
# 2013 NAPSR Southern Region Meeting
# Myrtle Beach, South Carolina

## PHMSA Pipeline Safety Program Updates

*April 23, 2013*

Alan Mayberry


# Topics for Today

- Introductions
- Environmental Factors
- Pipeline Safety Challenges
- Ongoing Actions
- 2013 Priorities
- A Look Ahead


# Introductions

- Secretary Ray LaHood (resigning)
- Cynthia Quarterman – Administrator for PHMSA
  - Tim Butters – Deputy Administrator for PHMSA
  - Jeff Wiese – Associate Administrator for Pipeline Safety
    - Alan Mayberry – Deputy Associate Administrator for Field Operations and Emergency Response
    - Linda Daugherty – Deputy Associate Administrator for National Policy and Programs

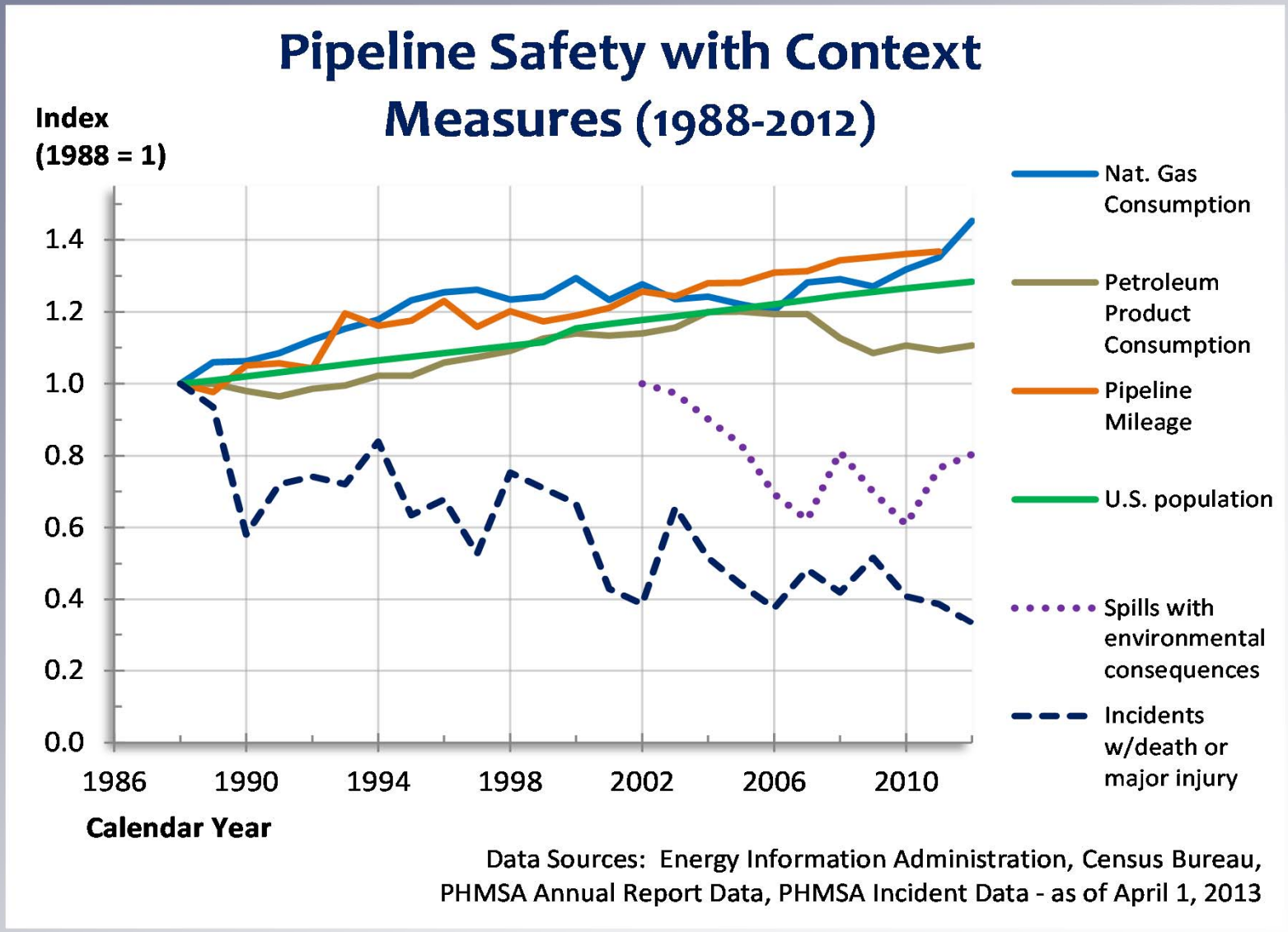

# Environmental Factors

- Non conventional oil and gas
- Terribly under-informed populace highly dependent on a fossil fuel fed, overly lean, energy supply chain
- Growing public intolerance to risk – but highly rate sensitive
- Single issue debates – one at a time, rarely in perspective
- Polarized political atmosphere – advantage over policy
- Looming fiscal impacts from sequestration
- Internet-speed information exchange w/no editorial control
- Uninformed media (with drivers all their own)
- Regulatory process stuck in amber


# What We Regulate

| Pipeline Miles by System Types –as-of 4/11/2013 | | | |
|---|---|---|---|
| **System Type** | **Miles** | **% Total** | **# Operators** |
| **Hazardous Liquid** | **182,613** | **7%** | **381** |
| **Gas Transmission** | **304,873** | **12%** | **923** |
| **Gas Gathering** | **19,872** | **1%** | **320** |
| **Gas Distribution** | **2,114,990** | **80%** | **1318** |
| ***Main--*** | 1,233,249 | 46% | |
| ***Service--*** | 881,741 | 34% | |
| **Total** | **2,622,348** | | Some Operators have multiple System Types |
| **Liquefied Natural Gas** | **129 Plants** | **200 Tanks** | **80 Operators** |
| **Hazardous Liquids Breakout Tanks** | | **6,448 Tanks** | **93 Operators** |

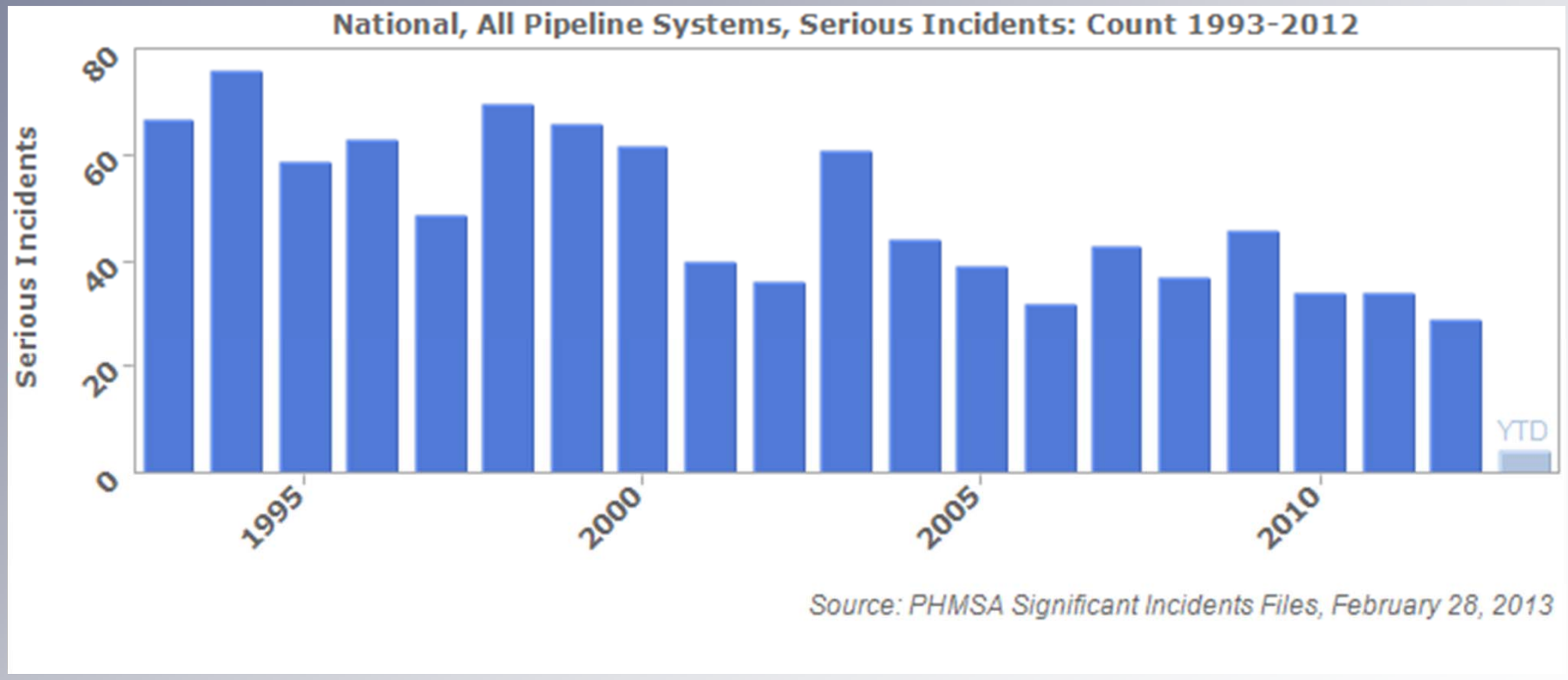
# Context Measures




Data Sources: Energy Information Administration, Census Bureau, PHMSA Annual Report Data, PHMSA Incident Data - as of April 1, 2013

# Serious Incidents

## Downward Trend Continues in 2012



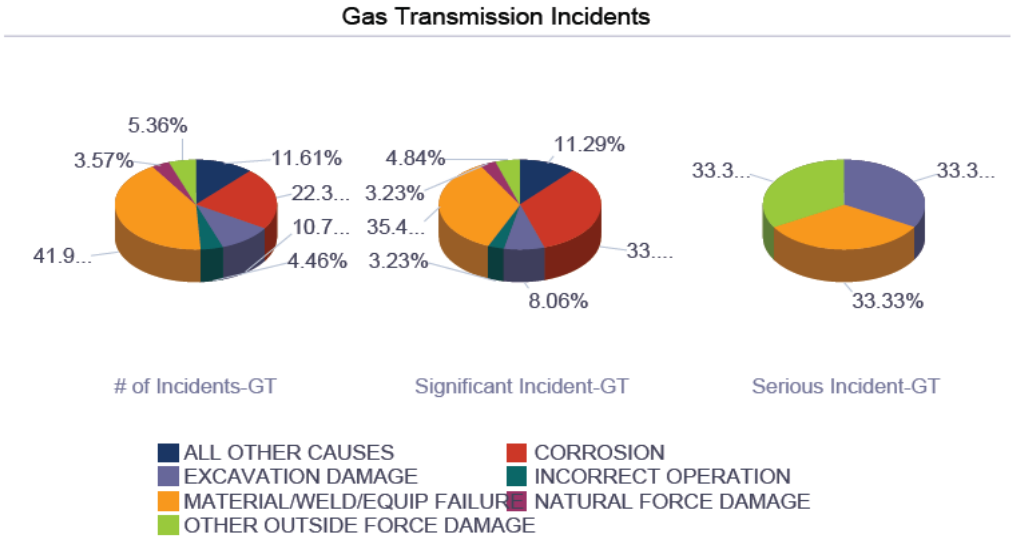
# 2012 Gas Transmission Incidents

Top Causes for All Reported & Significant categories

- Material/Weld/Equip Failure
- Corrosion

Some may actually be gathering, data clean-up underway

| | All Reported | Significant | Serious |
|---|---|---|---|
| **Incident Cause Type** | | | |
| ALL OTHER CAUSES | 13 | 7 | 0 |
| CORROSION | 25 | 21 | 0 |
| EXCAVATION DAMAGE | 12 | 5 | 1 |
| INCORRECT OPERATION | 5 | 2 | 0 |
| MATERIAL/WELD/EQUIP FAILURE | 47 | 22 | 1 |
| NATURAL FORCE DAMAGE | 4 | 2 | 0 |
| OTHER OUTSIDE FORCE DAMAGE | 6 | 3 | 1 |
| **Grand Total** | **112** | **62** | **3** |

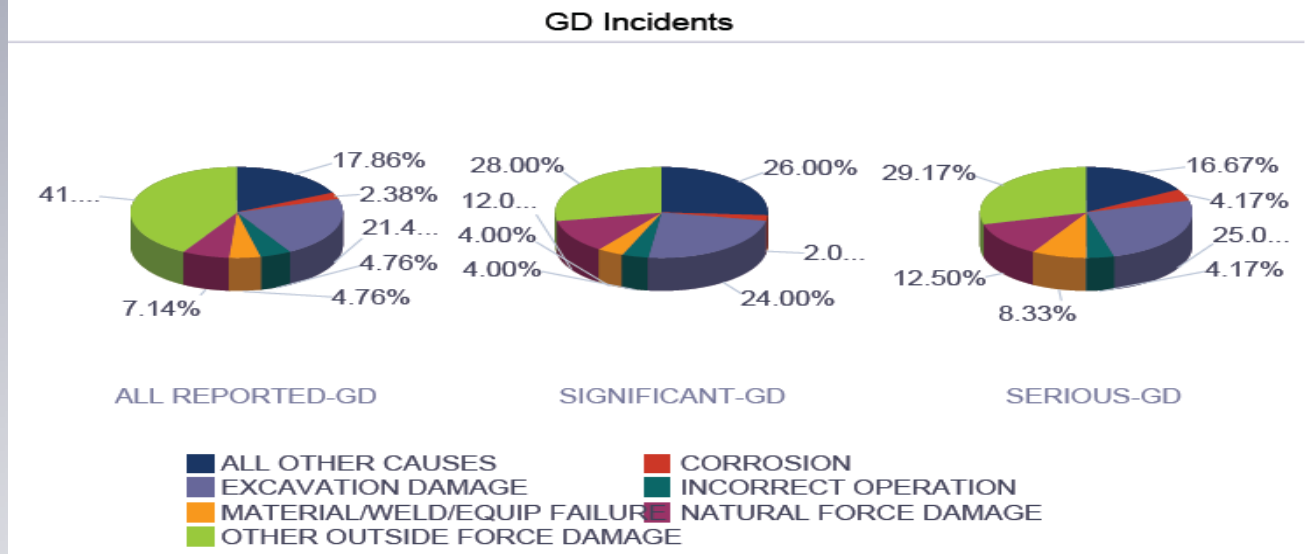


# 2012 Gas Distribution Incidents

Top Causes for all incident categories:

- Other Outside Force Damage
- Excavation Damage
- Other

| | All Reported | Significant | Serious |
|---|---|---|---|
| **Incident Cause Type** | | | |
| ALL OTHER CAUSES | 15 | 13 | 4 |
| CORROSION | 2 | 1 | 1 |
| EXCAVATION DAMAGE | 18 | 12 | 6 |
| INCORRECT OPERATION | 4 | 2 | 1 |
| MATERIAL/WELD/EQUIP FAILURE | 4 | 2 | 2 |
| NATURAL FORCE DAMAGE | 6 | 6 | 3 |
| OTHER OUTSIDE FORCE DAMAGE | 35 | 14 | 7 |
| **Grand Total** | **84** | **50** | **24** |




# Significant Accident Breakdown Total by Type (Fatalities)

| | Total for All Types[1] | Hazardous Liquid | Gas Transmission | Gas Distribution |
|---|---|---|---|---|
| 2010 | 259 (19) | 121 (1) | 79 (10) | 54 (8) |
| 2011 | 284 (12) | 139 (1) | 83 (0) | 60(11) |
| 2012 | 244 (10) | 129 (3) | 62 (0) | 49 (7) |
| 3 Year Average (2010-2012) | 262 (14) | 130 (2) | 75 (3) | 54 (9) |
| 5 Year Average (2008-2012) | 268 (12) | 124 (2) | 74 (2) | 62 (8) |
| 10 Year Average (2003-2012) | 281 (14) | 122 (2) | 77 (2) | 73 (11) |

[1] includes gas gathering (zero fatality) - excludes "fire first" incidents; data as of 03/29/2013


# Pipeline Safety Challenges

- Spate of High Consequence, High Profile Accidents
- Aging Infrastructure Being Overly Amortized
- Separate Rate Recovery Authorities Worried About Rates
- Challenges to Recruit, Train and Retain Qualified Workforce
- Growing Expectations for Change in a Change Averse World


# High Profile Accidents

- **Marshall, Michigan (Federally Regulated)**
  - Major Crude Oil Spill Dramatically Impacted Several Communities in Michigan
- **San Bruno, California (State Regulated)**
  - Major tragedy – Unimaginable Proportions
- **Allentown, Pennsylvania (State Regulated)**
  - Cast Iron, low pressure
- **Excavation Damage Fatalities (State Regulated)**
  - Texas, North Dakota, Georgia – to name a few
- **Yellowstone River; Billings, Montana (Federally Regulated)**
  - Significant Oil Spill near Billings, MT
- **Bison Pipeline; Rural Wyoming (Federally Regulated)**
  - Newly constructed natural gas pipeline


# High Profile Accidents

- **Chevron; Salt Lake City, Utah (Federally Regulated)**
  - Crude oil and refined products
  - Multiple accidents: 6/10, 12/10, 3/13
- **Sissonville, West Virginia (Interstate Agent)**
  - Impact to major interstate highway; questions on HCA determination
  - Led to Congressional oversight hearing
  - NTSB investigation
- **Mayflower, Arkansas (Federally Regulated)**
  - Canadian heavy crude
  - Keystone implications?
  - Investigation pending


# Sissonville Pipeline Incident

- Dec 11, 2012: Rupture of a 20” X-60 gas transmission pipeline (1967 vintage)


# Sissonville Pipeline Incident

- No injuries or fatalities (thankfully)
- Three neighboring homes destroyed, others damaged
- Interstate 77 damaged and temporarily closed
- Three pipelines in vicinity
  - SM-80 — 20” diameter — PIR = 495 feet
  - SM-86 — 26” diameter — PIR = 626 feet
  - SM-86 Loop — 30” diameter — PIR = 713 feet
- PHMSA issued Corrective Action Order
- WV PSC and PHMSA Investigation ongoing
- NTSB launched to investigate cause

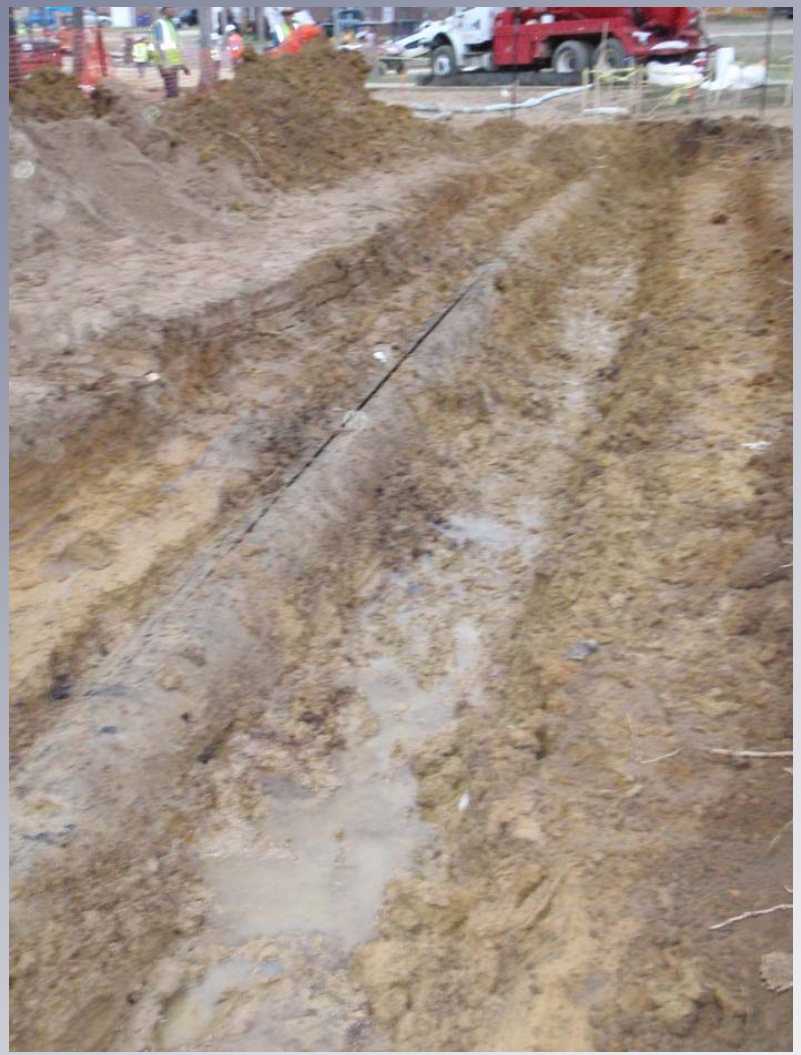
http://www.ntsb.gov/investigations/2012/sissonville_wva/sissonville_wva.html


# Mayflower, Arkansas Pipeline Accident

- March 29, 2012: A 20” crude oil pipeline ruptured in Mayflower, Arkansas;
- An estimated 5,000 bbl of crude was spilled;
- Pipeline carrying Canadian crude oil (Wabusca) from Patoka, Illinois to Nederland, Texas;
- Pipeline installed in 1947/1948.



# Mayflower Pipeline Incident



- Pipeline reversal project was completed in 2006 to changing the flow of line;
- The entire line from Patoka to Nederland has been shut in pending the results of the investigation;
- Considerable media attention.


# Ongoing Actions

- Addressing over 80 mandates from Congress and recommendations from NTSB, GAO, and the OIG
- Following through on long standing initiatives / promises
  - DIMP, Control Room Management
  - Damage Prevention – 811 & State Advocacy
  - Land Use Planning – Taking PIPA to Communities
  - Public Awareness – Cracking the Nut on Effectiveness
  - Emergency Preparedness - Drills and Training & 911
  - Significant Grant Program Administration


# 2013 Priorities

- Hazardous Liquid (Final Rule)
- Excavation Damage Enforcement (Final Rule)
- Natural Gas Transmission (NPRM)
- Excess Flow Valves for Small Commercial/Multi-Family (Final Rule)
- Multiple Rulemakings Involving Consensus Standards (NPRM)
- Enforcement Procedures (Final Rule)
- Mapping Standards and Attributes (Study)


# 2013 Priorities (cont.)

- Studies: Leak Detection, Remote Valves, Dilbit Risks, Excavation Damage Prevention Exemptions, Depth of Cover on Inland Waterways, Cast Iron Inventory and Actions, R&D Results and Plans
- Annual Reporting: confirmation of MAOP/MOP, records
- Inspector General Audit: State Programs


# Current Rulemakings in Process

## Safety of Gas Transmission Lines (NPRM stage)

- Draft Under Review by Legal
- ANPRM Published 8/25/2011
- Major Topics under consideration:
  - Expand assessments beyond HCAs
  - Repair criteria *
  - Assessment methods * **
  - Corrosion control
  - Expand gas gathering reporting requirements
  - Management of change
  - Seismicity rqts *
  - MAOP exceedance reporting *



***Congressional Mandate**
****NTSB Recommendation**


# A Look Ahead

- Setting Our Own Course
  - IMP 1.0 – good progress, but plenty of work undone
    - Records and data gaps, incomplete knowledge of "environment" around pipe, interacting threats, etc.
  - IMP 2.0 – warm up to multi-day workshops Fall 2013
    - Leak detection, valves, metrics, missing Safety Management Systems elements: employee involvement; near miss/voluntary reporting; audits; contractor alignment, flowdown, and oversight, etc.
  - Stronger State Programs – consistency
  - Advocating Innovative Rate Recovery in States
  - Continued focus on construction issues

# Upcoming Events

| Major 2013 OPS Events | |
|---|---|
| January 7-8 | ~~Data Workshop (Washington)~~ |
| March 13 | ~~Damage Prevention/Exemption Workshop (Florida)~~ |
| April 9 | ~~Land Planning Near Transmission Pipelines in Texas (webinar)~~ |
| April 24 | Land Planning Near Transmission Pipelines in Ohio (webinar) |
| May 1 | Land Planning Near Transmission Pipelines in Pennsylvania (webinar) |
| June 18-19 (tent) | Public Awareness Workshop (Dallas) |
| July 11 | SMS Webinar |
| Week of August 5 (tent) | Liquid and Gas Pipeline Advisory Committee Mtg (Washington) |
| FALL | SMS Workshop (follows NTSB Safety Culture workshop) (Washington) |
| FALL | IMP 2.0 multi-day workshop (Washington – tentative) |
| December (tent) | Liquid and Gas Pipeline Advisory Committee Mtg |
| December 5 | DIMP Webinar |


# Thank you!

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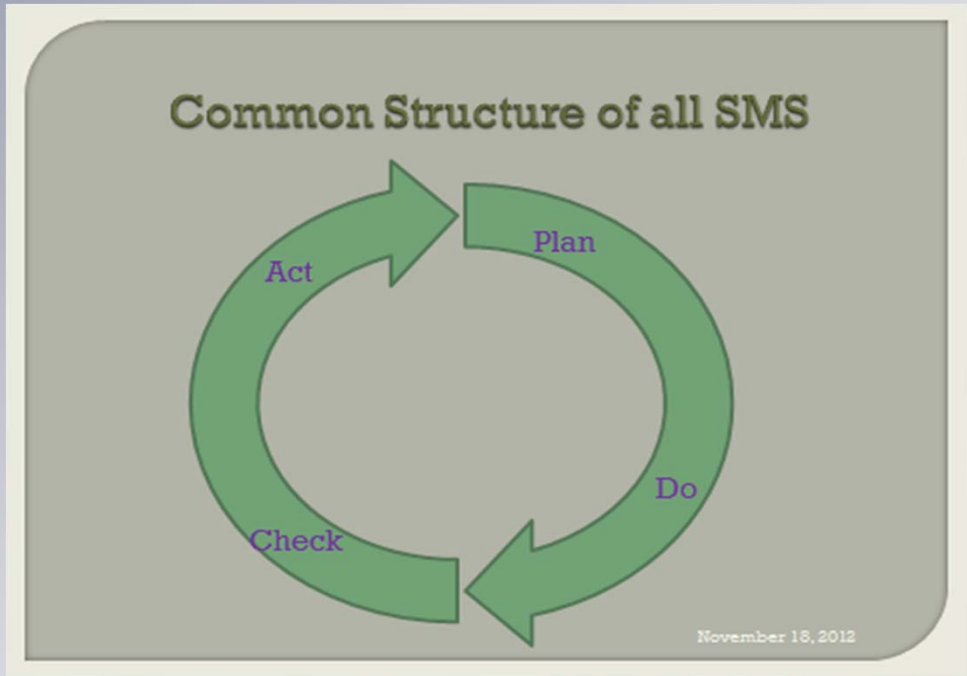
# The bonus round (if time)...


# Fitness For Service

- FFS
  - "Quantitative and documented engineering evaluation to determine if equipment is safe and reliable to operate at specific conditions during a determined time frame"
  - Clear, unequivocal direction on alternate paths to ensure material strength – predicated heavily on what is known (and provable) about materials, prior assessments, and operational history.
  - Will be instrumental in determining material strength of previously untested gas transmission pipelines, and working with FERC and NARUC (Act mandate).


# Pipeline Safety SMS

- SMS = Safety Management Systems
  - NTSB recommendation to API to develop standard (1173)
- Scope: Construction to Abandonment




# Major Elements Common To Most SMS

## Plan

- Policies
- Strategies
- Objectives
- Plans

## Do

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


# Some Critical (*and Often Missing*) Elements

## Check

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

## Act

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