

AD ASTRA PER ASPERA  
**Kansas**

Corporation Commission

**The Pipeline Industry and  
Natural Gas Pipeline Safety  
Regulations in Kansas  
January 28, 2013**

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# Pipeline Transportation

- Transportation Regulated for Safety
  - Hazardous or Highly Volatile Liquids
  - Flammable Gas
  - Affects Interstate Commerce
  - Gas Gathering jurisdictional, but not regulated
    - PHMSA regulations choose to not regulate low pressure gas gathering in rural areas.
  - Underground Storage jurisdictional, but not regulated by PHMSA.



# Federal Jurisdiction

- Natural Gas Pipeline Safety Act
  - USC 60101 et seq.
- Jurisdiction over all pipelines that “transport” flammable gas or hazardous liquids.
- USDOT federal agency with oversight authority.
  - Pipeline and Hazardous Materials Safety Administration (PHMSA) *pronounced “femsa”*
- USDOT certifies the state program for intrastate pipelines.
- Kansas has agreed to regulate intrastate flammable gas pipelines only.



# Jurisdiction



- KSA 66-1,150 adopts federal code
- Jurisdiction over all pipelines that “transport” flammable gas.
- Gathering lines
- Transmission lines
- Distribution piping
- Customer piping from meter to building wall.

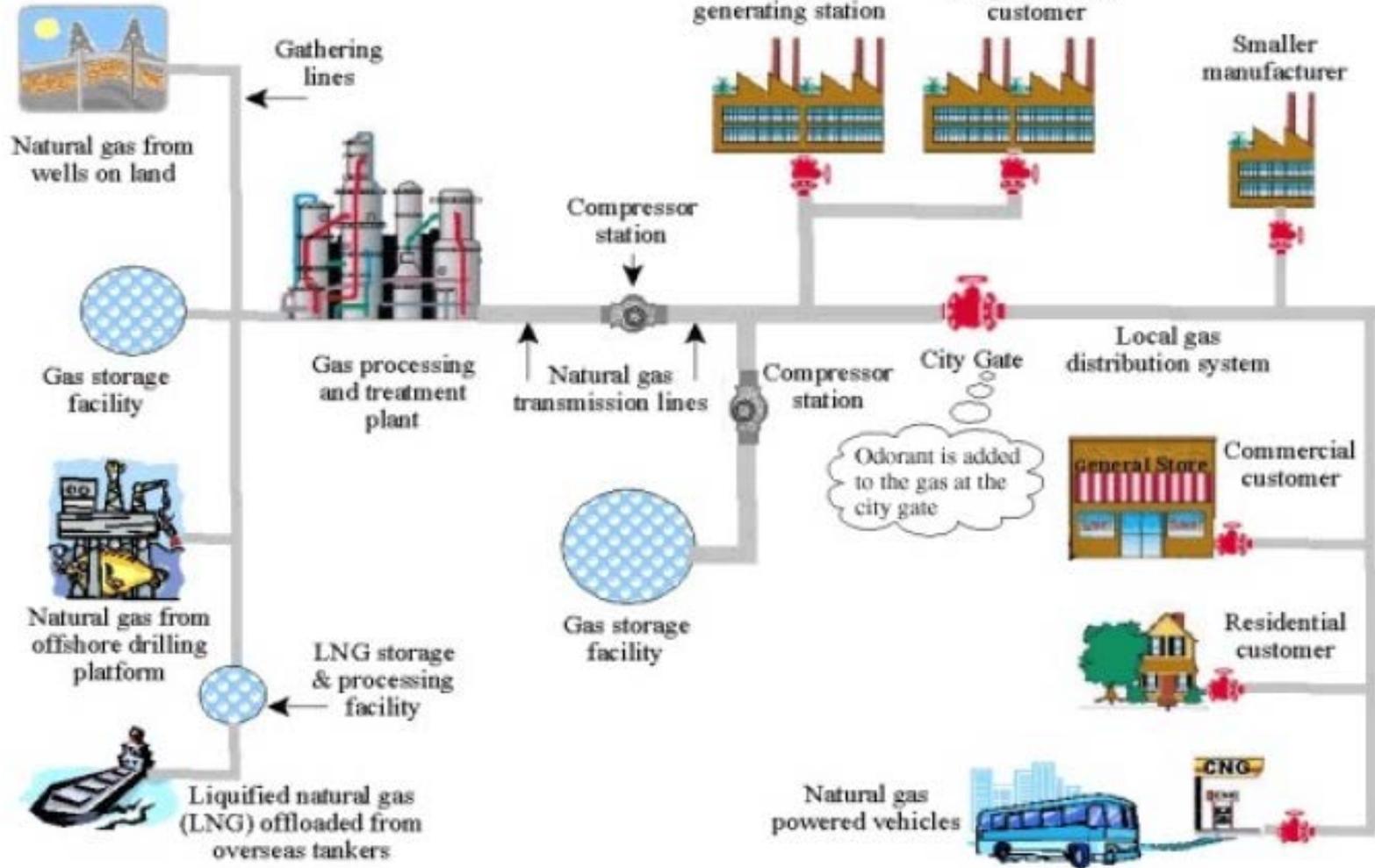


# Kansas Pipeline Safety Initiatives Beyond Federal Requirements

- Jurisdiction over residential customer piping.
  - (maintenance responsibility assigned to operator).
- More frequent leak surveys.
- More frequent monitoring for corrosion.
- More frequent patrolling of system.
- Cast iron pipe replacement plans.
- Unprotected steel main replacement plans.
- Unprotected steel service line replacement plans.



Direct served customers





## KANSAS REGULATED PIPELINE MILEAGE

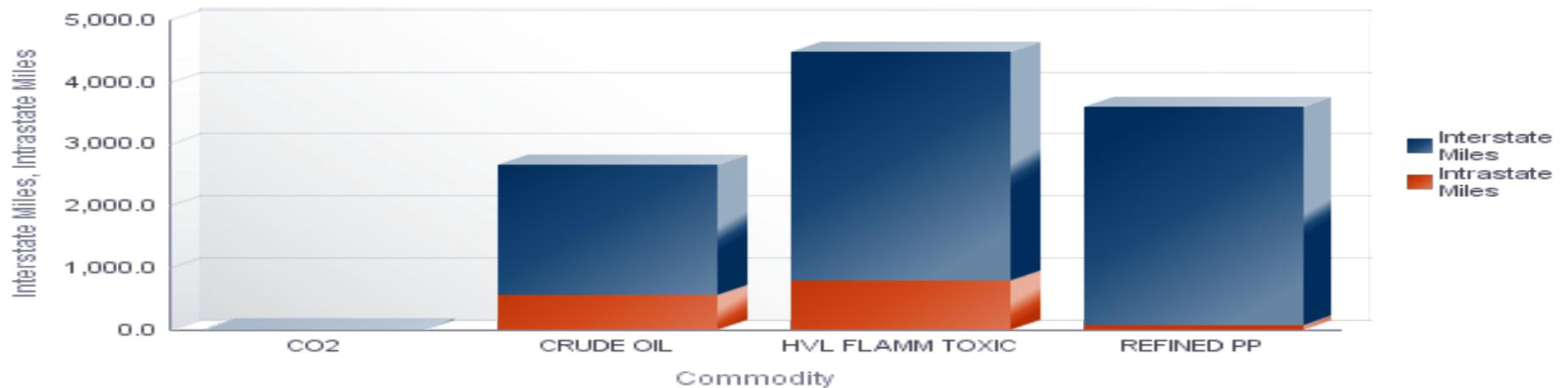
System Type	Detail	Total Miles
Gas Distribution	Mains	21,813
	Services	9,992
<b>Gas Distribution Total</b>		<b>31,804</b>
<b>Gas Gathering Total</b>		<b>113.9</b>
Gas Transmission	Interstate	11,727
	Intrastate	2,364
<b>Gas Transmission Total</b>		<b>14,091</b>
Hazardous Liquids	Interstate	9,395
	Intrastate	1,651
<b>Hazardous Liquid Total</b>		<b>11,046</b>

# Liquid Pipelines

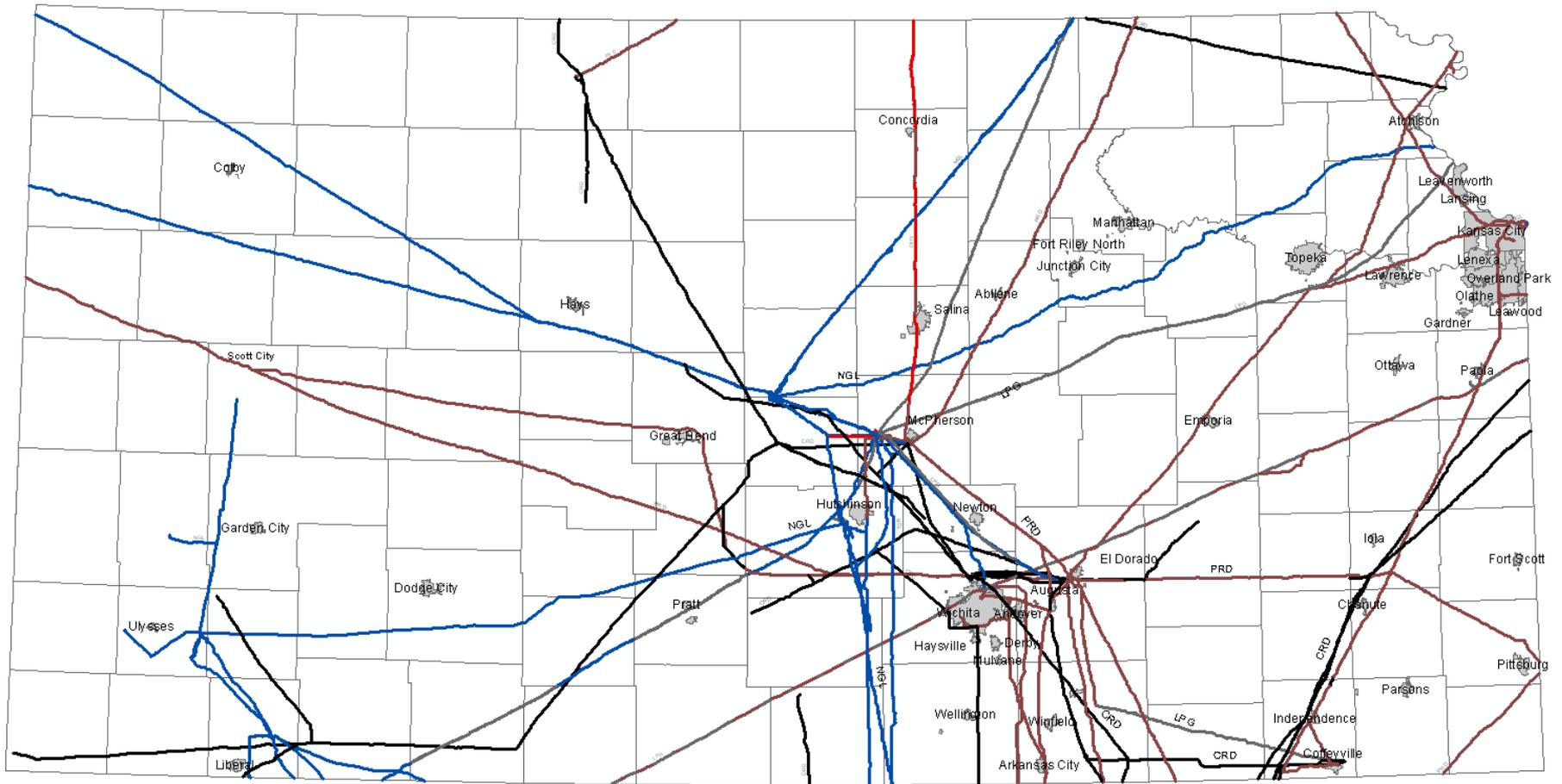
## Federal Jurisdiction

Commodity	Interstate Miles	Intrastate Miles	Total Miles
CO2	9		9
Crude Oil	2192	810	3002
Highly Volatile Liquids	3716	779	4495
Refined Petroleum Products	3477	62	3539
Grand Total	9395	1651	11046

Intrastate Miles, Interstate Miles

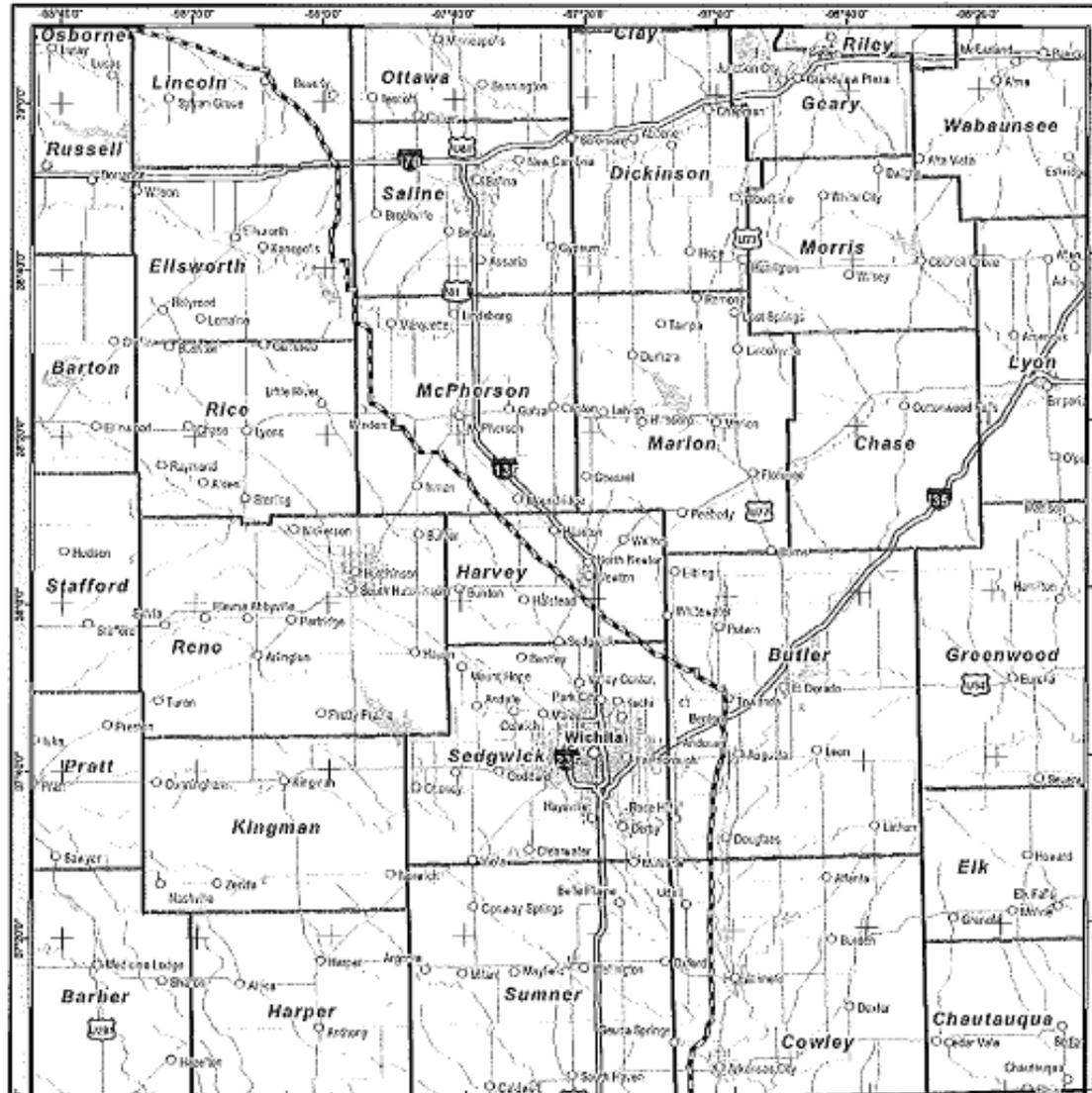


# All Crude and Products



- Crude Oil
- Liquid Petroleum Gas
- Natural Gas Liquid
- Other Highly Volatile
- Product

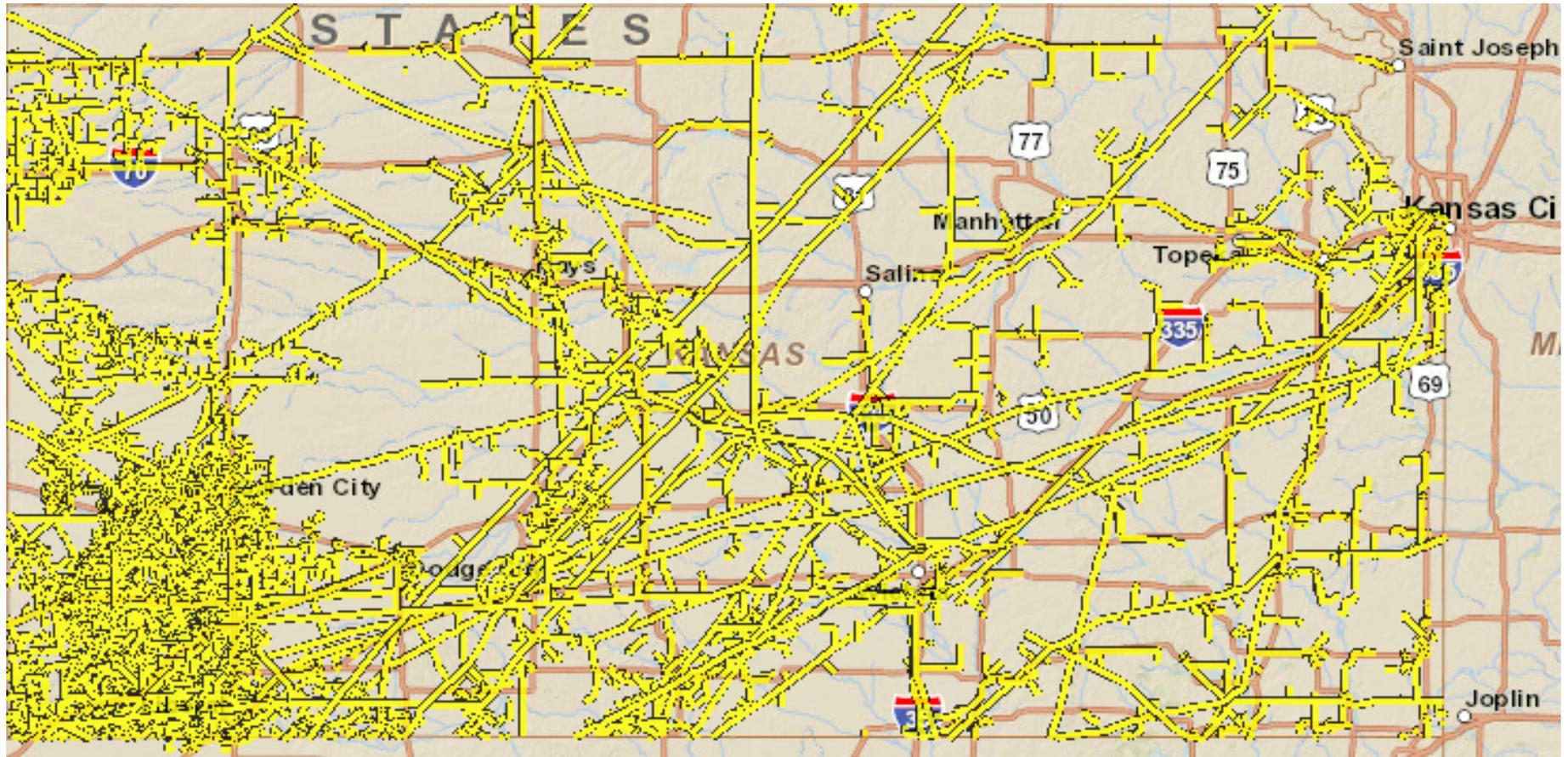
# Tallgrass Energy PXP Crude Oil Line



# Enbridge Flanagan South Pipeline



# Kansas Natural Gas Pipelines





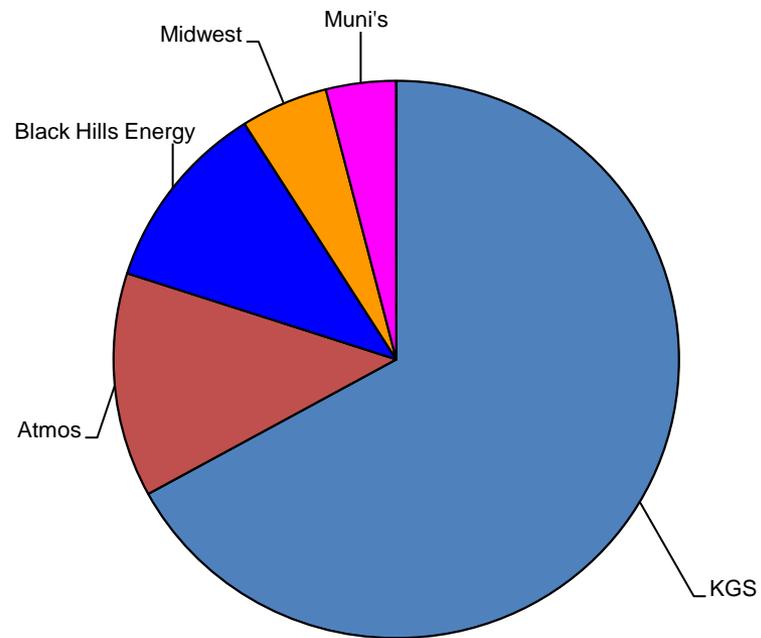
# Economic Impact of Kansas Natural Gas Distribution Systems

Company	Communities Served	Customers Served	Through Put BCF per Year	Total Investment MM\$
Single Municipal	55	36,600	4	
Midwest Energy	75	41,300	10.7	71
Black Hills	66	108,000	27	205
Atmos Energy	108	125,300	20.7	250
Kansas Gas Service	339	630,000	135	700
<b>TOTALS</b>	<b>650</b>	<b>941,200</b>	<b>197</b>	<b>1226</b>



# Kansas Operators

## Customer Share







# Statistics



- 941,000 Meters
- 31,800 miles of distribution
- 2360 miles of transmission
- Annual Inspections
  - 127 Operators
  - 164 Inspection Units



# Regulation Natural Gas

- ▣ **Who pays for the NGPSA?**
- ▣ **Assessment on interstate natural gas transmission lines.**
- ▣ **Money allocated for state programs by Congress can not be used by USDOT for other purposes.**
- ▣ **Congress allows Federal reimbursement up to 80% of State's program costs.**

# Code Compliance



- Construction Inspections
- Operating Procedures
- Maintenance Procedures
- Emergency Response

# Incident Investigation



- What happened
- Was incident related to jurisdictional piping
- Code violations
- Corrective Actions

# Code Compliance New Mandates



- Operator Qualifications
- Integrity Management
- Distribution Integrity Management
- Public Awareness Plans
- Control Room Management.



# Kansas Aging Distribution Infrastructure



- 108 Miles of Cast Iron.
- 933 Miles of unprotected bare steel.
- 3963 Miles of protected bare steel.

# Fitness for Service

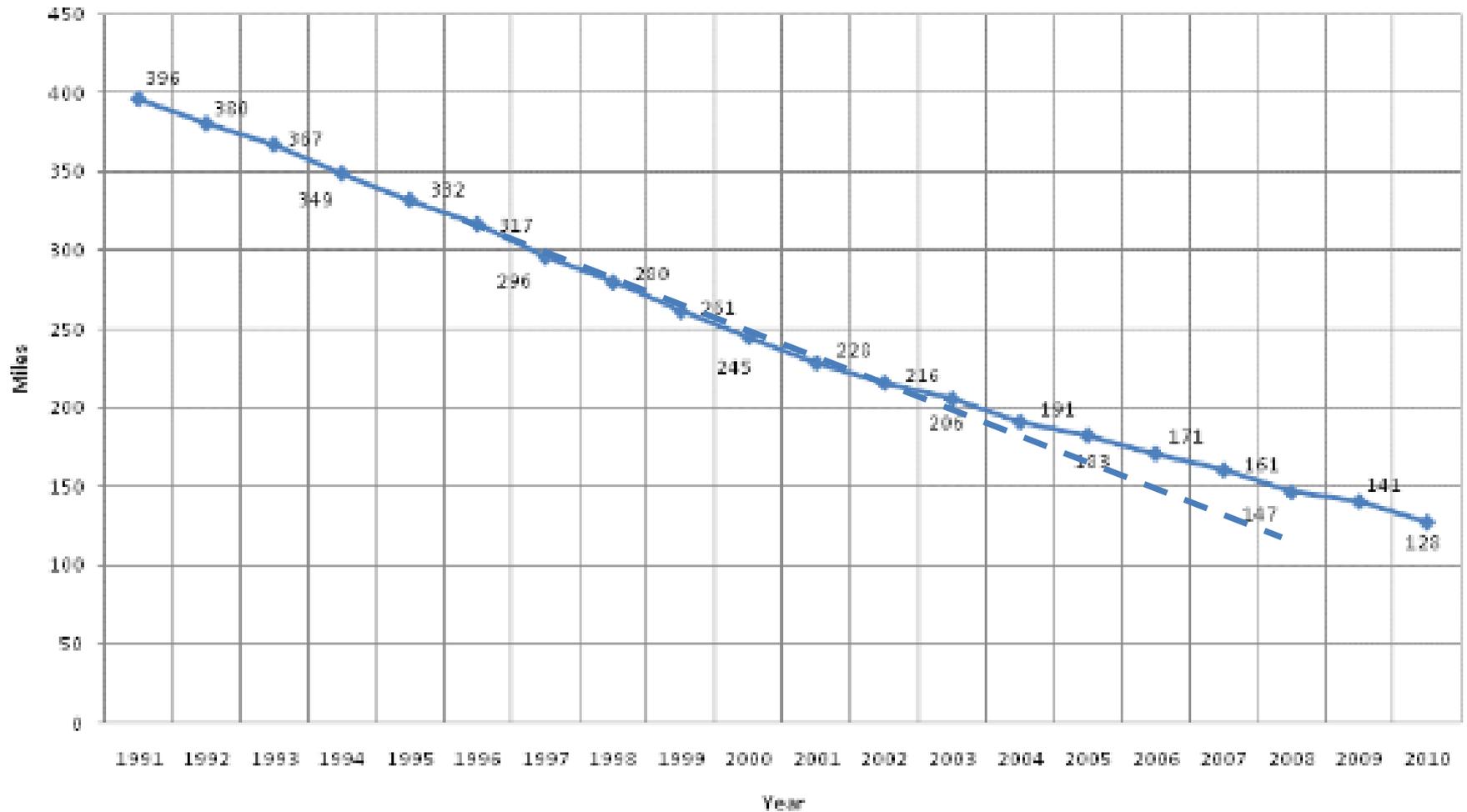


- Condition of Piping
- Location of Service
- RISK

# Kansas Gas Service

## Miles of Main

### Miles of Cast Iron Mains





# Gas Safety and Reliability Surcharge (GSRS)

- Passed by Legislature in 2007
- Allows costs for pipe replacements done as a safety requirement to be recovered as a surcharge.
- Cast iron replacement costs range from \$18/foot to \$50/foot.

# PHMSA

## Pipeline safety challenges and ongoing initiatives

### Controlling Threats by Managing Pipeline Integrity

What are the challenges & ongoing initiatives in managing pipeline integrity?

- Understanding an Aging infrastructure
- Managing Pipeline Integrity
- Improving Human Reliability
- Eliminating excavation damage
- Managing Grandfathered Assets

### Managing Safety through Compliance with Regulations

- Recognizing and Dealing with Technology Limitations
- Recognizing & managing the challenges of new construction
- Improving Public Awareness
- Minimizing Incident Consequences

### Managing Safety beyond Compliance with the Regulation

- Overall Focus on Performance Improvement
- Learning from Experience & Identifying Areas for Improvement
- Developing and Sharing Best Practices
- Improving & Maintaining a Positive Safety Culture

### Managing the Business while Ensuring Safety

Adequacy and Focus of Resources

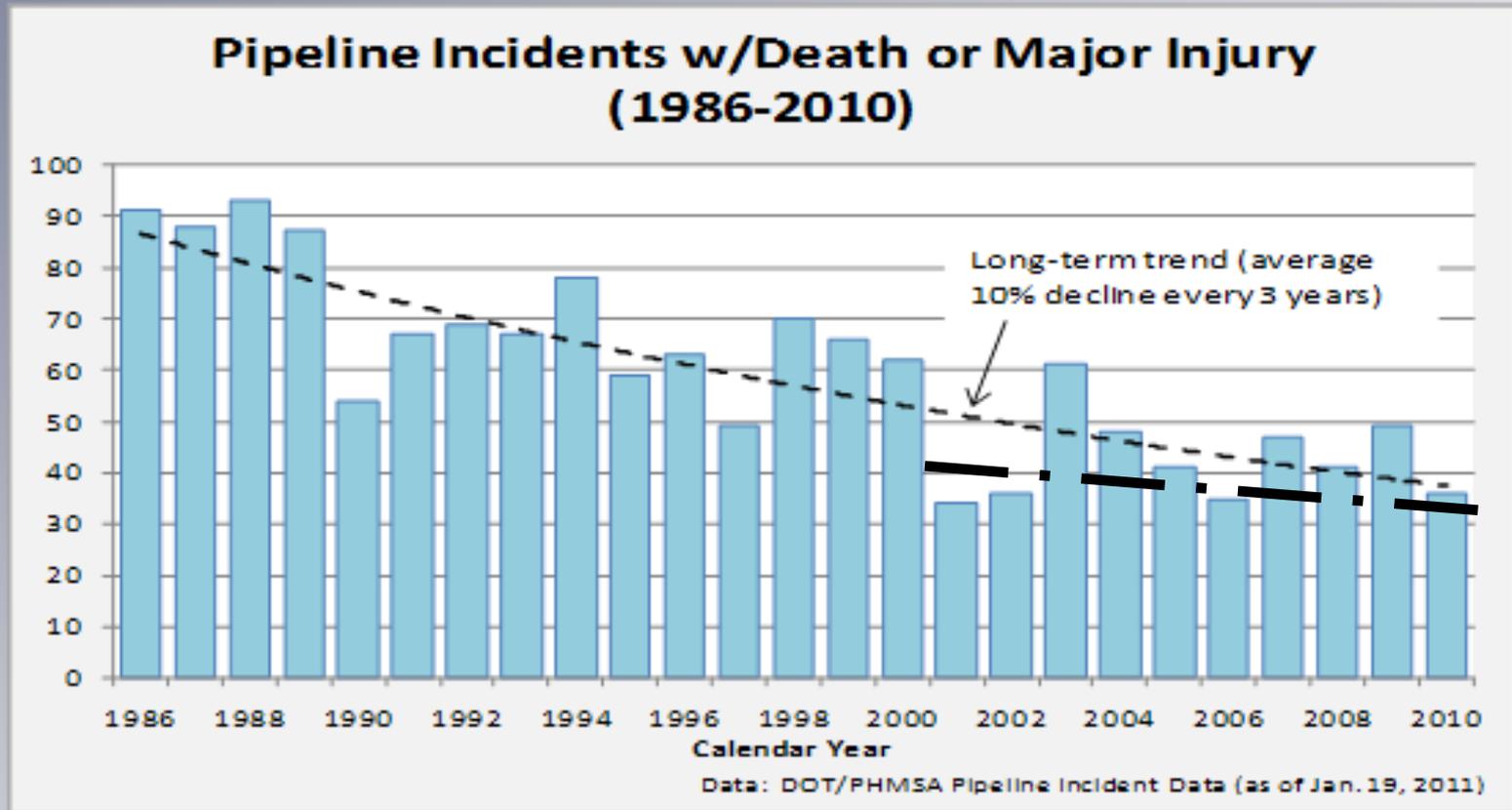
- Effectively applying limited resources
  - Retaining expertise while losing experienced people – aging industry and regulatory workforce
- Pipeline Safety research and development (RD&D)

### Managing the Regulatory Process

- Choosing the Best Regulatory Approach and Regulations
- Adequate Number of Qualified Inspectors
- Adequacy of Enforcement

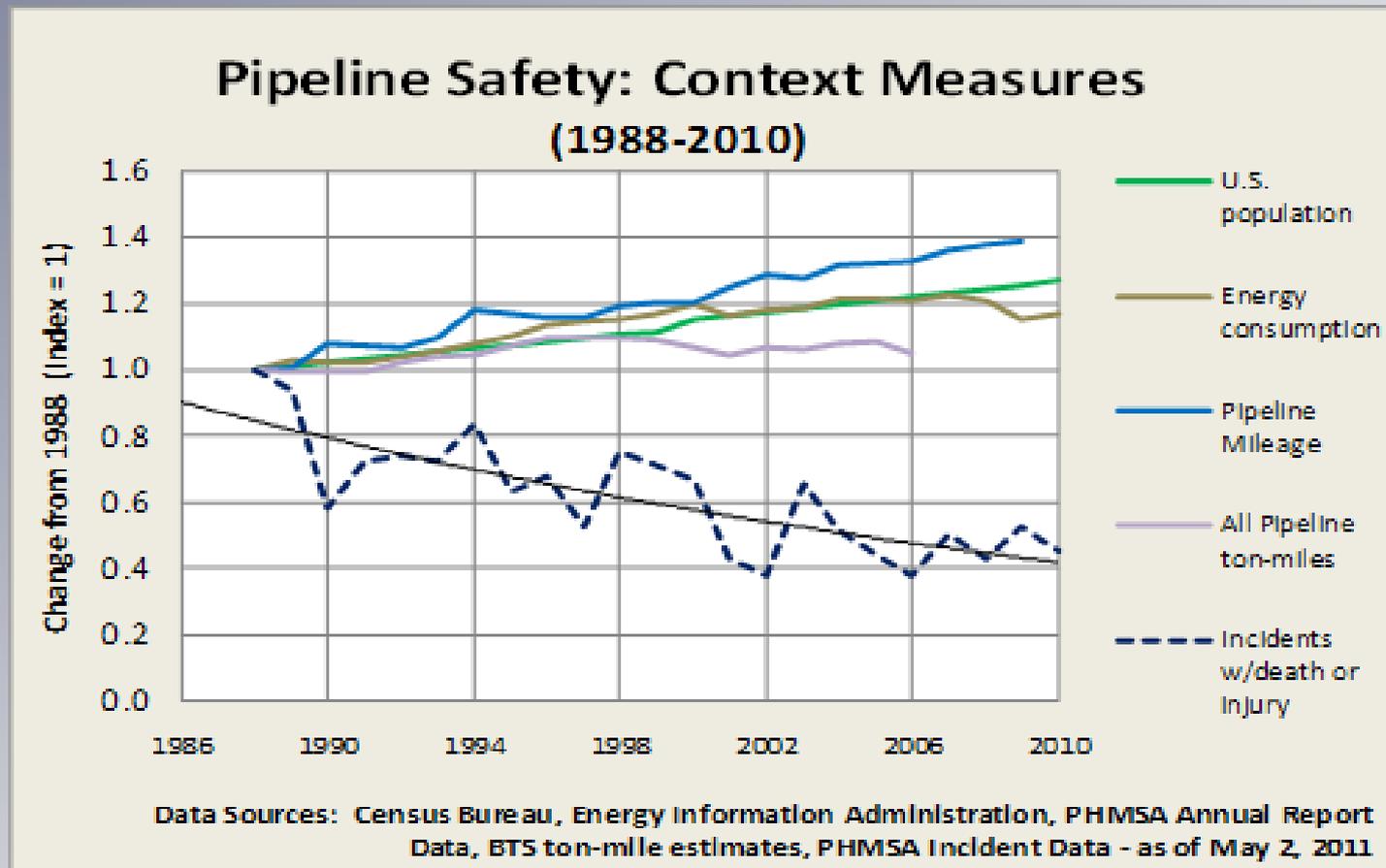
# Is the Regulatory Process Successful?

## Pipeline Incidents Causing Death or Major Injury Have Trended Downward



# Is the Regulatory Process Successful?

**While Energy Demand has increased; Pipeline Incidents that Harm People have decreased**



# Kansas LDC Leak Inventory

Year      Number of Leaks on Hand

1989	28009
1990	23960
1991	15028
1992	14909
1993	11860
1994	7796
1995	6788
1996	6196
1997	6099
1998	5921
1999	5463
2000	5438
2001	4940
2002	3884
2003	3470
2004	1165
2005	941
2006	764
2007	734
2008	610
2009	556
2010	504

