



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

**Jeff Wiese**

**Associate Administrator for Pipeline Safety**

**Presentation to Pipelines and Informed Planning Alliance (PIPA)**

**January 15, 2008 - Plenary Session - Arlington, VA**



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# Objectives

- **Initial Introductions – By Affiliation, Alphabetically**
  - **Who's Here**
  - **Who's Invited – but Not Yet Here**
- **Stage Setting**
  - **Role and Value of Pipelines**
  - **Scope of PIPA**
  - **What We Hope to Create**
  - **Intro to Land Use Planning Near Hazards**
  - **A Bit About Risk Assessments v. Risk Informed**



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***What stakeholder  
organizations are  
represented at PIPA?***



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# ***Federal Government***



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# Department of Housing and Urban Development (HUD)

- **Nelson Rivera**  
**Protecting Communities**
- **Antoinette Sebastian**





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# Federal Energy Regulatory Commission (FERC)

- **Doug Sipe**  
**Protecting Communities**
- **Dave Swearingen**  
**Protecting Pipelines**
- **Eric Tomasi**  
**Risk Communication**





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# Pipeline and Hazardous Materials Safety Administration (PHMSA)

- **John Jacobi**  
**Protecting Communities**
- **Harold Winnie**  
**Protecting Pipelines**
- **Karen Butler**  
**Risk Communication**





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# *State and Local Government Associations*



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# National Association of Counties (NACo)

- **Julie Ufner**

- **Pedro Flores**





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# National Association of Pipeline Safety Representatives (NAPSR)



- **Mary McDaniel (Represented by Edward Abrahamson),  
Railroad Commission of Texas  
Protecting Communities**
- **Darin Burk, Illinois Commerce Commission  
Protecting Pipelines**
- **Cynthia Munyon, Iowa Utilities Board  
Risk Communication**



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# National Association of Regulatory Utility Commissioners (NARUC)

- **David Lykken, Washington Utilities and  
Transportation Commission  
Protecting Pipelines**





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# National Association of State Fire Marshals (NASFM)

- **Jack Alexander**
- **Paul Maldonado, Texas State Fire Marshall Office**





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# **National Association of Towns and Townships (NATaT)**

- **Matt Ward**



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# National League of Cities (NLC)

- **Betty Dunkerley (Represented by Chuck Lesniak),  
Austin, Texas  
Protecting Communities**
- **Leslie Wollack**
- **Julia Pulidindi**





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# *Public Advocacy*



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# Pipeline Safety Trust

- **Carl Weimer\***  
**Protecting Communities**



**\*Unable to attend Plenary**



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# ***Non-Pipeline Industry Associations***



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# Associated General Contractors of America (AGC)

- **Stu Megaw**



**AGC of America**

*Building Your Quality of Life*



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# American Land Title Association (ALTA)

- **Gary Kent**
- **Edward Miller**





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# American Public Works Association (APWA)

- **Monty Zimmerman, City of Lenexa, Kansas**  
**Protecting Communities**
- **Roger Buell, Charter Township of Grand Blanc, Michigan**  
**Protecting Pipelines**
- **Larry Schall, SKW**  
**Risk Communication**





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# Common Ground Alliance (CGA)

- **Erika Andreasen Lee**  
**Risk Communication**





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# International Code Council (ICC)

- **Mark Dinneen**

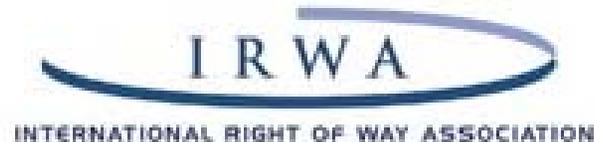




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# International Right of Way Association (IRWA)



- **Russell Verba, Spectra Energy  
Protecting Communities**
- **Terry Mock, Colonial Pipeline  
Protecting Pipelines**
- **Jon Taylor, Sempra Energy Utilities  
Risk Communication**



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# National Association of Home Builders (NAHB)

- **Bruce Boncke, BME Associates  
Protecting Communities**
- **Debra Bassert**





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# National Association of Local Government Environmental Professionals (NALGEP)

- **Paul Connor, Spiegel & McDiarmid LLP**
- **Alain Watson, Environmental Protection  
Commission of Hillsborough County, FL**





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# National Association of Realtors (NAR)

- **Russell Riggs**  
**Protecting Communities**





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# National Fire Protection Association (NFPA)

- **Nancy McNabb**



**National Fire  
Protection Association**

The authority on fire, electrical, and building safety



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# ***Pipeline Industry Associations***



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# American Gas Association (AGA)

- **Galen Denio, Southwest Gas  
Protecting Communities**
- **Chuck Kanoy, Vectren  
Protecting Pipelines**
- **Claudia Rapkoch, NorthWestern Energy\*  
Risk Communication**



\*Unable to attend Plenary



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# American Public Gas Association (APGA)

- **John Erickson**





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# Association of Oil Pipe Lines (AOPL) American Petroleum Institute (API)

- **Bill Sanders, Explorer Pipeline  
Protecting Communities**
- **James Sanford, NuStar Energy LP  
Protecting Pipelines**
- **Jerry Milhorn, Kinder Morgan  
Risk Communication**





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# Gas Processors Association (GPA)

- **DeWitt Burdeaux, Quicksilver Resources  
Protecting Communities**
- **Jeanette Jones, DCP Midstream  
Protecting Pipelines**
- **David McAtee, DCP Midstream  
Risk Communication**





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# **Interstate Natural Gas Association of America (INGAA)**

- **Gregory Ford, Williams Gas Pipeline  
Protecting Communities**
- **Eric Amundsen, Panhandle Energy  
Protecting Pipelines**
- **Danny Gibbs, Spectra Energy  
Risk Communication**





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# ***Federal Government Invited***



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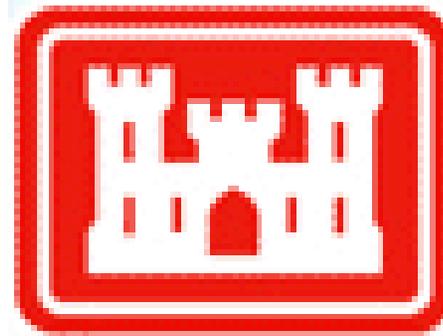
# Council on Environmental Quality





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# Department of Defense, Army Corp of Engineers





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# Department of Interior (DOI)





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*State and Local  
Government Associations  
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# National Conference of State Legislatures



NATIONAL CONFERENCE  
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*The Forum for America's Ideas*



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# National Governors Association (NGA)





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# American Planning Association (APA)



GREAT PLACES IN  
AMERICA



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# American Bar Association, PUCAT





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# International Council of Shopping Centers





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# National Association of Industrial and Office Properties





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# American Association of Professional Landmen





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# National Utility Contractors Association (NUCA)





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# ***Environmental Organizations Invited***



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# Sierra Club



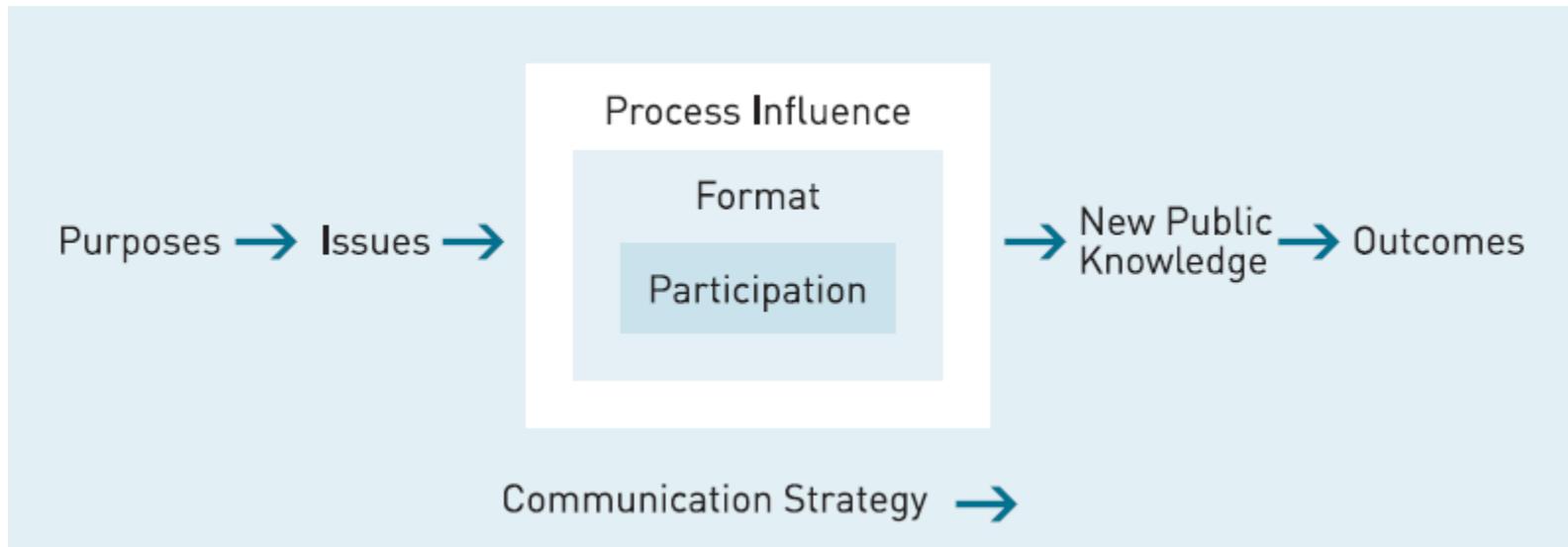


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# *Why is it important that the broad spectrum of organizations be involved?*

*Working directly with stakeholders ensures a more fully developed and robust outcome.*

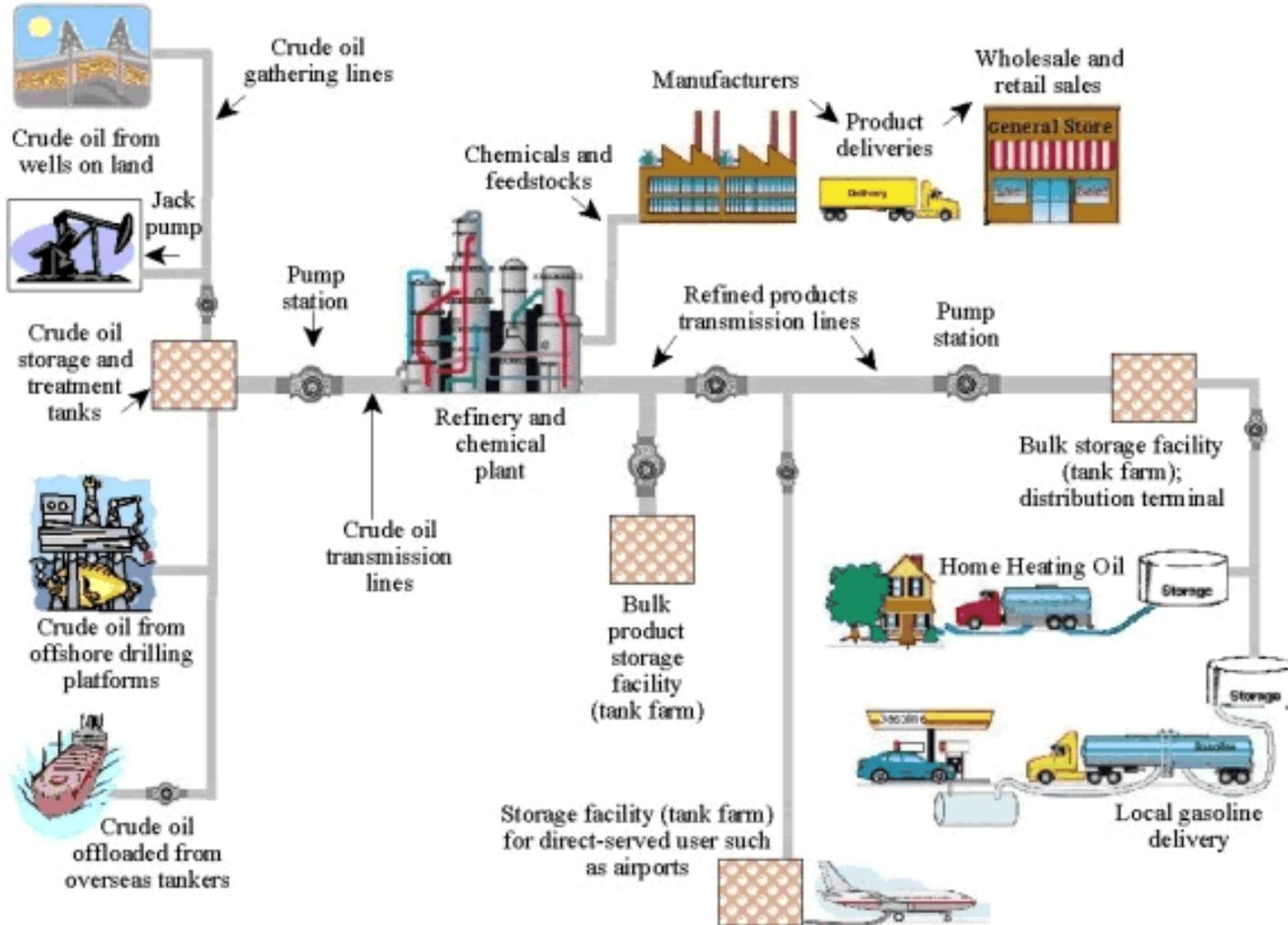




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Pipeline and Hazardous Materials Safety Act

# What are pipelines' role and value?

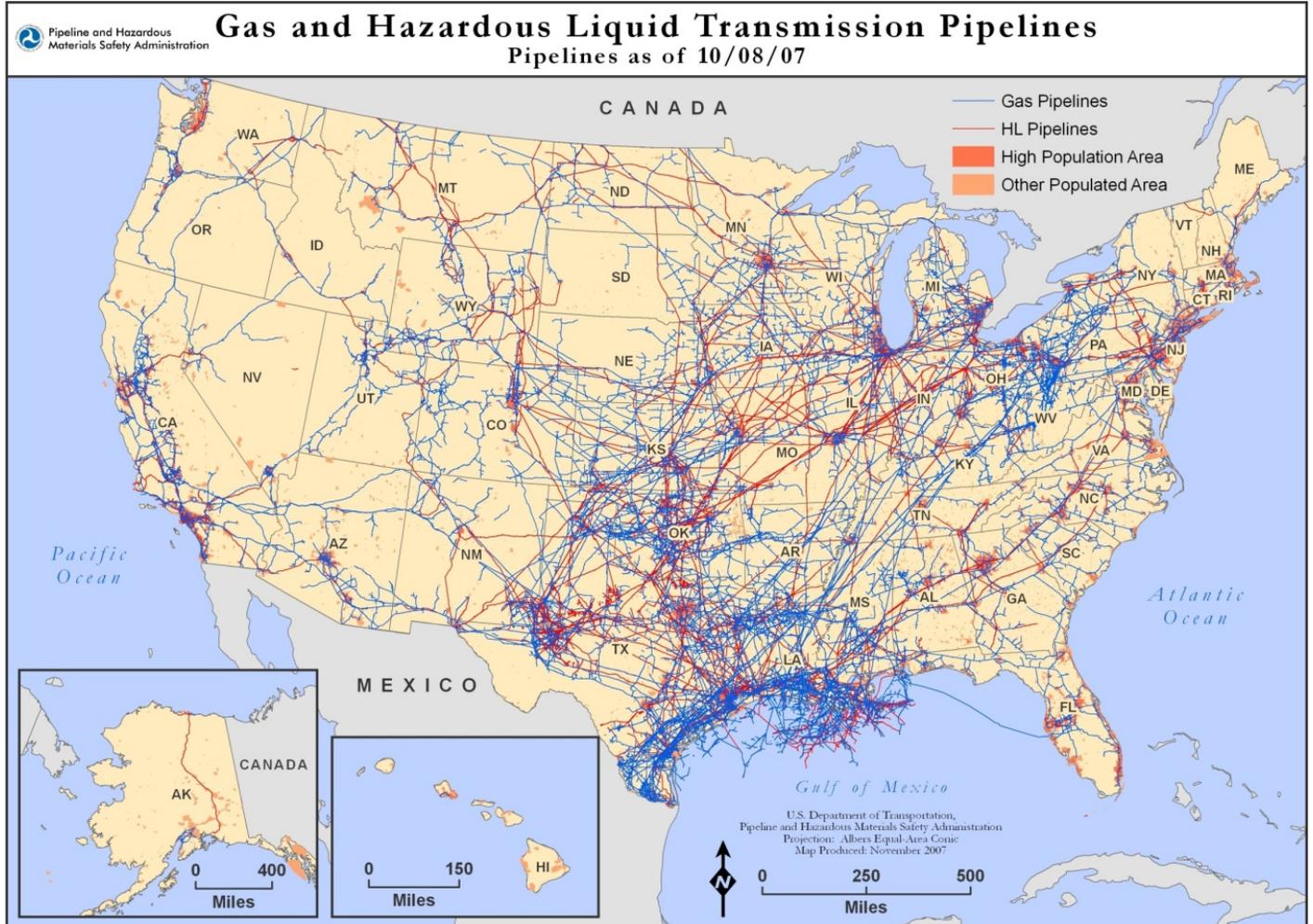




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# What are pipelines' role and value?





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# *Why are pipelines critical to our communities and necessary for basic needs and economic mobility?*

- Energy from oil and natural gas is essential, and will continue to be essential, to all facets of our daily lives. It fuels most of our transportation needs, heats our homes, schools, offices and shops, and even generates a large share of our electricity. Oil and natural gas together supply approximately two-thirds of U.S. energy needs. Our dependency on energy is growing – not lessening.
- Crude oil and natural gas are generally produced in regions located far from consumption centers. This means crude oil must be moved to refineries, and refined products and natural gas must be moved from producing regions to consumption centers.
- The U.S. pipeline infrastructure is the primary means of transporting this natural gas and oil, moving all the natural gas and about two-thirds of the oil. Consequently, everyone in the U.S. is a stakeholder.



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# *What is the scope of PIPA?*

- As part of this team, you will investigate existing best practices, learn about the different stakeholders' needs and challenges and come to consensus to develop practical guidance on a range of topics including:
  1. Land use policies affecting the siting, width, and other characteristics of new pipeline corridors.
  2. The range of appropriate land uses, structures, and human activities compatible with pipeline ROW.
  3. Setbacks and other measures that could be adopted to protect structures built and maintained near pipelines.
- Among topics and approaches we will discuss are:
  1. Model local zoning ordinances, subdivision regulations, and planning policies and model state legislation that could be adopted for land uses near pipelines.



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# *What will this team create?*

- *A high-quality, national level risk assessment* that acknowledges various classes of pipelines, their risk profiles and the variety of conditions that exist in the field;
- *Simple and easy-to-use decision-guiding tools* with regard to risk levels associated with various extents of setbacks, rights-of-way, and procedures involved in maintenance, inspections, and mitigation in emergencies;
- *A management plan for implementation* that renders help to local communities according to need and incorporates feedback from use of the approach in the field;
- *A management plan for long-term communication* of risk and input from all stakeholders, especially pipeline operators, local officials, and the public; and
- *A management plan for integrating* all the preceding components and refining them on a continuing basis using actual experience.



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# How did land use planning near hazardous facilities evolve?

CSA Special Publication

PLUS 663  
**Land use planning for pipelines: A guideline  
for local authorities, developers, and  
pipeline operators**



European Civil Protection

News and emergencies

Civil Protection

Marine Pollution

Chemical Accidents

Links

Funding opportunities

- OECD Chemical Safety
- UNECE
- Convention on the trans-boundary effects of industrial accidents

## Chemical Accidents (Seveso II) - Prevention, Preparedness and Response

### What is Seveso?

Major accidents in chemical industry have occurred world-wide. In Europe, following the Seveso accident in 1976 prompted the adoption of legislation aimed at the prevention and control of such accidents. In 1982, the first EU Directive 82/501/EEC - so-called Seveso Directive - was adopted. On 9 December 1996, the Seveso Directive was replaced by Council Directive 96/82/EC, so-called Seveso II Directive. This directive was extended by the Directive 2003/105/EC. The Seveso II Directive applies to some thousands of industrial establishments where dangerous substances are present in quantities exceeding the thresholds in the directive.



### The Seveso accident

In 1976 at a chemical plant in Seveso, Italy, manufacturing pesticides and containing tetrachlorodibenzoparadioxin (TCDD) was released from a fire of trichlorofenol. Commonly known as dioxin, this was a poisonous and highly controlled exothermic reaction. Although no immediate fatalities were reported, the substance lethal to man even in microgramme doses were widely distributed, causing contamination of some ten square miles of land and vegetation.

## Washington Model Pipeline Ordinances

### Contents

- [About the Model Ordinances](#)
- [Model Setback and Franchise Ordinances](#)
- [Other References](#)

### About the Model Ordinances

In 2000 state legislation was passed, now codified as RCW 17.05.

The municipal research council shall, by June 30, 2001, adopt: (1) A model ordinance that establishes setback and franchise requirements; and (2) A model franchise agreement for jurisdictions that do not have a franchise agreement.

The task of drafting the documents was entrusted to a committee of local governments in this state to produce documents that would be used by local governments in the State of Washington. As noted in the model documents, industry representatives, local governments, and regulatory agencies will provide assistance for future modifications. Some documents will need to be modified slightly if utilized by counties rather than cities.

**Model Setback Ordinance.** Though the legislation called for depth requirements for transmission pipelines in the model ordinance, those standards are established by federal regulations and are beyond local government or state control. Regulations for the minimum cover for buried pipelines are established by federal regulations and are beyond local government or state control. Regulations for the minimum cover for buried pipelines are established by federal regulations and are beyond local government or state control.

Health & Safety Executive

- Small business
- Worker's webpage
- Report an accident
- Enforcement action
- First aid

Land use planning

European Working Group  
on  
Land Use Planning

- Project overview
- Project members
- Objectives
- Contact EWGLUP
- Members area
- Home

EWGLUP

European Working Group  
on  
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# *On what experience can we draw as evidence of proven practices and guidance?*

## City of Austin Hazardous Liquid Pipeline Ordinance

- “Use requiring evacuation” prohibited within 500 ft of pipeline
- New construction within 200 ft of pipeline must meet enhanced building code
- No structures or excavation within “restricted pipeline area” (within 25 feet of pipeline)
- Residential lot less than 1 acre cannot include a “restricted pipeline area”

## Washington State Model Ordinance

- Model ordinance made available to local governments
- Buildings setback 50 feet from edge of ROW
- Setback designed to protect the pipeline from damage during building construction
- Protection of people achieved through restricting allowed building uses

## Municipal Code of Edison (NJ) Township

- Interference with pipelines in Section 17.08.210
- No building or land disturbance within 75 feet of any pipeline
- No building containing hazardous materials within 125 feet of any pipeline



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# Complex Risk Assessments



California Department of  
**EDUCATION**

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## Guidance Protocol School Site Pipeline Risk

California Department of Education

### PIPELINE RISK ANALYSIS PROTOCOL TOTAL INDIVIDUAL RISK (TIR) ESTIMATING AID

To be used in conjunction with  
the CDE Guidance Protocol for School  
Site Pipeline Risk Analysis

March 2007

*CDE provides this template for the convenience of Protocol users as a template. It is the responsibility of the user to ensure that calculations match and are appropriate for the risk analysis being conducted for a particular case. While both CDE and its contractor have sought to make this spreadsheet free of errors there is no expressed or implied warranty to that it is so.*

#### TIR CALCULATIONS - BEGIN ZONE 1 - FRONT PROPERTY LINE

Green cells indicate data entry cells.

Input Data		
Product	natural gas	
Diameter	30	inches
Pressure	400	psig
R0	250	ft
XSEG	RX(1%)	Units
XSEG(LJF)	0	ft
XSEG(RJF)	1178	ft
XSEG(LFF)	0	ft
XSEG(RFF)	5979	ft
XSEG(LEX)	0	ft
XSEG(REX)	0	ft

1. These instruction boxes apply to Worksheets TIR1, 2, 3, and 4.
2. Enter the Input Data indicated for the case under analysis.
3. Enter the XSEG values from Worksheet "XSEG Calculations".
4. In the table below enter the F0 data for the appropriate type of pipeline from the failure frequency data in the Protocol, Chapter 4.
5. Enter a value for the other green cell variables as explained in Chapter 4.

#### Base and Conditional Probability Calculations

	Base	Leak	Rupture	Exposure
F0	1.2E-04	PC(L) 0.8	PC(R) 0.2	PC(OCC) 0.16
P0	1.2E-04	PC(LIG) 0.3	PC(RIG) 0.45	PC(OUT) 0.25
PAF	1.0	PC(FIG) 0.99	PC(FIG) 0.99	
PA	1.2E-04	PC(JF) 0.98	PC(JF) 0.98	
		PC(FF) 0.01	PC(FF) 0.01	
		PC(EIG) 0.01	PC(EIG) 0.01	
<b>Calculated Values:</b>				
PA(LJF)	0.0E+00	PCI(LJF) 0.233	PCI(RJF) 0.087	
PA(RJF)	2.7E-05	PCI(LFF) 0.002	PCI(RFF) 0.001	
PA(LFF)	0.0E+00	PCI(LEX) 0.002	PCI(REX) 0.001	PC(EXPO) 0.04
PA(RFF)	1.4E-04			
PA(LEX)	0.0E+00			
PA(REX)	0.0E+00			

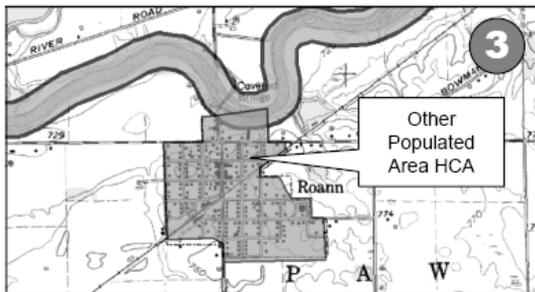
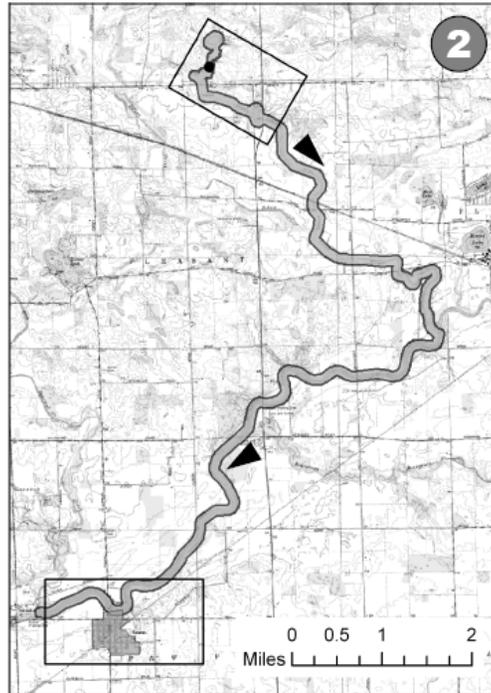
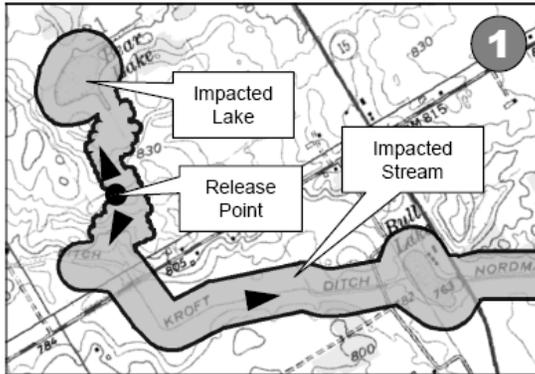


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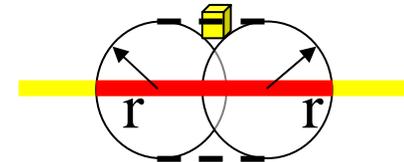
# Existing Risk-Informed Management

## Implementing Integrity Management for Hazardous Liquid Operators



## Gas Integrity Management

- *Identify* hazards and screen for potential impact
- *Assess* and quantify risks
- *Evaluate* to make and implement risk-informed decision
- *Mitigate* to reduce risk
- *Monitor* hazard and related risk over time





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# *What do we know about the risk of from pipelines as population density increases in its proximity?*



**Figure 1 - 1990**



**Figure 2 - 2002**



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*Next Speaker: Blaine Keener*  
*PHMSA's National CATS Coordinator*

*“Land Use Planning Examples & Resources”*