



Office of Pipeline Safety (OPS)

Research and Special Programs Administration
U.S. Department of Transportation



☀ Mission

“To ensure the safe, reliable, and environmentally sound operation of the United States’ pipeline transportation system.”

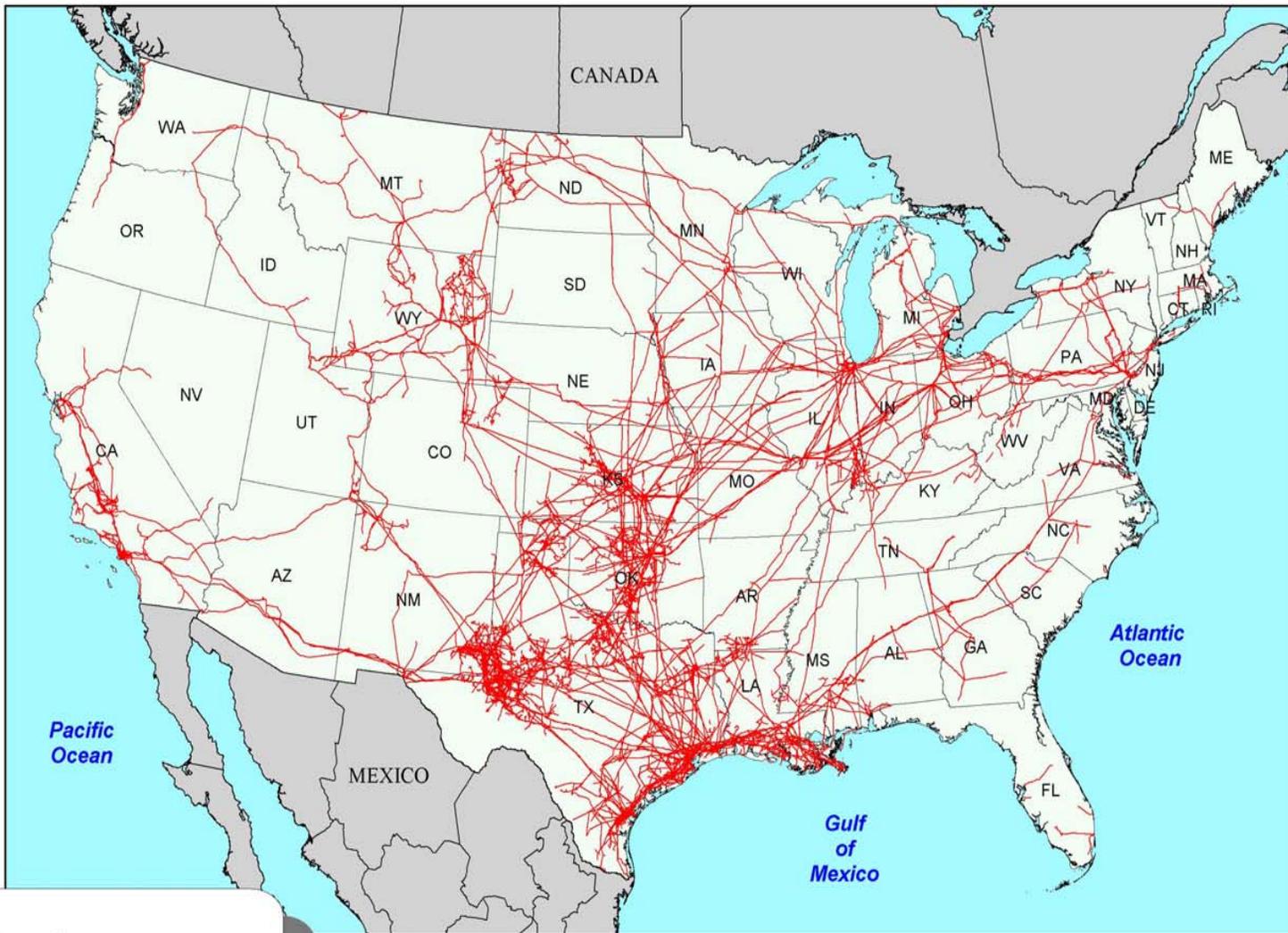


U.S. Department of Transportation Goals

- Goals Supported by Mission
 - Safety
 - Environmental Protection
 - Economic Mobility
 - Ensuring reliable infrastructure to meet growing demand for energy products



Liquid Pipelines of the United States



Legend

— Liquid Pipelines

300 0 300 Miles

Projection: Albers Equal-Area Conic
Map Produced March 2000

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Statutory Charge

- Natural Gas Pipeline Safety Act of 1968, as amended (*49 U.S.C. App. §1671 et seq.*)
- Hazardous Liquid Pipeline Safety Act of 1979, as amended (*49 U.S.C. App. § 2001 et seq.*)
- Oil Pollution Act of 1990, as amended (*33 U.S.C. § 2701 et seq.*), sharpened environmental focus
- TEA-21: Damage Prevention/Control Act, placed significant focus on #1 safety problem
- Pipeline Safety Improvement Act of 2002, strengthened the Department's pipeline safety program



Importance of Pipelines

- Hazardous Liquid Pipelines:
 - Nearly 160,000 miles operated by 215 firms.
 - 95% engaged in interstate commerce.
 - Transport 2/3 of all oil and products used.
 - Alternative modes present much higher risks.
 - 97% of U.S. transportation fueled by oil.
 - 17% of U.S. freight at 2% of total freight bill.



Key Stakeholders

- State and Local Officials
- Other Federal Agencies/Administration
- Public on/near/affected by ROW
- Industry: Associations & Companies
- Consensus Standards Organizations



Industry Leadership

- Regulations only establish a floor
- Excellence requires much more and demands leadership
 - Leadership in and support of industry teams that raise the bar in consensus standards (API, NACE, etc.) or that identifies and promotes adoption of best practices
 - Support of non-regulatory initiatives – e.g., Common Ground Alliance
 - Regulatory education and information exchange



OPS's Base Programs

- Data Analysis and Trending.
- Regulatory Development and Coordination.
- State Pipeline Safety Grant Program.
- Research and Development.
- Integrity Management
 - Inspection and Enforcement.
- Damage Prevention and Public Education.

Data Analysis and Trending



Pipeline Failure Consequences

Annual Number of Incidents

	10 Year Average	5 Year Average	3 Year Average
Hazardous Liquid	192.1 (48.8%)	166.2 (45.2%)	155.7 (42.1%)
Natural Gas Transmission	76.8 (19.5%)	76.6 (20.9%)	77.7 (21.0%)
Natural Gas Distribution	124.6 (31.7%)	22.8 (33.9%)	19.3 (36.9%)
<i>Total</i>	393.5 (100%)	367.2 (100%)	370.0 (100%)



Key Regulatory Standards

- Integrity Management Program for large hazardous liquid pipelines
- Integrity Management Program for small hazardous liquid pipelines
- Corrosion control for hazardous liquid pipelines
- Repair and mitigation for hazardous liquid pipelines
- Improved drug and alcohol testing for pipeline workers
- Improved pipeline accident reporting
- Definition of high consequence areas for pipelines

Regulatory Development and Coordination





Regulatory Development and Coordination

- 49 C.F.R. 190 to 199
- Incorporate nearly 70 technical consensus standards
 - Active member of many standards committees
- Partner with states and other stakeholders to identify needed changes
- Sponsor two Secretarial-appointed technical advisory committees
 - Committees comment on all rulemakings
- Development and Implementation of Integrity Management Program (“IMP”)
 - More on IMP later...

Standards & Guidance Development





Standards and Guidance Development

- Standards Development
 - Technical Consensus Standards Work
 - Rule / Notice Development and Processing
 - Public Meetings
- Guidance Development
 - Advisory Bulletins
 - Waivers and Exemptions



Key Stakeholders

- Administration – Including Other Agencies
- U.S. Congress
- State and Local Officials
- Industry: Associations & Companies
- Consensus Standards Organizations
- Media
- Support Groups
- Employees
- Foreign Counterparts

Research and Development (R&D)





OPS's Research and Development Focus

- R&D blueprint planning process
 - Broadened stakeholder involvement and input
 - Identifying R&D gaps and priorities
 - Began process to document existing R&D
- Stakeholder meetings help to define the “next-stage” research areas
- Broad Agency Announcements



Research and Development Focus (FY 2003)

- Broad categories – ongoing studies plus
 - Mapping and information integration (14%)
 - Damage, prevention and leak detection (45%)
 - Real-time ROW monitoring, encroachment monitoring, improved directional drilling, NDE
 - Enhanced operations, control, and monitoring (21%)
 - Internal corrosion control
 - Improved materials performance (20%)
 - Higher design pressure materials, composite pipe, and improved pipe coatings



Damage Prevention and Leak Detection

- Focus on improving non-destructive and non-intrusive monitoring technologies to detect unauthorized activity near the pipeline, pipeline damage at the earliest stages, and encroachments along the pipeline whether accidental or intentional.



Enhanced Operations, Controls, and Monitoring

- Focus on improving technology for operating, controlling, and monitoring the integrity of the pipelines to ensure public and environmental safety.

Integrity Management





Purpose of Integrity Management Program

- OPS has, and will continue to, promulgate IM rules designed to:
 - Accelerate testing of High Consequence Areas (“HCAs”)
 - E.g., areas near large commercial centers, navigable waterways, environmentally sensitive areas
- Promote systematic management of pipeline integrity by companies
- Improve government oversight
- Result: OPS adopted a systematic, rigorous, and transparent approach to oversight
 - See <http://primis.rspa.dot.gov/iim>



Integrity Management Rulemakings

- Liquid rule finalized in 2002
- This rule provides for prioritization of operator actions based on risk
- Need to address all risks in a comprehensive, but balanced manner
- Accelerate Assessments of Lines in High Consequence Areas (HCAs)
- Improve Company Integrity ***Management Systems*** and Integration of Risk Data
- Improve Government Role in Reviewing Integrity Plans and Programs
- Increase Public Assurance in Pipeline Safety



Follow-Up Information Sources

- OPS Website: <http://ops.dot.gov>

