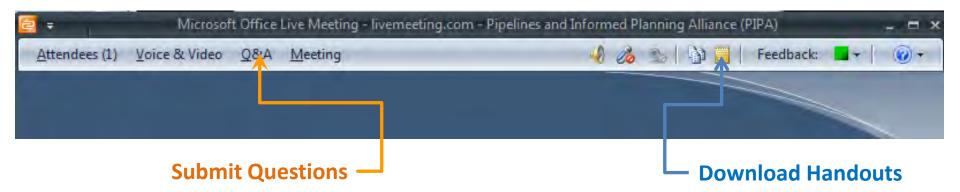
#### Land Use and Development Planning near Transmission Energy Pipelines ~ Virginia ~

1:00 PM - 2:15 PM EST, Jan. 11, 2013



Questions can be submitted at any time by clicking on the Q&A menu in the LiveMeeting menu bar near the top of the screen.

Handouts are available using the notepad icon in the upper right corner.

#### Call-in

Toll Free: 877-336-1839

Participants Code: 7596720

Please let us know if you are having technical difficulties!

# Land Use and Development Planning near Transmission Energy Pipelines ~ Virginia ~

Jan. 11, 2013







Impact Area - Natural Gas Transmission Pipeline Explosion - San Bruno, CA









#### **Webinar Recording Information**

This webinar is being recorded and will be accessible at <a href="www.PIPA-Info.com">www.PIPA-Info.com</a> as well as NACo and VACo's websites.

Within the next few days you will receive an email notice with links to the recording and to the online evaluation survey.

Your feedback is important to us. Thank you in advance for completing the webinar evaluation survey.

#### **AICP CM Credits**



Session Title

Land Use & Development Planning Near Transmission Pipelines in Virginia

#e.22351

Point of Contact

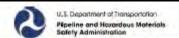
Julie.Halliday@dot.gov 202-366-0287

- Requirements to earn 1.25 AICP Certification Maintenance Credits
  - Participant registers online <u>PIPA-Info.com</u> (then click on the link <u>JANUARY 11, 2013, FOR VIRGINIA</u>)
  - Participant attends entire webinar

#### Agenda

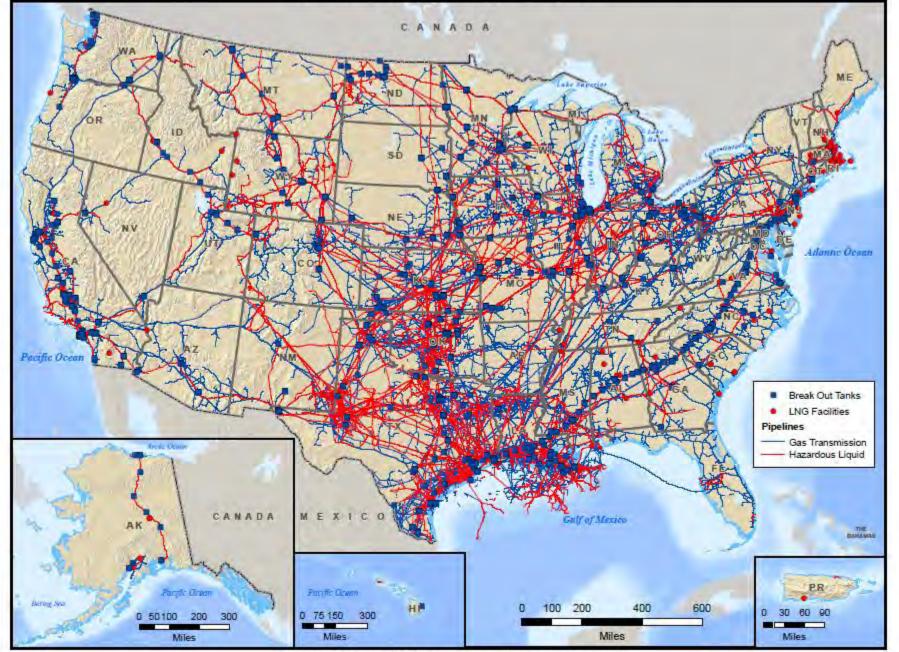
- Introductions
- Energy Pipelines 101
- Energy Pipelines in Virginia
- Why are pipelines important?
- Who regulates pipeline safety?
- What role do local governments play in pipeline safety?
  - Land planning near pipelines
  - Emergency response
  - Excavation damage prevention
  - Hazard mitigation planning
- Resources for local governments

## **Energy Pipelines 101**

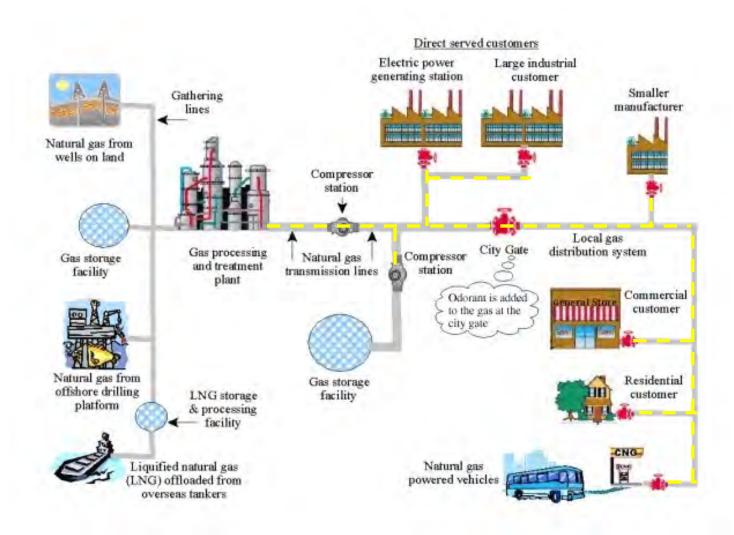


#### Gas Transmission and Hazardous Liquid Pipelines in the United States National Pipeline Mapping System





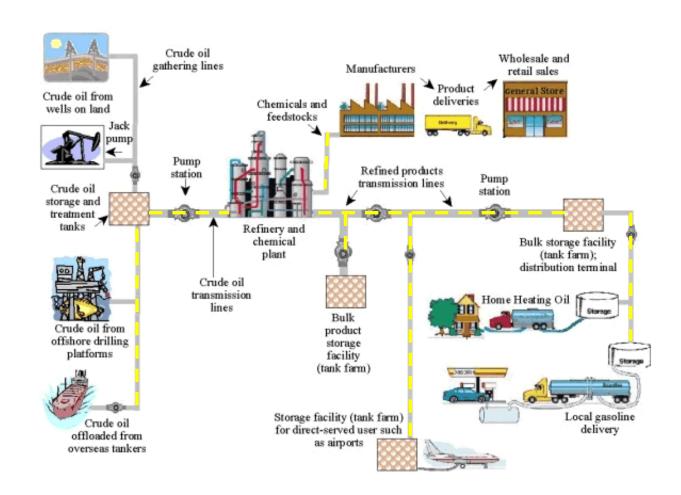
# Natural Gas Pipeline Systems: From the Wellhead to the Consumer



# Petroleum Pipeline Systems: From the Wellhead to the Consumer

#### **HL products transported:**

- Gasoline
- Diesel fuel
- Kerosene
- Natural gas
- Heating oil
- Propane
- Aviation gasoline.
- Jet fuel
- Carbon dioxide (CO<sub>2</sub>)
- Ethane
- Crude oil
- Coal
- Liquefied natural gas (LNG)
- Coal slurry



## **Pump Station & Tank Farm**



## **Compressor Station**



#### **Valves**



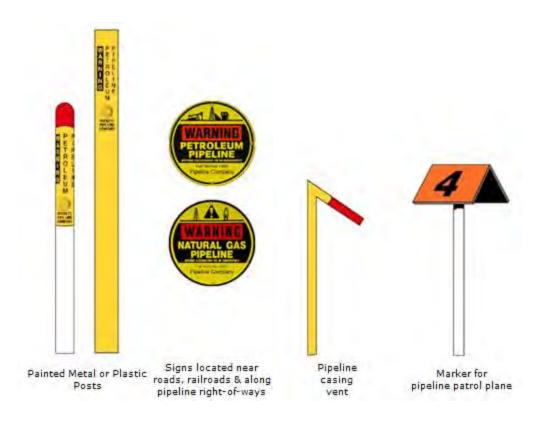
#### **City Gate Station**



Odorant Tank

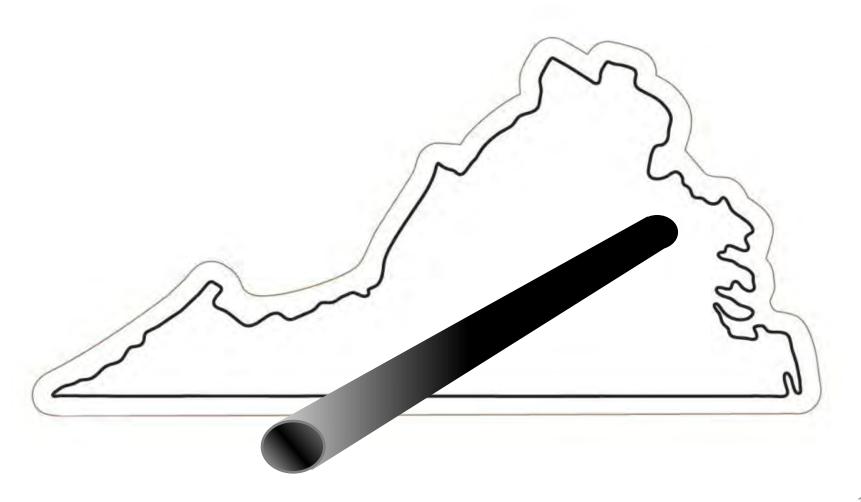


#### **Identifying Pipelines in The Field**



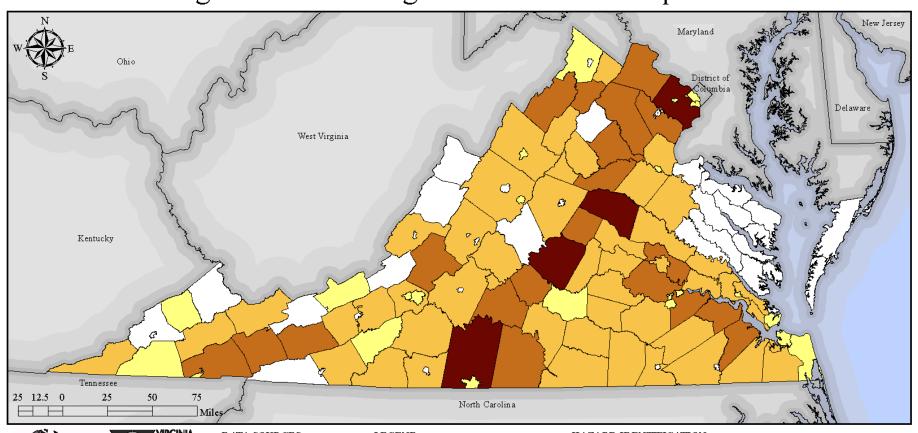
- Provides an indication of their presence (not exact location), product carried and the name and contact information of the company that operates the pipeline.
- Pipeline markers are generally yellow, black and red in color.

## **Energy Pipelines in Virginia**



#### From Virginia's Hazard Mitigation Plan

Figure 3.4-5: Mileage of Transmission Pipelines







DATA SOURCES:

National Pipeline Mapping System VGIN Juris dicational Boundaries ESRI State Boundaries

PROJECTION: VA Lambert Conformal Conic North American Datum 1983

DISCLAIMER: Majority of available hazard data is intended to be used at national or regional scales. The purpose of the data sets are to give general indication of areas that may be susceptible to hazards. In order to identify potential risk in the Commonwealth available data has been used beyond the original intent.

#### LEGEND:

Linear Miles of Pipeline

None 10.00 or less

10.01 - 50.00 50.01 - 150.00

more than 150.00

#### HAZARD IDENTIFICATION:

National Pipeline Mapping System (NPMS) data contains gas transmission pipelines and hazardous liquid trunklines. Collection and distribution pipelines, including those which deliver substances to end users, are not included. This map shows the mileage of pipelines listed as in-service or idle; abandoned and retired pipelines are omitted.

Commonwealth of Virginia Enhanced Hazard Mitigation Plan 2013

#### **VA Transmission Pipeline Mileage by County/City**

| County/City             | Gas   | Liquid |
|-------------------------|-------|--------|
| Country                 | Miles | Miles  |
| ALBEMARLE               | 36    | 0      |
| ALEXANDRIA (CITY)       | 0     | 6      |
| ALLEGHANY               | 24    | 0      |
| AMELIA                  | 0     | 11     |
| AMHERST                 | 0     | 16     |
| APPOMATTOX              | 60    | 31     |
| ARLINGTON               | 0     | 1      |
| AUGUSTA                 | 22    | 0      |
| BEDFORD                 | 0     | 26     |
| BOTETOURT               | 72    | 0      |
| BRISTOL (CITY)          | 0     | 0      |
| BRUNSWICK               | 19    | 0      |
| BUCKINGHAM              | 110   | 84     |
| CAMPBELL                | 81    | 19     |
| CAROLINE                | 18    | 21     |
| CARROLL                 | 26    | 0      |
| CHARLES CITY            | 9     | 21     |
| CHARLOTTE               | 4     | 26     |
| CHESAPEAKE (CITY)       | 22    | 17     |
| CHESTERFIELD            | 63    | 54     |
| CLARKE                  | 19    | 0      |
| COLONIAL HEIGHTS (CITY) | 6     | 0      |
| CULPEPER                | 57    | 13     |
| CUMBERLAND              | 0     | 25     |
| DANVILLE (CITY)         | 0     | 5      |
| DICKENSON               | 8     | 0      |
| DINWIDDIE               | 14    | 0      |
| FAIRFAX                 | 186   | 93     |
| FAIRFAX CITY            | 1     | 1      |
| FALLS CHURCH (CITY)     | 0     | 0      |
| FAUQUIER                | 87    | 37     |
| FLOYD                   | 0     | 0      |

|                       | Gas   | Liquid |
|-----------------------|-------|--------|
| County/City           | Miles | Miles  |
| FLUVANNA              | 62    | 27     |
| FRANKLIN              | 0     | 26     |
| FREDERICK             | 7     | 0      |
| FREDERICKSBURG (CITY) | 0     | 1      |
| GILES                 | 0     | 0      |
| GOOCHLAND             | 38    | 1      |
| GREENE                | 42    | 0      |
| GREENVILLE            | 46    | 0      |
| HALIFAX               | 25    | 55     |
| HAMPTON (CITY)        | 4     | 0      |
| HANOVER               | 33    | 17     |
| HARRISONBURG (CITY)   | 1     | 0      |
| HENRICO               | 27    | 23     |
| HENRY                 | 16    | 20     |
| HOPEWELL (CITY)       | 4     | 0      |
| ISLE OF WIGHT         | 80    | 15     |
| JAMES CITY            | 19    | 21     |
| LEE                   | 11    | 0      |
| LOUDOUN               | 102   | 0      |
| LOUISA                | 144   | 33     |
| LUNENBURG             | 0     | 21     |
| LYNCHBURG (CITY)      | 0     | 5      |
| MADISON               | 15    | 0      |
| MECKLENBURG           | 46    | 1      |
| MONTGOMERY            | 21    | 0      |
| NEW KENT              | 15    | 0      |
| NEWPORT NEWS (CITY)   | 20    | 5      |
| NORFOLK (CITY)        | 4     | 0      |
| NOTTOWAY              | 0     | 17     |
| ORANGE                | 76    | 41     |
| PAGE                  | 11    | 0      |
| PATRICK               | 26    | 0      |

|  | County/City           | Gas   | Liquid     |
|--|-----------------------|-------|------------|
|  |                       | Miles | Miles      |
|  | PETERSBURG (CITY)     | 9     | 0          |
|  | PITTSYLVANIA          | 166   | 65         |
|  | PORTSMOUTH (CITY)     | 7     | 3          |
|  | POWHATAN              | 0     | 19         |
|  | PRINCE EDWARD         | 0     | 4          |
|  | PRINCE GEORGE         | 60    | 0          |
|  | PRINCE WILLIAM        | 75    | 36         |
|  | PULASKI               | 40    | 0          |
|  | RICHMOND CITY         | 1     | 16         |
|  | ROANOKE               | 27    | 8          |
|  | ROANOKE CITY          | 0     | 6          |
|  | ROCKBRIDGE            | 31    | 0          |
|  | ROCKINGHAM            | 30    | 0          |
|  | RUSSELL               | 26    | 0          |
|  | SALEM (CITY)          | 1     | 0          |
|  | SCOTT                 | 5     | 0          |
|  | SHENANDOAH            | 90    | 0          |
|  | SMYTH                 | 87    | 0          |
|  | SOUTHAMPTON           | 34    | 0          |
|  | SPOTSYLVANIA          | 29    | 9          |
|  | STAFFORD              | 11    | 19         |
|  | SUFFOLK (CITY)        | 31    | 9          |
|  | SURRY                 | 51    | 9          |
|  | SUSSEX                | 36    | 0          |
|  | TAZEWELL              | 20    | 0          |
|  | VIRGINIA BEACH (CITY) | 0     | 9          |
|  | WARREN                | 49    | 0          |
|  | WASHINGTON            | 91    | 0          |
|  | WAYNESBORO (CITY)     | 5     | 0          |
|  | WILLIAMSBURG          | 2     | 0          |
|  | WYTHE                 | 88    | 0          |
|  | YORK                  | 13    | 1 <b>%</b> |

Source: PHMSA Significant Incidents Files August 31, 2012.

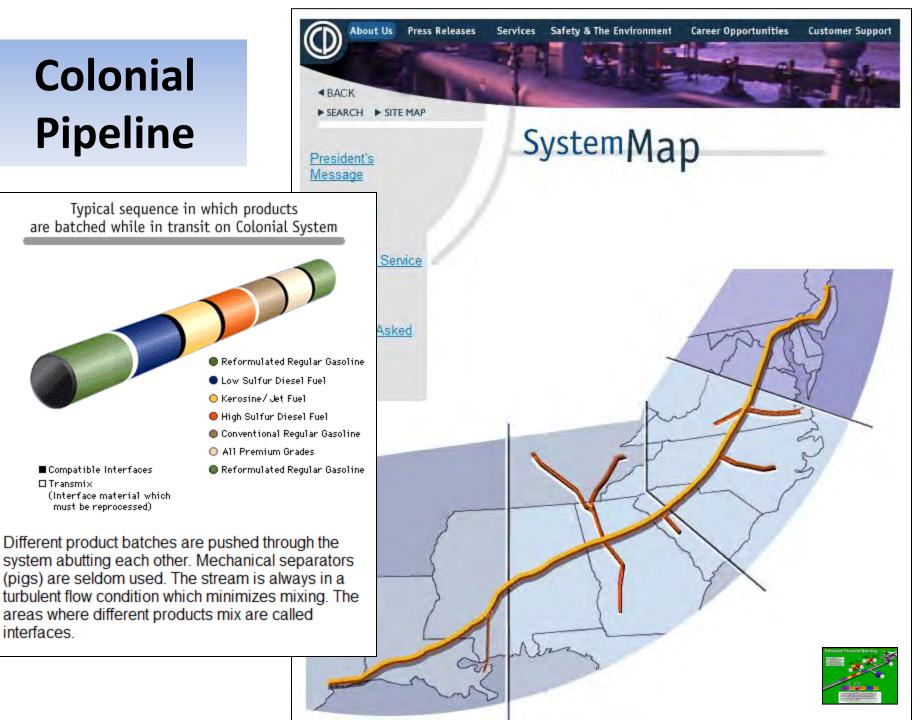
## **Colonial Pipeline**

■ Compatible Interfaces

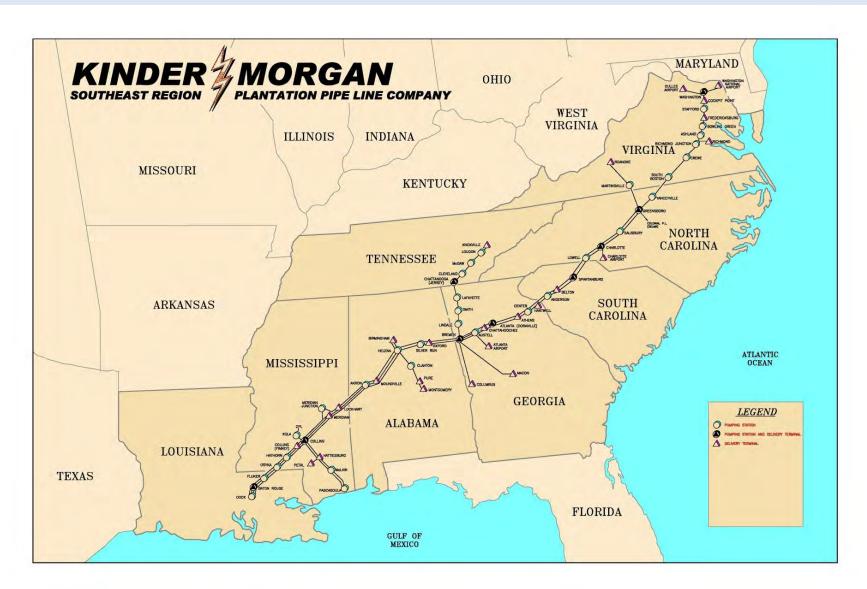
(Interface material which must be reprocessed)

□Transmix

interfaces.

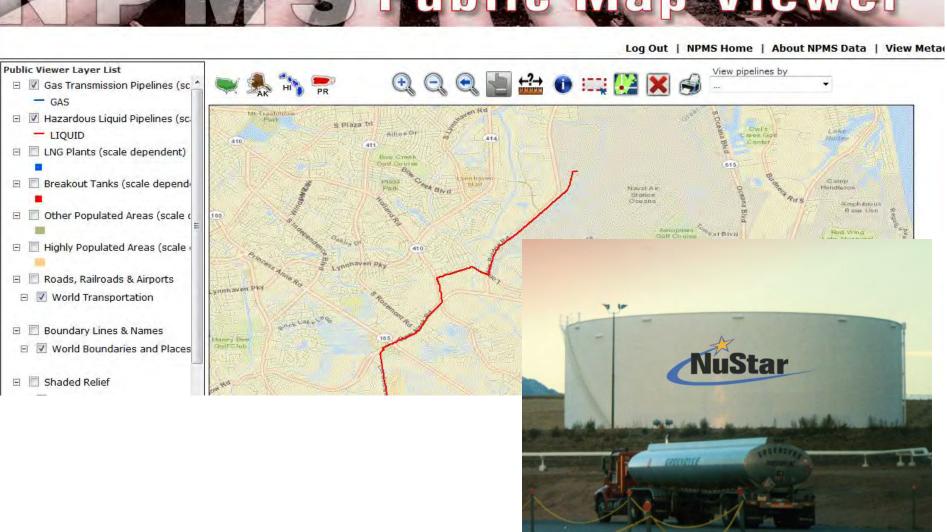


### Plantation Pipe Line Company (Kinder Morgan)

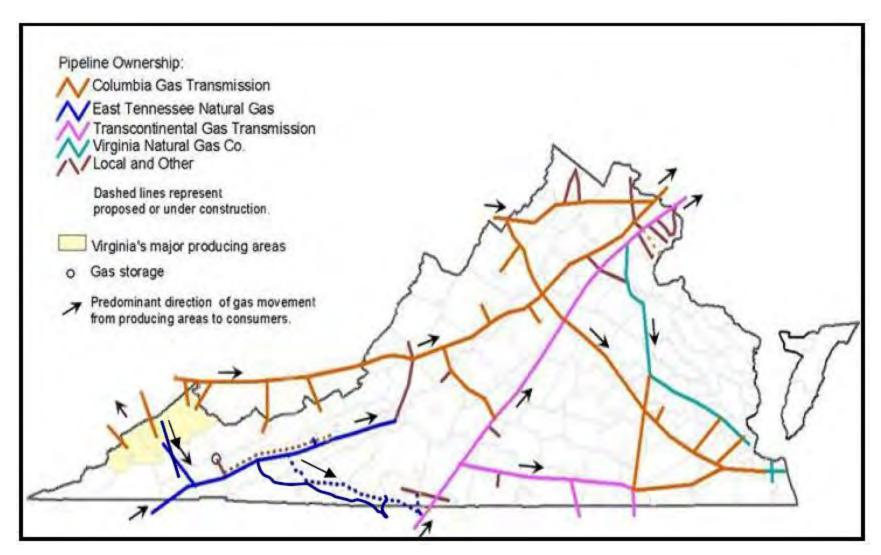


#### **NuStar**

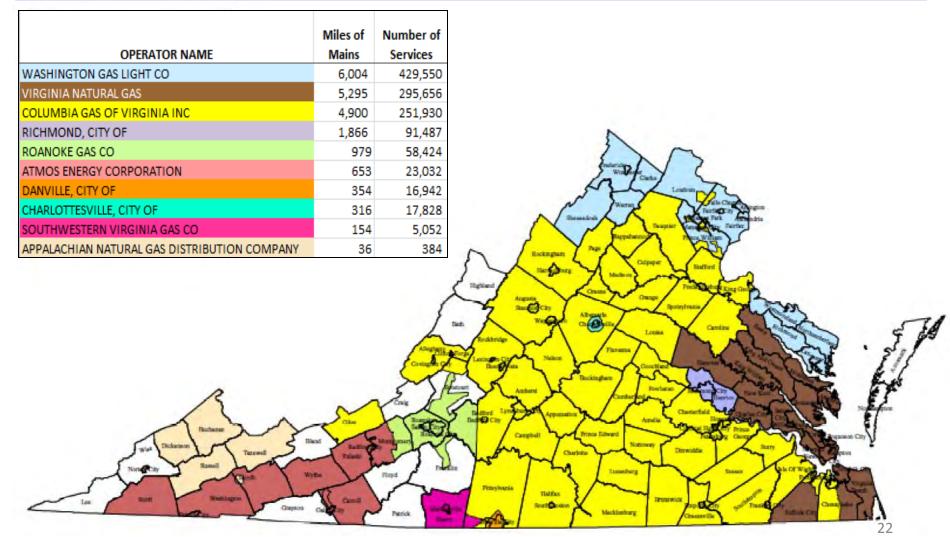
## Public Map Viewer



#### Major Natural Gas Pipelines in Virginia



## Service Areas of Natural Gas Distribution Companies in Virginia



# Why Are Pipelines Important? Benefits and Risks



#### **Benefits and Risks of Pipelines**

#### **Benefits**

Safe, secure, cost efficient transportation

#### Fuel for:

- Motor vehicles, ships and airplanes
- Heating, water heat, cooking, drying
- Commercial Bakery, dry cleaner, generators
- Industrial glass and aluminum manufacturing
- Agricultural corn dryer
- Power plants
- Military largest single buyer in the world

Feedstock for food products, pharmaceuticals, plastics and resins

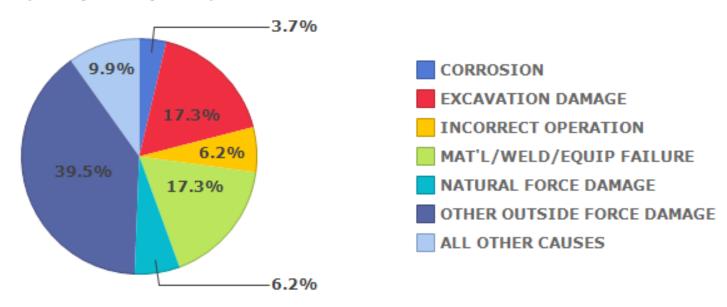
#### Risks

- Life Safety (health effects, injury, fatality)
- Environmental
- Property Cultural/historical
- Economic disruption
- Loss of confidence in government/operator
- Fear



#### **Pipeline Failures – Causes**

All Reported Incident Cause Breakdown Virginia, All Pipeline Systems, 2002-2011

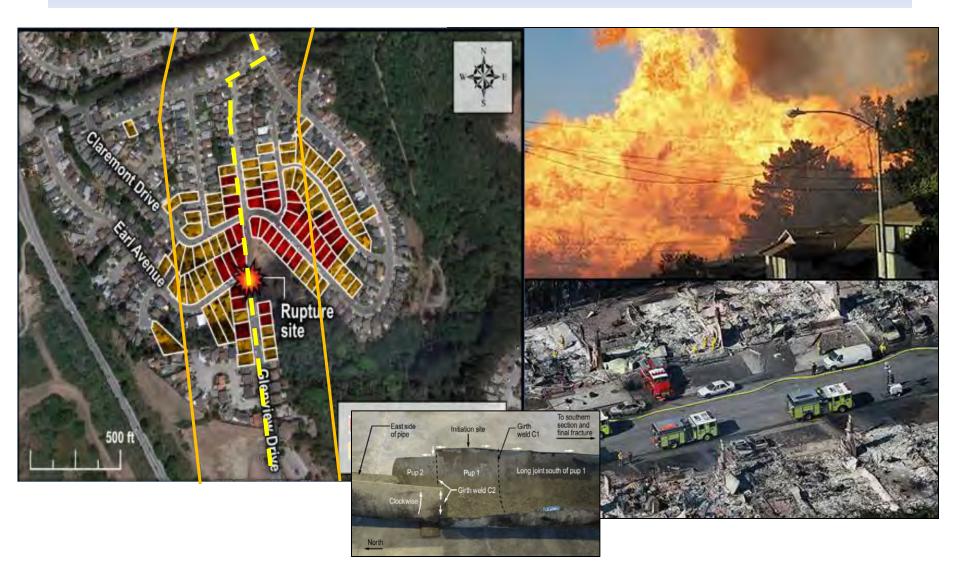


Source: PHMSA Significant Incidents Files

#### **Pipeline Failures – Gas Transmission**



#### Pipeline Failures – Gas Transmission



Natural gas transmission pipeline fire in San Bruno, CA.

#### **Pipeline Failures - Natural Gas Distribution**



Natural gas distribution explosion, Chantilly, VA.



### Pipeline Failures - Hazardous Liquid



Figure 6. Response personnel working on wooden mats in the marsh.

### National and Jurisdiction-Specific Pipeline Risk



2006

2007

2008

Totals

2011 YTD 3 Year Average (2008

5 Year Average (2006 -2010)

10 Year Average

primis.phmsa.dot.gov/comm

58 1 Export Table 🗷

13

554

684

\$14,104,479

\$11,328,691

\$6,005,722

\$2,169,544 \$787,057 \$41,117,927

\$147,566

\$4,761,764

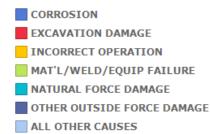
\$6,879,099

\$4,111,793

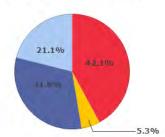
#### **Virginia Significant Incident Statistics**

Virginia All Pipeline Systems: 2002-2011

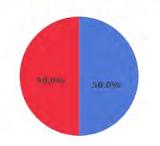
| Year                           | Number | Fatalities | Injuries | Property<br>Damage <sup>(B) (C)</sup> | Gross Barrels<br>Spilled (Haz Liq) | Net Barrels Lost<br>(Haz Liq) <sup>(D)</sup> |
|--------------------------------|--------|------------|----------|---------------------------------------|------------------------------------|--|
| 2002                           | 3      | 0          | 1        | \$884,381                             | 26                                 | 0  |
| 2003                           | 4      | 0          | 1        | \$2,800,538                           | 16                                 | 0  |
| 2004                           | 3      | 0          | 1        | \$969,423                             | 0                                  | 0  |
| 2005                           | 3      | 0          | 0        | \$432,894                             | 2                                  | 0  |
| 2006                           | 4      | 0          | 1        | \$13,925,968                          | 553                                | 3  |
| 2007                           | 3      | 1          | 0        | \$1,906,959                           | 0                                  | 0  |
| 2008                           | 3      | 0          | 0        | \$6,273,071                           | 0                                  | 0  |
| 2009                           | 3      | 0          | 0        | \$1,240,064                           | 4                                  | 0  |
| 2010                           | 2      | 0          | 0        | \$570,431                             | 1                                  | 0  |
| 2011                           | 0      | 0          | 0        | \$0                                   | 0                                  | 0  |
| Totals                         | 28     | 1          | 4        | \$29,003,733                          | 602                                | 3  |
| 2012 YTD                       | 1      | 0          | 0        | \$99,408                              | 0                                  | 0  |
| 3 Year Average<br>(2009-2011)  | 2      | 0          | 0        | \$603,499                             | 2                                  | 0  |
| 5 Year Average<br>(2007-2011)  | 2      | 0          | 0        | \$1,998,105                           | 1                                  | 0  |
| 10 Year Average<br>(2002-2011) | 3      | 0          | 0        | \$2,900,373                           | 60                                 | 0  |



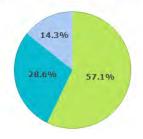




#### Significant Incident Cause Breakdown Virginia, Gas Transmission, 2002-2011



Significant Incident Cause Breakdown Virginia, Hazardous Liquid, 2002-2011

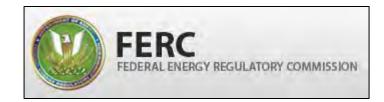


## **Who Regulates Pipeline Safety?**



#### Who regulates pipelines...Federal



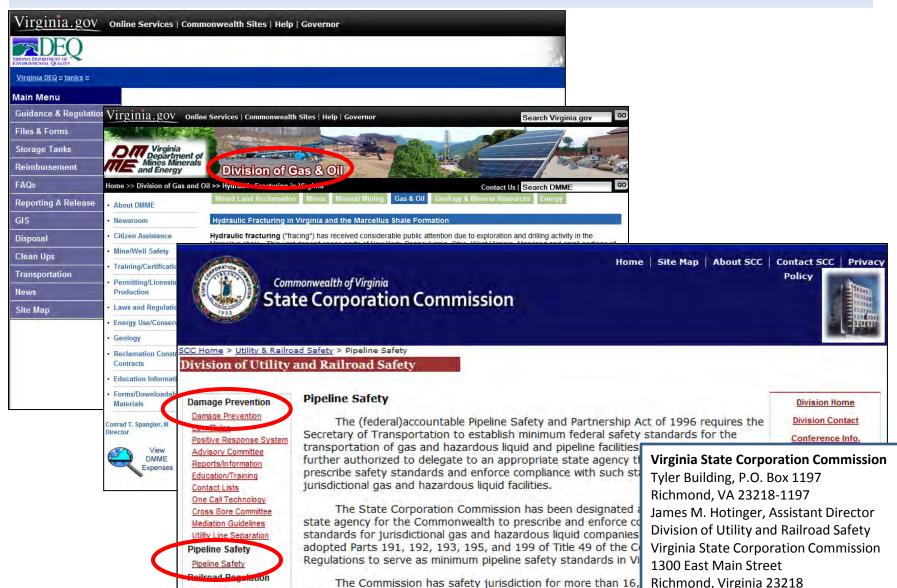


# **Code of Federal Regulation Pipeline Safety - Title 49 Part 190 - 199**

#### SUBCHAPTER D--PIPELINE SAFETY

| 186-189 |                      | [Reserved]  |
|---------|----------------------|---|
| 190     | 190.1 to<br>190.341  | PIPELINE SAFETY PROGRAMS AND RULEMAKING PROCEDURES  |
| 191     | 191.1 to<br>191.27   | TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE; ANNUAL REPORTS, INCIDENT REPORTS, AND SAFETY-RELATED CONDITION REPORTS |
| 192     | 192.1 to<br>192.1015 | TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE: MINIMUM FEDERAL SAFETY STANDARDS                                       |
| 193     | 193.2001 to 193.2917 | LIQUEFIED NATURAL GAS FACILITIES:<br>FEDERAL SAFETY STANDARDS   |
| 194     | 194.1 to<br>194.121  | RESPONSE PLANS FOR ONSHORE OIL PIPELINES  |
| 195     | 195.0 to<br>195.589  | TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE   |
| 196-197 |                      | [Reserved]  |
| 198     | 198.1 to<br>198.39   | REGULATIONS FOR GRANTS TO AID STATE PIPELINE SAFETY PROGRAMS  |
| 199     | 199.1 to<br>199.245  | DRUG AND ALCOHOL TESTING  |
|         |                      |   |

#### Virginia Pipeline Safety Regulation



pipelines that transport natural gas and hazardous liquid through

35

Office - (804)371-9843

Railroad Regulation

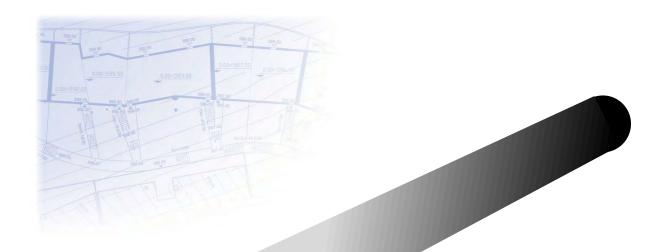
# Virginia Pipeline Safety & Excavation Damage Prevention Laws

## Code of Virginia. Title 56 PUBLIC SERVICE COMPANIES:

- Chapter 10 Heat, Light, Power, Water and Other Utility Companies Generally (56-257.2)
- Chapter 21 Hazardous Liquid Pipeline Safety Act (56-555)
- Chapter 10.3 Underground Utility Damage Prevention Act (56-265.14 thru 56-265.32)

## State & Local Government Role in Pipeline Safety

- Land Use and Development Planning Authority
- Public Awareness of Pipelines
- Emergency Preparedness, Response, & Recovery
- Excavation Damage Prevention



## **Pipeline Safety & Land Planning Authority**





## Growth along a transmission pipeline in Washington State...





## **Growth Near the Pipeline ROW**



## Limit the negative impacts of land development near pipelines...

### **Increases Likelihood of Excavation Damage**



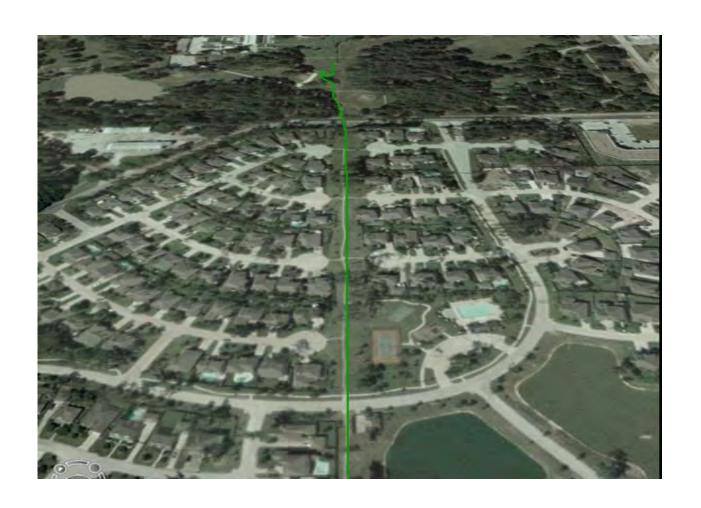
Impedes Access for Emergency Response & Safe Maintenance/Operation of the Pipeline

42

## **Increased Consequences of Failure**



## **Choosing Better Options**



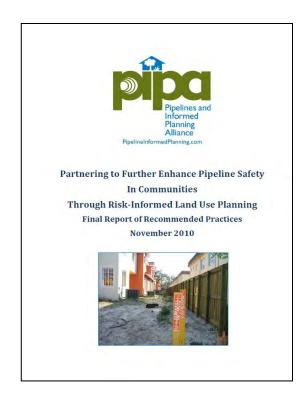
## **About the PIPA Report**

Created by a stakeholder group of ~130 participants representing a wide range of interests, organizations, and viewpoints on pipelines and community planning.

<u>Scope:</u> New Development near Existing Gas Transmission & Hazardous Liquid Pipelines <u>Stakeholders:</u> Local Government, Property Developer/Owner, Pipeline Operator, Real Estate Commission

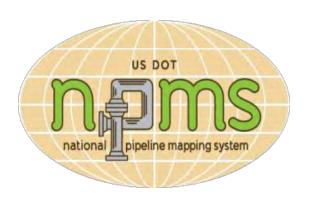
<u>Scenarios:</u> Baseline (implement in preparation for future) and New Development (Implement when use/development is proposed)

**43 Recommended Practices** 



www.PIPA-Info.com

## BL01 Obtain Transmission Pipeline Mapping Data



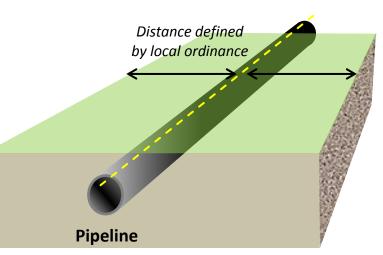
## NPMS PIMMA & Public Viewer



### **BL05 – Consultation Zone**

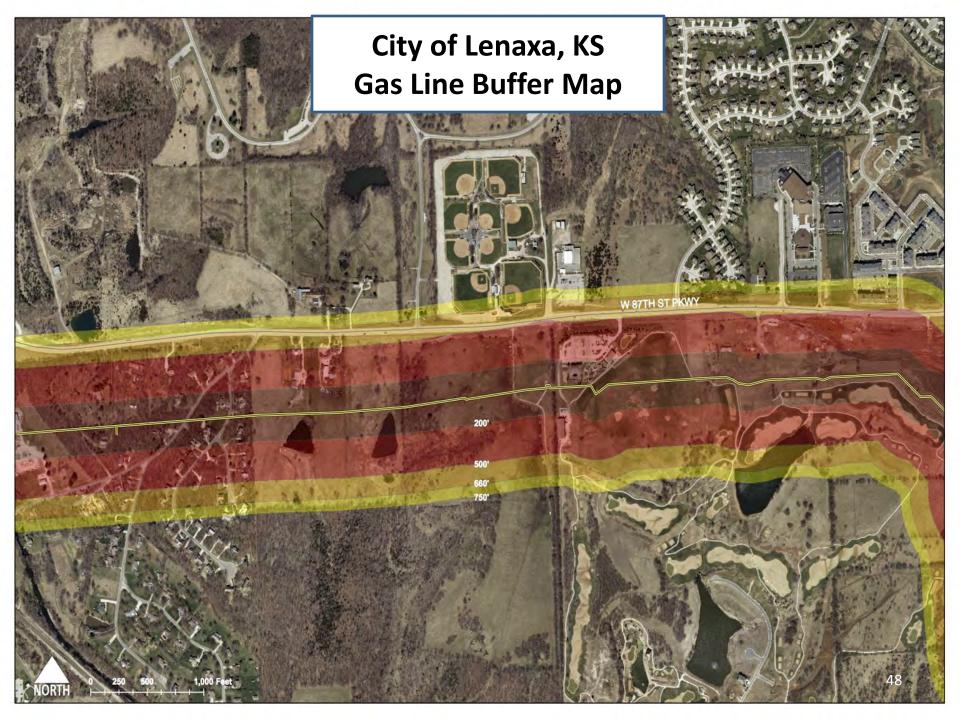
Local governments should define a "consultation zone" to provide a mechanism for communication between property developers/owners and operators of nearby transmission pipelines when new land uses and property developments are being planned.

#### **Consultation Zone**

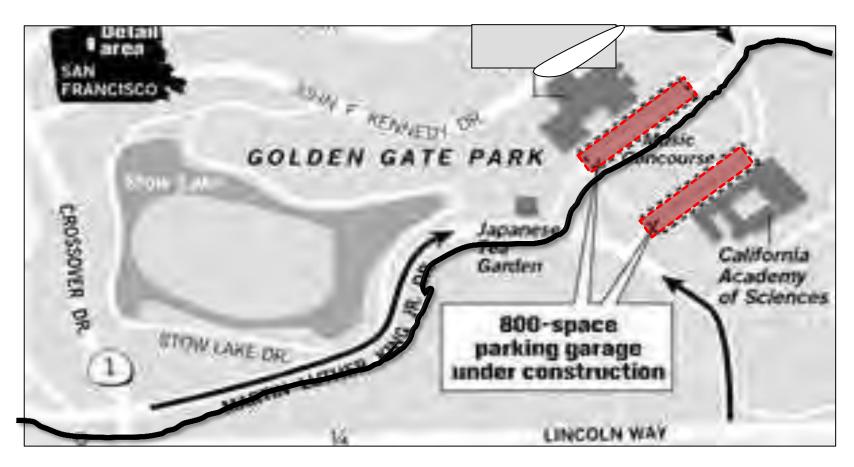


#### **Absent site-specific information:**

- Natural Gas Pipelines = 660'-1,000'
- Hazardous Liquid Pipelines = 1,000'-1,500'



## ND11 – Placing New Parking Lots



Reduce Transmission Pipeline Risk through Design and Location of New Parking Lots and Parking Structures

# ND22 Reduce Transmission Pipeline Risk through Design and Location of New Places of Mass Public Assembly

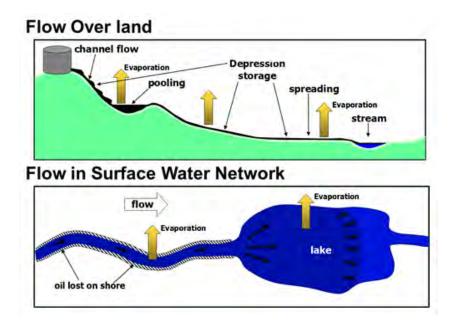


...Evacuation routes should...have a safe means of egress with exits located where they would not be made inaccessible by the impacts of a pipeline incident... 50

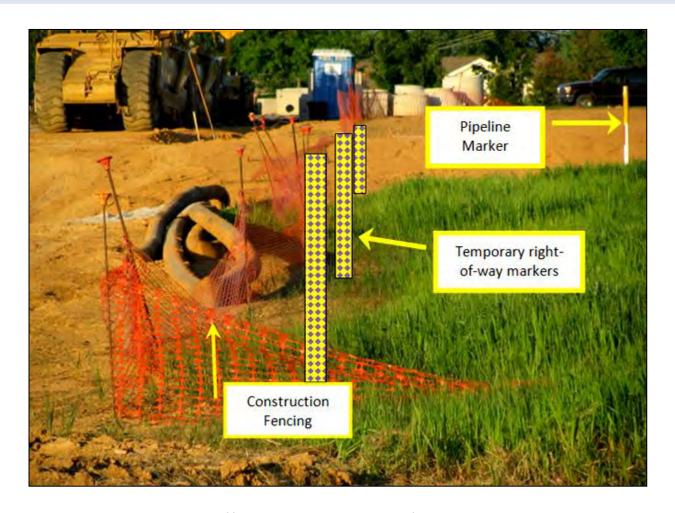
# ND17 Reduce Transmission Pipeline Risk in New Development for Residential, Mixed-Use, and Commercial Land Use

#### Consider:

- Locate structures away from ROW
- Design alternate escape routes
- Require more stringent fire protection e.g. automatic sprinklers, water screens, air handling/ventilation systems) and fire endurance (e.g. non-combustible construction, window limitation)
- Avoid interference with pipeline operations and maintenance
- Allow access for emergency response
- Model fire, explosion, or toxic release impacts



## **ND24 Temporary Markers for Construction**



Install Temporary Markers on Edge of Transmission Pipeline Right-of-Way Prior to Construction Adjacent to Right-of-Way

## ND 23 Consider Site Emergency Response Plans in Land Use Development

- Access to shutoff valves
- Access for emergency response personnel/equipment
- Location/capacity of water supply/fire hydrants
- Potential ICS, triage, and staging areas



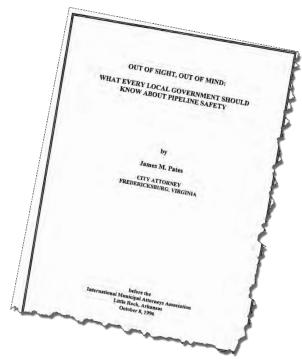
...review of existing ROW can illustrate the benefit of land planning practices & identify locations for enhance emergency preparedness...

## Existing Local Plan Use and Development Practices near Transmission Pipeline in Virginia

Over a two-year period following a 1993 hazardous liquid spill, Virginia's Fairfax County undertook a comprehensive review of its land use regulations to see what local steps could be taken to reduce the risk of future pipeline spills. The resulting actions were chronicled in 1996 by James Pates, City Attorney, Fredericksburg, VA in the report, "Out Of Sight, Out Of Mind: What Every Local Government Should Know About Pipeline Safety". The report states:

In 1995, the County amended its comprehensive plan, zoning, and subdivision ordinances:

- To strictly limit allowable land uses within gas and liquid pipeline easements
- To prohibit the use of pipeline easements in calculating minimum lot sizes, thus encouraging the placement of buildings farther away from pipelines;
- To require developers to identify the location of pipelines and easements on all major site plans, generalized development plans, and commercial building permit applications; and
- To require developers to forward copies of their proposed site and subdivision plans to affected pipeline operators for review and comment.



Download the report at: <a href="http://www.pipelinesafetytrust.com/docs/psf">http://www.pipelinesafetytrust.com/docs/psf</a> doc23.pdf 54

## **Local Government Role & PHMSA Support**

Emergency ResponseExcavation Damage Prevention



## **Emergency Response – Where We Are**

- Communities and their emergency responders are not always aware of pipeline safety concerns. Some reasons include:
  - Catastrophic pipeline incidents are <u>low-frequency</u>, <u>high-consequence</u> events
  - Pipelines are out of sight, out of mind
- PHMSA requires pipeline operators to communicate directly with the emergency responders regarding safe and effective pipeline emergency response
  - This communication is essential and part of a larger approach to preparing emergency responders for pipeline emergencies



## Where We're Going

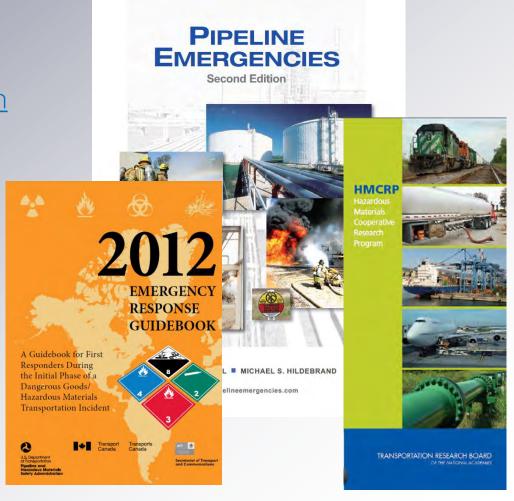
- Goal: Reduce the consequences of pipeline failures by strengthening the capabilities of local emergency responders through <u>institutionalizing</u> pipeline awareness within the emergency response community.
- PHMSA has undertaken a variety of initiatives and activities to assist with accomplishing the goal:
  - Educating ourselves and the ER community by hosting/participating in pipeline ER forums
  - Building partnerships and coordinating with pipeline ER stakeholders
  - Actively communicating with the ER community via presentations at conferences and articles in trade publications
  - Creating/enhancing pipeline ER resources



## PHMSA Pipeline Emergency Response Resources

- Pipeline Emergencies

   training curriculum –
   www.pipelineemergencies.com
  - Emergency Response
    Guidebook (ERG) updated
    and expanded pipeline pages
- Hazardous MaterialsCooperative ResearchProgram HM15





## More Emergency Response Information

- Visit our website at <u>http://opsweb.phmsa.dot.gov/pipelineforum/</u> <u>pipeline emergency response forum/index.html</u>
- Contact Sam Hall

Phone: 804-556-4678

Email: sam.hall@dot.gov



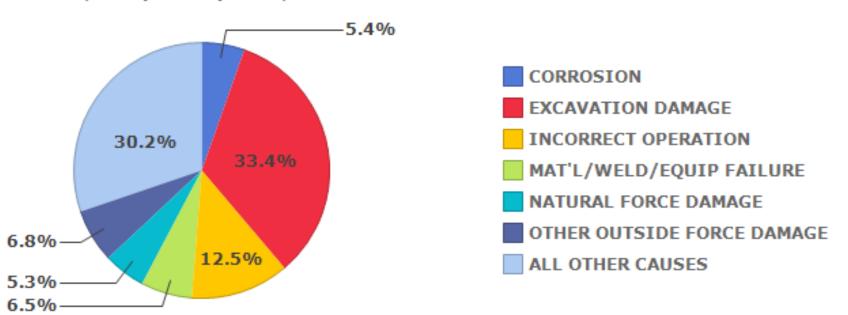
## Focus on Damage Prevention: What we know

- Excavation damage is a serious threat to public safety and pipeline integrity
- Data indicates overall decrease in incidents caused by excavation damage, but still a serious threat
- Excavation damage is largely preventable
- All states have one call laws, one call centers, but state laws and programs vary considerably
- More work to do, more support needed



## 20-Year Serious Incidents\*

Serious Incident Cause Breakdown
National, All Pipeline Systems, 1992-2011



Source: PHMSA Significant Incidents Files March 30, 2012

<sup>\*</sup> Serious Incidents: Pipeline Release and fatality or injury



## Damage Prevention: What we're doing

- Providing Tools to build knowledge across the country
- State/local outreach: meetings, letters of support, teleconferences, support of 811, sharing of information
- Regulatory actions enforcement of one call laws
- Exemptions Congressional directives
- Grants to states
- Partnerships: States, Common Ground Alliance, Public, Trade Associations, Safety Organizations
- Seeking to expand outreach/partnerships local government, agriculture, educators



## **Questions/Discussion**

For more information:

Annmarie Robertson

317-253-1622

annmarie.robertson@dot.gov

Sam Hall

804-556-4678

sam.hall@dot.gov

Resources (programs, data on pipeline facilities, incidents,

enforcement, etc.)

http://www.phmsa.dot.gov/pipeline

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



## **Hazard Mitigation Planning & Pipelines**

## **VDEM & PHMSA – Hazard Mitigation Plan**



**Pipeline Safety Stakeholder Communications** Pipeline Safety Connects Us All

Excavators

Property Developer/

Pipeline Safety Advocates

State Regulators Agencies Industry Contact Us

PIPA General

PIPA Audiences

PIPA Downloads

#### Site Pages

- About Pipelines
- Regulatory Oversight
- Safety Programs
- Public Outreach

State Pipeline Profiles:

Choose One.

Print

#### Hazard Mitigation Planning for Pipelines

#### What is a Hazard Mitigation Plan?

State and local governments create hazard mitigation plans (HMP) to identify ways they can protect the health, safety and economic interests of their communities by reducing the impacts of both natural and man-made hazards. Hazard mitigation is any action taken to permanently eliminate or reduce the long-term risk to human life and property from hazards. It is an essential element of emergency management, along with preparedness, response and recovery.

#### PHMSA and Virginia Department of Emergency Management Pilot Project

In 2012, PHMSA and the Virginia Department of Emergency Management (VDEM) undertook a pilot project to determine an approach to encourage state and local governments to incorporate gas and hazardous liquid pipelines into their emergency management hazard mitigation plans. The focus of this effort is toward the inclusion of the PIPA Recommended Practices as mitigative solutions to identified pipeline hazards. The pilot initiative is supported by the ad hoc PIPA Communication Team and several pipeline operator representatives.

#### Pipelines are Manmade Hazards

Gas and hazardous liquid pipelines are constructed by and for pipeline companies for the transportation of gas and hazardous liquids. By the nature of the potentially hazardous products they carry, pipelines should be included in the lists of hazards that communities

consider when developing hazard mitigation plans. Knowledge of pipeline hazards can enable informed decisions to be made about how to manage the risks and develop mitigation strategies.



#### Pipeline manifold impacted by flooding

#### Natural Hazards Present Risk to Pipelines

While pipelines are often thought of as presenting risks to communities, natural hazards can impact the integrity of pipelines. Although natural hazards are cited as the cause in fewer than ten percent (10%) of pipeline incidents, the failure of a large-diameter, highpressure natural gas or hazardous liquid transmission pipeline during an earthquake or hurricane event can significantly complicate a communities' ability to respond and recover from the event.

#### Pipelines are Critical Infrastructure

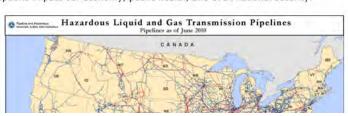
Our gas and hazardous liquid transmission pipeline systems are a vital part of the U.S. transportation and energy supply infrastructure. Airports, power generating stations, and major industries, as well as commercial businesses and residents depend on the energy and raw manufacturing products delivered via pipelines. Pipeline disruptions impact our economy, public health, and even national security.

#### Pipeline Hazard Mitigation Strategies

PHMSA has identified four mitigation strategies wherein

state and local governments have the authority to reduce the risk of pipeline hazards:

- Pipeline awareness education and outreach,
- · Excavation damage prevention,
- . Land use and development planning near transmission pipelines, and
- · Emergency response planning for pipeline emergencies.





PHMSA in partnership with the Virginia Department of Emergency Management is developing guide materials for incorporation of pipeline hazards into state and local mitigation plans.



## Valuation Matrix

|         |   | Gas Trans   | mission Pipeline II | mpact Worksheet  |  |       |  |  |  |
|---------|---|---|---------------------|--|--|-------|--|--|--|
| Locatio | n:  |   |                     |  |  |       |  |  |  |
| Hazard  | Type:   |   |                     |  |  |       |  |  |  |
|         |   |   |                     |  |  |       |  |  |  |
|         | Life Safety   | Structures<br>(Property)  | Environment         | Cultural/Historical  | Economic Disruption  | Total |  |  |  |
| Rating  |   |   |                     |  |  | 0     |  |  |  |
|         | Criteria Valuation                                      |   |                     |  |  |       |  |  |  |
|         | Life Safety Scale                                       | Structure Scale   | Environment Scale   | C and H Scale  | Economic Scale   |       |  |  |  |
| 0       | no effect   | no effect   | no effect           | no effect  | no effect  |       |  |  |  |
| 1       | Class 1 location;<br>less than 10<br>persons<br>exposed | <10 structures<br>for human<br>occupancy<br>exposed                 | Not applicable      | Area contains a single feature of cultural or historical significance        | Potential business<br>disruption or cessation<br>impacts for 1-2 local<br>businesses   |       |  |  |  |
| 2       | Class 2 location;<br>10 to 19 persons<br>exposed        |   | Not applicable      | Area contains 2-5<br>features of<br>cultural or<br>historical<br>signifcance | Potential business<br>disruption or cessation<br>impacts for 3-20 local<br>businesses  |       |  |  |  |
| 3       | ,   | 46 or more<br>structures for<br>human<br>occupancy<br>exposed       | Not applicable      | Area contains >5<br>features of<br>cultural or<br>historical<br>signifcance  | Potential business<br>disruption or cessation<br>impacts for >20 local<br>and regional<br>businesses   |       |  |  |  |
| 4       | Class 4 location;<br>>100 persons<br>exposed            | Prevalence of<br>multi-story<br>structures >4<br>stories<br>exposed | Not applicable      | Entire area is of<br>cultural or<br>historical<br>signifcance                | Potential business<br>disruption or cessation<br>impacts to regional<br>transportation<br>infrastructure,<br>manufacturing, and/or<br>energy production. |       |  |  |  |

### **Resources for Local Governments**

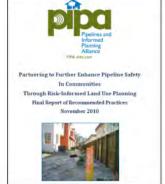
### **PIPA Online Resources**

PIPA-info.com



State Pipeline Profiles: Choose One...

Print



Have you considered access for pipeline maintenance and emergency response?

Is enhanced fire protection needed?

How will excavation damage to the pipeline be prevented?

The Pipelines and Informed Planning Alliance (PIPA) has developed recommended practices to help in making decisions about what, where and how to build safely near transmission pipelines.



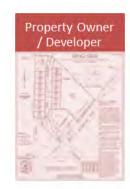


Information about National Pipeline Risk

Select your toolbox below to learn more.











## Land Use & Development near Transmission Pipelines Checklist

Similar to an Environmental Assessment Checklist

#### Can Be Used to:

- Facilitate Communication
- Inform Land Acquisition
- Guide Pre-Planning & Design
- Permit & Site Plan Review

| I. PROPERTY DEVELOPER/OWNER IN                               | NFORMATION   | PIPELINE OPERATOR CONTACT INFORMATION                          |  |  |
|--|--|--|--|--|
| PPROPERTY DEVELOPER/OWNER NAME:                              |  | PIPELINE OPERATOR NAME:  |  |  |
| CONTACT NAME:  |  | CONTACT NAME:  |  |  |
| E-MAIL:  |  | E-MAIL:  |  |  |
| CURRENT MAILING ADDRESS:                                     |  | WORK PHONE:  |  |  |
|  |  | 1  |  |  |
| City: State:   | Zip:   |  |  |  |
| WK PHONE: HM PHONE MBL PHON                                  |  |  | FAX:   |  |
| 274000 (22001)   |  |  |  |  |
| II. LOCATION OF BUILDING SITE                                |  |  |  |  |
| ADDRESS.   |  |  |  |  |
| ADDRESS:   |  |  |  |  |
| CITY   |  |  | _COUNTYSTATE   |  |
| Proposed building encroaches onto pipeline                   | right-of-way?  | Visual evidence of pipe  | eline markers or pipeline appurtenances?   |  |
| Approximate distance of proposed structure                   |  | Property encumbered b  | 31,740,7   |  |
|  |  |  | 24 - 2 Company (24 12 )  |  |
| III. DESCRIPTION OF PROPOSED FAC                             | ILITY TYPE & PER                                       | MIT CONDITIONS   |  |  |
|  |  |  |  |  |
| FACILITY TYPE Parking Lot/Structure (ND11)                   | Consultation Zone Meet                                 | PERMIT CONDITIONS<br>ing (BL05)                                | PUBLIC SPACE PERMIT CONDITIONS  Contact pipeline operator before excavation or                 |  |
| Road (VD12)  | One-call designer locate                               | N 4.22   | blasting (ND25) Enhanced damage prevention onsite meeting for                                  |  |
|  | - ac con acagain rocate                                |  | operator and property developer prior to excavation  |  |
| Utilities (ND13)   | Planning area enhanced                                 | safety requirements (BL06)                                     | hand digging within 2' of pipeline (BL15)  Pipeline operator representative on site to monitor |  |
|  |  |  | construction activities within the right-of-way<br>(BL15)                                      |  |
| Aboveground Water Management (ND 14)                         |  |  | Install Temporary Markers on Edge of Transmissi  |  |
| Water Supply and Sanitary Systems (ND16)                     |  |  | Pipeline Right-of-Way Prior to Construction (ND  |  |
| Residential, Mixed-Use, Commercial (ND 17)                   |  |  |  |  |
| Industrial Development (ND 19) Institutional Facility( ND20) | 1  |  |  |  |
| Public Safety and Enforcement Facilities (ND21)              | 1  |  |  |  |
| Places of Mass Public Assembly (ND 22)                       |  |  |  |  |
| IIV. WILL THE PROPOSED DEVELOPA                              | TENT OF THE PROP                                       | FRTV PEOLITRE/ENT  | AIL ANV OF THE FOLLOWING (BLO  |  |
| Road crossings over the pipeline?                            |  | including irrigation systems)                                  | Changing the amount of cover (by adding or   |  |
|  | within the easement area?                              |  | removing dirt) within the easement area?   |  |
| Other utility lines crossing over or under the               |  | paving within the easement<br>ts, buildings, pedestrian paths, | Construction equipment crossing the pipeline?  |  |
|  | signage, poles, retaining<br>basketball/tennis courts, | walls, septic systems,   |  |  |
|  | Significant excavation (s                              | 2000   | Impounding water or building drainage ditches or   |  |
|  | structures or building foundations, core samples,      |  | other drainage facilitates?  |  |
|  | rock/mineral quarries, da<br>Storing materials, equips | ems, etc.)?<br>ment, vehicles, or other items                  |  |  |
|  |  | (e.g., construction materials,                                 |  |  |
|  | equipment, etc.?                                       | unioes, coats, minutey   |  |  |
|  |  |  |  |  |
| 5 & 0  | 6)   | -  |  |  |
| elines(s)  | 12   | Typical operati  | ing pressure and maximum allowable operating pressure<br>sment – condition of pipeline?        |  |
| Simes(s)   |  | Timeframe of   | lanned repairs, if any?  |  |
|  | 7.4.1  | Planning Area  | distance (BL 06)   |  |

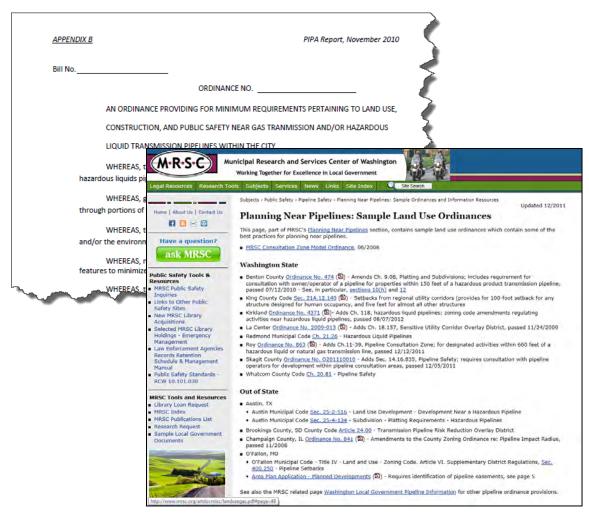
### PIPA RP Evaluation Worksheet for Local Governments

Perform a gap analyses comparing your community's current practices to the PIPA recommended practices.



### **Examples of Land Use Ordinances**

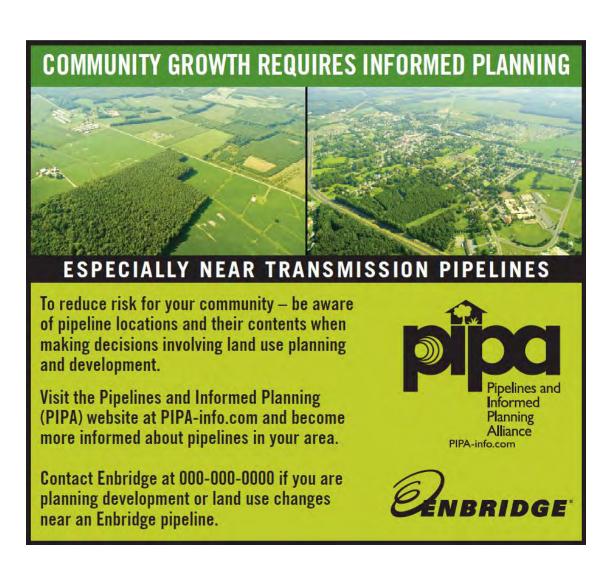
- PIPA Model
   Ordinance –
   Appendix B in the PIPA
   Report
- Municipal
   Research and
   Services
   Center of
   Washington



http://www.mrsc.org/subjects/pubsafe/transpipeords.aspx

### **PIPA Promotional Material**







#### Pipeline Safety Stakeholder Communications

Pipeline Safety Connects Us All

Pipeline & Hazardous Materials Safety Administration

Home General Public Emergency Officials Local Excavators
Officials

Property Developer/ Owner Pipeline Safety Advocates

State Regulators

Federal Agencies Industry

Contact Us

#### Site Pages

- ▶ About Pipelines
- Regulatory Oversight
- Safety Programs
- Public Outreach

State Pipeline Profiles:

Choose One...

Print

#### Community Assistance & Technical Services

The mission of the OPS Community Assistance & Technical Services (CATS) team is an ambitious one:

To advance public safety, environmental protection and pipeline reliability by facilitating clear communications among all pipeline stakeholders, including the public, the operators and government officials.

An important aim of the CATS program is to reach out to all pipeline safety stakeholders. Responsibilities of CATS managers include:

- Communicating information to help communities understand pipeline risks and improve pipeline safety and environmental protection.
- Fostering effective communications regarding pipeline safety among PHMSA, other federal agencies, state pipeline safety regulators, elected and emergency officials, pipeline operators and the public.
- · Serving as "honest brokers" in facilitating permits required for safety-related pipeline repairs.

In carrying out their responsibilities, CATS program managers perform a variety of activities. These include:

- Participating with state and regional damage prevention groups and the Common Ground Alliance to further the implementation of damage prevention best practices.
- · Helping states assess their damage prevention programs and opportunities.
- Serving as designated PHMSA representatives before a wide variety of stakeholders. CATS managers routinely
  provide informational presentations to various stakeholder groups to broaden public awareness of our
  country's energy transportation pipeline systems.
- Meeting with federal, state and local regulatory agencies, and pipeline operators to facilitate timely issuance
  of permits necessary for conducting pipeline integrity activities.
- Providing consultation to regulators, regulated parties and other stakeholders regarding new and amended regulatory requirements.
- Responding to public inquiries and complaints regarding pipelines and pipeline operations.

CATS managers are located within each PHMSA region. Contact information for the CATS manager for your state is noted below.

#### **OPS Eastern Region**

Connecticut; Delaware; Maine; Maryland; Massachusetts; New Hampshire; New Jersey; New York; Pennsylvania; Rhode Island; Vermont; Virginia; Washington, D.C.; West Virginia.

Karen Gentile:

karen.gentile@dot.gov Phone: (609) 989-2252

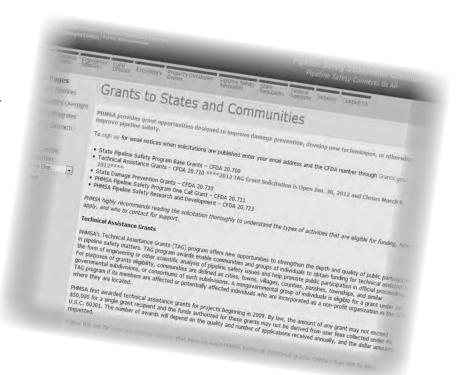
**Alex Dankanich:** 

alex.dankanich@dot.gov Phone: (202) 550-0481 73

### **US DOT PHMSA Technical Assistance Grants**

**Purpose:** to make grants to local communities and organizations for technical assistance related to pipeline safety issues (includes implementing PIPA RPs & enhancing hazard mitigation plans to incorporate pipelines)

- The grant solicitation will tentatively be posted in <u>February</u>
   <u>2013</u> and awarded in September 2013.
- Sign up for alerts to be notified when the solicitation is posted on <a href="http://www.grants.gov">http://www.grants.gov</a>
- Applicants can apply for TAGs through Grants.gov





## **View Previously Awarded TAG Reports**



Technical Assistance Time: 11/20/2012 03:37 PN

#### Project Search



Advanced Search..

#### TAG Program

Final Reports

#### Library

#### General

- Spreadsheet of TAG Awards
- Questions and Comments
- PHMSA Communications

#### Context □ Log In.

Print-Friendly

#### **Technical Assistance Grants**

Hide Project Summaries

TAG Grants will be listed here.

- · Projects Starting in FY-2012
  - NEW! "AL City of Athens 2012 Technical Assistance Grant" (DTPH56-12--PHPT01, End FY: 2013) Under this grant award the City of Atbens will provide a hands-on pipeline safety training and education workshop to participants.
  - NEW! "DC National Association of Counties Research Foundation 2012 Technical Assistant Grant" (DTPH56-12-G-PHPT02, End FY: 2013)

### http://primis.phmsa.dot.gov/tag

- NEW! "LA Port of South Louisiana 2012 Technical Assistance Grant" (DTPH56-12-G-PHPT04, End FY: 2013) Under this grant award the Port of South Louisiana will develop and implement a Marine Pipeline Safety Outreach Program for all stakeholders operating along the Lower Mississippi River. Outreach includes developing a website, tri-fold guide, posters, safety calendar, and DVDs.
- NEW! "PA Pipeline Safety Coalition 2012 Technical Assistant Grant" (DTPH56-12-G-PHPT05, End FY: 2013) Under this grant award the Pipeline Safety Coalition will conduct a case study of Chester County, PA with first responders to identify first responder education and training needs specific to gas pipelines. Following the case study, recommendations will be provided to develop a core curriculum using model firefighters and a final report will be developed, with transferable results, to share with other first. responders and communities.
- NEW! "PA League of Women Voters of PA Citizen Education Fund 2012 Technical Assistance

Under this grant award the League of Women Voters of PA Citizen Education Fund will provide Lehigh Valley Region of Pennsylvania regarding the role of federal, state, and local agencies in e educational resources for local libraries, public forums, presentations, workshops, displays, interr website resources. The project will capitalize on existing resources. Results of this project will be posted on the LWVPA website.

- New! "LA Sulphur, City of DBA/Sulphur Fire Department 2012 Technial Assistance Grant" (DTPI Under this grant award the Sulphur Fire Department will purchase three (3) handheld multi-gas det calibration unit for the detectors. The new units will replace older units and offer new technology to responding to pipeline incidents.
- NEW! "NC Land-of-Sky Regional Council 2012 Technical Assistance Grant" (DTPH56-12-G-PHP) Under this grant award the Land-of-Sky Regional Council will evaluate the need to develop new and untitraining of throughout the three county region using gane

## **Next Steps for Local Governments**

- Locate pipelines in you jurisdiction (NPMS)
- Read the PIPA Report & Tools
- Assess your communities level of risk tolerance for land use/development near pipelines
- Put a plan in place to address your community's needs using PIPA recommended practices
- Contact the pipeline operators in your area to inform them of the actions

## **Questions?**

### AICP CM Credits - #e.22351

Certification

Maintenance

Please visit the Certification Maintenance section of APA's website (<a href="www.planning.org/cm">www.planning.org/cm</a>) to claim your credits; you may use the following steps:

- (1) Login using your ID# and password.
- (2) Select My CM log
- (3) Select Add Credits
- (4) Under Browse you have the option of searching by Date, Provider, or Distance Education and using the search box to type in the name of the event or activity and clicking go
- (5) If you search Activities by Date, on the left of the calendar view, please use the "previous" and "next" options to locate the month. On the right of the calendar view, please use the "previous" and "next" options to select the year
- (6) If searching Activities by Provider, using the letters, please select the initial of the first name of the provider. From the list, then select the name of the provider
- (7) Select the "Past Events" tab to locate the event you have attended
- (8) If searching Distance Education, after selecting, you will see a list of all distance education activities. To select, click on the name of the activity
- (9) A pop-up box will appear.
- (10) Please rate, add a comment (optional), and click on the Ethics statement and answer
- (11) Click submit and the CM credits should appear in your CM log

If you have problems reporting your CM credits or have general questions about our CM program, please contact <a href="mailto:AICPCM@planning.org">AICPCM@planning.org</a>. APA's customer service associates are available to assist you.

## Thank you for your time and interest in pipeline safety!

James Davenport

jdavenport@naco.org

Program Manager

**Community Services** 

202-661-8807

National Association of Counties (NACo)

Julie Halliday

Julie.Halliday@dot.gov

Sr. Program Manager

**Program Development** 

202-366-0287

**US DOT PHMSA** 

















PIPA-Info.com npms.phmsa.dot.gov

