



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



# Introduction to Pipelines and the Pipeline and Hazardous Materials Safety Administration (PHMSA)



**Sam Hall**  
**USDOT/PHMSA**  
**(804) 556-4678**  
**[sam.hall@dot.gov](mailto:sam.hall@dot.gov)**



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# U.S. DOT Administrations

<http://www.dot.gov>



Office of the Secretary of Transportation (OST)



National Highway Traffic Safety Administration (NHTSA)



Federal Aviation Administration (FAA)



Office of Inspector General (OIG)



Federal Highway Administration (FHWA)



Pipeline and Hazardous Materials Safety Administration (PHMSA)



Federal Motor Carrier Safety Administration (FMCSA)



Research and Innovative Technology Administration (RITA)



Federal Railroad Administration (FRA)



Saint Lawrence Seaway Development Corporation (SLSDC)



Federal Transit Administration (FTA)



Surface Transportation Board (STB)



Maritime Administration (MARAD)





# Mission Statements

- PHMSA's mission is to protect people and the environment from the risks inherent in transportation of hazardous materials – by pipeline and other modes of transportation.
- The Office of Pipeline Safety (within PHMSA) is the Federal safety authority for ensuring the safe, reliable, and environmentally sound operation of the Nation's pipeline transportation system.





# Pipelines in the United States

- There are more than 2.5 million miles of energy pipelines in the United States (enough to circle the earth about 100 times). There are approximately:
  - 168,900 miles of onshore and offshore hazardous liquid pipelines
  - 320,500 miles of onshore and offshore gas transmission pipelines
  - 2,200,000 miles of natural gas distribution pipelines
  - 109 LNG plants connected to our natural gas transmission and distribution systems
  - Propane distribution system pipelines
- These facilities are operated by more than 3,000 companies, large and small





# Pipelines in Virginia

Pipeline Type	Mileage	Percentage
Gas Distribution	20,024	83.1%
Gas Transmission	2,950	12.2%
Gas Gathering	5	0.02%
Hazardous Liquid	1,128	4.7%
<b>Grand Total</b>	<b>24,107</b>	<b>100%</b>





# National Pipeline Mapping System

- Link - <http://www.npms.phmsa.dot.gov/>
- The NPMS depicts natural gas transmission and hazardous liquid pipelines, breakout tanks, and liquefied natural gas (LNG) facilities
- Distribution pipelines are not depicted
- Security concerns...
- Public can see county-level detail
- Federal, state, and local governments can access the GIS data for internal use (restrictions apply)
- For more information, contact Amy Nelson at [amy.nelson@dot.gov](mailto:amy.nelson@dot.gov)





# “Significant” Pipeline Incidents in VA

## Virginia All Pipeline Systems: 1999-2008

Year	Number	Fatalities	Injuries	Property Damage (C) (D)
1999	2	0	0	\$776,627
2000	7	0	3	\$2,253,300
2001	4	1	11	\$476,060
2002	3	0	1	\$845,972
2003	4	0	1	\$2,678,909
2004	5	0	2	\$1,518,095
2005	3	0	0	\$476,202
2006	5	0	1	\$6,602,499
2007	9	1	0	\$5,763,955
2008	10	0	3	\$30,988,918
<b>Totals</b>	<b>52</b>	<b>2</b>	<b>22</b>	<b>\$52,380,540</b>
<b>3 Year Average (2006-2008)</b>	<b>8</b>	<b>0</b>	<b>1</b>	<b>\$14,451,791</b>
<b>5 Year Average (2004-2008)</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>\$9,069,934</b>
<b>10 Year Average (1999-2008)</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>\$5,238,054</b>
<b>20 Year Average (1989-2008)</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>\$5,238,054</b>

Significant Incidents are those incidents reported by pipeline operators with any of the following conditions are met: 1) fatality or injury requiring in-patient hospitalization, 2) \$50,000 or more in total costs, measured in 1984 dollars, 3) highly volatile liquid releases of 5 barrels or more or other liquid releases of 50 barrels or more, 4) liquid releases resulting in an unintentional fire or explosion.

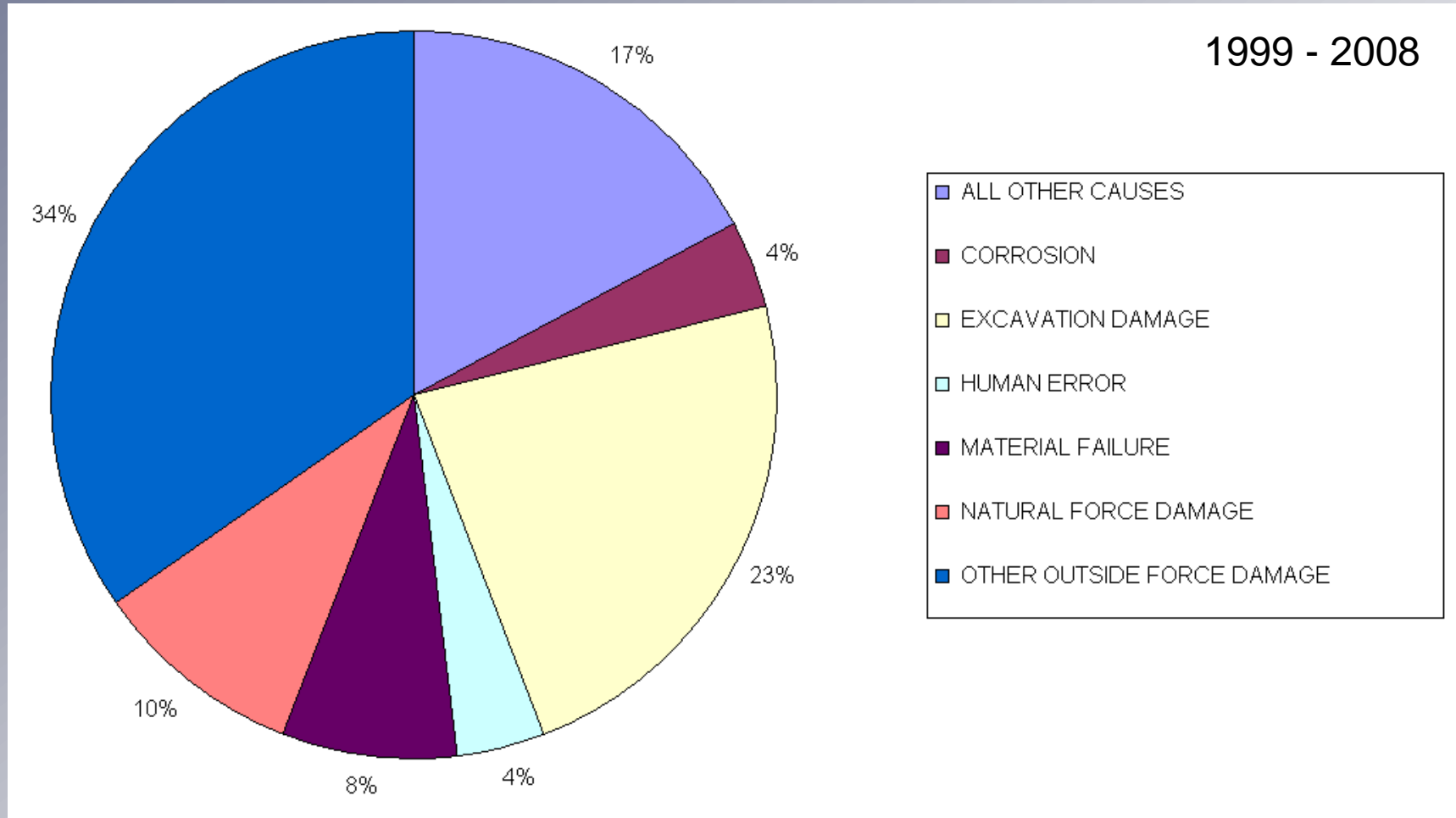
Source: PHMSA Significant Incidents Files, July 14, 2009



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# Causes of "Significant" Pipeline Incidents in VA

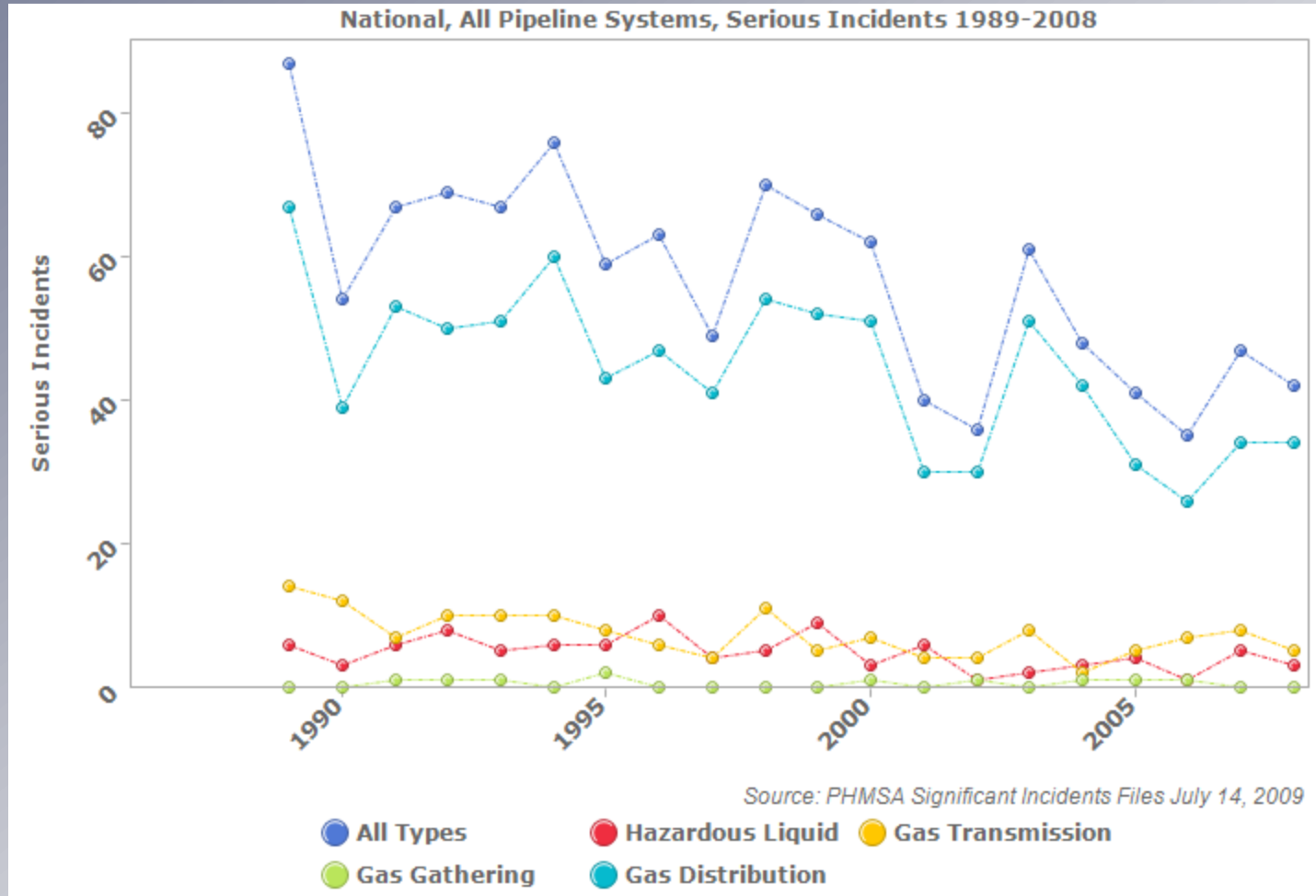


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Source: PHMSA Significant Incidents Files, July 14, 2009



# National "Serious" Incident Trends



A serious pipeline safety incident is an event involving a fatality or injury requiring in-patient hospitalization.



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# Regulating Pipelines in Virginia

- Pipelines are regulated under CFR Parts 190-199  
<http://primis.phmsa.dot.gov/comm/SafetyStandards.htm>
- More than 75 full-time PHMSA pipeline inspectors operate out of OPS regional offices in Trenton, NJ; Atlanta, GA; Kansas City, MO; Houston, TX; and Denver, CO.
- The majority of intrastate pipeline inspections in the United States are carried out by state inspectors who work for state regulatory agencies
- The Virginia State Corporation Commission, Division of Utility and Railroad Safety is PHMSA's partner in regulating pipelines in the Commonwealth  
<http://www.scc.virginia.gov/urs/pipe/index.aspx>
- More information on Virginia's pipeline safety program at  
<http://primis.phmsa.dot.gov/comm/StatePages/Virginia.htm>





# PHMSA's Pipeline Safety Initiatives (Regulatory and Non-regulatory)

- Integrity Management for hazardous liquid, gas transmission, and now gas distribution
  - Risk/consequence-based regulation of pipeline safety
- Public awareness
  - Operators provide information to stakeholders in vicinity of pipelines
- Damage Prevention
  - Pipeline markers, call before you dig (811), enforcement, grants, Common Ground Alliance, Virginia Pilot Project
- Research and Development
- Training emergency responders
- Pipelines and Informed Planning Alliance (PIPA)





# Thank You

Sam Hall  
(804) 556-4678  
sam.hall@dot.gov

PHMSA's stakeholder communications page:  
<http://primis.phmsa.dot.gov/comm/Index.htm>



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