

THE 15TH ANNUAL
GREAT LAKES
Water
Conference

Carl Weimer, Executive Director
Pipeline Safety Trust
www.pstrust.org

Pipeline Safety

T R U S T

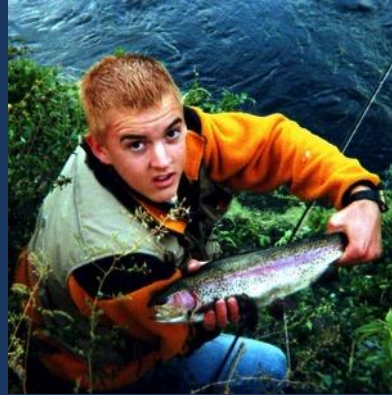
**Credible.
Independent.
In the public interest.**

The Pipeline Safety Trust

Born from a pipeline tragedy

What happen in Bellingham

- Pipeline was damaged by 3rd party
- Damage known but not fixed
- Valve installed wrong but not fixed
- Valve malfunctioned multiple times
- SCADA failure
- Operator Error
- Pipeline burst and exploded killing 3 youngsters and an entire salmon stream



The Pipeline Safety Trust

Who we are and where we came from?



“... there’s going to be a Trust that’s going to be funded as part of today’s sentencing. With \$4,000,000 ... they’ve nowhere near the lobbying potential of the oil industry. It’s not even David and Goliath. It’s more like Bambi and Godzilla. You’ve heard people today that are going to spend their lives trying to make this right, and they should be listened to. No industry polices itself very well... you need outside people, and these are going to be the people so pay attention to them.”



The Honorable Barbara Rothstein
United States District Judge
At Olympic Pipe Line Co Sentencing

Path to Greater Pipeline Safety

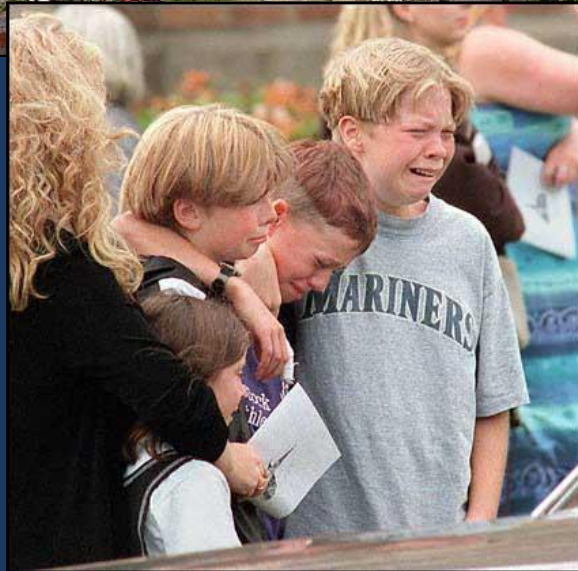


Regulators

The Public & Local
Government

Pipeline Operators

The things the Pipeline Safety Trust does to try to increase safety



- Improve pipeline safety regulations
- Increase transparency and access to pipeline information
- Provide a “public interest” voice to pipeline safety processes and events
- Partner with groups trying to move pipeline safety forward.
- Provide technical assistance to impacted communities

Pipelines 101 in the Great Lakes Region

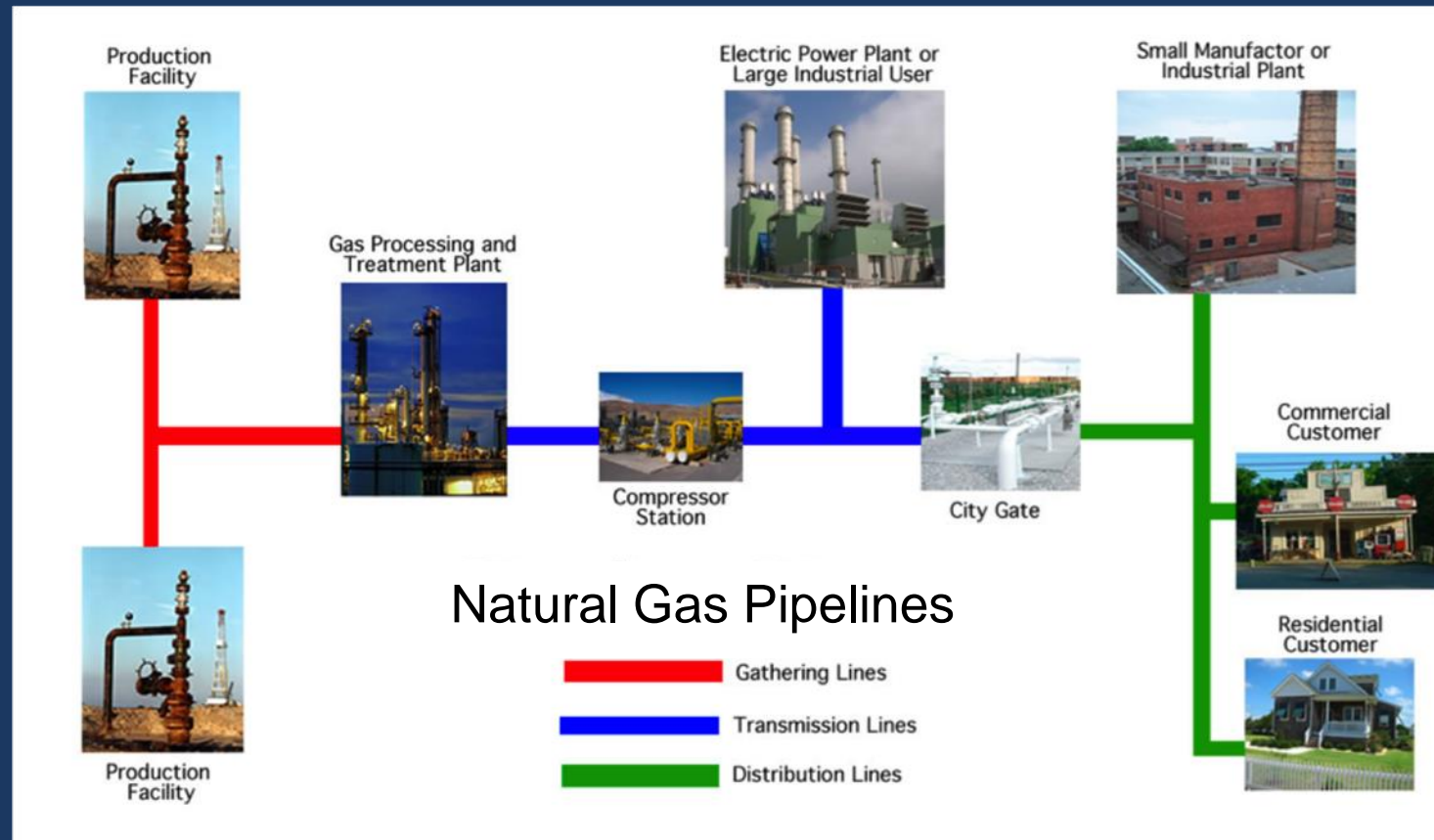


Natural Gas Pipeline Systems

Natural Gas Pipelines

- Gathering lines
- Transmission lines
- Distribution lines

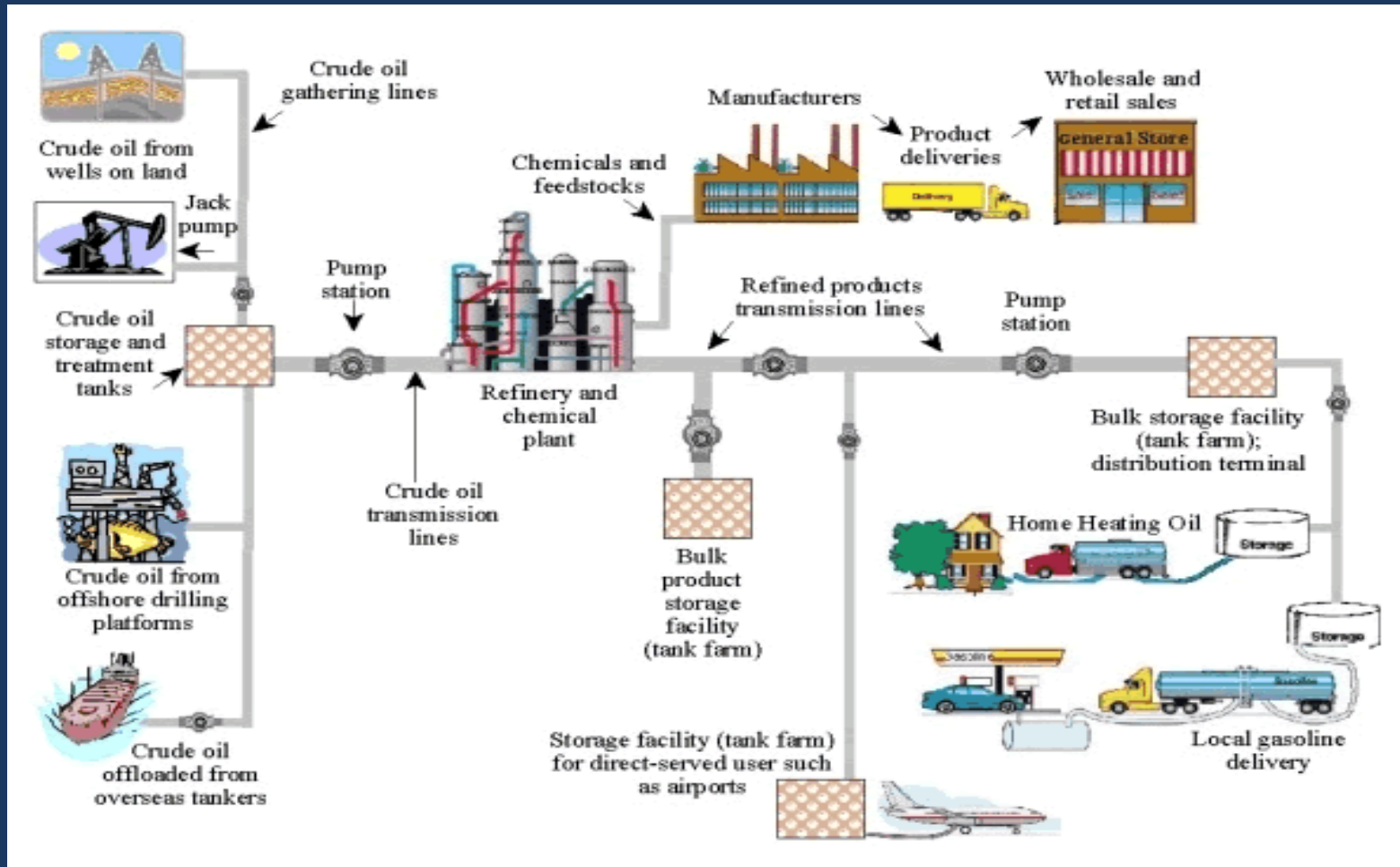
INTERstate pipelines vs.
INTRAstate pipelines



Hazardous Liquid Pipeline Systems

Hazardous Liquid Pipelines

- Gathering Lines
- Transmission lines



Hazardous Liquid Pipelines Carry

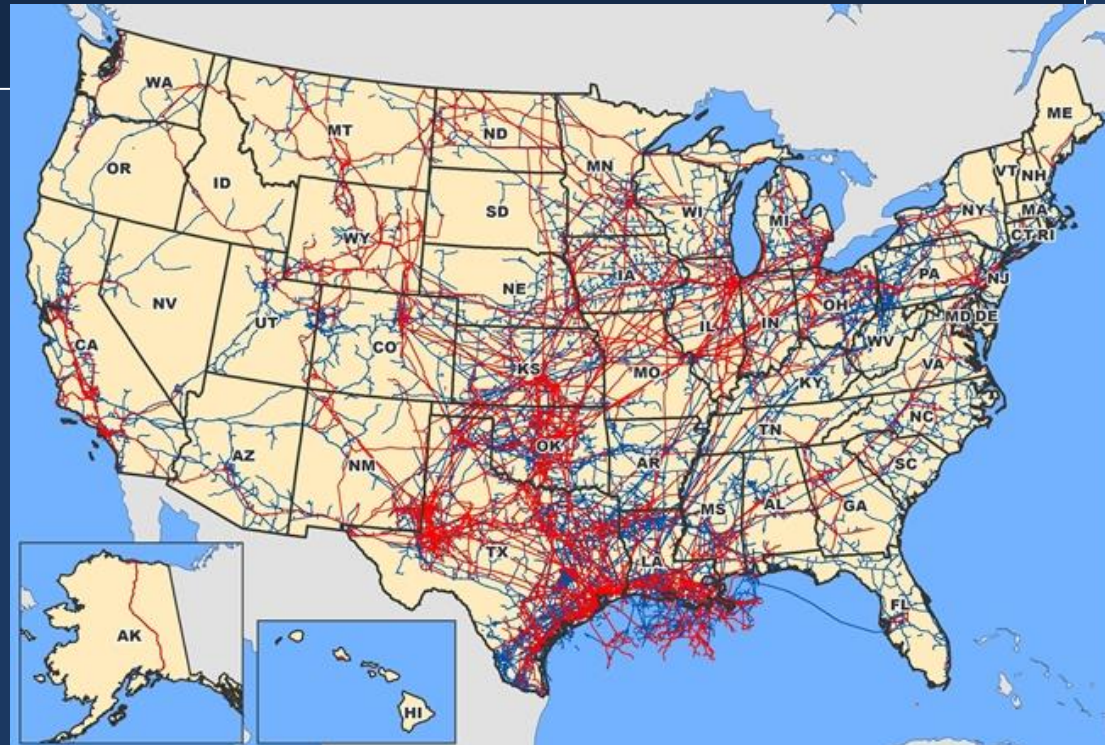
- **Crude oil**
- **Refined petroleum products** such as gasoline, diesel, jet fuel
- **Highly Volatile Liquids** such as propane, butane, ethylene, condensates
- **Carbon dioxide**
- **Anhydrous Ammonia**



National and Great Lakes System

The Current U.S. Pipeline System

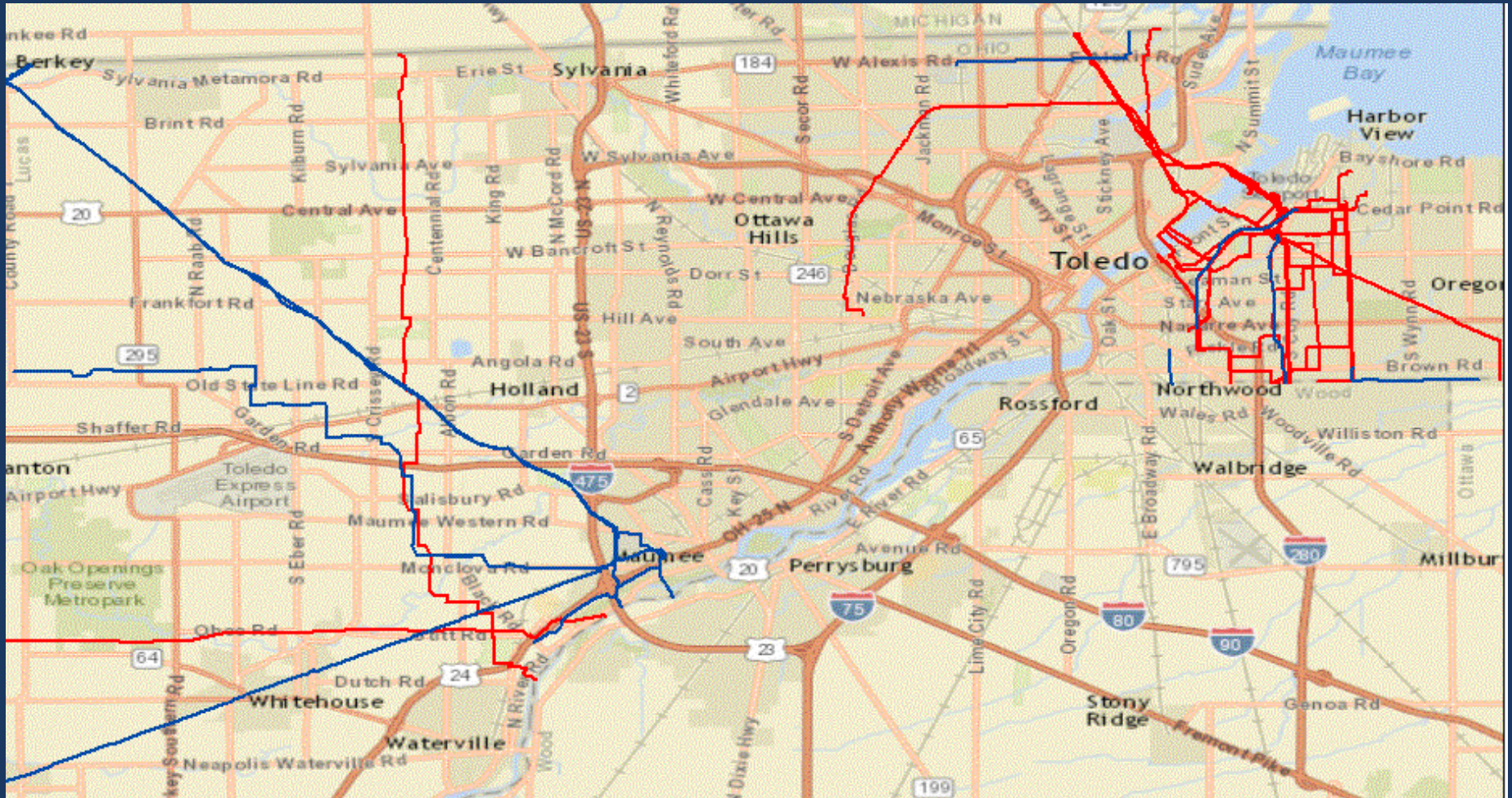
- 199,333 miles of Hazardous Liquid Pipelines
- 319,473 miles of Gas Transmission and Gathering pipelines
- 2,168,588 miles of Natural Gas Distribution mains and service pipelines



Breakdown of Commodities Shipped in Great Lakes Pipelines

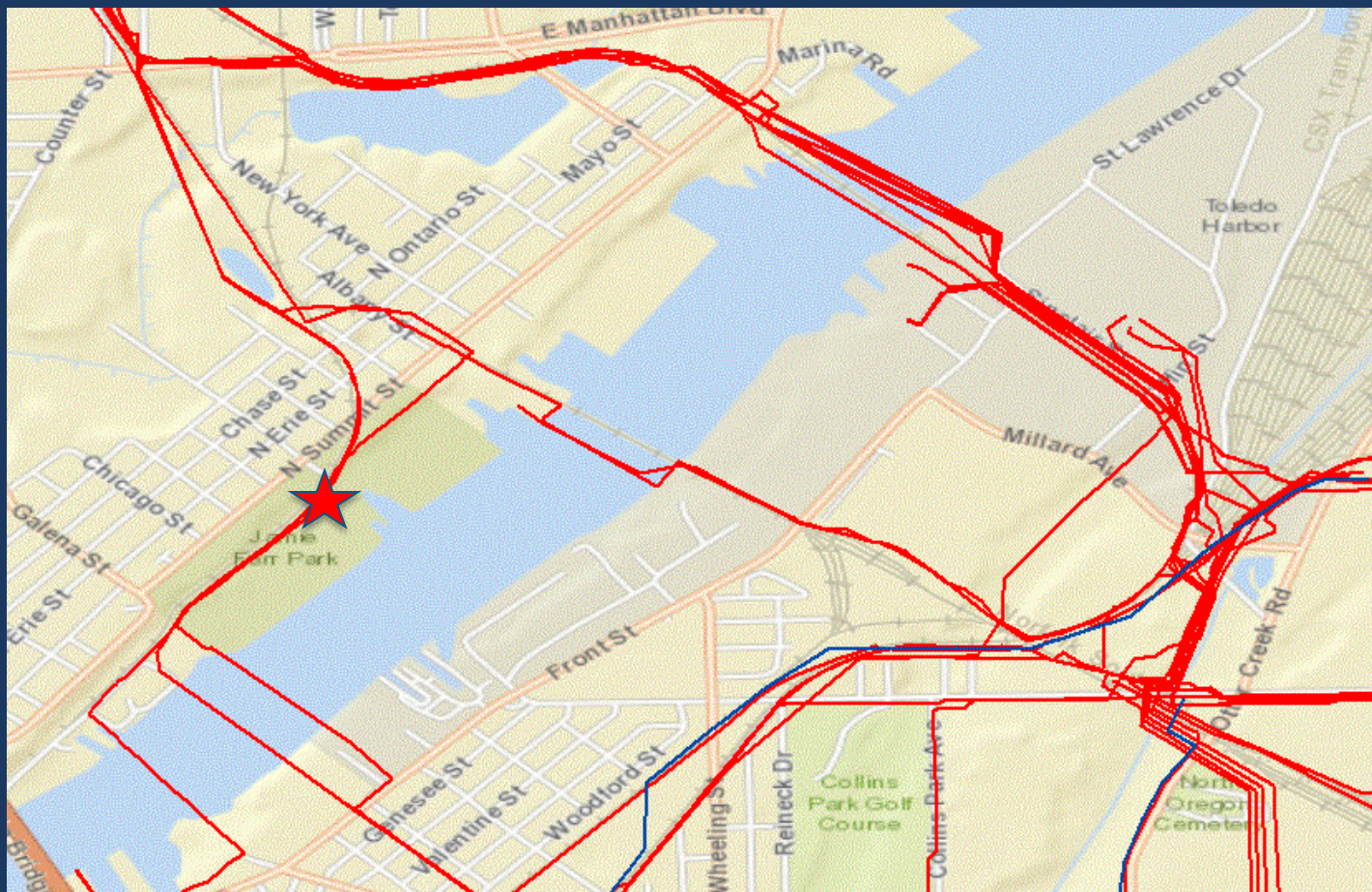
2014 Pipeline Mileage in Great Lakes States						
	Gas Distribution	Gas Transmission	Gas Gathering	Crude Oil	HVLs	Refined
Illinois	114,901	9,422	10	2,576	1,387	3,702
Indiana	75,238	5,511	1	521	927	2,570
Michigan	111,307	8,748	364	1,553	521	1,389
Minnesota	56,175	5,511		2,659	572	1,722
New York	86,559	4,538	84	90	200	863
Ohio	101,901	9,727	1,169	552	1,327	2,435
Pennsylvania	74,336	9,914	835	24	1,186	1,929
Wisconsin	67,895	4,482	0	1,181	238	1,036
Totals	688,312	57,853	2,463	9,156	6,358	15,646

Where are the major pipelines?



National Pipeline Mapping System

<https://www.npms.phmsa.dot.gov/PublicViewer/>



OPERATOR ID	OPERATOR NAME	SYSTEM NAME	COMMODITY CATEGORY	COMMODITY DESCRIPTION	INTERSTATE DESIGNATION	PIPELINE STATUS CODE	GENERAL PERSON TO CONTACT	GENERAL ENTITY TO CONTACT	GENERAL ADDRESS	GENERAL PHONE/FAX/EMAIL
31448	ENBRIDGE PIPELINES (TOLEDO) INC	CHICAGO REGION	Crude Oil	CRUDE OIL	Y	In Service	Ron Carlberg(Manager, US Pipeline Compliance)		26 E Superior Street,Suite 309, Duluth MN 55802	Phone: (218) 464-5743 Null Fax: Null Email: ron.carlberg@enbridge.com
18718	SUNOCO PIPELINE L.P.	REGION 03 - INKSTER	Non-HVL Product		Y	In Service	Kevin Docherty(Manager - Public Awareness)		525 Fritztown Road,Null, Sinking Spring PA 19608	Phone: (610) 670-3266 Null Fax: Null Email: kedocherty@sunocologistics.com
18718	SUNOCO PIPELINE L.P.	REGION 03 - INKSTER	Other HVLs		Y	In Service	Kevin Docherty(Manager - Public Awareness)		525 Fritztown Road,Null, Sinking Spring PA 19608	Phone: (610) 670-3266 Null Fax: Null Email: kedocherty@sunocologistics.com

How To Think About Risk?

Risk = Probability X Consequence

Over the past 5 years the probability for a hazardous liquid pipeline incident nationally is 1 significant incident per year per 1329 miles of hazardous liquid pipelines. So with the mileage in Ohio we would statistically expect 3 significant incidents per year, which is exactly what has occurred. So you could expect an incident once every 1325 years on any particular mile of pipeline.

Does that probability make you feel safe?

Consequences

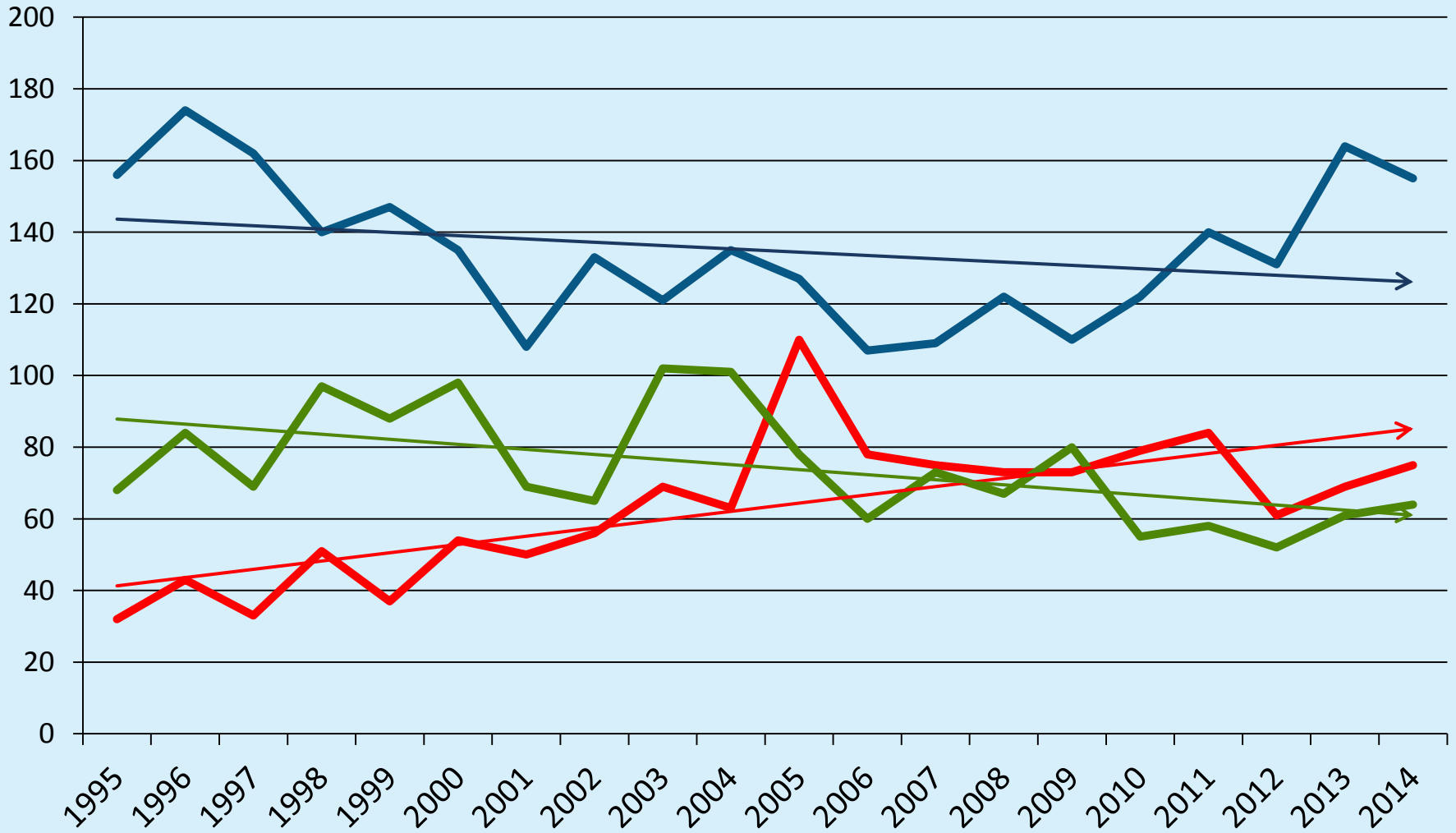


How About Now?



Number of Significant Incidents per Year - Nationwide

— Hazardous Liquid — Gas Transmission — Gas Distribution



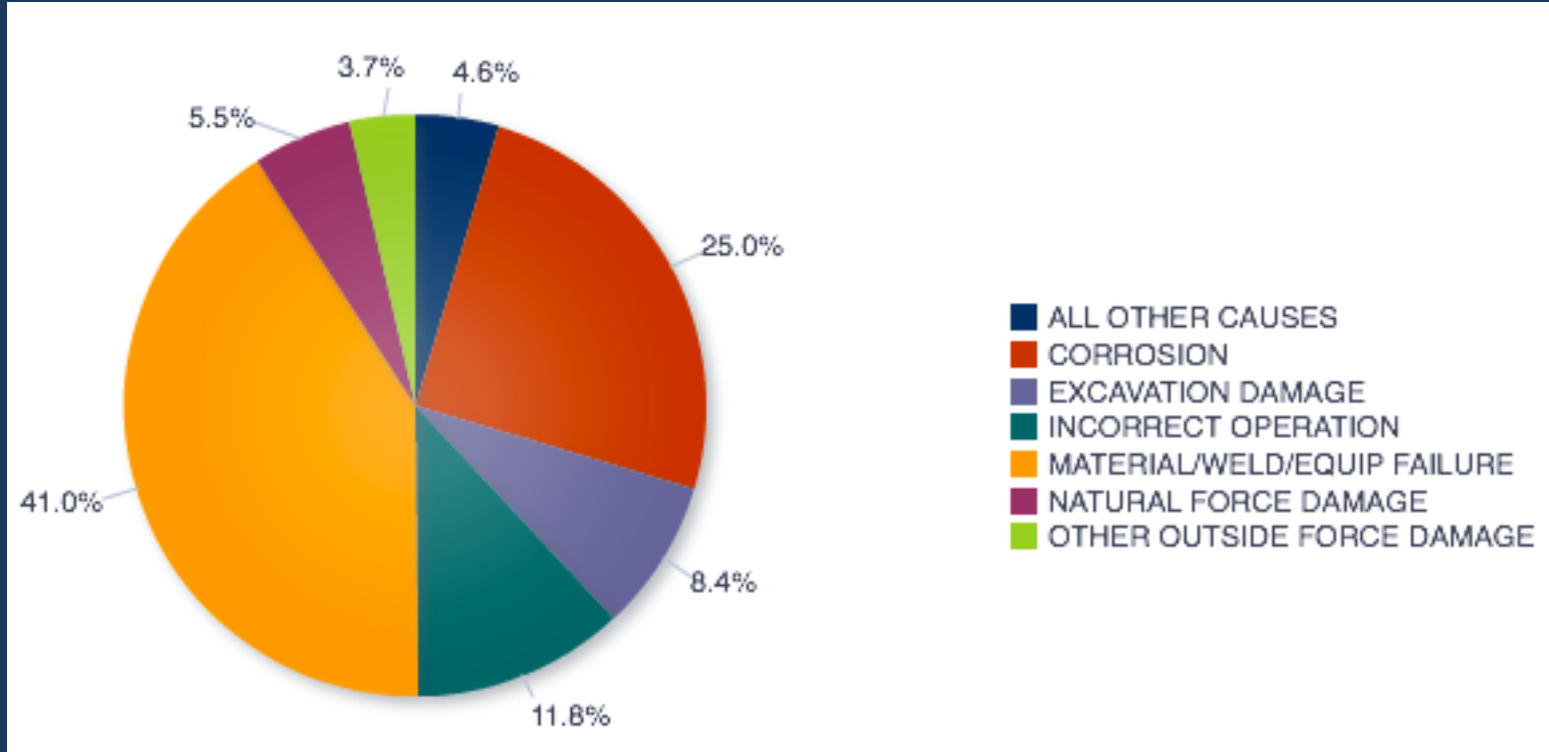
Significant Incidents 2010 - Present				
Gas Distribution				
State	Number	Deaths	Injuries	Prop. Damage
Illinois	15	1	18	\$18,786,295
Indiana	6	1	7	\$609,047
Michigan	22	6	16	\$7,157,412
Minnesota	9	0	1	\$2,051,061
New York	34	9	77	\$16,591,208
Ohio	18	3	15	\$17,470,835
Pennsylvania	13	8	9	\$4,382,337
Wisconsin	2	0	0	\$260,886
Totals	119	28	143	\$67,309,081
Gas Transmission & Gathering				
State	Number	Deaths	Injuries	Prop. Damage
Illinois	8	0	1	\$4,986,796
Indiana	1	0	0	\$763,000
Michigan	16	0	0	\$21,391,117
Minnesota	8	0	0	\$2,726,856
New York	8	0	0	\$3,258,656
Ohio	11	0	4	\$8,219,522
Pennsylvania	10	0	1	\$3,240,844
Wisconsin	4	0	0	\$915,899
Totals	66	0	6	\$45,502,690

Significant Incidents 2010 – Present

Hazardous Liquid Pipelines

State	Number	Deaths	Injuries	Prop. Damage	Gallons Spilled
Illinois	49	2	3	\$116,519,202	1,633,076
Indiana	16	0	1	\$24,529,152	152,618
Michigan	12	0	0	\$881,469,012	1,318,816
Minnesota	20	0	0	\$12,321,282	268,509
New York	5	0	0	\$6,123,952	163,855
Ohio	16	0	0	\$31,967,544	112,818
Pennsylvania	16	0	0	\$5,288,715	189,647
Wisconsin	11	0	0	\$46,527,982	138,273
Totals	145	2	4	\$1,124,746,841	3,977,613

What are the causes of hazardous liquid pipeline incidents nationally?



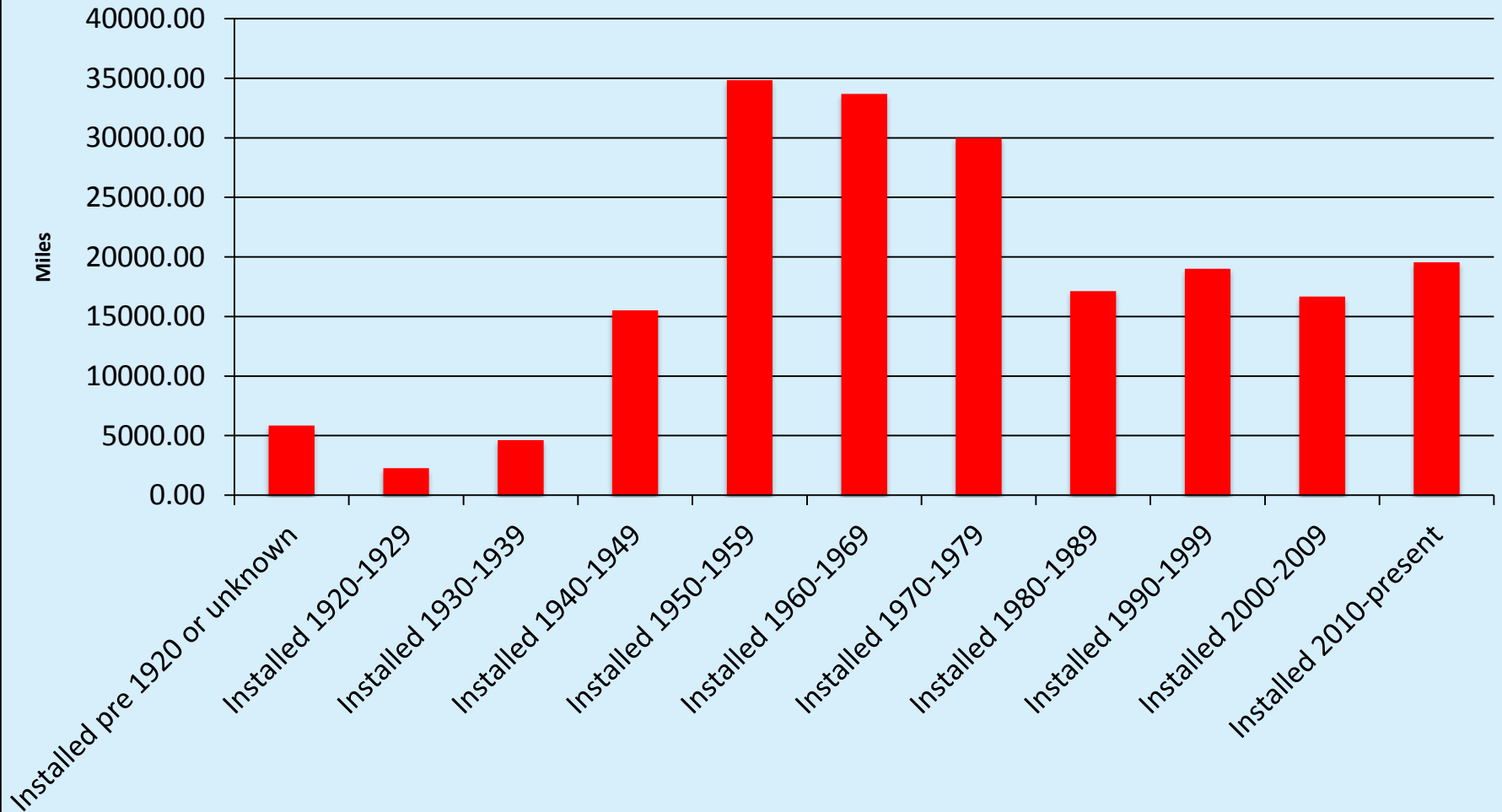
712 Significant Incidents; 2010-2014

Source: DOT-PHMSA data as of 10/28/2015

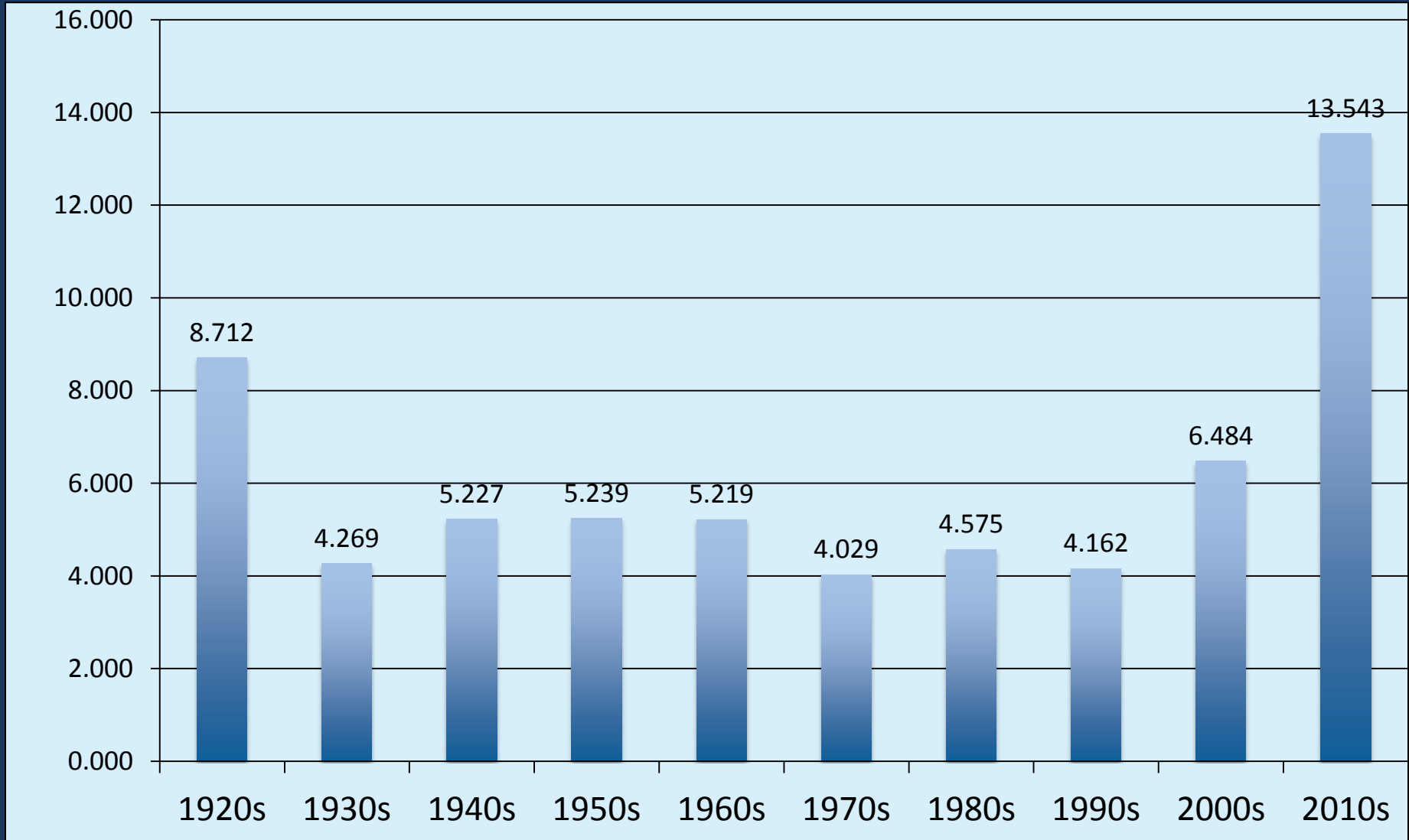
Age of our pipeline system

Nationwide Hazardous Liquid Pipeline Mileage by Year Installed

Source - PHMSA Annual Data as of 9/1/15



Number of Incidents per 10,000 Miles of Hazardous Liquid Pipeline by Decade when Pipe Was Installed



Where Do The Regulations Come From?

Main Sources of Pipeline Regulations

- U.S. Congress – the Statutes
- U.S. Department of Transportation, Office of Pipeline Safety (PHMSA) – the safety regulations
- The Federal Energy Regulatory Commission (FERC) – oversight of interstate rates and routing for interstate natural gas pipelines.
- The States – Can pass stronger rules for intrastate pipeline safety, and routing of HL or intrastate
- Local Government – Can use their planning, zoning and permitting authority for land uses near pipelines

What Do The Regulations Cover?

Code of Federal Regulations - Title 49

- Part 190 - Program operations, enforcement, rulemaking procedures
- Part 191 - Annual reports, incident reports, and safety-related condition reports
- Part 192 - Minimum federal safety standards for transportation of *natural and other gas by pipeline*
- Part 193 - Federal safety standards - *liquefied natural gas facilities*
- Part 194 - Response plans for *onshore oil pipelines*
- Part 195 - Minimum federal safety standards for transportation of *hazardous liquids* by pipeline
- Part 198 - Grants to aid state pipeline safety programs
- Part 199 - Drug and alcohol testing

Who Regulates Pipeline Safety?

The federal Office of Pipeline Safety regulates and enforces interstate hazardous liquid and natural gas pipelines in nationwide. They also inspect pipelines in states where the states have not asked for that authority.



States can request authority to regulate, inspect and enforce the rules for intrastate pipelines, and can also request authority to inspect interstate pipelines in their jurisdiction.

Great Lake States Current Authorities

	inTRAsstate Gas	inTERstate Gas	inTRAsstate HL	inTERstate HL
Illinois				
Indiana				
Michigan		Inspect		
Minnesota		Inspect		Inspect
New York		Inspect		Inspect
Ohio		Inspect		
Pennsylvania				
Wisconsin				

Main Things To Remember About The Regulations

- Rules often have multiple layers to prevent a single threat
- Many parts of the regulations are based on risk assessment and management
- Regulations are more stringent in higher consequence areas



Prescriptive vs. Performance Based Examples

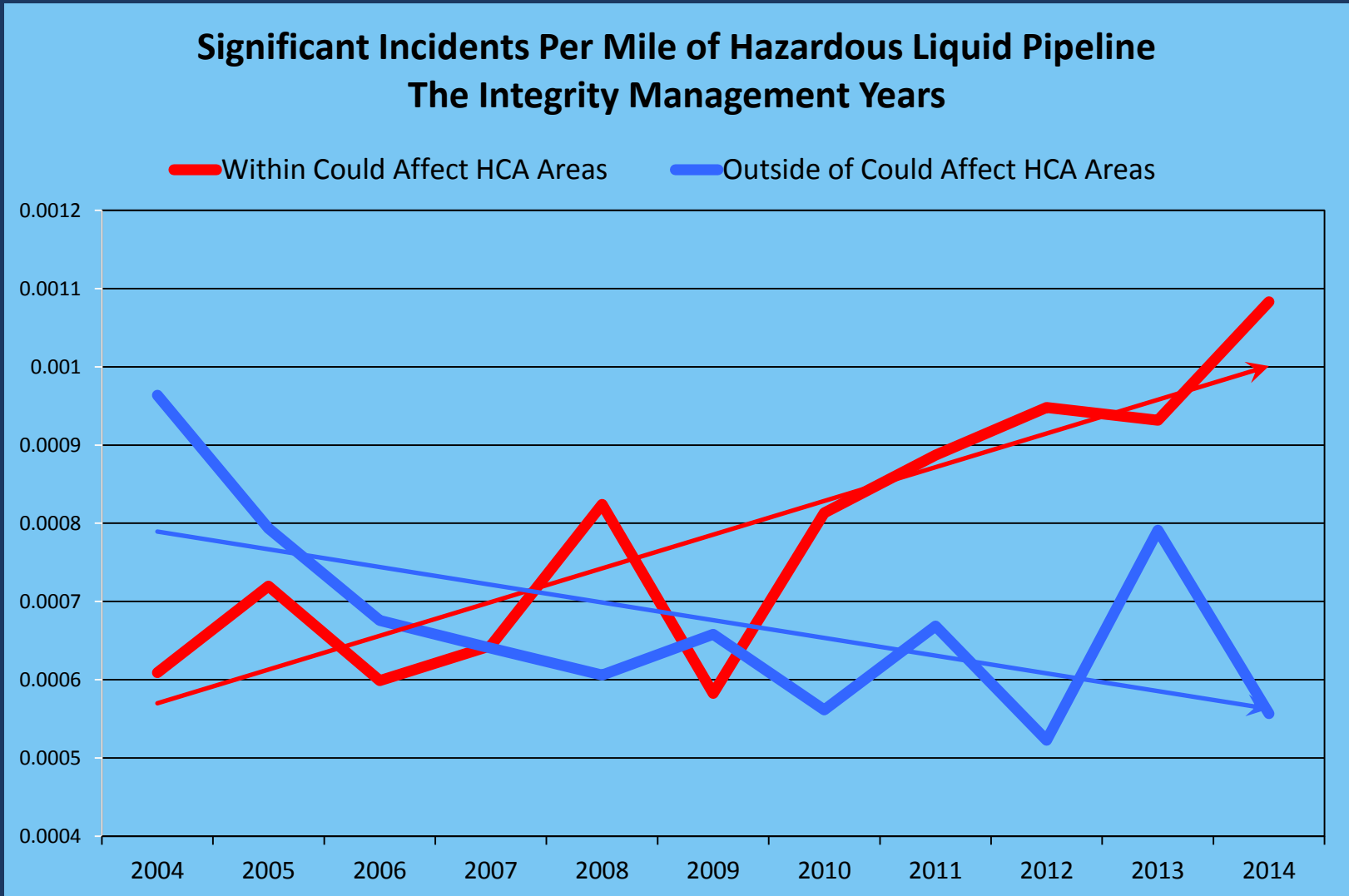
Prescriptive – 70 MPH speed



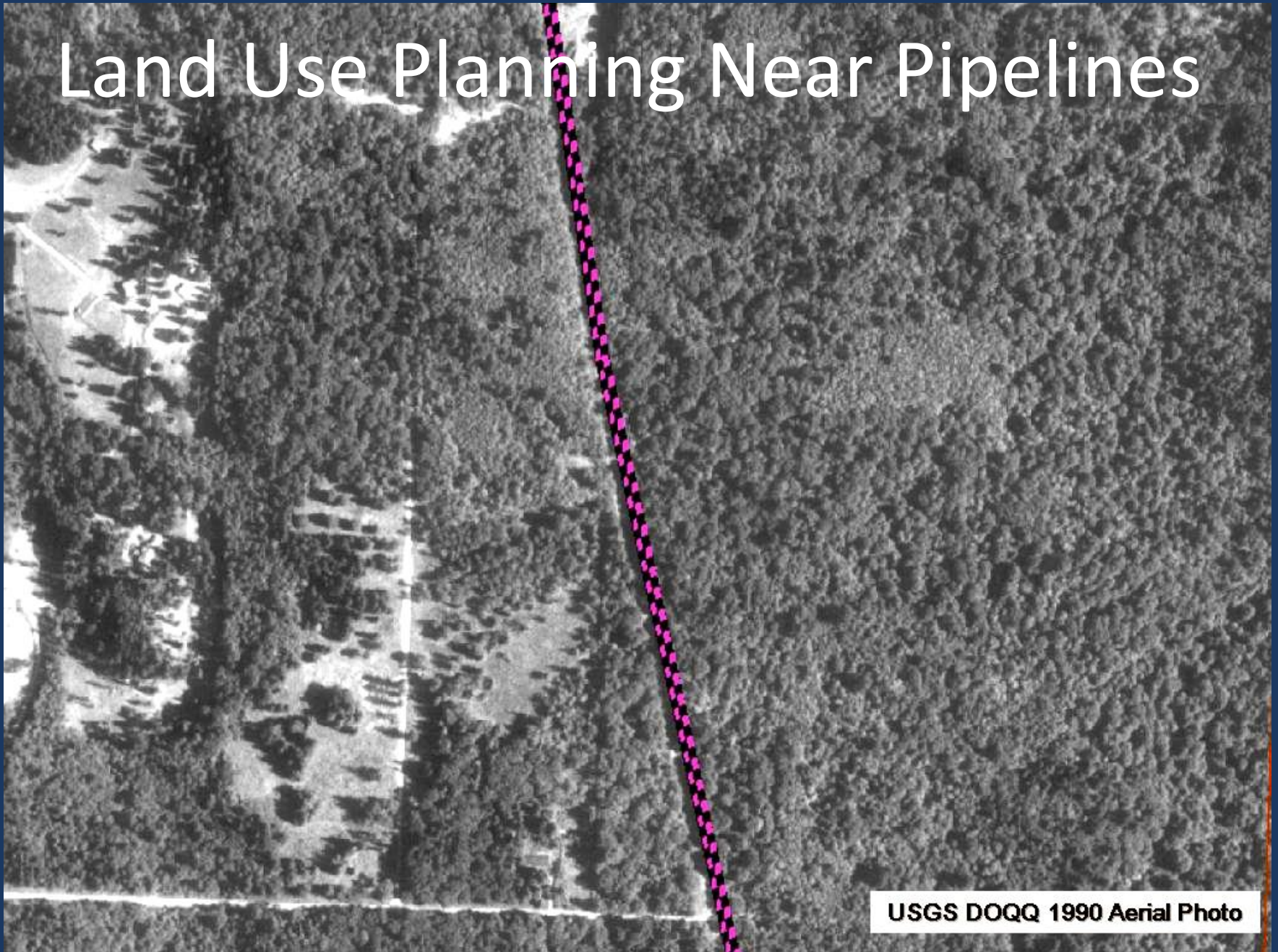
Performance based – Drive safely

Integrity Management Rules

Has been in place for about a decade and for the first time required pipelines to be inspected



Land Use Planning Near Pipelines



USGS DOQQ 1990 Aerial Photo



NGA 2002 Aerial Photo

Multiple layers of bad planning at the local, state and federal levels

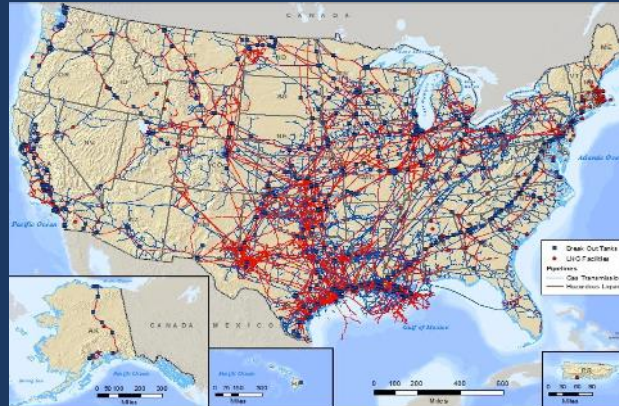


Detailed Guides with Best Practices for Local Governments



PIPA-info.com

Partnering to Further Enhance Pipeline Safety
In Communities
Through Risk-Informed Land Use Planning
Final Report of Recommended Practices
November 2010



Hazard Mitigation Planning:

Practices for Land Use Planning and Development near Pipelines

2015



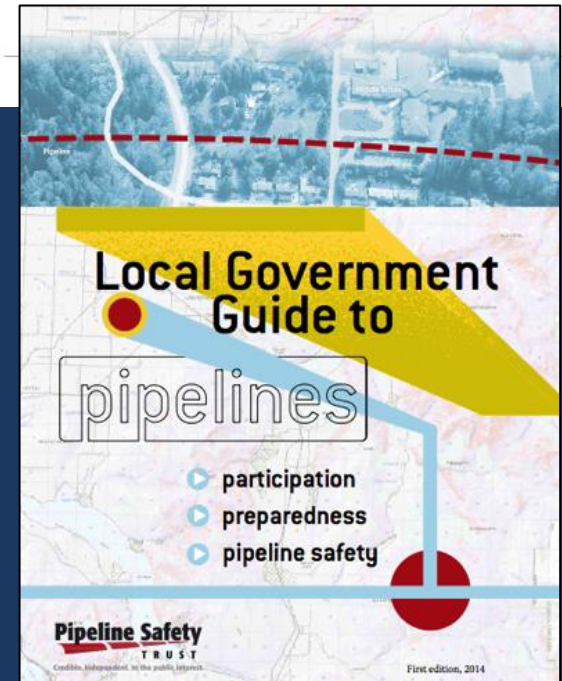
U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration



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

Building Safe Communities:
Pipeline Risk and its Application to
Local Development Decisions

Office of Pipeline Safety
October, 2010



Call for regional Pipeline Safety Trusts using fines from major incidents



Where to get more information?

- Pipeline Safety Trust - <http://pstrust.org/>
360-543-5686
- PHMSA Stakeholder website –
<http://primis.phmsa.dot.gov/comm/Index.htm>
- PHMSA Community Assistance & Technical Services staff
<http://primis.phmsa.dot.gov/comm/CATS.htm?nocache=4439>
- Office of the State Fire Marshal – Pipeline Safety Division
<http://osfm.fire.ca.gov/pipeline/pipeline.php>

Pipeline Safety TRUST CREDIBLE. INDEPENDENT. IN THE PUBLIC INTEREST.

Pipeline Safety New Voices Project

Emergency Response and Spill Response Planning #12 Briefing Paper

Emergency Response and Spill Response Planning


Some pipeline operators are required by federal law to prepare two different kinds of emergency plans. Often these two different types of plans get confused in discussions leading to frustration from all those involved, so we have provided descriptions of both types here to try to avoid confusion and frustration. There are emergency plans required for both natural gas and hazardous liquid pipelines which basically include planning for how to train and respond to releases, who in the company has responsibilities, and how a company educates and involves emergency responders (such as fire departments) in their planning. These plans are covered under the regulations for gas at 49 CFR 192.615 and for liquid pipelines at 49 CFR 195.402 & 403.

The second type of plan only applies to hazardous liquid pipelines and is often referred to as a spill response plan or a facility response plan. These are much more detailed plans about how the company will respond to clean up fuels that escape the pipeline that may affect water. In these plans the company needs to spell out worst case scenarios and show precisely where equipment and personnel are available that can respond within certain timeframes to contain and clean up the spill. These are also the plans that companies have to train and drill for. These plans are covered under the regulations at 49 CFR Part 194.

1. EMERGENCY PLANNING
A. Natural Gas

The regulations governing natural gas transmission operators' obligations for emergency planning are found in 49 CFR 192.615. The regulations for gas emergency plans are not complicated and are quite short. Although each section has a few descriptive clarifiers, it boils down to this:

1) Each operator has to have a written plan on how it will respond to a list of various emergencies, including personnel and equipment available, shutdown procedures, notification of fire, police and other public officials, service restoration, etc.



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Thanks for listening and for your
interest in pipeline safety



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Independent.
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Carl Weimer, Executive Director

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