

Moving from Compliance to Choice

- Energy pipelines have graduated to the national stage, many times for the wrong reasons
- Our world must move from a “checkbox” mentality to understanding the health of our pipeline systems by analyzing and understanding data and information and promptly acting to reduce risks
- Prescription may need to be added to performance based IM programs to address inadequacies identified in inspections

Assessing Maturity



Gas Transmission ANPRM

- M. Quality Management Systems (QMS)
- Quality management includes the activities and processes that an organization uses to achieve quality including formulating policy, setting objectives, planning, quality control, quality assurance, performance-based assessments, performance monitoring, and quality improvement.
- Should PHMSA establish requirements for QMS?
- Do gas transmission pipeline operators require their construction contractors to maintain and use formal QMS?

SMS in other Industries

- Both the FAA and NTSB have presented in Public meetings on the Aviation SMS Process and its applicability and transfer to Pipelines
- NTSB Recommendations from Enbridge Marshall, MI (2012) accident included a finding of probable cause: The rupture and prolonged release were made possible by pervasive organizational failures:
  - Deficient integrity management procedures
  - Inadequate training of control center personnel
  - Insufficient public awareness and education

Safety Management Systems

- SMS has entered the discussion with the development of API RP 1173
- Public Meeting was held July 2, 2014 to preview the content of the current draft of API's RP 1173 and communicate the Path Forward
- This was the 2nd Public Meeting on SMS. 1st Public Meeting on SMS held discussed many of the underlying concepts of SMS
- https://primis.phmsa.dot.gov/meetings
- 3rd Public Meeting April 22nd on Publication

API RP 1173 –Pipeline Safety Management System Requirements

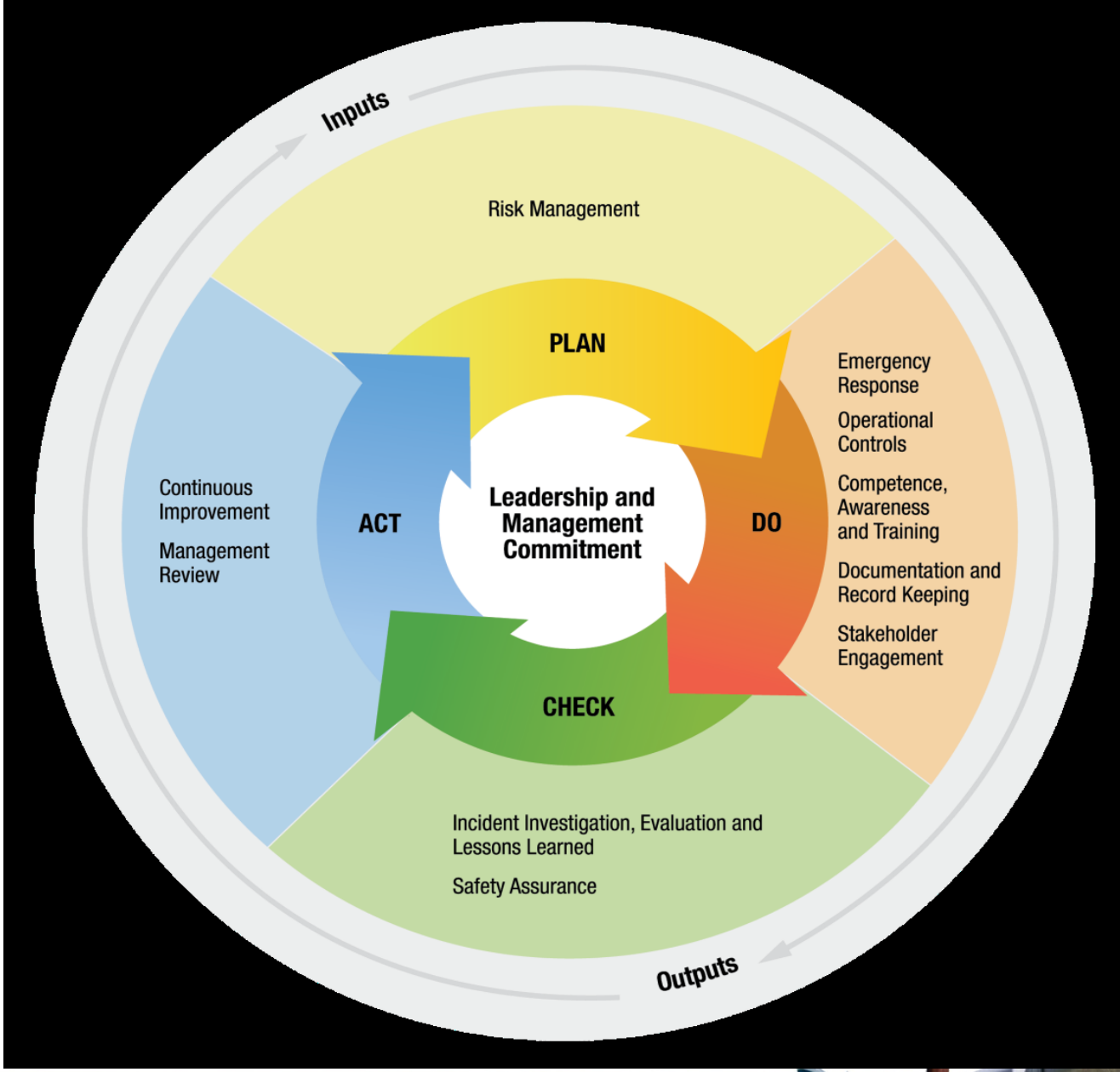
- The goal of this document is to provide pipeline operators with a framework to review an existing PSMS or develop and implement a new PSMS.
- The document is designed to provide a framework that is allows for flexibility to meet an operators unique operating environment and scalable from small to large systems
  - Essential Pipeline Safety Management System Elements are detailed
  - Indicators of a positive safety culture within an organization are included in the RP
  - Principles on which to base an SMS are discussed

Safety Management Systems

- API RP 1173 embodies the Best of a Dozen Other Approaches from Other High Hazard Industries
- Based on “Plan – Do - Check – Act” Continuous Improvement Model, but Organized Along More Traditional Lines
- Adds Dimensions on Safety Culture Elements and Emphasis on Vital Check-Act Elements
- API 1173 Workgroup and PHMSA Intend to continue to communicate SMS Through Webinars and Workshops

Plan, Do, Check, Act The core of the standard

Continuous Improvement is the Goal of the standard



The components of the PDCA cycle

Plan: This step entails establishing the objectives and processes necessary to deliver results in accordance with the organization's policies and the expected goals. By establishing output expectations, the completeness and accuracy of the process is also a part of the targeted improvement.

- Policies
- Strategies
- Objectives
- Plans

The components of the PDCA cycle

Do: This step is the execution of the plan designed in the previous Plan step.

- Roles and Responsibilities
- Processes
- Training
- Information Management
- Risk Management
- Management of Change

The components of the PDCA cycle

Check: This step entails the review of the results compared with established objectives. Comparing those results to the expected goals to ascertain any differences; looking for deviation in implementation from the plan.

- Performance Measures
- Investigations
- Audits – Independence is the Key
- Records and Reporting

The components of the PDCA cycle

Act: The pipeline operator takes actions to continually improve process performance, including corrective actions on significant differences between actual and planned results, analyzes the differences to determine their root causes, and determines where to apply changes that will include improvement of the process or product.

- Formal Management Review
- Corrective Actions
- Revisions to QMS Processes and Controls
- Revisions / Updates to Risk Models
- Input to New Planning Cycle

Why is Leadership the Heart of PDCA? Leadership is everywhere

- Top Management- accountable for continuous improvement, routine review of safety performance and communications about safety
- Supervision/ Managers- ensures process, procedures and training to meet objectives; assess, evaluate and adjust as needed to meet objectives; foster continuous improvement
- Employees– identify improvements, reveal risks
  - Consider employee, public and pipeline safety when stopping work for safety concern
  - Bring rigor of employee safety to asset protection

Safety Culture

- Safety Culture is described as the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands. The following are critical elements of a strong safety culture:

1. Leadership is Clearly Committed to Safety;
2. There is Open and Effective Communication Across the Organization;
3. Employees Feel Personally Responsible for Safety;
4. The Organization Practices Continuous Learning;
5. There is a Safety Conscious Work Environment;
6. Reporting Systems are Clearly Defined and Non-Punitive;
7. Decisions Demonstrate that Safety is Prioritized Over Competing Demands;
8. Mutual Trust is Fostered between Employees and the Organization;
9. The Organization is Fair and Consistent in Responding to Safety Concerns; and
10. Training and Resources are Available to Support Safety

An Operator must make Continual Improvements to the Program

- Safety Culture and SMS provide mechanisms to support compliance with regulatory requirements
  - 192.907 *What must an Operator do to implement this Subpart?*
    - … An operator must make continual improvements to the program.
  - 192.1007(f) *Periodic Evaluation and Improvement*

SMS Conclusions

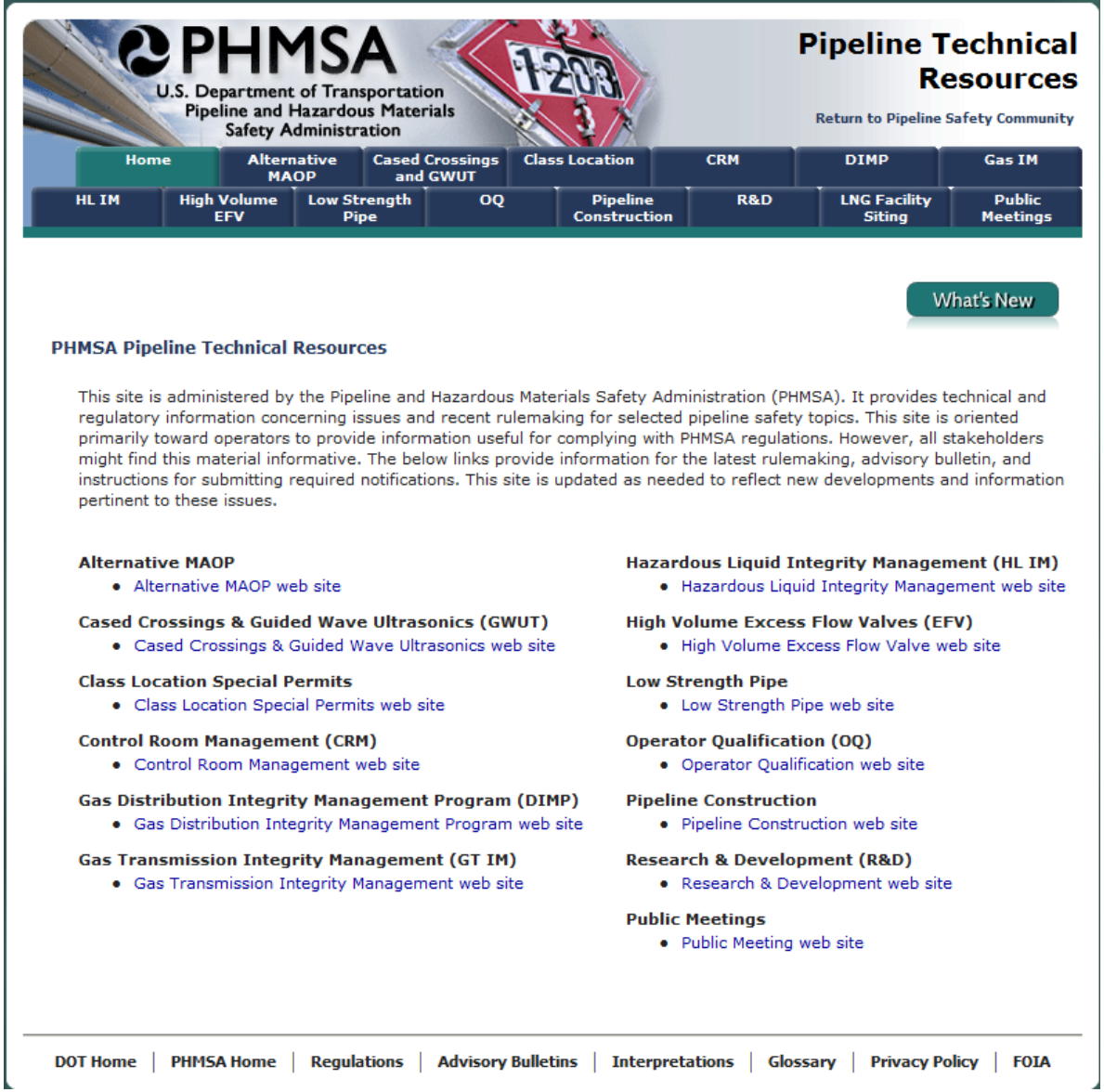
- SMS require More
  - Intentional and systematic actions
  - Diligence and oversight
  - Involvement at all levels - communications
  - “Go and Check” attitude
- The rewards of SMS are
  - Increased pipeline safety – risk reduction
  - Creation/Enhanced safety oriented culture
  - Broader organizational involvement

PHMSA Websites are One of Our Primary Forms of Communication

PHMSA Pipeline Safety

http://phmsa.dot.gov/pipeline

Pipeline Technical Resources



http://primis.phmsa.dot.gov/ptr.htm

DIMP Home

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

Pipeline Technical Resources

Return to Pipeline Safety Community

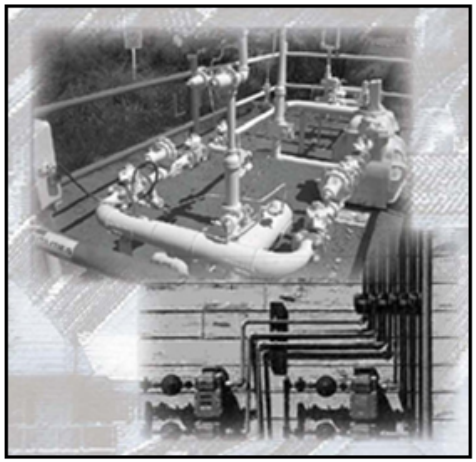
Home | Alternative MAOP | Cased Crossings and GWUT | Class Location | CRM | DIMP | Gas IM
HL IM | High Volume EFV | Low Strength Pipe | OQ | Pipeline Construction | R&D | LNG Facility Siting | Public Meetings

Gas Distribution Integrity Management Program

DIMP Menu

- Home
- History
- Meetings
- Resources
- FAQs
- Performance Measures
- Regulator Contacts
- What's New
- Feedback

- Regulations
- Advisory Bulletins
- Interpretations



The Pipeline and Hazardous Materials Safety Administration (PHMSA) published the final rule establishing integrity management requirements for gas distribution pipeline systems on December 4, 2009 (74 FR 63906). The effective date of the rule is February 12, 2010. Operators are given until August 2, 2011 to write and implement their program.

PHMSA previously implemented integrity management regulations for hazardous liquid and gas transmission pipelines. These regulations aim to assure pipeline integrity and improve the already admirable safety record for the transportation of energy products. Congress and other stakeholders expressed interest in understanding the nature of similarly focused requirements for gas distribution pipelines. Significant differences in system design and local conditions affecting distribution pipeline safety preclude applying the same tools and management practices as were used for transmission pipeline systems. Therefore, PHMSA took a slightly different approach for distribution integrity management, following a joint effort involving PHMSA, the gas distribution industry, representatives of the public, and the National Association of Pipeline Safety Representatives to explore potential approaches.

http://primis.phmsa.dot.gov/dimp/index.htm

Public Meetings

http://primis.phmsa.dot.gov/meetings/

PHMSA Meeting Registration and Document Commenting

All Pending and Recent Meetings:

1. **11/17/2014** PHMSA National Pipeline Mapping System Public Meeting (Mtg #101)
2. **10/21/2014** Joint GPAC and the LPAC Committee Meeting (Mtg #100)
3. **08/06/2014** Government/Industry Pipeline R&D Forum (Mtg #98)
4. **08/05/2014** Managing Pipeline Cracking Challenges (Mtg #97)
5. **07/02/2014** Public Workshop on Pipeline Safety Management Systems (Mtg #99)
6. **04/16/2014** Class Location Methodology Public Workshop (Mtg #95)
7. **02/27/2014** Safety Management Systems Workshop (Mtg #96)

PHMSA Websites

Please regularly use PHMSA websites as they are a primary form of communication with Stakeholders

PHMSA Office of Pipeline safety

http://phmsa.dot.gov/pipeline

DIMP Home Page

http://primis.phmsa.dot.gov/dimp/index.htm

Pipeline Safety Stakeholder Communications

http://primis.phmsa.dot.gov/comm/

Pipeline Replacement Updates

http://opsweb.phmsa.dot.gov/pipeline_replacement/

Questions?