PHMSA Western Region – (What We Do and) Updates

WRGC

Tempe, Arizona

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Pipeline and Hazardous Materials Administration

U. S. Department of Transportation (DOT)

OST  OIG
SLSDC  STB
FAA  PHMSA
FRA  HMT
FMCSA  OPS
MARAD
NHTSA
Office of Pipeline Safety

Policy and Programs
- Program Development
- Standards and Rulemaking
- Engineering and Research
- State Programs
- Enforcement
- Training and Qualifications

Field Operations
- Emergency Support and Security Response
- Regional Offices
  - Eastern
  - Southern
  - Central
  - Southwest
  - Western includes Alaska & Hawaii
PHMSA Regional Offices
Our Mission

To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives.
The Challenges

- Safety of 2.7 million miles of hazardous gas and liquid pipelines, which carry over 66% of the energy consumed in the US
- Safety of nearly one million hazardous materials shipments daily by all modes – air, ground, marine, and rail
- Promoting the safe, environmentally sensitive, and reliable delivery of energy products that fuel the U.S. economy and transportation systems, in addition to the chemicals and other hazardous materials essential to our way of life
- **Assuring economic mobility, efficiency and public confidence**
- Promoting transportation solutions that enhance communities and protect the natural environment
- **Effective stakeholder communication with federal and state agencies, pipeline operators, labor industry, response community and the public**
What Does PHMSA / Pipeline Safety Do?

**Pipeline Safety**

- Identify and evaluate risks of pipeline systems
- Develop inspection and enforcement standards for design, construction, operations, and maintenance of pipelines carrying hazardous gas and liquids
- Response and investigation of pipeline accidents/incidents
- Educate system operators, emergency responders and the general public
- Conduct research on promising technologies and knowledge needed to improve standards
- Provide grants to states in support of their pipeline safety programs – inspection/enforcement, damage prevention, public education
Strategic Objectives

- Reduce risk of serious pipeline incidents through use of strong risk-based integrity management approach
- Sharpen focus on key risks using data
- Develop solutions to detect/characterize these risks
- Promote systematic management of risk through standards
- Inspect and enforce integrity management standards
- **Build capacity of communities to carry out their respective roles in living safely with the energy pipelines**
Underlying Principles

- It is the responsibility of pipeline operators to understand and manage the risks associated with their pipelines.

- PHMSA’s primary role is to establish **minimum** safety standards (defined by required risk control practices) and to ensure that operators perform to these standards.

- PHMSA also strives to impact operator performance beyond mere compliance with the regulations.
## PHMSA Regulated Pipeline Facilities

### OPS and States

### Liquefied Natural Gas
- **157 Plants, 230 Tanks, 87 Operators**
  - Plants - 26 Interstate and 131 Intrastate

### Underground Natural Gas Storage
- **403 Facilities, 457 Reservoirs**
  - 17,422 Wells, 126 Operators
  - Facilities - 222 Interstate and 181 Intrastate

### Pipeline Facilities by System Type from CY 2018 Annual Reports

<table>
<thead>
<tr>
<th>System Type</th>
<th>Miles</th>
<th>% Miles</th>
<th># Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous Liquid</td>
<td>218,289</td>
<td>8%</td>
<td>525</td>
</tr>
<tr>
<td>Gas Transmission</td>
<td>301,495</td>
<td>11%</td>
<td>1,069</td>
</tr>
<tr>
<td>Gas Gathering</td>
<td>17,878</td>
<td>&lt; 1%</td>
<td>370</td>
</tr>
<tr>
<td>Gas Distribution</td>
<td>2,238,468</td>
<td>81%</td>
<td>1,355</td>
</tr>
<tr>
<td><strong>Total Miles</strong></td>
<td><strong>2,776,130</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*data as-of 7-2-2019*
What We are Trying to Prevent

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

To Protect People and the Environment From the Risks of Hazardous Materials Transportation
LNG Plants Connected to Natural Gas Pipeline Systems
Not In it Alone

• We partner with our States to enforce the Federal regulations.

• 10 of the 12 States in the PHMSA Western Region have pipeline safety programs
  – AZ, CA, CO, ID, MT, NV, OR, UT, WA, and WY inspect Intra-state natural gas pipelines
  – AZ, CA, and WA inspect Intra-state petroleum pipelines
  – AZ and WA help us do Interstate pipelines

• States can add additional regulations for Intra-state pipelines
How PHMSA Supports the State Pipeline Programs

• PHMSA provides up to 80% funding of any State’s pipeline safety program
  – Based on an annual Federal Audit of the program (Procedures, Field, and Records)
  – Recently the average grant funding was approximately 74% of the states total program costs.

• There was approximately $53 Million in Grant Money for the states last year.
Pipeline Serious Incidents with Context Measures (1999-2018)

Data Sources: Energy Information Administration, Census Bureau, PHMSA Annual Report Data, PHMSA Incident Data - as of 06/17/2019
High Profile Accidents in PHMSA’s Western Region

• 1/17/15 – Bridger Pipeline’s Poplar Pipeline spills crude oil into the Yellowstone River near Glendive, MT

• 5/19/15 - Plains Pipeline L.P. Line 901 Crude Oil Release Santa Barbara, CA
Poplar Pipeline
Overview
The Release

• The Poplar Pipeline ruptured on Saturday January 17, 2015, spilling approximately 30,000 gallons of crude oil into the Yellowstone River.

• Findings show that the pipe was exposed in the river following an ice dam event in 2014. This pipe exposure went undetected and the line failed due to water induced forces & vibrations.
Yellowstone River Response

Workers recovered a total of 1,722 gallons/41 BBLs of oil from the iced over river.
Yellowstone River Near Glendive, MT
Recovered Pipe April 8, 2015
Plains Pipeline L.P.
May 19, 2015 Crude Oil Release
Santa Barbara, California

• Estimated spill size 1500 barrels.

• Intense media coverage, and numerous oversight agencies at the Unified Command

• Preliminary findings show extensive corrosion under insulation, inaccurate In Line Inspection (ILI) assessment, and no leak detection by the control room

• Line is shut down & filled with Nitrogen
Effectiveness of Cathodic Protection on Thermally Insulated Underground Metallic Structures

Item No. 24156

This Technical Committee Report has been prepared by NACE International Specific Technology Group 35* on Pipelines, Tanks, and Well Casings

Effectiveness of Cathodic Protection on Thermally Insulated Underground Metallic Structures

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*Chair Paul R. Nichols, Shell Global Solutions, Houston, Texas.
Plains Pipeline, L.P.
Line 901 (Las Flores to Gaviota)

**Not to Scale**

Affected Segment
(~10.7 Miles)

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**Failure Location**

- Venoco Tie-In
- MOV 1 Refugio Creek and Check Valve
- MOV 109 (~MP 10.7 in station)
- MOV 208 (~MP 0.04 in station)

**Spill Path**

- Gaviota State Park
- Refugio State Beach
- El Capitan State Beach
- Offshore Platform – Holly
  (Venoco)
- Offshore Platforms: Hondo, Harmony, Heritage
  (ExxonMobil)

**Hwy 101**

- Sisquoc Pump Station
- MOV2 Gaviota Creek
- Gaviota Pump Station
- Line 903 (127 Miles)

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**2nd and 3rd Anomaly digs**

w/n 50’ of each other
Temporary dual clamp and recoat

**1st Anomaly dig**

(temporary clamp)

**Flow Direction**

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To Bakersfield

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**Offshore Platforms:**
Hildago, Harvest, Hermosa
(Freesport/McMoRan)
Release Site was ~ 25 feet uphill from Culvert
Culvert Under Highway and Railroad Tracks to the Pacific Ocean
Takeaways from Recent Spills

• Most States have a pipeline safety agency that can answer pipeline safety questions
  – We share our findings with them so your leadership can get answers.
  – Plenty of areas to collaborate.

• Our staff can provide information about a release, spill investigation, recent pipeline inspection, or enforcement on lines not regulated by a State.
Community Liaisons Responsibilities

- Serve as designated PHMSA representatives before a wide variety of stakeholders.
- Participate with state and regional damage prevention groups and the Common Ground Alliance to further the implementation of damage prevention best practices.
- Help states assess their damage prevention programs and opportunities.
- Routinely provide informational presentations to various stakeholder groups to broaden public awareness of our country’s energy transportation pipeline systems.
- Meet with federal, state and local regulatory agencies, and pipeline operators to facilitate timely issuance of permits necessary for conducting pipeline integrity activities.
- Provide consultation to regulators, regulated parties and other stakeholders regarding new and amended regulatory requirements.
- Respond to public inquiries and complaints regarding pipelines and pipeline operations.
Community Liaison Points of Contact

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Important Links

- PHMSA, Office of Pipeline Safety
  - www.phmsa.dot.gov/pipeline

- Standards & Rulemaking

- National Pipeline Mapping System
  - www.npms.phmsa.dot.gov

- PHMSA’s Stakeholder Communications Site
  - http://primis.phmsa.dot.gov/comm

- Access to PHMSA Regulations (Easy to read/print 49 CFR Part 190-199)
  - www.phmsa.dot.gov/pipeline
    - Click on “Training and Qualifications”
    - Click on “Regulatory Information”
    - Click on the Part you want

- For Federal Regulations (Official Version)
  - www.regulations.gov
One easy call gets your utility lines marked and helps protect you from injury and expense.

Visit call811.com for more information.
Questions?

Thank You

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Bonus Slides
Categories of Incident Reports

**Serious** – fatality or injury requiring in-patient hospitalization, but **Fire First** are excluded.

**Fire First** are gas distribution incidents with a cause of “Other Outside Force Damage” and sub-cause of “Nearby Industrial, Man-made, or Other Fire/Explosion”

**Significant** include any of the following, but **Fire First** are excluded:

1. Fatality or injury requiring in-patient hospitalization
2. $50,000 or more in total costs, measured in 1984 dollars
3. Highly volatile liquid (HVL) releases of 5 barrels or more
4. Non-HVL liquid releases of 50 barrels or more
5. Liquid releases resulting in an unintentional fire or explosion
Designing Safety Regulations for High-Hazard Industries
Task

Compare the advantages and disadvantages of prescriptive- and performance-based safety regulation and identify possible opportunities for, and constraints on, making greater use of the latter.
Implications for PHMSA and Other Regulators of High-Hazard Industries

Use of macro-level regulations like IM may be advantageous when sources of risk are complex and context-specific, as characteristic of low-frequency, high-consequence events. These regulations can serve a valuable purpose by addressing risks that cannot be controlled by highly targeted micro-level regulatory interventions. They can augment micro-level regulations.

But regulators must take into account their ability to enforce, motivate, and support acceptable levels of compliance.
Too much emphasis is placed on simplistic and often misconstrued lists of generic advantages and disadvantages of types of regulations.

The regulator will want to choose a design that is suited to the nature of the problem and the characteristics of the regulated industry, as well as the regulator’s capacity to promote and enforce compliance.

Regulators should consider whether the best approach to achieving their regulatory goals may be to combine various regulatory approaches.
Questions?

Thank You

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