



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

Land-Use Planning Near Transmission Pipelines

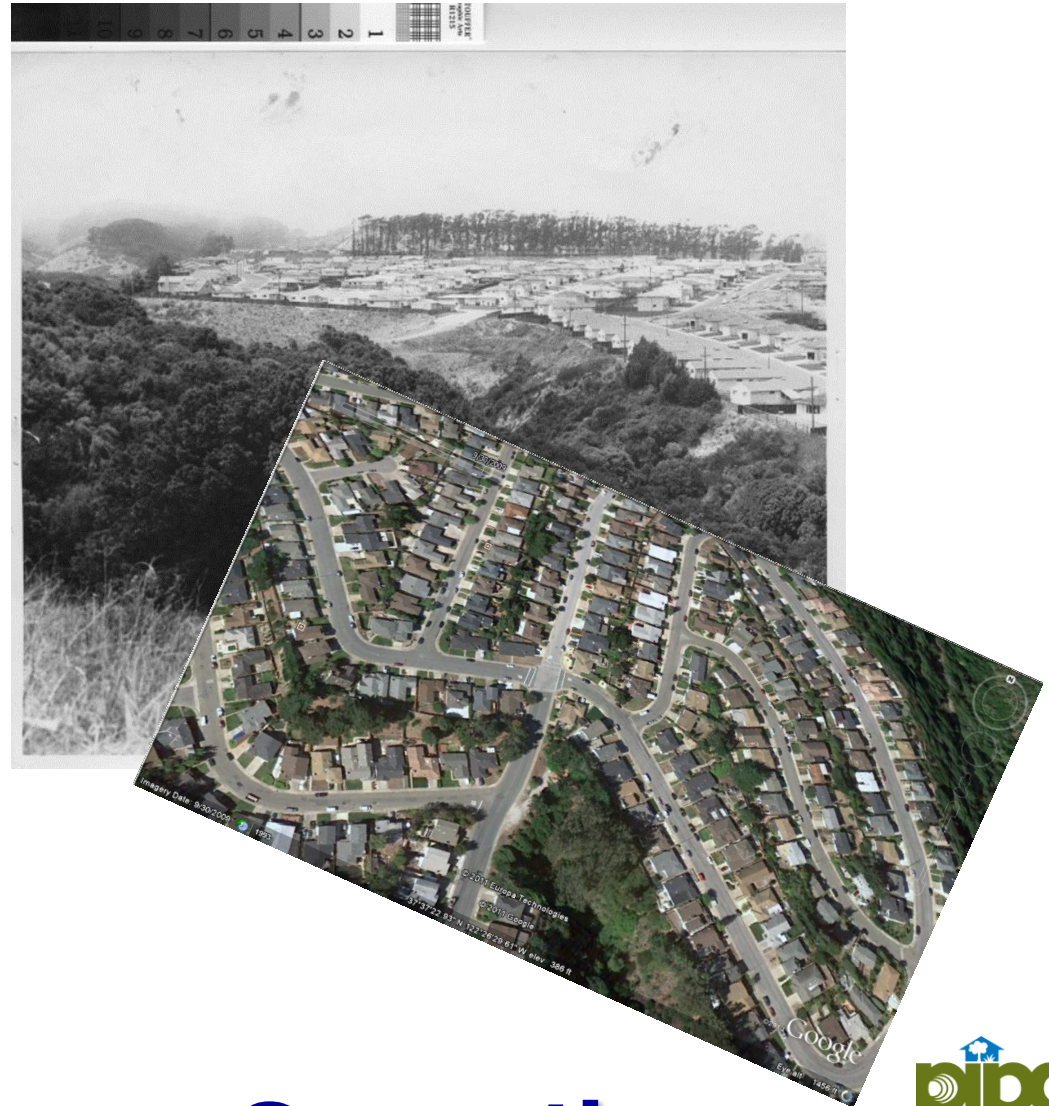


Pipelines and
Informed
Planning
Alliance

PIPA-info.com

www.PIPA-Info.com

Julie Halliday
DOT – PHMSA - OPS



Improving Pipeline Safety Across Generations



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

Limiting the effects of land development near pipelines...



Increased Likelihood of Excavation Damage

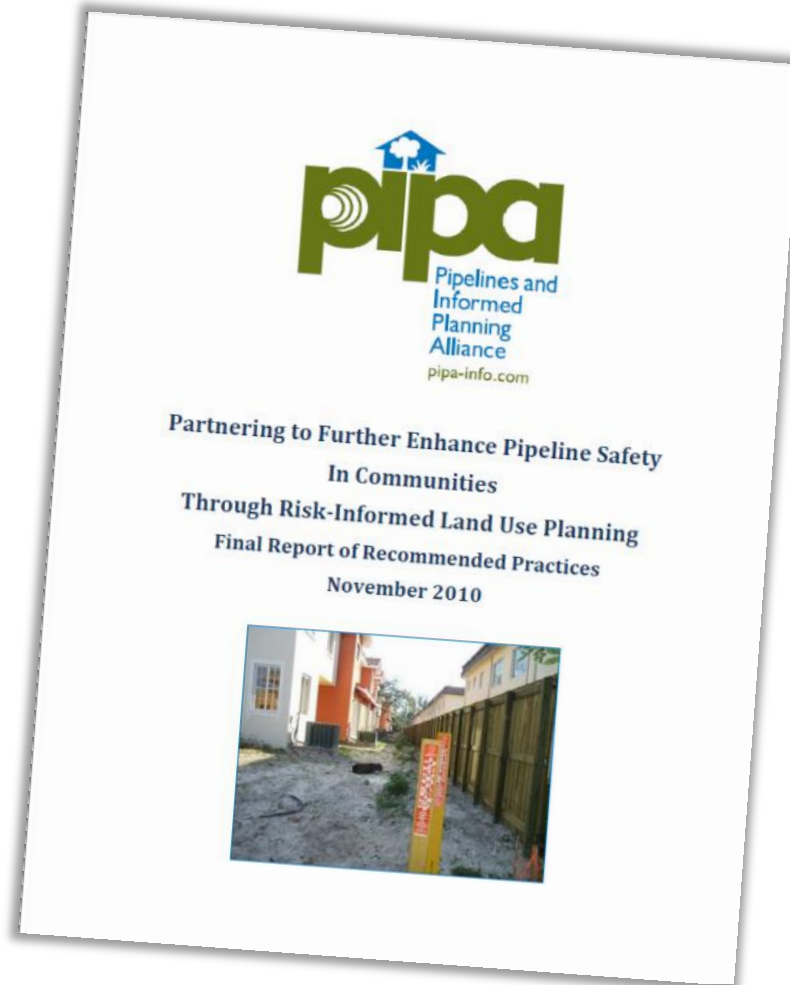


Increased Consequences of Failure





PIPA Report



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PIPA Damage Prevention Recommended Practices

BL15 Enhance Damage Prevention Practices near High-Priority Subsurface Facilities

BL16 Halt Dangerous Excavation Activities near Transmission Pipelines

BL17 Map Abandoned Pipelines

BL24 Temporary Markers for Construction

Enhance Damage Prevention Practices near High-Priority Subsurface Facilities

Examples:

- Pre-excavation meeting on site with the operator and contractor
- “Pot hole” to verify utility locates or mark-outs
- Operator onsite during all excavation

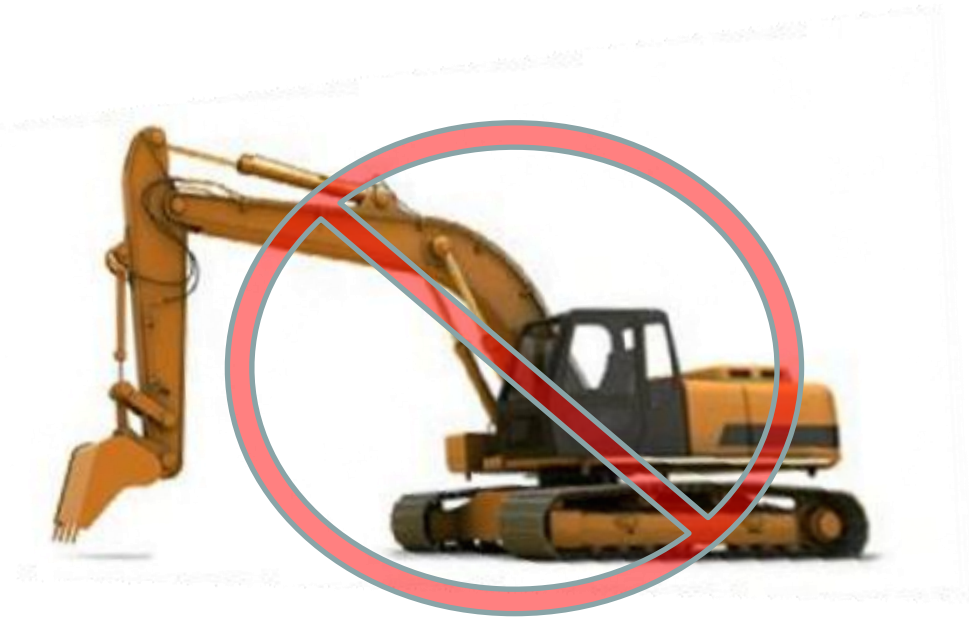




BL16 Stop Excavation Near Pipelines

Halt Dangerous Excavation Activities Near Transmission Pipelines

Transmission pipeline operators should have procedures and established contacts with local enforcement personnel in order to act appropriately to halt dangerous excavation activities that may damage their pipelines and potentially cause an immediate threat to life or property





BL17 Map Abandoned Pipelines

Pipeline & Gas Journal

Schneider Electric CRM Webcast Series by Telvent: Best Practices in Control Room Management Reaching an Efficient HMI

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WHO OWNS ABANDONED PIPELINES?

Salvaging Steel

By David Howell, Senior Right-Of-Way Agent, International Right-Of-Way Association, Houston, TX | October 2009 Vol. 236 No. 10



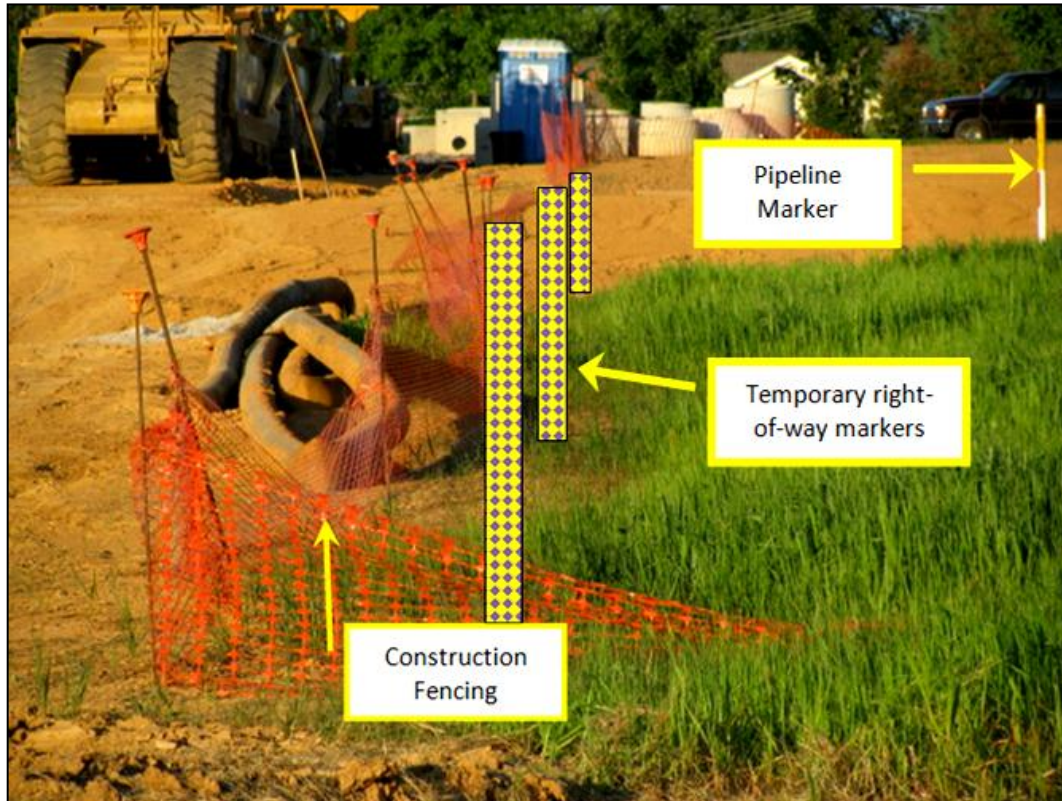
(Editor's Note--Opinions expressed in this article are those of the author and do not necessarily reflect those of Oildom Publishing Company or its advertisers.)

I recently received a call from a landowner on whose land a pipeline was buried. On this particular tract of land in Central Texas, the pipeline in question was only 300 feet in length. The right-of-way, or easement, was no longer mowed or otherwise maintained. Signs along the right-

Practice Statement When a transmission pipeline operator abandons a transmission pipeline, information regarding the abandoned pipeline should be maintained and included in the information provided to the one-call center.



ND24 Temporary Markers for Construction



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



Communication Team & Implementation Plan Goal

Goal -

Engage local governments to promote their awareness of and support their implementation of the PIPA recommended practices for land use and development planning near transmission pipelines.

Name	Representing	Company
Cynthia Munyon*	NAPSR	Iowa Utilities Board
Steve Fischer	PHMSA	PHMSA
Julie Halliday*	PHMSA	PHMSA
James Davenport	NACo	National Association of Counties
Julia Pulidindi	NLC	National League of Cities
Chuck Lesniak	NLC	City of Austin, TX
Debbie Bassert	NAHB	National Association of Home Builders
Erika Lee	CGA	Common Ground Alliance
Rebecca Craven	PST	Pipeline Safety Trust
Carl Weimer	PST	Pipeline Safety Trust
Gina Greenslate	API/AOPL	Panhandle Energy
Terri Larson	API/AOPL	Enbridge Energy
Dan Dana	AGA	Vectren
Chuck Kanoy	AGA	Vectren
Phil Bennett	AGA	American Gas Association
Lydia Meiqs	AGA	American Gas Association
Susan Waller	INGAA	Spectra Energy
Andrea Grover	INGAA	Spectra Energy
Dwayne Teschendorf	INGAA	Spectra Energy
Greg Ford	INGAA	Williams Gas Pipeline
Amber Pappas	RCP	RCP
Herb Wilhite	Cycla	Cycla
* Co-Leaders		

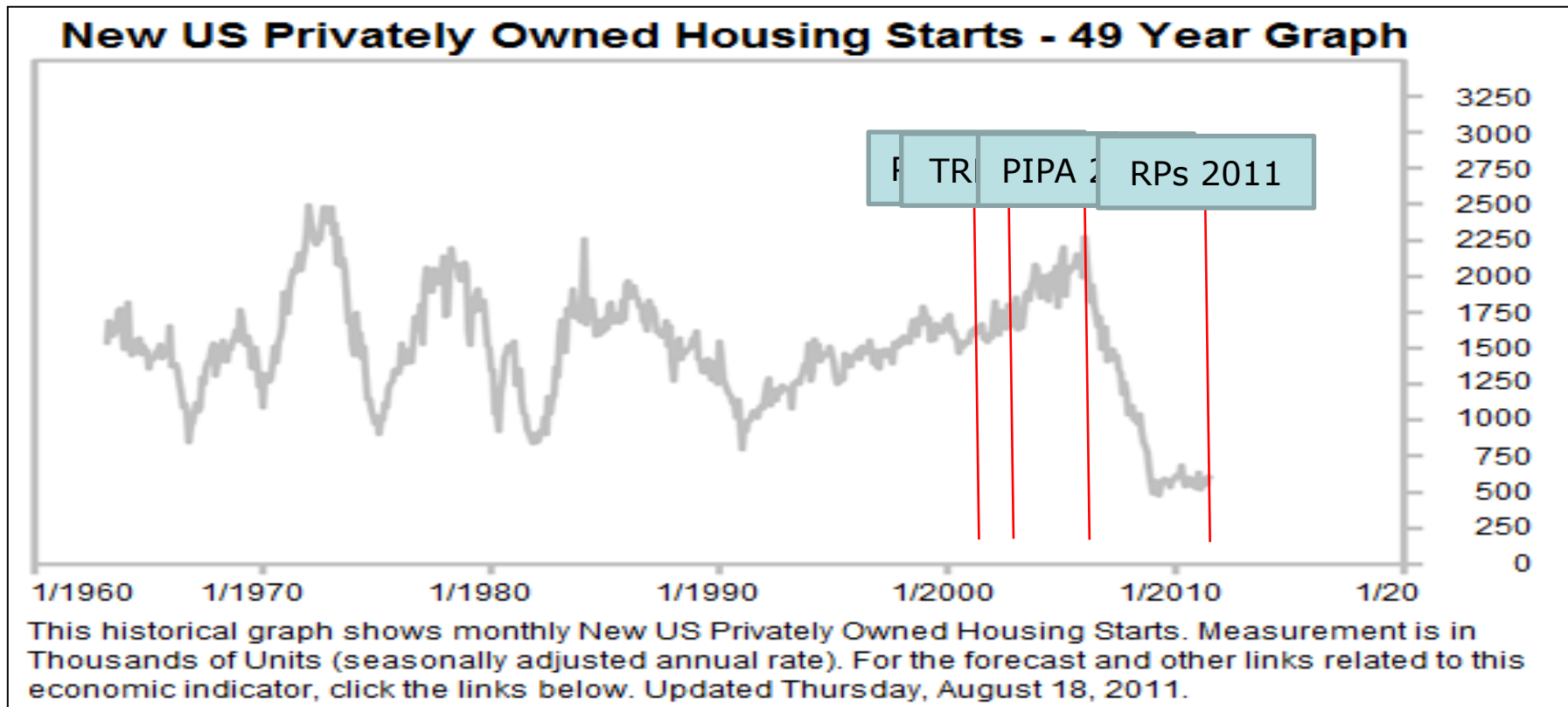


Implementation Challenges

- Land use and development planning near pipelines previously unaddressed by local governments
- Pipelines tend not be a priority until an incident occurs or a new pipeline is proposed
- Current low level of awareness about PIPA even among operators
- Reaching the right person within 30,000+ local governments
- Integrating PIPA RPs into routine planning discussions
- Timing of message ...



Timings Everything





Outreach Guiding Principles

- Focus on local governments
- Speak in local government terminology
- Utilize existing, authoritative, trusted communication channels
- Develop a sustainable path
- Recognize the long-term, evolutionary process of planning
- Implement actionable, short-term tasks
- Focus on urgent and important subject (Emergency management planning)
- Build pipeline awareness
- Foster government/operator/regulator relationships



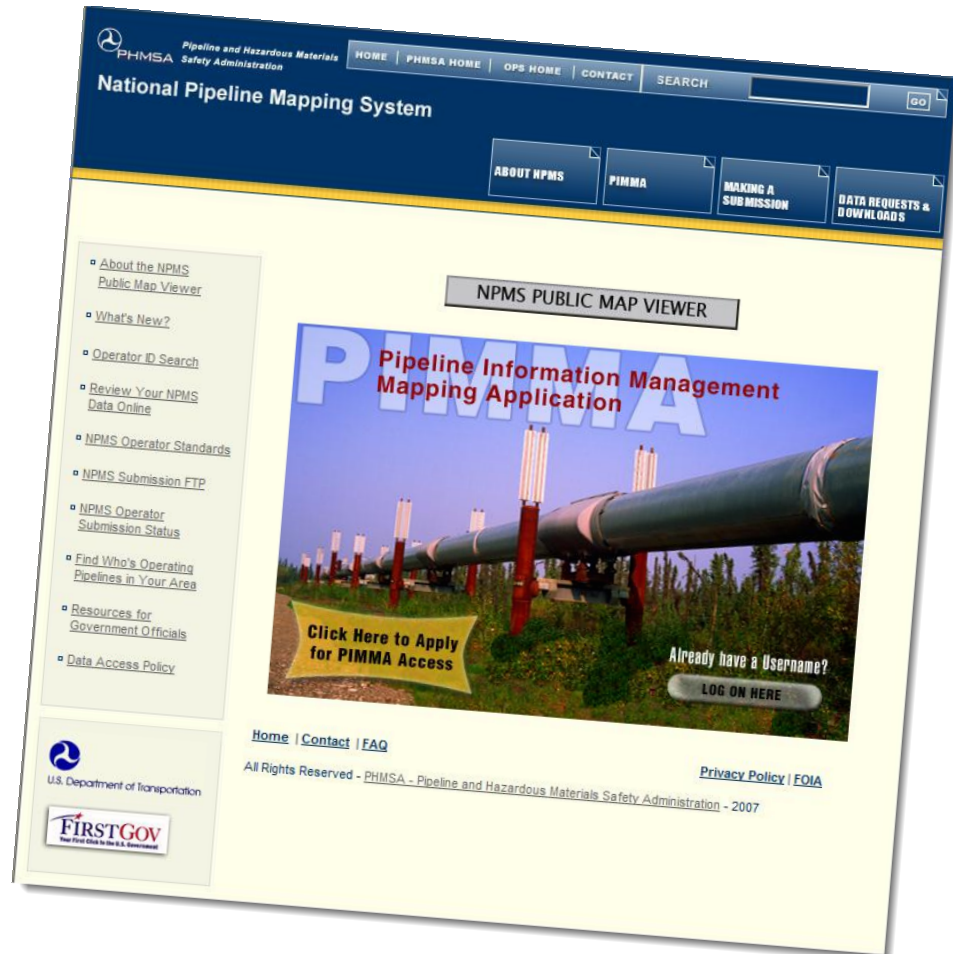
Implementation Tasks

- 1. Promote awareness of NPMS** - BL01 Obtain Transmission Pipeline Mapping Data
- 2. Pilot test ND 23** Consider Site Emergency Response Plans in Land Use Development
- 3. Develop pipeline hazard mitigation plan resources** for state and local governments
- 4. Provide PIPA evaluation tool** for operators and local governments to compare their practices with PIPA recommended practices



1 - BL01 Obtain Transmission Pipeline Mapping Data

Promote National Pipeline Mapping System (NPMS)





#2 - Consider Site Emergency Response Plans in Land Use Development

Pilot Implementation RP ND23

- Use NPMS
- Test the recommended practice
- Build relationships



ND23 Consider Site Emergency Response Plans in Land Use Development

Practice Statement Emergency response plan requirements should be considered in new land use development within a planning area (see PIPA Recommended [Practice BL06](#)) to reduce the risks of a transmission pipeline incident.

Audience Local Government, Property Developer/Owner

Practice Description

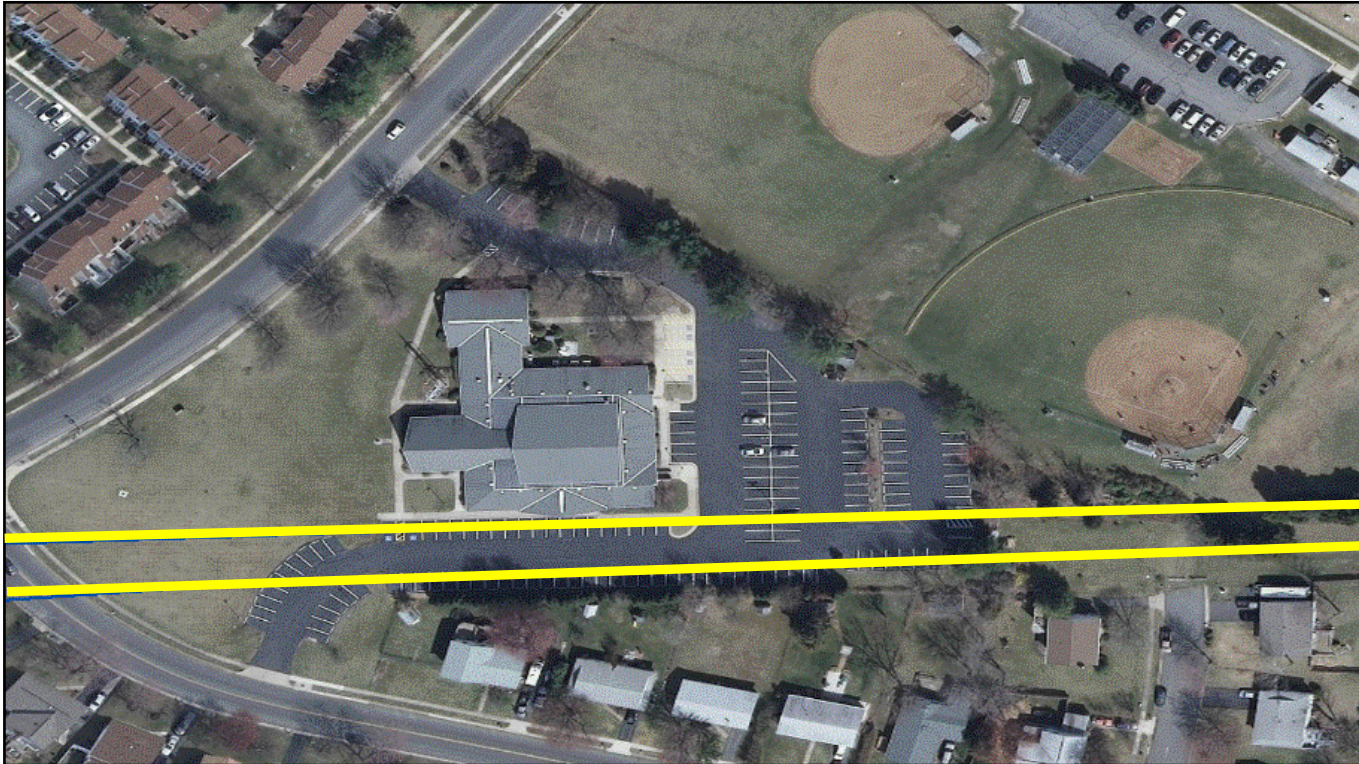
Effective emergency response planning can reduce the risk of a potential transmission pipeline incident by providing for timely response and situational control. Site emergency response plans should include coordination with the transmission pipeline operator. The property developer/owner should consider emergency response needs when planning land use development in proximity to a transmission pipeline right-of-way to ensure that emergency response is not impeded during a pipeline incident. Emergency response requirements include but may not be limited to the following:

Access to shutoff valves

Transmission pipeline operator access to shutoff valve(s) ensures that the transmission pipeline can be shutoff to mitigate the impact (duration and volume of release) from a pipeline incident. Development plans should clearly indicate the access to transmission pipeline shutoff valves. Valve access routes should be coordinated with the transmission pipeline operators and should consider access to areas that may be locked or gated for security and privacy purposes (i.e. private or gated communities, secured facilities, etc.).

Access for emergency response personnel/equipment

Development plans should include emergency access and turnabouts, as needed. The emergency response access route should be of appropriate width to accommodate emergency response equipment. Street turnabouts should be of adequate turning radius to facilitate forward or reverse hose lays and/or exit of any emergency response equipment. Access routes should consider access to areas



ND 22 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...



Pilot Implementation RP ND23

- *Damage Prevention*
- *Pipeline Security*
- *Emergency Response Preparedness & Capability*



#3 - Develop Hazard Mitigation Plan Resource for Pipelines

“All Hazards, All Phases, All Impacts, All Stakeholders”

The screenshot shows the FEMA website's 'Multi-Hazard Mitigation Planning' page. At the top, there is a navigation bar with links for 'Mobile Resources', 'Contact Us', 'A-Z Index', 'FAQs', 'Español', and 'Additional Languages'. Below this is a search bar and a 'Go' button. A secondary navigation bar includes 'Blog', 'Photos', 'Videos', and 'Email Updates'. The main content area features a left sidebar with a 'Mitigation Planning' menu and a main content area with the following text:

Multi-Hazard Mitigation Planning

[Sign up to get Mitigation Planning email updates](#)

Mitigation Plans form the foundation for a community's long-term strategy to reduce disaster losses and break damage, reconstruction, and repeated damage. The planning process is as important as the plan itself. It creates a data-based decision making to reduce damages to lives, property, and the economy from future disasters. [Hazard mitigation](#) is the action taken to reduce or eliminate long-term risk to people and their property from hazards.

- [Why does my community need a mitigation plan?](#)
- [How do I develop a mitigation plan?](#)
- [Does my community have a mitigation plan?](#)

State, Indian Tribal, and local governments are required to develop a hazard mitigation plan as a condition for receiving non-emergency disaster assistance. Please visit the [Mitigation Grant Programs](#) page for more information on the requirements for the various mitigation grant programs, as well as FEMA funds available for mitigation plan development projects.

Last Modified: Wednesday, 11-Aug-2010 14:19:51 EDT

At the bottom of the page, there is a footer with a navigation bar containing links for 'Home', 'Contact Us', 'Español', 'Privacy Policy', 'Important Notices', 'Accessibility', 'Download Plug-ins', 'FOIA', 'No FEAR Act Data', 'USA.gov', and 'DHS'. Below the navigation bar is a disclaimer: '* The social media links provided are for reference only. FEMA does not endorse any non-government Web sites, companies or applications.' The footer also includes the FEMA logo and contact information, the DisasterAssistance.gov logo, and the Ready logo.

Hazard Mitigation is the act of identifying the natural and manmade hazards that may bring harm to a community, and then taking action to reduce or eliminate the loss of life and property damage these hazards can inflict.





Washtenaw County, MI



NPMS Public Map Viewer

Log Out | NPMS Home | About NPMS Data | View Metadata | Help

View pipelines by: [dropdown menu]

Public Viewer Layer List

- Gas Transmission Pipelines (scale dependent)
- GAS
- Hazardous Liquid Pipelines (scale dependent)
- LIQUID
- LNG Plants (scale dependent)
- Drakout Tanks (scale dependent)
- Other Populated Areas (scale dependent)
- Highly Populated Areas (scale dependent)
- Roads, Railroads & Airports
- World Transportation
- Boundary Lines & Names
- World Boundaries and Places
- Shaded Relief
- World Shaded Relief
- Aerial
- World Imagery
- Low Resolution 15m Imagery

Please refer to the User Manual which is accessible via the Help link for guidance on this map application. If you need additional assistance, please contact the NPMS National Repository staff at npms_help@bahdmdot.com or 703-317-6004.



Washtenaw HM Plan

3.3 Hazard Analysis – Technological Hazards

agricultural sector) and can result in reduced water supplies for citizens and local businesses. Water conservation measures may be implemented, but only on the authority of the local governments.

There is no record of Washtenaw County seeking aid for the agricultural community due to drought conditions, nor is there a record of severe drought conditions. This type of hazard is more a concern for the western United States and, when drought conditions occur in any part of the United States, Federal aid is available to all farmers, regardless of geographic location. With regard to water resources, much of Washtenaw County's water supply comes from the Detroit River through YCUA (Ypsilanti Community Utilities Authority). A drought that impacts our water supplies would certainly be devastating to Washtenaw County, as well as the southeast region.

Mitigation Strategies. The following mitigation strategies for drought are included in one or more local government plan:

- Work to secure water supply
- Enforce water rationing when necessary, and
- Educate the public on ways to conserve water.

Hazard Assessment. Given the low frequency of past occurrence and the likelihood of future occurrence, this hazard received a lower ranking than other hazards.

7. Earthquakes

County Ranking: #18

Description. Earthquakes are a sudden movement in the earth's surface as a result of an energy release from the earth's crust. There are two potential sources of earthquake activity for Washtenaw County. The Grenville Front is a regional fault zone and crosses under the County from the southeast to northeast. The Grenville Front is dormant and is therefore not a major concern. The New Madrid Fault, located

from Cairo, Illinois through New Madrid, Missouri to Marked Tree, Arkansas, is predicted to have a strong to major earthquake – between 6.0 and 7.6 - in the next few decades. This event could impact the County, at an Intensity Level of 6. This hazard could easily impact natural gas and petroleum pipelines as well as water supply mains, which is a major concern.

Hazard Assessment. Washtenaw County communities should be prepared for an earthquake. However given the frequency of such an event, earthquakes were given a lower ranking in comparison to hazards that could impact the entire County population, and are likely to occur more frequently.

Mitigation Strategies. Mitigation strategies for earthquakes that are proposed by one or more local governments include:

- Emergency generators
- Public education, and
- Ensuring enforcement of building code standards.

8. Subsidence

County Ranking: N/A

Description. Subsidence is the lowering or collapsing of land surface caused by natural or human-induced activities that erode or remove subsurface support (MSP/EMD). One major cause of subsidence is mining. The coal basin in Michigan just approaches the northwest corner of Washtenaw County. The only recently reported subsidence incident occurred in 1999 in Milan City (Monroe County), and is attributed to a leaking storm sewer; US-23 reportedly sank eight inches over a 30-foot stretch of highway, causing traffic delays for several miles, lasting approximately 10 hours.

Hazard Assessment. Given the lack of mining in Washtenaw County and the sparse history of subsidence occurrences impacting people, property and natural resources, this hazard is not ranked.

Hazards

several major gas pipelines and petroleum lines running through Washtenaw County.

There are no reported incidents of pipeline accidents occurring within the County. Contiguous counties - Jackson, Livingston, Oakland and Wayne – have experienced one or more significant events within the past five years. The worst of these happened in Jackson County, in 2000, when a gas pipeline rupture released 75,000 gallons of gas, and caused the evacuation of 500 homes within a mile radius for five days, caused a drop in pressure felt as far as Joliet, Illinois, as well as significant damage to the environment.

There are several entities involved in the regulation of pipelines:

- Michigan Public Service Commission performs safety inspections
- Protection of Underground Utilities Act (Miss Dig), and
- The "Pipeline Group", as a consortium of pipeline companies, exists for the sole purpose of updating emergency information for first responders.

Despite Washtenaw County's record, the potential for loss of life, property and natural resources, and the potential response and recovery costs are significant.

Mitigation Strategies. The following mitigation strategies for pipeline accidents are included in one or more local government plan:

- Continued training for first responders, HazMat team,
- Enforcement of buffer distances to protect population for impacts, and
- Public Education (Disseminate Emergency Preparedness Information).

Hazard Assessment. Of the 90 investigations of incidents performed by the Michigan Public Service Commission (MPSC) since 1996, at least 50% have resulted in injuries, death or significant property damage. In addition, these types of incidents are increasing due to the increasing age of the pipelines and the prevalence of construction activities (MSP/EMD). This hazard therefore received an intermediate ranking given the frequency of past occurrences, but also taking into consideration the likelihood of future occurrences.

Hazard Mitigation Plan
September 2007

Washtenaw County-61

occurrence.

15. Petroleum and Natural Gas Pipeline Accidents

County Ranking: #10

Description. Pipeline accidents are an uncontrolled release of petroleum, natural gas, or the poisonous by-product of hydrogen sulfide, from a pipeline (MSP/EMD). There are

Hazard Mitigation
September 2007

Pipeline -
Critical
Infrastructure
to be
Protected

Pipeline -
Hazard to be
Evaluated

Hazard Mitigation Planning Process

1. Hazard Identification - Describe the hazards
2. Vulnerability Assessment - Estimate the impacts the hazards could cause
3. Capability Assessment - Assess what safeguards exist that might already or could potentially lessen those impacts
4. Develop and Implement Action Plan - Determine what can be done and select those actions that are appropriate for the community in question



Capability Assessment





Capability Assessment

Maps & Pipeline Awareness

- Pipeline Maps
- Emergency Liaisons
- Communication of Pipeline Emergency Information to Public

Damage Prevention

- 811
- One-Call
- Common Ground Alliance

Security

- Police Patrols

Emergency Management

- NENA 911 Standard 56-0007
- Emergency Responder Training & Equipment
- Incident Investigation

Land Use and Development Planning

- Land Use and Development practices near pipelines
- Public Project Coordination with Pipeline Replacement Programs

PHMSA Grants to State & Local Governments and Communities

Purpose: to make grants to local communities and organizations for technical assistance related to pipeline safety issues

- Annual grants are posted in January and awarded in September
 - Open until March 9, 2012 this year
- Local governments can sign up for alerts on <http://www.grants.gov> to be notified when the solicitation is published
- CFDA number 20.710
- Funding number DTPH56-12-SN-000001

The screenshot shows the Grants.gov website interface. At the top, it displays the U.S. Department of Transportation Pipeline & Hazardous Materials Safety Administration logo and navigation tabs for General Public, Emergency Officials, Local Officials, Excavators, Property Developer/Owner, Pipeline Safety Advocates, State Regulators, Federal Agencies, Industry, and Contact Us. The main heading is 'Grants to States and Communities'. Below this, a sub-heading reads 'PHMSA provides grant opportunities designed to improve damage prevention, develop new technologies, or otherwise improve pipeline safety.' A call to action states: 'To sign up for email notices when solicitations are published enter your email address and the CFDA number through Grants.gov.' A list of grant opportunities is provided:

- State Pipeline Safety Program Base Grants - CFDA 20.700
- Technical Assistance Grants - CFDA 20.710 ***2012 TAG Grant Solicitation is Open Jan. 30, 2012 and Closes March 9, 2012***
- State Damage Prevention Grants - CFDA 20.720
- PHMSA Pipeline Safety Program One Call Grant - CFDA 20.721
- PHMSA Pipeline Safety Research and Development - CFDA 20.723

Below the list, it states: 'PHMSA highly recommends reading the solicitation thoroughly to understand the types of activities that are eligible for funding, how to apply, and who to contact for support.'

Technical Assistance Grants

PHMSA's Technical Assistance Grants (TAG) program offers new opportunities to strengthen the depth and quality of public participation in pipeline safety matters. TAG program awards enable communities and groups of individuals to obtain funding for technical assistance in the form of engineering or other scientific analysis of pipeline safety issues and help promote public participation in official proceedings. For purposes of grants eligibility, communities are defined as cities, towns, villages, counties, parishes, townships, and similar governmental subdivisions, or consortiums of such subdivisions. A nongovernmental group of individuals is eligible for a grant under the TAG program if its members are affected or potentially affected individuals who are incorporated as a non-profit organization in the state where they are located.

PHMSA first awarded technical assistance grants for projects beginning in 2009. By law, the amount of any grant may not exceed \$50,000 for a single grant recipient and the funds authorized for these grants may not be derived from user fees collected under 49 U.S.C. 60301. The number of awards will depend on the quality and number of applications received annually, and the dollar amounts requested.

Follow this link for past and future information at www.grants.gov

projects that have received PHMSA technical assistance grants. Contact Sam Hall for more

At the bottom of the screenshot, the logo for GRANTS.GOV is visible.

#4 PIPA Evaluation Tool

Pipeline and Informed Planning Alliance (PIPA) Recommended Practice Evaluation Worksheet For Pipeline Operators



Checklist for Pipeline Operator PIPA Recommended Practice Evaluation

PIPA RP #	Practice Title and Description	Pipeline Operator Practice	Current Practice
			Action(s) Needed or Considered
Recommended Practices: Primary Action for Pipeline Operator			
Land Planning and Development			
BL-03	Utilize Information Regarding Development around Transmission Pipelines Transmission pipeline operators should provide information about their pipelines to local governments and property developers/owners who are planning development around their pipelines. Local government authorities regulating development should use this information to establish requirements regarding land use and development around transmission pipelines.	Primary Action: Local Government, Pipeline Operator Pipeline operators should provide developer handbooks to developers and local officials by personal delivery, e-mail, or website.	
ND-02	Gather Information for Design of Property Development near Transmission Pipelines In designing a proposed property development the property developer/owner should use all reasonable means to obtain information about transmission pipeline facilities in the area of the proposed development.	Primary Action: Property Developer/Owner, Pipeline Operators Upon request for information from property developers planning developments near transmission pipelines, pipeline operators should locate and mark the pipeline facilities and provide pipeline facility information by other means such as marking up design drawings, and providing maps. Pipeline operators may also provide developers with company-developed guidance.	



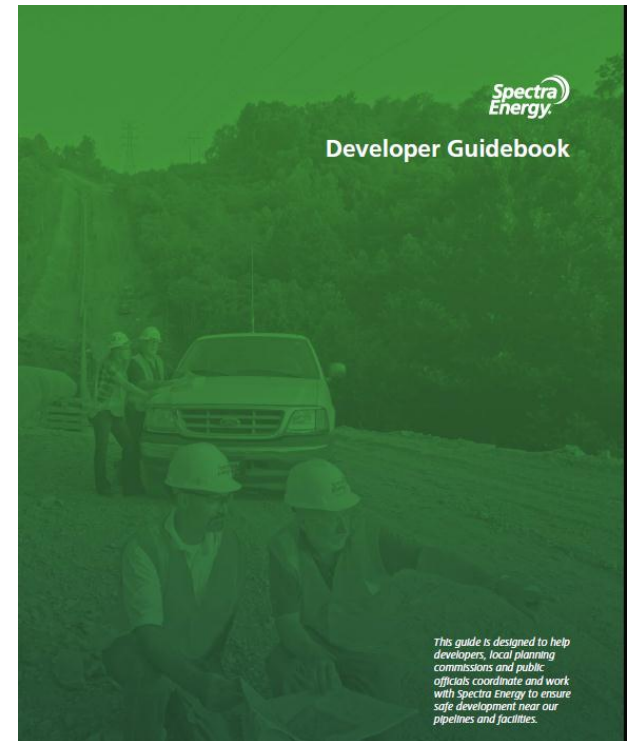
PIPIA Recommended Practice Evaluation Tool

- Organized to help pipeline operators focus on where they have primary responsibility.
- Completion of the evaluation worksheet can serve to facilitate increased awareness across the company.
- Because PIPA implementation often involves many departments, the worksheet may be used to clarify specific responsibilities.
 - Land Planning and Development
 - Pipeline Maintenance & Damage Prevention
 - Maps & Records
 - Communication

Utilize Information Regarding Development around Transmission Pipelines

Practice Description: Transmission pipeline operators should provide information about their pipelines to local governments and property developers/owners who are planning development around their pipelines. Local government authorities regulating development should use this information to establish requirements regarding land use and development around transmission pipelines.

Operator Action: Pipeline operators should provide developer's handbook to developers and local officials by personal delivery, e-mail, or website.





Recommended Practice BL-03 (example)

- **Current Practice:** *Land agent, Operations representative or Division Engineer provide Developers Handbook to local officials and developers upon becoming aware of potential development*
- **Actions Needed or Considered:** Develop plans to provide developers handbook to local communities/governments and property owners more proactively, and also make them aware of the PIPA resource to help with land use planning and decision process.



How Pipeline Operators Can Support PIPA

- Evaluate your practices vs. PIPA recommended practices
- Develop plan to implement appropriate PIPA RPs
- Encourage local governments to use NPMS
- Partner with local governments to review the existing pipeline ROW for emergency response needs
- Participate in state and local emergency management hazard mitigation planning process
- Spread the word on Technical Assistance Grants to communities
- Add the PIPA logo to your company website



PIPA Online Resources

www.PIPA-info.com

The screenshot shows a Windows Internet Explorer browser window displaying the PHMSA website. The address bar shows the URL <http://primis.phmsa.dot.gov/comm/pipa/LandUsePlanning.htm>. The page title is "PHMSA: Stakeholder Communications". The website header includes the slogan "Pipeline Safety Connects Us All" and a navigation menu with links such as Home, General Public, Emergency Officials, Local Officials, Excavators, Property Developer/Owner, Pipeline Safety Advocates, State Regulators, Federal Agencies, Industry, and Contact Us. The main content area is titled "Land Use Planning and Transmission Pipelines" and features a sub-header: "Pipeline safety can be enhanced by making risk-informed decisions for land use planning and development near transmission pipelines." The text discusses the importance of energy and the risks associated with transmission pipelines in residential areas. A sidebar on the left contains "Site Pages" and "State-specific information" sections. A large hand cursor is pointing at the "PIPA Risk Report" link. The footer includes a "Feedback" link and copyright information for 2005-2011 PHMSA. The Windows taskbar at the bottom shows the system clock as 9:35 PM on 2/18/2012.