US DOT
Pipeline and Hazardous Materials Safety Administration (PHMSA)

Pipeline Safety Indicators & Transparency Forum
Pipeline Safety Trust (PST) and Canadian Energy Pipeline Association (CEPA)
Calgary, Alberta

May 19, 2016
Blaine Keener
PHMSA Data & Statistics

- 49 CFR Parts 191, 192, 194, and 195 require pipeline operators to submit reports to PHMSA:
  - Gas Distribution
  - Gas Gathering – PHMSA regulates about 5%
  - Gas Transmission
  - Hazardous Liquid and Liquefied Carbon Dioxide

- Annual reports include infrastructure and integrity management performance measures

- Incident report criteria are different for Gas and Liquid

Gas Data Quality and Analysis Team

- Formed late in 2013 to develop meaningful analysis of data submitted to PHMSA by pipeline operators

- Team Members
  - American Gas Association, co-chair
  - Interstate Natural Gas Association of America (INGAA)
  - American Public Gas Association (APGA)
  - PHMSA/Office of Pipeline Safety (OPS), co-chair
  - Pipeline Safety Trust (PST)
  - State Pipeline Safety Agencies – 2 out of 51

- Published Gas Performance Measures late in 2015
Gas Distribution Performance Measures


**Serious Incident per Mile**  trend & cause pie

**Significant Incident per Mile**  3 trends

**Leaks per Mile**  3 trends & 2 cause pies

**Excavation Damage**  2 trends

**Cast and Wrought Iron**  2 trends

**Steel Miles – Bare and Unprotected**  3 trends

**Miles by Decade Installed**  6 trends
Gas Transmission Performance Measures


**Serious Incident per Mile** trend & cause pie

**Onshore Significant Incident per Mile** 3 trends, also **HCA and non-HCA** trends & cause pies

**HCA Immediate Repair per Mile** trend

**HCA Leaks & ILI Detectability** 2 trends & cause pies

**Steel Miles – Bare and Unprotected** 2 trends

**Miles by Decade Installed** 5 trends

**Onshore Pipeline Significant Incident Rates per Decade** rate chart and cause chart
Pipeline Performance Measure Anatomy

Title & Date

Analysis

Chart

Report Details

Operator View

Numerator & Denominator

Safety Program View

Terms & Definitions

Gas Transmission Onshore Significant Incidents per 1,000 Miles
Time run: 11/12/2015 4:46:30 PM
Data Sources: US DOT Pipeline and Hazardous Materials Safety Administration
Data as of 11/12/2015

The gas transmission Significant Incident per 1,000 mile rate has fluctuated since 2005 and remained flat overall.

People have been evacuated from buildings near the incident in only 17% of the Significant Incidents. The rate of Significant Incidents with evacuation has remained flat since 2005.

Property not owned by the pipeline operator is damaged in about one quarter of the Significant Incidents. The rate of Significant Incidents with public property damage has doubled since 2005.

Significant Incidents include a fatality, or an injury requiring overnight, in-patient hospitalization, or $50,000 or more in total costs, measured in 1984 dollars.
Pipeline Performance Measure Anatomy

Title & Date

Data generally refreshed each business day

Gas Transmission Onshore Significant Incidents per 1,000 Miles

Time run: 11/12/2015 4:48:30 PM

Data Source: US DOT Pipeline and Hazardous Materials Safety Administration

Data as of 11/11/2015
Pipeline Performance Measure Anatomy Analysis

The gas transmission *Significant Incident* per 1,000 mile rate has fluctuated since 2005 and remained flat overall.

People have been evacuated from buildings near the incident in only 17% of the *Significant Incidents*. The rate of Significant Incidents with evacuation has remained flat since 2005.

Property not owned by the pipeline operator is damaged in about one quarter of the *Significant Incidents*. The rate of Significant Incidents with public property damage has doubled since 2005.
Pipeline Performance Measure Anatomy Chart

Line, bar, or pie
Pipeline Performance Measure Anatomy

Numerator & Denominator

When the measure includes a rate per mile, the numerator and denominator are displayed below the chart

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<thead>
<tr>
<th></th>
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<tbody>
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<td>63</td>
<td>59</td>
<td>55</td>
<td>47</td>
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<td>58</td>
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<td>Significant Incidents with Public Property Damage</td>
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<td>13</td>
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**Pipeline Performance Measure Anatomy**

**Terms & Definitions**

*Significant Incidents* include a fatality, or an injury requiring overnight, in-patient hospitalization, or $50,000 or more in total costs, measured in 1984 dollars.
Pipeline Performance Measure Anatomy “Report Details” Link

When the measure includes incidents, this link load a report with incident details and link to Pdf of the entire report.
Pipeline Performance Measure Anatomy

“Operator View” Link

Loads a report of the measure ranking individual operators

<table>
<thead>
<tr>
<th>Operator ID</th>
<th>Operator Name</th>
<th>10 Year Average (incidents per 1,000 miles)</th>
<th>5 Year Average (incidents per 1,000 miles)</th>
<th>10 Year Significant Incident Count</th>
<th>5 Year Significant Incident Count</th>
<th>2014 Miles</th>
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**Pipeline Performance Measure Anatomy**

**“Safety Program View” Link**

Loads a report of the measure ranking safety programs

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**Gas Transmission Onshore Significant Incidents per 1,000 Miles – IM Safety Program with 100 or more onshore miles**

Time run: 11/12/2015 5:49:49 PM

Data Source: US DOT Pipeline and Hazardous Materials Safety Administration

Data as of: 11/11/2015

<table>
<thead>
<tr>
<th>IM Safety Program Name</th>
<th>2012 and Forward (incidents per 1,000 miles)</th>
<th>2012 and Forward Significant Incident Count</th>
<th>2014 Onshore Miles</th>
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<td>TARGA</td>
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<td>219</td>
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Gas Pipeline Performance Measures
Next Steps

- Establish *performance targets* for 2016 and beyond
- Monitor and *report on performance* for each measure as time marches on
- Discuss improvements to measures or additional measures, including new data needed for additional measures
DRAFT

Hazardous Liquid, excluding CO$_2$, Performance Measures

**Serious Incident, Fatalities, Injuries**  3 trends

**Pipeline Right-of-Way Accidents Impacting People or Environment**  2 trends

**Integrity Inspection Targets for Pipeline Right-of-Way Accidents Impacting People or Environment**  2 trends

**Operations and Maintenance Targets for Pipeline Right-of-Way Accidents Impacting People or Environment**  2 trends

**Miles Inspected**  7 trends
Hazardous Liquid (HL) Significant Incidents

Accident reports including any of the following:
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

Is "$50k in 1984 dollars" meaningful for safety?
Questions?

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