

# **REPORT ON PIPELINE SAFETY**

CALENDAR YEARS 1995-1996

Prepared By:

U.S. Department of Transportation  
Research and Special Programs Administration  
Office of Pipeline Safety  
Washington, DC 20590

## Table of Contents

LIST OF TABLES AND APPENDICES .....	iii
BACKGROUND .....	1
PROGRAM HIGHLIGHTS AND DIRECTION .....	3
REGULATORY ACTIVITIES .....	6
FEDERAL/STATE PARTNERSHIP .....	11
COMPLIANCE.....	15
ACCIDENTS AND INVESTIGATIONS .....	17
TRANS-ALASKA PIPELINE SYSTEM .....	20
RESEARCH AND TECHNICAL ACTIVITIES .....	21
TRAINING AND INFORMATION DISSEMINATION .....	23
DRUG/ALCOHOL TESTING, INSPECTION, AND ENFORCEMENT .....	25
THE OIL POLLUTION ACT OF 1990 .....	26
JUDICIAL ACTIONS .....	27
REPORT UNDER THE MINERAL LEASING ACT .....	28

## List of Tables and Appendices

TABLE 1	Membership Roster: Technical Pipeline Safety Standards Committee .....	30
	Membership Roster: Technical Hazardous Liquid Pipeline Safety Standards Committee .....	31
TABLE 2	1995 Natural Gas Pipeline Safety Grant Allocation .....	32
	1996 Natural Gas Pipeline Safety Grant Allocation .....	33
TABLE 3	States Participating in the Federal/State Cooperative Natural Gas and Hazardous Liquid Pipeline Safety Program in 1995 .....	34
	States Participating in the Federal/State Cooperative Natural Gas and Hazardous Liquid Pipeline Safety Program in 1996 .....	35
TABLE 4	1995 Hazardous Liquid Pipeline Safety Grant Allocation .....	36
	1996 Hazardous Liquid Pipeline Safety Grant Allocation .....	36
TABLE 5	1995 Natural Gas State Inspector Qualifications .....	37
	1995 Hazardous Liquid State Inspector Qualifications .....	38
	1996 Natural Gas State Inspector Qualifications .....	39
	1996 Hazardous Liquid Inspector Qualifications .....	40
TABLE 6	1995 State Agency Inspection Activities—Natural Gas .....	41
	1995 State Agency Inspection Activities—Hazardous Liquid .....	42
	1996 State Agency Inspection Activities—Natural Gas .....	43
	1996 State Agency Inspection Activities—Hazardous Liquid .....	44
TABLE 7	1995 Natural Gas Transmission and Gathering Pipeline Incidents Reported by Cause .....	45
TABLE 8	1995 Natural Gas Distribution Pipeline Incidents Reported by Cause .....	45
TABLE 9	1996 Natural Gas Transmission and Gathering Pipeline Incidents Reported by Cause .....	46
TABLE 10	1996 Natural Gas Distribution Pipeline Incidents Reported by Cause .....	46
TABLE 11	1995 Hazardous Liquid Pipeline Accidents Reported by Cause .....	47
	1996 Hazardous Liquid Pipeline Accidents Reported by Cause .....	47
TABLE 12	1995 Hazardous Liquid Pipeline Accidents Reported by Commodity .....	48
	1996 Summary of Liquid Pipeline Accident Reports .....	48

TABLE 13	Summary of Natural Gas Transmission and Gathering Pipeline Incidents and Casualties (1992-1996) .....	49
TABLE 14	Summary of Natural Gas Distribution Pipeline Incidents and Casualties (1992-1996) .....	49
TABLE 15	Summary of Hazardous Liquid Pipeline Accidents and Casualties (1992-1996) .....	50
TABLE 16	1996 Economic Impact of Pipeline Accidents .....	50
TABLE 17	1996 Pipeline Safety Training Conducted by TSI .....	51
	State Seminars .....	51

## **Appendices**

### **Appendix A**

1995 Natural Gas Enforcement Cases Opened .....	54
1995 Hazardous Liquid Enforcement Cases Opened .....	55
1996 Natural Gas Enforcement Cases Opened .....	56
1996 Hazardous Liquid Enforcement Cases Opened .....	57

### **Appendix B**

1995 Natural Gas Enforcement Cases Closed .....	59
1995 Hazardous Liquid Enforcement Cases Closed .....	60
1996 Natural Gas Enforcement Cases Closed .....	61
1996 Hazardous Liquid Enforcement Cases Closed .....	63

### **Appendix C**

1995 Natural Gas Enforcement Actions—Warning Letters .....	65
1996 Natural Gas Enforcement Actions—Warning Letters .....	66
1996 Natural Gas Enforcement Actions—Warning Letters and Letters of Concern .....	68

### **Appendix D**

Office of Pipeline Safety Locations .....	70
---	----

# Background

Section 60124 of Title 49 of the United States Code (U.S.C.), requires the Department of Transportation (the Department) to report biennially on its pipeline safety program. This report provides an overview of pipeline safety program activities during Calendar Years 1995-1996. President Clinton's highest transportation priority is safety.

The Department's pipeline mission is to protect the people and the environment of the United States through a comprehensive, risk-based pipeline safety program. The Department develops, issues, and enforces minimum pipeline safety regulations. The code in 49 U.S.C. § 60101, et seq., (the Pipeline Safety Law), provides for Federal safety regulation of pipeline facilities used in the transportation of natural gas and provides for safety regulation of pipeline facilities used in the transportation of hazardous liquids. The Pipeline Safety Law provides a framework for promoting pipeline safety through exclusive Federal authority for regulation of interstate pipeline facilities, and Federal delegation to the states of all or part of the regulatory responsibility for intrastate pipeline facilities.

The Department provides grant funding to support states in conducting intrastate gas and hazardous liquid pipeline safety programs; ensures operator compliance through a risk-based pipeline inspection plan and use of enforcement actions as a deterrent against violators; collects, compiles, and analyzes pipeline safety and operating data; and, through the Transportation Safety Institute (TSI), conducts training for government and industry personnel in application of pipeline safety regulations. The Department also undertakes research with emphasis on solid analytical methodologies and state-of-the-art technology to provide the foundation necessary for planning, evaluating, and implementing the pipeline safety program. The Department's regulatory authority covers approximately 1.8 million miles of natural gas pipelines managed by almost 900 transmission and gathering

operators, over 1,400 distribution operators, 106 liquefied natural gas (LNG) operators, about 52,000 master meter operators, and over 165,000 miles of hazardous liquid pipelines managed by more than 200 operators, as well as 2,200 miles of carbon dioxide pipelines.

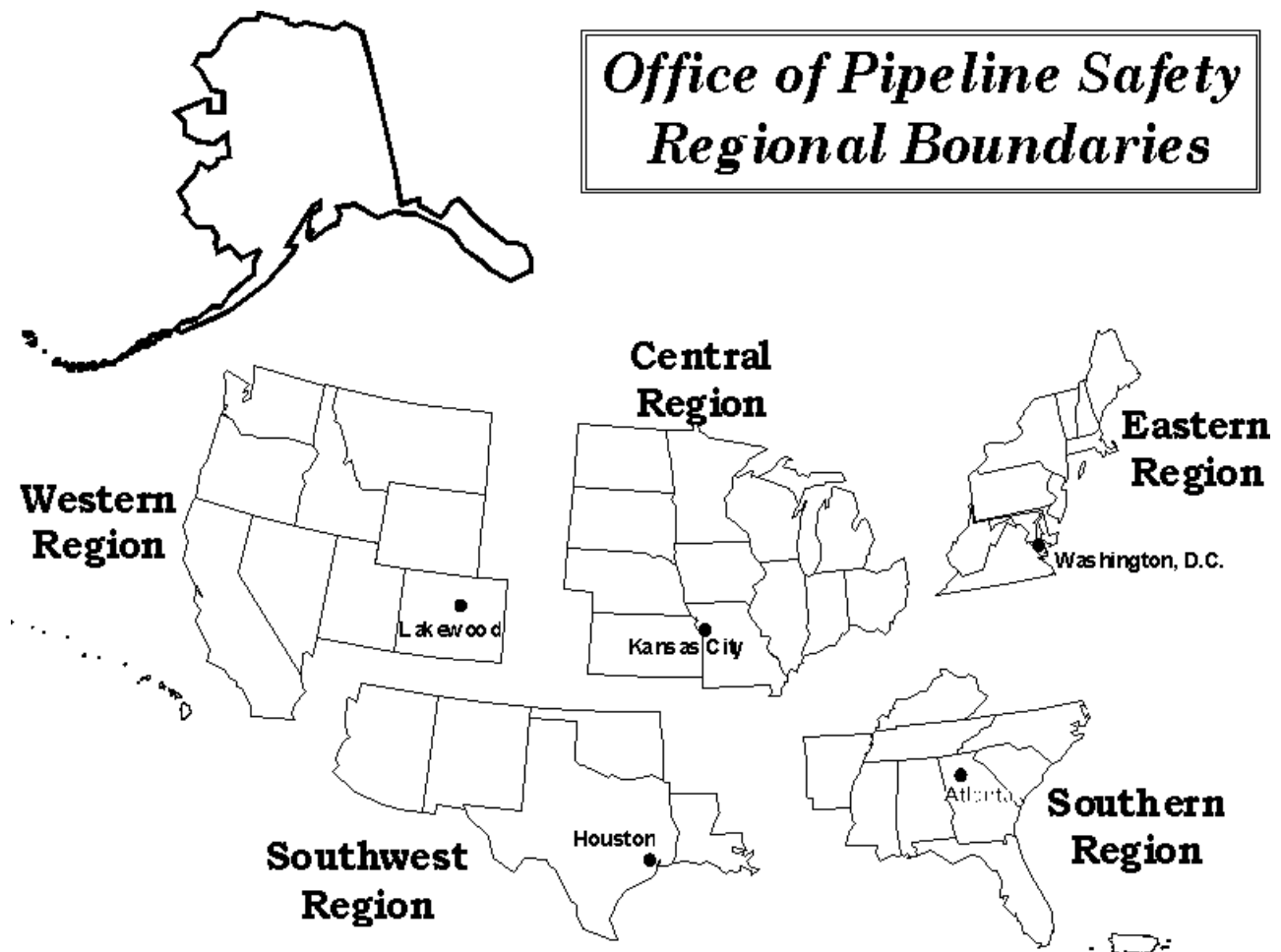
Section 60301 of Title 49 U.S.C. authorizes the Secretary of Transportation to assess and collect annual fees from the pipeline industry to fund the cost of the Department's pipeline safety program.

Title IV of the Oil Pollution Act of 1990 (OPA 90), Pub. L. 101-380, 104 Stat. 484, requires national planning and response system for oil spills. The Office of Pipeline Safety (OPS) is responsible for implementing OPA 90 requirements as they apply to onshore oil pipelines that could reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters of the United States and adjoining shorelines.

The Department's pipeline safety mandate is administered, under delegation from the Secretary, by the Research and Special Programs Administration (RSPA) through OPS. The functions of the Department's Agency Authorized Officer (AAO) for the Alaska Natural Gas Transportation System project are also assigned to OPS. Under the organizational structure established by Executive Order 12142 ("The Alaska Natural Gas Transportation System"), the AAO represents the Department within the Office of the Federal Inspector, and is responsible for monitoring and expediting all project-related activities that fall within the purview of the Department.

At the end of 1996, OPS had approximately 100 employees. About half of these employees work at Headquarters in Washington, DC, and the other half are located in five Regional Offices across the country (Eastern Region—Washington, DC; Southern

Region—Atlanta, Georgia; Central Region—Kansas City, Missouri; Southwest Region—Houston, Texas; Western Region—Lakewood, Colorado) and at RSPA's training facility, TSI in Oklahoma City, Oklahoma (see regional boundary map below).



# Program Highlights & Direction

## ■ Memorandum of Understanding for Research

On June 20, 1996, the Deputy Secretary signed a Memorandum of Understanding (MOU) with the Gas Research Institute (GRI) to define and formalize a structure to exchange information and coordinate the Department's and GRI's gas research development programs. As an initial project, RSPA awarded the instrumented internal inspection device smart pigging contract to a consortium of GRI, Southwest Research Institute, and Iowa State University. The MOU between OPS and GRI addresses topics including non-destructive evaluation, data analysis, risk management, damage prevention, and mapping standards. OPS and GRI are directing the consortium which are conducting research on nondestructive evaluation methods. The researchers are studying adapting smart pigging technology now used to detect corrosion so that it detects mechanical damage such as gouges. The research proposal is funded at \$1.9 million for the first two years.

## ■ Risk Management

RSPA held two successful Risk Management and Pipeline Industry conferences in partnership with the pipeline industry and the states. The partners and the public explored how risk management can better protect people and the environment from the dangers pipelines pose. The conferences evidenced RSPA's commitment to government reinvention by involving all stakeholders in strengthening pipeline safety.

The Joint Risk Management Quality Team Technical Standards Team is building on the lessons learned at the Risk Management Conferences and continues to refine the standards components, which include guiding principles, program management and administration requirements, risk assessment, decisionmaking and

resource allocation, and program measurement. The standard has been sent to a limited number stakeholders to help develop a demonstration prototype.

Working drafts of the risk management framework components (technical program standard, performance measure guidance, regulatory notice) were distributed in October 1996. RSPA plans to complete the protocols for reviewing, monitoring, and approving operators' risk management projects.

## ■ Mapping

Mapping is a strong example of the benefits RSPA derives from a partnership with the pipeline industry and other government agencies. The Joint Government-Industry Pipeline Mapping Quality Action Team (MQAT I) finalized short- and long-term strategies for creating a national pipeline mapping system. This system, when complete, will contain information on the natural gas transmission and larger liquid pipelines, and LNG facilities operating in the United States.

The Team sponsors were OPS, the American Petroleum Institute, the American Gas Association, and the Interstate Natural Gas Association of America.

Team members included representatives from Federal and State agencies and the pipeline industry. The team concluded their findings in a report titled "Strategies for Creating a National Pipeline Mapping System," in July 1996. The report was distributed to state partners, the pipeline industry, the RSPA technical advisory committees, and the public.

In December 1996, MQAT II was formed to implement the strategies created by MQAT I. This includes the creation of pipeline mapping data standards. Team members include representatives from OPS, U.S.

Geological Survey (USGS), the Bureau of Transportation Statistics, the Federal Energy Regulatory Commission (FERC), the Department of Energy (DOE), the states of Texas, Louisiana, California, and New York, and the pipeline industry. The draft pipeline mapping standards are expected to be completed and pilot tested in 1997. OPS will seek volunteers from industry to submit data that meets the draft standard, and from states and mapping vendors to collect and create digitized data that meets the draft standard. MQAT II expects to complete its work in December 1997.

### ■ Pipeline Inspection

RSPA inspections are designed to reduce the risk of pipeline failure. The inspections further the Secretary's goal to increase the oversight of hazardous liquid pipelines. During 1995, RSPA inspected 417 inspection units and state agencies inspected 8,762 inspection units. During 1996, RSPA inspected 547 inspection units and state agencies inspected 8,431 inspection units.

### ■ One-Call Programs

RSPA awarded \$750,000 in 1995 and \$806,000 in 1996 in grants to states to enhance One-Call programs. These funds were used to educate excavators, pay for locators, develop state software to compile performance data, and pay start-up costs for enforcing state One-Call laws.

Outside force is the leading cause of pipeline failure. This is an effort to decrease the number and severity of excavators striking pipelines. A Damage Prevention Quality Action Team (DAMQAT) has been formed and the charter should be finalized in 1997. RSPA continues cooperation with non-pipeline industries interested in preventing excavation damage and passing Federal One-Call legislation.

### ■ Regulatory Programs

During 1995 and 1996, RSPA built a partnership with other Federal, state, and non-government environmental agencies that brought their technical expertise to the challenge of defining unusually sensitive areas (USA's). We are identifying primary ecological areas of concern and potential filtering criteria that will get us from all ecological areas to those that are USA's.

RSPA continued to develop the basis to publish a Notice of Proposed Rulemaking (NPRM) during 1995 and 1996 for increased pipeline inspections. When the process ends, RSPA will have a technical risk basis to set environmental priorities for hazardous liquid pipelines and to regulate accordingly.

By requiring operators to increase their inspection of certain gas transmission and hazardous liquid pipelines in highly populated or environmentally sensitive areas, this activity should help reduce the risk to public safety and the environment posed by defective pipelines.

RSPA continued to develop the basis to publish an NPRM on Emergency Flow Restricting Devices (EFRD's) during 1995 and 1996. We hope to build a consensus for the technical criteria for applying, installing, and placing EFRD's in a cost-beneficial manner.

In 1995, RSPA initiated the Regulatory Reinvention Initiative announcing a nationwide series of meetings to seek advice from industry, states, and the public on changes to regulation to provide clarity, eliminate unnecessary or overly burdensome requirements, and foster economic growth. RSPA published four final rules on pipeline safety during 1996 from proposals received in those meetings. RSPA will annually update regulations that need to be clarified or eliminated. In addition, RSPA will continue to hold public meetings to get interested parties' and the public's input before starting major rulemakings that may produce conflict.



## ■ Oil Pollution Act of 1990 (OPA 90)

Under the OPA 90 program, RSPA conducted table top and field exercises that strengthened pipeline operators' responses to major oil spills in Louisiana and South Carolina. Operators put the lesson they learned in drills to work and were able to more effectively use people and response assets to better protect people and the environment.

RSPA played a key role in drafting the One Plan which allows an operator to meet all Federal spill response requirements with a single document. RSPA will continue to work with the Environmental Protection Agency (EPA), the USGS, Mineral Management Service (MMS), and Occupational Safety and Health Administration (OSHA) to promote the One Plan concept and to coordinate the plan review process. RSPA is explaining One Plan's benefits to the U.S. Navy and the Fairfax County, Virginia, Fire Department.

## ■ Alaska

RSPA's increased scrutiny of the Trans-Alaska Pipeline System (TAPS) during 1995 and 1996 has increased safety and environmental protection in Alaska. The Inspector General found RSPA is effectively monitoring and inspecting TAPS to ensure Alyeska Pipeline Company minimizes risks to life and property when operating and maintaining the pipeline. When violations were identified, RSPA took enforcement actions against Alyeska. RSPA persuaded Arco Research, one of the companies that owns Alyeska, to conduct a study that will yield more information about corrosion growth on TAPS than RSPA has had previously.

RSPA completed 18 comprehensive non-Alyeska pipeline facility inspections in Alaska during 1995 and 1996.

# Regulatory Activities

## ■ Pipeline Security

RSPA held a security conference in January 1996 and used industry suggestions to strengthen the security intelligence circulars. We have improved coordination with the Office of Intelligence and Security to increase the timeliness of security information.

OPS develops regulations to assure safety in design, construction, testing, and the operation and maintenance of pipeline facilities and in the siting, construction, and the operation and maintenance of LNG facilities. Regulations are also issued to administer the pipeline safety program and delineate requirements for onshore response plans. These regulations are published in Title 49 of the Code of Federal Regulations (CFR): Part 190, Enforcement Procedures; Part 191, Natural Gas Reporting Requirements; Part 192, Natural Gas Pipelines; Part 193, Liquefied Natural Gas Facilities; Part 194, Response Plans for Onshore Oil Pipelines; Part 195, Hazardous Liquids Pipelines; Part 198, State Grants; and Part 199, Drug and Alcohol Testing.

To provide expert input during development of pipeline safety regulations, the Pipeline Safety Law established two pipeline safety advisory committees, the Technical Pipeline Safety Standards Committee and the Technical Hazardous Liquid Pipeline Safety Standards Committee. The Committees review proposed regulations for technical feasibility, reasonableness, and practicability. The Committee is comprised of 15 members: 5 from the public, 5 from government, and 5 from the pipeline industry. Committee members are widely respected pipeline safety technical experts. Committee members as of December 31, 1995, and December 31, 1996, are listed in Table 1.

## ■ Notices

The following notices announced public meetings and program initiatives:

**Office of Pipeline Safe; Risk Assessment Prioritization (RAP).** [Docket PS-132; Notice 2; 60 FR 7620; February 8, 1995.] RSPA proposed implementing a pipeline RAP process and invited representatives of industry, government agencies, environmental organizations, and other members of the public to contribute information on solutions to pipeline safety issues. The proposed solutions were a vital part in developing the RAP process and will become a basis upon which OPS management will decide how to commit available resources.

**Offshore Pipelines.** [60 FR 27546; May 24, 1995.] The Department of Transportation (DOT) and the Department of the Interior (DOI) proposed to revise their May 6, 1976, Memorandum of Understanding (MOU) on their respective responsibilities. The action redefined the boundary lines over which the Minerals Management Service (MMS) and RSPA exercised their inspection and enforcement roles, giving MMS greater inspection responsibilities over offshore pipelines previously inspected by RSPA. The intent of the new MOU was to put, to the extent practicable, all flowlines and gathering lines, under DOI responsibility. This resulted in more efficient utilization of government resources for offshore pipeline inspection. DOI and DOT held a public meeting on this proposed revision in New Orleans, Louisiana, in August 1995.

**Areas Unusually Sensitive to Environmental Damage.** [Docket PS-140, Notice 3; 60 FR 44824; August 29, 1995.] RSPA invited industry, State and local government representatives, and the public to a second workshop on unusually sensitive environmental areas. The workshop's purpose was to openly

discuss the process for determining areas unusually sensitive to environmental damage from a hazardous liquid pipeline release.

**Emergency Flow Restricting Devices/Leak Detection Equipment on Hazardous Liquid Pipelines.** [Docket PS-133, Notice 2; 60 FR 44822; August 29, 1995.] This notice announced a public workshop to discuss issues relevant to development of regulations on the circumstances under which operators of hazardous liquid pipelines must use EFRD's (including remotely controlled valves and check valves). In addition, the workshop discussed issues relevant to development of regulations on the circumstances under which operators of hazardous liquid pipelines identify ruptures on their pipelines.

**Considerations for a Program Framework for Risk Management Demonstrations.** [Docket PS-142, Notice 2; 60 FR 65725; December 20, 1995.] RSPA is considering how to implement a program administrative framework to receive, analyze, accept, monitor, and revise risk management plans that interstate natural gas transmission and hazardous liquid pipeline companies would submit as risk management demonstration projects. A demonstration project framework is needed to validate benefits in applying risk management in the pipeline industry and to determine how it would work effectively. A framework is also needed to evaluate the use of company-specific risk management plans as an alternative to the existing regulatory requirements and to plan for a transition should the demonstration justify it.

**Risk-Based Alternative to the Pressure Testing Older Hazardous Liquid and Carbon Dioxide Pipelines.** [Docket PS-144, Notice 1; 61 FR 9415; March 8, 1996.] RSPA invited representatives of industry, State and local government, and the public to an open meeting to discuss a proposal by the American Petroleum Institute (API) for a risk-based alternative to the pressure testing of older hazardous liquid and carbon dioxide pipelines rule. The meeting was held to obtain public views before RSPA considered API's proposal.

**Transportation of Hydrogen Sulfide by Pipeline.** [Docket PS-106, Notice 3; 61 FR 9133; March 7, 1996.] In response to three National Transportation Safety Board (NTSB) Safety Recommendations, RSPA issued an Advance Notice of Proposed Rulemaking (ANPRM) followed by an NPRM that proposed changes in the pipeline safety regulations to address the hazard of excessive levels of hydrogen sulfide (H<sub>2</sub>S) in natural gas transmission pipelines. In a final review of information and comments from all sources, including advice from the Technical Pipeline Safety Standards Committee, RSPA determined that a regulation to address H<sub>2</sub>S in transmission lines was not warranted. Therefore, the NPRM was withdrawn.

**Qualification of Pipeline Personnel.** [Docket PS-94, Notice 5; 61 FR 34410; July 2, 1996.] RSPA proposed to establish a Negotiated Rulemaking Committee under the Negotiated Rulemaking Act of 1990 and the Federal Advisory Committee Act of 1992 to develop a recommended rule on the qualification of personnel performing certain safety-related functions for pipelines subject to 49 CFR Parts 192 and 195. The Committee will adopt its recommendations through a negotiation process. The purpose of this Notice of Intent was to invite interested parties to submit comments on the issues to be discussed and the interests and organization to be considered for representation on the committee.

**Toward A Metric America - A Dialogue Open to the Public.** [61 FR 55069; October 23, 1996.] Executive Order 12770 "Metric Usage in Federal Government Programs," dated July 25, 1991, requires that Federal agencies use metric measures in their business-related activities as a means to implement the metric system of weights and measures for the United States. This Order designates the Department of Commerce as lead agency in the metrication process. RSPA invited interested parties from the pipeline community to attend the meeting to discuss concerns about the impact of metricating DOT's pipeline safety regulations.

**Program Framework for Risk Management Demonstrations.** [Docket PS-142; Notice 3; 61 FR 58605; November 15, 1996.] RSPA is considering a program framework for its Pipeline Risk Management demonstration program required by the Accountable Pipeline Safety and Partnership Act of 1996. The Demonstration Program invited pipeline operators to propose risk management projects for one or more parts of their pipeline system that, upon approval by OPS, will substitute for the existing Federal safety standard in providing the basis for Federal oversight of pipeline safety and environmental protection.

### ■ Proposed Rulemaking

In its continuing effort to improve and update existing regulation, RSPA issued the following NPRM's in 1995 and 1996:

**Mandatory Participation in Qualified One-Call Systems by Pipeline Operators.** [Docket PS-101A; 60 FR 14714; March 20, 1995.] This notice proposed to require that operators of onshore gas, hazardous liquid, and carbon dioxide pipelines participate in qualified one-call systems as part of the required excavation damage prevention programs. The proposed rule would also limit the current exclusion of certain small gas systems from compliance with the damage prevention program requirements. This notice was accompanied by a final rule [Docket PS-101].

**Excess Flow Valve - Customer Notification.** [Docket PS-118A; Notice 1; 61 FR 33476; June 27, 1996.] This notice required operators of natural gas distribution systems to notify in writing their customers of the availability of excess flow valves (EFV's) meeting DOT-prescribed performance standards, the safety benefits of these valves, and the costs of installation, maintenance and replacement. EFV's restrict the flow of gas by closing automatically when a service line is severed, thus mitigating the consequences of service line failures. This regulation would enhance public awareness of the safety benefits that can be derived from installation of EFV's.

### ■ Final Rules

RSPA issued the following regulations in 1995 and 1996:

**Passage of Instrumented Internal Inspection Devices; Limited Suspension of Compliance Dates.** [Docket PS-126; Notice 3; 60 FR 7133; February 7, 1995.] By final rule published in April 1994, RSPA required that new and replaced pipeline facilities be constructed to accommodate inspection by instrumented internal inspection devices commonly known as "smart pigs." Two petitioners requested reconsideration of that rule as it applies to gas pipelines and a stay of the compliance date. In response to these petitions, RSPA issued an NPRM proposing to modify the rule and extend the compliance dates with respect to certain gas transmission lines.

**Excavation Damage Prevention Programs for Gas and Hazardous Liquid and Carbon Dioxide Pipelines.** [Docket PS-101; Amendments 192-73, 195-54; 60 FR 14646; March 20, 1995.] This final rule extended the existing excavation damage prevention requirement for gas pipelines in urban areas to gas pipeline in rural areas; established excavation damage prevention program requirements for hazardous liquid and carbon dioxide pipelines; required, with limited exceptions, line markers for gas transmission lines in urban areas; and permitted smaller lettering on line markers for hazardous liquid and carbon dioxide pipelines in heavily developed urban areas. This final rule was accompanied by an NPRM [Docket PS-101A]. Together they are intended to reduce excavation damage, the largest single cause of reportable pipeline accidents.

**Operation and Maintenance Procedures for Pipelines.** [Docket PS-113; Amendment 192-71A; 60 FR 14379; April 17, 1995.] In 1994, RSPA issued a final rule amending existing operation and maintenance (O&M) procedures for gas pipeline facilities. The American Gas Association filed a Petition for Reconsideration concerning five provisions of the final rule. After careful consideration of the petition, RSPA

concluded the petition should be denied in part, and granted in part. RSPA granted those aspects of the petition that relate to: (1) procedures required to be included in an operator's O&M manual, and (2) the extent of the requirement to address malfunction and other deviations during abnormal operations.

**Customer-Owned Service Lines.** [Docket PS-135; Amendment 192-3; 60 FR 41821; August 14, 1995.] This action required operators of gas service lines who do not maintain buried customer piping up to building walls or certain other locations to notify their customers of the need to maintain that piping. Congress directed DOT to take this action in view of service line accidents. By advising customers of the need to maintain their buried gas piping, the notices may reduce the risk of further accidents.

**Pipeline Safety Program Procedures; Update and Corrections.** [Docket PS-145; Amendments 190-6, 191-10, 192-74, 193-10, 195-55, 198-2, 199-13; 61 FR 18512; April 26, 1996.] In response to the President's Regulatory Reinvention Initiative, this rulemaking updated and corrected pipeline safety program procedures by amending nomenclature, addresses, amendment summaries, typographical errors, and penalty amounts. These editorial amendments impose no new procedural requirements.

**Periodic Updates to the Pipeline Safety Regulations.** [Docket PS-143; Amendment 192-76, 193-11, 195-56; 61 FR 26121; May 24, 1996.] This final rule updated the references to voluntary specification and standards to reflect more recently published editions to each document. It enabled pipeline operators to utilize current technology, materials, and practices, thereby reducing costs and enhancing economic growth. In addition, this final rule eliminated the requirement for odorization of hydrogen in transmission lines in instances where the hydrogen is intended for use as a feed stock in a manufacturing process. This eliminates a requirement that is costly, but not needed for safety. This final rule is consistent with the President's goals of regulatory reinvention and improvement of customer service.

**Regulatory Reinvention Initiative: Pipeline Safety Program Procedures; Reporting Requirements; Gas Pipeline Standards; and Liquefied Natural Gas Facilities Standards.** [Docket PS-125; 61 FR 27789; June 3, 1996.] This final rule changed various administrative practices in the pipeline safety program and made minor modification to requirements for gas detection, protective enclosures, and pipeline testing temperatures. These changes eliminated unnecessary or overly burdensome requirements, and reduced costs in the pipeline industries without compromising safety.

**Regulatory Review; Gas Pipeline Safety Standards.** [Docket PS-124; Amendment 192-78; 61 FR 28770; June 6, 1996.] This final rule changed miscellaneous gas pipeline safety regulations to provide clarity, eliminate unnecessary or burdensome requirements, and foster economic growth. The changes resulted from a comprehensive review of the regulations that RSPA completed under President Clinton's Regulatory Reinvention Initiative to reduce the costs of compliance without compromising safety.

**Pressure Testing Older Hazardous Liquid and Carbon Dioxide Pipelines.** [Docket PS-121; Amendment 195-51B; 61 FR 43026; August 20, 1996.] This final rule extended the time for compliance with the requirements for pressure testing of older hazardous liquid and carbon dioxide pipelines. Plans for testing, which were to be completed by December 7, 1995, would be required by December 7, 1997. The dates for actual completion of the testing, previously December 7, 1998, and December 7, 2001, are extended by one year. RSPA extended these compliance dates to allow time to complete rulemaking based on the American Petroleum Institute's (API) petition for a risk-based alternative to the required pressure testing rule. In a separate notice, RSPA is issuing a proposed rule for a risk-based alternative to the existing pressure testing rule.

**Excess Flow Valve—Performance Standards.** [Docket PS-118; Amendment 192-79; 61 FR 31449; June 20, 1996.] In the process of routine

excavation activities, excavators often sever gas service lines causing loss of life, injury, or property damage by fire or explosion. Excess flow valves (EFV's) restrict the flow of gas by closing automatically when a line is severed, thus mitigating the consequences of service line failures. In this final rule, RSPA has developed standards for the performance of EFV's used to protect single-residence service lines. If an EFV is installed on such a line, it must meet these performance standards.

**Reporting of Drug and Alcohol Testing Results.** [Docket PS-152; Amendment 199-14; 61 FR 65364; December 12, 1996.] This direct final rule amended the Drug and Alcohol Testing Rules to allow the optional reporting of drug and alcohol testing results to RSPA by computer disk.

**Waivers Under the Act.** In circumstances where absolute compliance with a pipeline safety regulation would not be appropriate and where sufficient alternative safeguards to the public safety are implemented, RSPA, at its discretion, may grant an operator's petition for a waiver from the regulations applicable to interstate pipeline transportation. The following grants of waivers applicable to interstate pipeline companies were issued in 1995-1996:

P-96-8W CNG Transmission—Conf. or Rev. of MAOP.

P-96-10W Louisiana Land and Exp—Hydrostatic Pressure.

P-95-4W Shell Oil Products—Right Of Way and Crossing Under.

P-95-2W Columbia Gas Transmission.

P-95-1W Alyeska Pipeline Service.

**State Waivers:** A state agency certified under the Pipeline Safety Law may waive compliance with safety regulations applicable to intrastate pipeline transportation if, after receiving notice, RSPA concurs in the action. RSPA approved 21 petitions for state waivers in 1995 and 28 petitions for state waivers in 1996:

- **April 10, 1995:** RSPA approved a waiver granted by the Colorado Public Utility Commission to Rocky Mountain Natural Gas Company from compliance with 49 CFR Part 193 for mobile LNG facilities. RSPA believes the use of mobile LNG facilities under the alternative safety requirements would not be a danger to public safety.

**Advisory Bulletins:** RSPA uses Advisory Bulletins to inform affected pipeline operator and all Federal and state pipeline safety personnel of matters that have the potential of becoming safety and/or environment risks. During 1995, RSPA issued the following bulletins:

- **May 8, 1995:** ADB-95-01 informed owners and operators of situations in which consortiums or third-party administrators are utilizing operator authority to require unwarranted changes to contractor anti-drug and alcohol misuse prevention plans.
- **August 9, 1995:** ADB-95-02 informed pipeline security personnel of the need to review their security procedures and emergency response plans.

There were no Advisory Bulletins issued in 1996.

# Federal/State Partnership

The Federal/state partnership is the cornerstone for assuring uniform implementation of the pipeline safety program nationwide. While the Federal Government is primarily responsible for developing, issuing, and enforcing minimum pipeline safety standards, Congress intended for states to take full and active safety jurisdiction over all intrastate pipelines. States clearly are at the front lines in delivering the pipeline safety program, being closer to the pipeline operators and the consumers of pipeline products than the Federal Government. Alone, neither the Federal Government nor the states can assure the proper level of pipeline safety in the country today. Together, Federal and state resources can be leveraged to deliver a cost-effective program that has one of the best safety records in transportation.

## ■ Natural Gas Pipeline Safety Program

The Pipeline Safety Law provides for a state agency to assume all aspects of the pipeline safety program for intrastate facilities under its jurisdiction if the state agency certifies annually that it complies with certain provisions. A state agency must adopt and enforce Federal safety standards established under the Pipeline Safety Law. The state must also have authority to require pipeline operators to maintain records, make reports, and file plans for inspection and maintenance. Additionally, the state must have injunctive and monetary sanctions substantially the same as provided under the Pipeline Safety Law.

The Pipeline Safety Law also permits a state agency that does not qualify for certification to undertake certain safety activities under an agreement with the Department, principally conducting periodic inspection of pipeline operators. The state must also establish procedures for approval of operator plans for inspection and maintenance and must maintain records and reports to assure pipeline operator compliance with

Federal safety standards. In the event of a probable violation of the standards, the state must notify the Department, which initiates any enforcement action. If a state agency does not submit a certification or seek an agreement, all intrastate facilities within the state, and any category of intra-state facility not covered by a state certification or agreement, remain under the Department's safety jurisdiction.

The Department may also allow a state to act as its agent and inspect interstate pipelines traversing the state. To qualify as an agent, a state must demonstrate it is satisfactorily performing all responsibilities assigned under its certification for oversight of intrastate pipelines.

As of January 1, 1995, the Department required existing agents to have safety jurisdiction over all intrastate pipelines to remain interstate agents. As an agent, a state must notify the Department of any probable violation discovered. However, the Department retains responsibility for taking appropriate enforcement action.

Each state agency participating in the pipeline safety program is eligible for grant funding of up to 50 percent of personnel, equipment, and activity costs associated with carrying out its program (see Table 2). The amount of funding available in any given year depends upon the congressional appropriations process. Since 1981, appropriations have not been adequate to cover state requests for grant funds, and the Department developed a formula to allocate available funds to support state programs. Performance factors used for allocating funds in 1995 and 1996 included: amount of state request; extent of state jurisdiction over intrastate operators; number and qualification of inspectors; number of inspection person-days; and existence of an underground utility damage prevention Pipeline Safety Law.

For pipeline safety grant funding, Congress appropriated \$12M in 1995 and 1996. The Department allo-

cated a total of \$9,909,510 in 1995, and \$9,667,530 in 1996 to state agencies participating in the gas program (90 percent of the appropriation was assigned to natural gas pipeline activities) (see Table 2).

Funding in 1995 covered an average of 44 percent and in 1996 an average of 42 percent of overall requests for grant funds to defray gas program costs.

States have overwhelmingly supported the concept of common stewardship in gas pipeline safety. In 1995 and 1996, 48 state agencies, including the District of Columbia and Puerto Rico, held certifications, and in 1995, 1 state agency, and in 1996, 2 state agencies operated all or part of their gas safety programs under agreements (see Table 3). Additionally, 12 state agencies acted as agents on behalf of the Department for inspecting interstate gas pipelines. Alaska, Hawaii, Idaho, and Maine did not participate in the program.

### ■ Hazardous Liquid Pipeline Safety Program

The Pipeline Safety Law provides for state participation in regulating the safety of pipelines transporting hazardous liquids under a certification or an agreement. At present, fewer states participate in the hazardous liquid program than in the gas program, reflecting the fact that the number of miles of liquid lines is significantly lower than the number of miles of gas lines.

In 1995, a total of 12 state agencies participated in the hazardous liquid program; 11 state agencies held certification, and 1 state operated under an agreement. Furthermore, four of these states acted as agents on behalf of the Department for inspecting interstate hazardous liquid lines. The Department allocated a total of \$1,340,486 to state agencies participating in the liquid program, covering an average of 44 percent of state costs (see Table 4).

In 1996, a total of 13 state agencies participated in the hazardous liquid program; 12 state agencies held certification, and 1 state operated under an agreement. Furthermore, four of these states acted as agents on

behalf of the Department for inspecting interstate hazardous liquid lines. The Department allocated a total of \$1,526,470 to state agencies participating in the liquid program, covering an average of 42 percent of state costs (see Table 4).

### ■ State Pipeline Safety Personnel

One of the major state uses of Federal grant funds is for defraying personnel costs. As of December 31, 1995, the states reported a nationwide complement of 288 safety inspectors (working 235 person years) in the gas program and 84 inspectors (working 17 person years) in the liquid program.

As of December 31, 1996, the states reported a nationwide complement of 294 safety inspectors (working 272 person years) in the gas program and 106 inspectors (working 21 person years) in the liquid program.

About 20 percent of the state gas inspectors have engineering degrees from accredited engineering schools or are registered professional engineers, and have a minimum of 3 years experience as state or Federal pipeline inspectors inspecting gas or liquid operators for compliance with state and Federal Pipeline safety regulations. In addition, they have completed all applicable TSI training (or received an exemption) (see Table 5).

### ■ Improving State Program Performance

The Department is committed to moving toward full 50 percent funding of eligible state program costs on a phased basis, tied to improved state performance. Initially, in distributing funds, the Department placed emphasis on assisting states to establish their pipeline safety programs. The Department has shifted attention to assisting states to enhance program performance. A state's performance would be based on the results of RSPA's annual field evaluation (assessing operating practices; quality of state inspections, investigations, and enforcement actions; and adequacy of



recordkeeping) and selected information provided in the state's annual certification/agreement (e.g., extent of safety jurisdiction, inspector qualifications, number of inspection person-days, adoption of applicable regulations).

Two critical performance factors are: (1) state assumption of safety jurisdiction over *all* intrastate pipelines, and (2) adoption of minimum one-call notification system requirements. Some state agencies continue to have difficulty in obtaining the necessary legislative authority to comply with these requirements. In several instances, RSPA has met with key state officials to increase awareness of the pipeline safety program and encourage state assumption of additional jurisdiction and/or adoption of one-call requirements.

As a result of increasing emphasis, a number of states have taken steps to expand their jurisdiction over intrastate pipelines, including municipal, master meter, and LPG systems. By the end of 1995, states reported they had jurisdiction over a total of 13,554 gas operators with 16,074 pipeline inspection units and 370 liquid operators with 548 pipeline inspection units. At the end of 1996, states reported they had jurisdiction over a total of 12,088 gas operators with 14,968 pipeline inspection units and 386 liquid operators with 519 pipeline inspection units (see Table 6).

A number of states strengthened their damage prevention programs during 1995 and 1996 to comply with minimum Federal requirements for one-call notification systems. Outside force damage is the leading cause of pipeline safety accidents — accounting for 68 percent of gas distribution, 42 percent of gas transmission and gathering, and 28 percent of hazardous liquid incidents reported to RSPA in 1995. Incidents reported in 1996 account for 59 percent of gas distribution, 49 percent of gas transmission and gathering, and 25 percent of hazardous liquid incidents.

One-call systems serve as critical switching centers for excavators to notify pipeline and underground facility operators of their intent to use equipment for digging,

tunneling, demolition, or similar work. Congress explicitly prescribed the minimum requirements for establishing and operating one-call notification systems in the Pipeline Safety Law, including:

- Complete coverage of areas in state having pipeline facilities;
- Compliance with operating requirements (system management, recordkeeping, etc.);
- Excavator notification to one-call system of intent to dig;
- Intrastate pipeline operator participation in one-call system;
- Pipeline operator response to notices of intended excavation activity (e.g., marking location of pipeline);
- Notification of excavators and public availability and use of one-call system; and
- Authority to enforce sanctions for violation of one-call requirements.

## ■ NARUC/NAPSR

The Department coordinates closely with the National Association of Regulatory Utility Commissioners (NARUC) and the National Association of Pipeline Safety Representatives (NAPSR). These two organizations, representing state interests in pipeline safety matters, hold meetings during the year and adopt resolutions to surface pipeline safety concerns of national significance.

NARUC is an organization of governmental agencies engaged in the regulation of utilities spanning the areas of communication, electricity, energy, gas and oil, and motor carriers. The objective of NARUC is to serve the consumer interest by seeking to improve the quality and effectiveness of public regulation in America. NARUC, through its Staff Subcommittee on Pipeline Safety under the Committee on Gas, provides RSPA a two-way communication channel with state public

utility commissioners (or their equivalents) and state pipeline safety program managers.

NAPSR is an organization of state gas pipeline safety program managers, inspectors, and technical personnel who support and work to enhance pipeline safety. Each year, NAPSR holds national and regional meetings to promote information exchange and innovative approaches for implementing the pipeline safety program. NAPSR submitted two resolutions to RSPA in 1995 to:

- Review the definitions for the terms “service line” and “service regulator;” and
- Study the feasibility to standardize a computer format for the exchange of safety information and program administration between NAPSR, OPS, and TSI.

NAPSR submitted seven resolutions in 1996 to:

- Amend Part 192, Section 192.723(b)(2) to allow a three-month variance on leak survey intervals;
- Limit risk management demonstration projects to interstate transmission operators;
- Update and improve the “Guidance Manual for Operators of Small Gas Systems;”
- Provide more advance notice of public meetings and invitational travel for at least one NAPSR representative to attend hearings/workshops;
- Fund 100 percent of State pipeline safety-related training expenses;
- Institute a procedure that would account for unplanned events when computing grant allocations; and
- Implement a means of timely notice of pipeline construction activities to the State agencies affected in addition to the Department.

# Compliance

**A**chieving operator compliance with the pipeline safety regulations is important in preventing accidents. Accordingly, RSPA has increased emphasis on those components of the overall pipeline safety programs which contribute significantly to compliance, including operator inspections, compliance actions, state oversight, and accident investigations. The five pipeline safety Regional Offices constitute the backbone of RSPA's compliance efforts. OPS continued decentralization, allowing RSPA to be more responsive to operational problems. This has led to improved regional/operator relations, more efficient utilization of resources, and ready availability of expertise to address unique state/regional safety and environmental concerns.

## ■ Risk-Based Pipeline Inspection Plan

The most fundamental way to assure compliance is through periodic inspection of pipeline operations. RSPA regional staff inspect interstate gas and hazardous liquid pipeline systems, as well as the intrastate facilities under direct Federal jurisdiction, such as certain municipal and master meter gas systems that are not regulated by a state agency, or intrastate gas and liquid facilities in states where a state agency is not participating in the program.

RSPA continued to use its risk-based pipeline inspection plan for scheduling unit inspections prioritized by risk. In determining the priority of inspections, RSPA considers existing safety problems, population density, known environmental sensitivity of unit areas, results of past inspections, analysis of safety-related condition reports filed by operator, length of time since last inspection, and Pipeline Inspection Priority Program (PIPP) rankings.

PIPP rankings are based upon operator-supplied information such as proportion of pipeline without cor-

rosion protection, leak repair history, and pipeline material (cast iron pipe and polyvinyl chloride (PVC) and acrylonitrile-butadiene-styrene (ABS) plastic pipe present greater risk). PIPP rankings also reflect RSPA inspection results and enforcement actions.

The risk-based inspection plan enables OPS' regional offices to allocate their limited inspection resources effectively. The inspection plan also has built-in flexibility which allows RSPA to devote more time to such critical activities as new construction follow-up, drug testing inspections, and additional accident investigations.

## ■ Inspection Activity

In 1995, RSPA's regional staff expended a total of 1,323 person-days inspecting 417 natural gas and hazardous liquid inspection units. The state agencies expended 28,357 person-days inspecting 8,435 natural gas and 327 hazardous liquid inspection units.

For 1996, RSPA's regional staff expended a total of 1,405 person-days inspecting 547 natural gas and hazardous liquid inspection units. The state agencies expended 30,155 person-days inspecting 8,107 natural gas and 324 hazardous liquid inspection units.

## ■ Compliance Actions

RSPA has a variety of compliance actions available to address a probable violation of the pipeline safety regulations. These actions, depending on the circumstances, range from issuing a warning letter to issuing a hazardous facility order requiring immediate suspension of operations or restricted use of a facility.

In 1995, RSPA opened 132 compliance actions against gas and hazardous liquid pipeline operators found to

be in violation of the pipeline safety regulations. In addition, RSPA collected penalties totaling \$320,701. The state agencies initiated 3,523 natural gas and 84 hazardous liquid compliance actions.

During 1996, RSPA opened 190 compliance actions against gas and hazardous liquid pipeline operators found to be in violation of the pipeline safety regulations. In addition, RSPA collected penalties totaling \$51,900. The state agencies initiated 3,074 natural gas and 103 hazardous liquid compliance actions.

## ■ **Accident Investigations and State Oversight**

RSPA staff investigate selected pipeline accidents to determine if regulations have been violated and whether revisions or additions to the regulations are needed. In addition to inspecting interstate pipeline operators, RSPA regional staff also oversee the intrastate natural gas and hazardous liquid pipeline safety programs of state agencies participating in the Federal/state program, as well as the programs of those state agencies acting as agents for RSPA to inspect interstate operators.

# Accidents and Investigations

Part 191, Title 49 CFR, contains the requirements and criteria for reporting gas pipeline incidents. Subpart B of Part 195 includes regulations for reporting hazardous liquid pipeline accidents. These regulations define damage thresholds, exclusions, time requirements, and reporting methods. RSPA maintains data reported by pipeline operators on incidents and accidents in the Integrated Pipeline Information System (IPIS). IPIS is the primary tool for storing, retrieving, and analyzing pipeline safety data. IPIS provides operational and statistical information necessary to perform failure and cost-benefit analyses and various other studies supporting rulemaking, enforcement, and research.

## ■ Natural Gas Pipeline Incident Data

Criteria for the submission of written reports by natural gas distribution, transmission, and gathering operators requires reports on all incidents involving a release of gas and either: (1) a death or personal injury necessitating in-patient hospitalization, or (2) estimated property damage of \$50,000 or more. Reports are not required for master meter systems or LNG facilities.

During 1995, natural gas transmission and gathering pipeline operators reported 64 incidents, involving 2 fatalities, 10 injuries, and \$9,957,750 in property damage. Natural gas distribution pipeline operators reported 97 incidents, involving 16 fatalities, 43 injuries, and \$10,950,673. Of the 161 total gas incidents, 93 (58 percent) were attributed to damage to outside forces. See Tables 7 and 8.

In 1996, natural gas transmission and gathering pipeline operators reported 77 incidents, involving 1 fatality, 5 injuries, and \$13,078,474 in property damage.

Natural gas distribution pipeline operators reported 109 incidents, involving 14 fatalities, 67 injuries, and \$11,252,842 in property damages. Of the 186 total gas incidents, 102 (55 percent) were attributed to damage to outside forces. See Tables 9 and 10. The 1996 distribution statistics do not include 33 fatalities, 42 injuries, and \$5,000,000.00 in property damage costs associated with a San Juan, Puerto Rico incident that was attributed to natural gas at the time of the incident. The root cause of this incident is currently in dispute, and subject to litigation.

## ■ Hazardous Liquid Pipeline Accident Data

A reportable accident for hazardous liquids is (1) an explosion or fire not intentionally set by the operator, (2) loss of 50 or more barrels of product, (3) escape to the atmosphere of more than five barrels a day of highly volatile liquid, (4) death or bodily harm to any person, or (5) estimated property damage exceeding \$50,000.

During 1995, hazardous liquid pipeline operators reported a total of 188 accidents, involving 3 fatalities, 11 injuries, \$32,518,689 in property damage and a release of 53,113 net barrels of product. Of the 188 hazardous liquid accidents, 53 (28 percent) were attributed to damage by outside forces (see Table 13) and 36 (19 percent) were attributed to corrosion (external and internal) (see Table 11).

During 1996, hazardous liquid pipeline operators reported a total of 195 accidents, involving 5 fatalities, 13 injuries, \$49,704,731 in property damage and a release of 96,141 net barrels of product. Of the 195 hazardous liquid accidents, 48 (25 percent) were attributed to damage by outside forces and 62 (32 percent) were attributed to corrosion (external and internal) (see Table 11).

See Tables 12, 13, 14, and 15 for summaries regarding liquid pipeline accidents reported by commodity, and summaries of pipeline failures, and injuries.

### ■ Economic Impact of Accidents

RSPA converts accident data to a common denominator for purposes of preparing cost-benefit justifications in rulemakings and for assessing risk. The economic impact of injuries, fatalities, and barrels of product spilled is calculated using a dollar equivalent—\$450,000 is used for each injury, \$2,700,000 for each fatality, and \$25 for each barrel of product spilled. These dollar equivalents for injuries and fatalities are based on a Department analysis of economic studies of the “willingness-to-pay” concept. Property damage is shown at the dollar level reported by the pipeline operator. Based on these dollar equivalents, the natural gas and hazardous liquid pipeline accidents reported to RSPA in 1995 accounted for a combined economic impact of over \$140,714,937 million in injuries, fatalities, product spilled, and property damage (see Table 16).

### ■ Accidents of Interest

Of the pipeline accidents for which written reports were submitted to the Department in 1995 and 1996, some are of particular interest given environmental implications, extent of property damage, or cause of accident.

- On January 19, 1995, a gas distribution company was notified that a cable TV contractor, while boring to install a new cable, hit a 4-inch plastic gas distribution main operating at 95 psig. The gas company did not detect any gas in surrounding occupied homes, but failed to check the four unoccupied homes. Gas accumulation in one of the four homes resulted in an explosion, damaging 20 houses and causing \$1.5 million in property damage.

- On June 10, 1995, a tank fire was caused by a lightning strike in Jefferson County, Oklahoma. On June 11, 1995, an unknown volume of burning oil swept over the secondary containment and flowed down the roadway and the side of the hill towards the pipeline station and a nearby creek. On June 12, 1995, a second overflow, much larger than the first, ensued. The second overflow was responsible for two fatalities.
- On December 2, 1995, three contractor employees were killed and another injured during routine maintenance at a hazardous liquid facility pipeline facility near McCamey, Texas. The contractors were welding on a pipeline facility when a vacuum truck pump was inadvertently reversed, injecting ignitable vapors into the facility.
- On December 19, 1995, an explosion occurred destroying a twin dwelling in Norristown, Pennsylvania, killing two persons and critically injuring a third person. Property damages were over \$100,000. The cause of the explosion was gas migration into the building from a crack in a 6-inch cast iron main in the street.
- On May 25, 1996, a 20-inch hazardous liquid pipeline ruptured in a swampy area near Gramercy, Louisiana. Approximately 470,000 gallons of unleaded gasoline was released into the Blind River, resulting in environmental damages including loss of fish and wildlife. This accident is still under investigation by NTSB. The probable cause of the rupture, indicated by gouges on the pipeline, appears to be outside force damage possibly caused by a backhoe.
- On June 27, 1996, an accident occurred which resulted in approximately 960,000 gallons of fuel oil being released into the Reedy River near Simpsonville, South Carolina. This is among the largest hazardous liquid spills ever reported to OPS. The failure resulted from an over pressure of the pipeline due to employee error at an area of reduced wall thickness caused by corrosion. The operator had previously located the corroded area and the pipe was scheduled for repair.

- On August 24, 1996, an LPG vapor cloud ignited in a rural area near Lively, Texas, resulting in two fatalities. Local residents smelled the leaking LPG and sent two teenagers for help. The two teenagers died when they drove their pick-up truck through a low lying area that ignited the LPG vapor cloud. Preliminary investigation indicates that the failures may have resulted from mechanical damage to the pipe.
- In San Juan, Puerto Rico, on November 21, 1996, an explosion occurred in a six-story building resulting in 33 deaths and over 80 injuries requiring medical treatment. After extensive investigation, it appears that third-party damage may have led to the explosion. A plastic service line and a plastic fitting showed evidence of outside force damage which may have allowed propane-air gas mixture to escape and migrate into the basement of the building. The explosion resulted in the destruction of the first three floors of the building. The investigation is continuing.

# Trans-Alaska Pipeline System

The Alyeska Pipeline Service Company operates the Trans-Alaska Pipeline System (TAPS), which has a declining flow rate, but has transported about 25 percent of the nation's domestically produced crude oil since 1977. The pipeline is routed from the North Slope production fields to the all-weather port of Valdez, Alaska, where the crude oil is loaded on ships and transported to refineries in the Continental U.S. The TAPS pipeline is 48 inches in diameter and 800 miles long, approximately equally divided between above ground and below ground sections interspersed throughout the 800 miles.

The Joint Pipeline Office (JPO), formed in 1990, that includes DOI's Bureau of Land Management, the State of Alaska, and OPS, continues to have primary responsibility for TAPS oversight. Initially, the JPO concentrated on corrosion problems first encountered in 1988, by running an instrumented internal inspection device, which resulted in an 8.5-mile pipe replacement in the Atigun Pass Floodplain.

Due to declining oil production from the North Slope Fields, Alyeska has taken some pump stations off line under strict guidelines set by OPS and the JPO. These stations are being maintained in case of resumed or increased production from the North Slope or production from other nearby petroleum reserves. Alyeska is injecting drag reducing agents, into the oil stream to reduce friction in the line which will allow the oil to flow faster.

The JPO, with OPS as the lead agency, has entered into agreements with Alyeska to provide a proactive approach to maintenance and operational issues. One such agreement will provide for enhanced maintenance for mainline valves. Another agreement concerns innovative technologies used to monitor and reduce corrosion on the line. The working group formed to address the external corrosion problems is developing additional protection and monitoring alternatives for the pipeline, including state-of-the-art remote coupon monitoring technology. Alyeska continues to run annual instrumented internal inspection devices to monitor the condition of the pipeline. Efforts are underway to determine changes in the condition of the pipeline by comparing data gathered by different runs of the instrumented internal inspection device.

DOI's independent audit of TAPS' final report identified several concerns regarding the integrity of the pipeline system. To date, all of these items have been resolved to the satisfaction of the JPO.

Alyeska also continues to develop organization modifications to improve overall performance. At the end of 1996, OPS had two full time inspectors in Alaska, one of which is dedicated full time to the inspection and monitoring of TAPS.



# Research and Technical Activities

## ■ Detection of Mechanical Damage in Pipelines

A research and development contract to develop electromagnetic in-line inspection (“smart pig”) technologies to detect and characterize mechanical damage and stress corrosion cracking (SCC) is being performed by Battelle Memorial Institute (Battelle), along with the Southwest Research Institute, and Iowa State University in collaboration with GRI. The two-year contract commenced in June 1996. Under the contract, Battelle is evaluating magnetic flux leakage (MFL) inspection technology for detecting mechanical damage and two electromagnetic technologies for detecting SCC. The focus is on MFL for detecting mechanical damage because experience shows MFL can characterize some types of mechanical damage and can be successfully used for metal-loss corrosion under a wide variety of conditions. The focus for SCC is on electromagnetic technologies that can be used in conjunction with, or as a modification to, MFL tools. An optional third year to the contract would verify the results from the first two years under realistic, pressurized pipeline conditions in GRI’s 4,700 foot, 24-inch diameter Pipeline Simulation Facility near Columbus, Ohio.

## ■ Pipeline Infrastructure Studies

A two-year contract commenced in September 1994 with the New Jersey Institute of Technology (NJIT) to study the probability of and consequences from pipeline failures on gas and hazardous liquid pipeline facilities located in high risk areas such as urban areas and environmentally sensitive areas. In carrying out this task, NJIT documented an exhaustive review of the RSPA pipeline accident, incident, and annual report data along with recommendations on improving data collection.

NJIT researched the pipeline industry’s rehabilitation, retrofitting, and land use practices from a cross-section of foreign countries (United Kingdom, Canada, Japan, Australia, and Germany), comparing them with the U.S. regulations. NJIT also provided information on over 900 articles on the pipeline industry based on an extensive literature search.

NJIT is presently developing a computer program for operators to electronically file accident reports. This would standardize data entry and provide on-line help for assisting with completion of the reports.

## ■ Applied Research to Pipelines

The Texas Transportation Institute (TTI) of Texas A&M University is conducting research into several areas of pipeline operation and maintenance to identify potential sources of risk and pipeline vulnerability that may be evident under the current regulatory process. The following research is being conducted:

- Survey a sampling of pipeline terminals with breakout tanks to determine the operator’s voluntary compliance with current petroleum industry storage tank standards.
- Study of underwater inspections of offshore pipelines in the Gulf of Mexico and its outlets to determine if these pipelines’ condition and depth of burial constitute a hazard to navigation. From this study, TTI will develop potential methods and intervals for periodic inspections to reduce the hazards.
- Study into pipeline leak-before-rupture technology which is focusing on the determination of possible conditions whereby a small crack, causing minor leakage, could grow to a critical length resulting in unstable crack propagation and large spillage.

- Research into dent/crack acceptability criteria for pipelines which includes a review of pertinent literature, analysis of dent information gathered from a major hazardous liquid pipeline, and fatigue testing of a number of pipeline specimens containing dents.
- Analyze potential effects of natural disasters on pipelines.

### ■ Study of Supervisory Control & Data Acquisition (SCADA) Methods and Leak Detection Systems

A SCADA and leak detection research initiative was conducted by the Volpe National Transportation Systems Center (Volpe). Volpe released a report in September 1996 entitled “Remote Control Spill Reduction Technology: A Survey and Analysis of Applications for Liquid Pipeline Systems.” The study examined the pipeline industry’s use of application of SCADA systems and leak detection systems. The report evaluated several leak detection performance measures, including response time, false alarms, sensitivity, and leak location accuracy. Volpe plans to enhancing the findings of this report by developing and analyzing several leak detection system scenarios on actual pipelines in cooperation with API.

### ■ National Pipeline Mapping System

A team, co-sponsored by OPS and the pipeline industry, was formed in 1994 to analyze various mapping alternatives and determine a cost-effective strategy for creating a reasonably accurate depiction of natural gas and hazardous liquid transmission pipelines and LNG facilities in the United States. The team consisted of representatives from OPS, USGS, state government agencies, and the pipeline industry.

The team concluded there were no existing mapping programs or products that met the team’s identified requirements for data quality, usability, maintenance, and implementation. Recognizing this fact, the team developed a national pipeline mapping system strategic plan with both short- and long-term strategies. These strategies are outlined in the team’s report, titled “Strategies for Creating a National Mapping System,” published in July 1996.

OPS has begun to acquire mapping products that will meet the team’s identified short-term strategy. The team’s recommended long-term strategies that will require a joint effort between Federal and state government agencies, and the pipeline industry, include:

- Developing, promoting, and communicating pipeline mapping data standards that are consistent with the Federal Geographic Data Committee standards;
- Developing and maintaining a national pipeline mapping system through formalized partnerships with government agencies and industries;
- Promoting the use of the pipeline mapping standards within one-call system; and
- Creating a clearinghouse for the national pipeline mapping system.

A second mapping team was formed in December 1996 to begin implementing the long-term strategies for creating a national pipeline mapping system.

The second team consists of representatives from OPS, USGS, DOE, FERC, Bureau of Transportation Statistics, state government agencies, and the pipeline industry. This second team is expected to complete its work in December 1997.

# Training and Information Dissemination

The Pipeline Safety Division of TSI is the primary provider of training for OPS. TSI is under the administrative direction of RSPA and receives technical and financial support to conduct the pipeline safety training program from OPS. TSI provides resident training at its facilities in Oklahoma City, Oklahoma, and nonresident training across the country. Both resident and nonresident training are essential to ensure that all personnel involved in pipeline transportation have fundamental knowledge of the one uniform set of Federal pipeline safety regulations, as well as relevant standard industry practices.

Educating Federal and state government inspectors in regulatory and compliance requirements and enforcement procedures continues to be the primary focus of TSI's resident training. Courses are generally one week in duration and are conducted in a conventional classroom and hands-on laboratory setting with an average of 21 students to a class. TSI training of state inspectors is an integral part of the Federal/State Partnership. For 1995 and 1996, 891 students attended 44 Federal pipeline safety classes offered by TSI (see Table 17).

Course offerings are continually being revised to keep current with regulatory changes, as well as meet the needs of the pipeline industry. Since TSI reinstated industry training, requests for classes have continued to increase. Nine classes were conducted in *Regulation Compliance Requirements for Gas Pipeline Operators* and three in *Safety Evaluation of Pipeline Corrosion Control Systems Fundamentals*.

From 1995 to 1996, TSI offered two classes in General Pipeline Safety Awareness to both government and industry participants. This training addressed OSHA and hazardous materials regulations, and pipeline safety fire fighting techniques.

TSI also holds pipeline safety seminars across the country at sites selected by state agencies. Seminars have proven to be advantageous to states since small operators, as well large operators, can have more employees attend seminars held in nearby local areas. This results in cost savings and less on-the-job time lost. Seminars, consisting primarily of one- to three-day sessions, are attended by an average of 103 participants, usually pipeline operator personnel. TSI has developed seminars to meet specific state requests. From 1995 to 1996, TSI offered a total of 68 seminars which attracted 6,985 attendees from 34 states (see Table 17), including seminars in New Hampshire and Massachusetts for the New England states. Seven seminars for small operators were conducted during 1995 and 1996.

TSI tailors seminars to meet area needs. Several seminars have become annual events due to unique safety issues: Alabama has cast iron and small operator concerns; Kansas has concerns about construction and maintenance practices (customer-owned service lines, plastic pipe shortcomings, etc.); and the New England area has aging gas systems, along with cast iron concerns. TSI, with guidance from OPS, is looking at several other areas for annual seminars to keep operators abreast of pipeline safety changes and concerns.

The hazardous liquid program continued to provide hands-on, hydraulic demonstration equipment in the classroom. A total of 12 hazardous liquid courses and seminars were conducted during 1995 and 1996.

The division expanded an alternative approach to classroom training with computer-based training in the fundamentals of corrosion control. This initiative will apply a multi-media concept through a networking computer system for artificial intelligence training, and will be piloted in 1997. The division is planning to use

this evolving technology with a national multi-media highway information system.

Information dissemination is another integral part of the Department's pipeline safety program. TSI provides a manual for government pipeline safety inspectors, including current pipeline safety regulations.

Inspectors receive the manual, referred to as the SMART Pipeline Inspection Guide manual, at the time they attend the first TSI pipeline safety class or fill out an application. The manual is updated periodically and each recipient is required to file addenda to the

manual with confirmation of from TSI. This effort ensures that each pipeline safety inspector has current regulations for conducting inspections.

To promote compliance with the pipeline safety regulations, the Department also sponsors a number of information dissemination activities designed to familiarize industry personnel with the requirements of the regulations. TSI distributed over 13,000 of the pipeline regulation manuals, diskettes, antidrug-related material, and videos on developing emergency plans in response to requests from states, operators, and various training participants.

# Drug/Alcohol Testing, Inspection, and Enforcement

In November 1988, RSPA established 49 CFR Part 199 entitled “Control of Drug Use in Natural Gas, Liquefied Natural Gas, and Hazardous Liquid Pipeline Operations” to require operators of pipeline facilities, other than master meter systems, used for the transportation of natural gas or hazardous liquids and operators of LNG facilities to have an anti-drug program for employees who perform specific functions covered by the pipeline safety regulations.

Pipeline operators with more than 50 employees subject to drug testing under Part 199 had to comply with the requirements by April 20, 1990. Operators with 50 or fewer employees subject to drug testing under Part 199 had to comply with the requirements by August 21, 1990.

A total of 49 state agencies in partnership with RSPA inspect for compliance of Parts 199 and 40.

Part 40 sets forth Departmental procedures for workplace drug-testing programs in all modes of transportation.

In February 1994, RSPA established Subpart B of Part 199 entitled “Alcohol Misuse Prevention Program” which set forth regulations requiring those pipeline operators that are subject to maintain and follow a drug testing program to also implement an alcohol testing program.

The alcohol testing regulations require a limited testing program for covered employees.

RSPA only requires post-accident, reasonable suspicion, return-to-duty and follow-up testing. RSPA *does not* require pre-employment or random alcohol testing.

Operators with 51 or more covered employees subject to alcohol testing under Part 199 had to comply with the requirements by January 1, 1995. Operators with 50 or fewer covered employees subject to alcohol testing under Part 199 had to comply with the requirements by January 1, 1996.

Those state agencies that inspect for compliance of the drug testing regulations, must also inspect for compliance with the alcohol testing regulations.

In 1994, RSPA developed the “Model Anti-Drug Plan” and the “Model Alcohol Misuse Prevention Plan.” These plans were developed to help pipeline operators and contractors comply with the requirements of Parts 199 and 40. RSPA required the submission of the Management Information System Data Collection forms for drug testing of pipeline personnel.

In 1996, RSPA required the submission of the MIS forms for both drug and alcohol testing of pipeline personnel. The results of the positive random drug testing rate for both 1994 and 1995 was 0.08 of 1 percent.

# The Oil Pollution Act of 1990

In recent years, several catastrophic oil spills have damaged the marine environment of the United States causing great damage to fish and wildlife. Because of these incidents, Congress passed the Oil Pollution Act of 1990 (OPA 90) to establish a new national planning and response system. This system includes the development of Facility Response Plans (FRP) for each operator that handles oil or oil products. Under OPA 90, the Department is responsible for establishing procedures, methods, and requirements for equipment to prevent and contain discharge of oil from vessels and transportation related facilities.

OPS has responsibility to establish procedures and planning requirements to prevent discharges from and to contain oil and hazardous substances in pipelines. On January 5, 1993, RSPA published an interim final rule for *Response Plans for Onshore Oil Pipelines* (49 CFR 194). The rule addressed several critical areas of planning, including: identification of economically and environmentally sensitive areas, response actions and strategies; integration of incident command structures; pre-approval of removal actions; training requirements; and exercise requirements.

In 1995, RSPA implemented its FRP review process. More than 1,200 facility response plans have been submitted to RSPA, and over 850 of which were designated by operators as posing a risk of “significant and substantial harm” to the environment. Following a rigorous plan review process, all operators with “significant and substantial” plans received approval letters from RSPA by the February 18, 1995, statutory deadline. Also in 1995, RSPA began its Preparedness for Response Exercise Program (PREP), in cooperation with the U.S. Coast Guard, EPA, and MMS. As part

of the PREP, RSPA conducted two large-scale area exercises with pipeline operators which involved extensive field deployment of response equipment as well as the mobilization of spill management teams. The PREP was very well received by industry, and has been cited as an example of how regulatory agencies and industry can cooperate to develop programs that meet the requirements of the OPA 90 statute while minimizing the burden on industry.

In 1996, RSPA continued to review FRP’s as pipeline operators continued to submit new or revised plans. RSPA also implemented its PREP exercise program, conducting 23 tabletop exercises and 2 large-scale area exercises with pipeline operators. Another major accomplishment of 1996 was the publication of the National Response Team’s Integrated Contingency Planning (ICP) Guidance, which RSPA helped develop, in cooperation with EPA, U.S. Coast Guard, OSHA, and MMS.

The ICP is a plan format that simplifies existing Federal contingency planning requirements into a single integrated plan which simultaneously satisfies each of the Federal agency’s planning requirements. The ICP guidance was developed by a workgroup which included representatives from Federal, state and local government, industry, labor, and environmental groups. By reducing the administrative burden on facilities and providing a standardized plan format, the ICP can improve emergency response operations and regulatory compliance. In recognition of the ICP’s contribution to reinventing government, the project was awarded the National Performance Review’s “Hammer” Award on November 18, 1996.

## Judicial Actions

The following judicial action involving the pipeline safety program was completed in 1996:

**In re Columbia Gas Transmission Company, No. 91-804 (Bankr. D. Del. filed July 31, 1991).** Columbia Gas filed for reorganization in bankruptcy on July 31, 1991. RSPA filed proofs of claim for unpaid pipeline user fees (\$391,000) and civil penalties arising from probable violation of safety regulations. Columbia Gas submitted a reorganization plan in June 1995. The Court approved the reorganization plan on November 15, 1995. In accordance with the plan, RSPA received full payment of both the user fees and the civil penalties.

The following judicial actions were pending at the end of 1996:

**American Gas Association (AGA) v. Secretary of Transportation, No. 94-1499 (D.C. Cir. filed July 8, 1994).** The AGA filed a petition for review of RSPA's final rule entitled "Passage of Instrumented

Internal Inspection Devices." The rule implements a statutory mandate that new and replaced pipelines be constructed to accommodate the passage of instrumented internal inspection devices. AGA challenged the rule's requirement that segments of natural gas pipelines be made to accommodate internal inspection devices whenever any portion within the segment of the line pipe is replaced. RSPA reopened the rulemaking to reconsider this issue and others raised in administrative petitions for reconsideration of the rule. Judicial proceedings were stayed pending administrative action of the reopened rulemaking.

**Exxon Corp. v. Secretary of Transportation, No. CS 96-0204 (E.D.Wash. filed April 12, 1996).** Exxon filed a suit challenging a RSPA enforcement order requiring it to bring its pipeline facilities in Spokane, Washington, into compliance with the pipeline safety standards. Exxon based its challenge on its claim that RSPA lacks authority to regulate pipeline breakout tanks that are used primarily for storage of hazardous liquids. The case was submitted to the Court on cross motions for summary judgment in October 1996.

## Report Under the Mineral Leasing Act

Subsections 28(w) (3) and (4) of the Mineral Leasing Act of 1920 (Pub. L. 93-153, 30 U.S.C. 185) that required the Department to report annually on pipelines on Federal Lands were eliminated by the "Federal Reports Elimination & Sunset Act of 1995" (Pub L. 104-66; enacted December 21, 1995). Therefore, the report on pipelines on Federal lands is eliminated in this and future annual reports on pipeline safety.



# Tables

## Table 1

### Membership Roster: Technical Pipeline Safety Standards Committee

Membership Category: (G) = Government; (I) = Industry; (P) = Public

**Samuel Davis, Jr. (I)**

General Manager  
City of Tallahassee  
2602 Jackson Bluff Road  
Tallahassee, FL 32304

**John Spencer Leiss (G)**

Geologist  
Federal Energy Regulatory Commission  
888 First Street, NE.  
Washington, DC 28211

**Susan M. Seltsam (G)**

Chair  
Kansas Corporation Commission  
1500 SW. Arrowhead Drive  
Topeka, KS 66604

**Kathleen A. Fournier (P)**

Executive Director  
MISS DIG Utility Communication  
System  
1030 Featherstone Road  
Pontiac, MI 48342-1830

**Theodore C. Lemoff (P)**

Senior Gases Engineer  
National Fire Protection Agency  
1 Batterymarch Park  
Quincy, MA 02269

**Eric E. Thomas (I)**

Vice President, Engineering  
Southern Natural Gas Company  
1900 Fifth Avenue  
Birmingham, AL 35203

**John E. Gawronski (G)**

Chief, Gas and Petroleum Safety  
New York State Department of  
Public Service  
Three Empire State Plaza  
Albany, NY 12223

**Mirna Urquidi-Macdonald (P)**

Associate Professor of Engineering  
Science and Mechanics  
The Pennsylvania State University  
225A Hammond Building  
University Park, PA 16802

**Barbara Willis (P)**

Logistics Coordinator  
Institutional Products Division  
Colgate-Palmolive Company  
303 Falvey Boulevard  
Texarkana, TX 75501

**Julius D. Kearney (G)**

Commissioner  
Arkansas Public Service Commission  
1000 Center Street  
Little Rock, AR 72206

**David N. McMillan (G)**

Chief, Division of Gas  
New Jersey Board of Public Utilities  
Two Gateway Center  
Newark, NJ 07102

**Dr. Theodore Wilke (I)**

Vice President, Gas Operations  
Technology Development  
Gas Research Institute  
8600 West Byrn Avenue  
Chicago, IL 60631

**Ray B. Killough (I)**

Senior Vice President, Operations  
Piedmont Natural Gas Company, Inc.  
1915 Rexford Road  
Charlotte, NC 28211

**Michael P. Neuhard (P)**

Battalion Chief  
Fairfax County Fire and Rescue  
Department  
4100 Chain Bridge Road  
Fairfax, VA 22030

**John S. Zurcher (I)**

Director, Pipeline Services  
Tenneco Gas  
1010 Milam  
Houston, TX 77251

**Table 1**

**Membership Roster: Technical Hazardous Liquid Pipeline Safety Standards Committee**  
Membership Category: (G)=Government; (I)=Industry; (P)=Public

**John M. Abboud (I)**  
Senior Vice President, Operations  
and Engineering  
Santa Fe Pacific Pipelines, Inc.  
888 S. Figueroa Street  
Los Angeles, CA 90017

**Elmer P. Danenberger, III (G)**  
Chief, Engineering Technology  
Division  
Department of Interior  
381 Elden Street  
Herndon, VA 22070

**Lois N. Epstein, P.E., (P)**  
Senior Engineer  
Environmental Defense Fund  
1875 Connecticut Avenue, NW.  
Washington, DC 20009

**Michael Gonzalez (P)**  
Assistant Director  
Planning and Program Development  
Southwest Research Institute  
6220 Culebra Road  
San Antonio, TX 78228-0510

**Cody L. Graves (G)**  
Vice Chairman  
Oklahoma Corporation Commission  
2101 North Lincoln Boulevard  
Oklahoma City, OK 73105

**Denise Hamsher (I)**  
Manager, Employee and External  
Communications  
Lakehead Pipe Line Company, Inc.  
21 West Superior Street  
Duluth, MN 55802

**Kerri M. Howell (P)**  
Vice President, Civil and Corrosion  
Engineering  
V&A Consulting Engineers  
1999 Harrison Street, Suite 975  
Oakland, CA 94612

**Chester Morris, Jr. (I)**  
Joint Ventures Manager  
Mobil Pipe Line Company  
1201 Elm Street  
Dallas, TX 75270

**Lisa M. Parker (P)**  
President  
Parker Horn Company  
292 Arlington Court  
Soldotna, AK 99669

**Dianne D. Pearce (I)**  
Executive Director  
Chesapeake Wildlife Sanctuary  
17308 Queen Anne Bridge Road  
Bowie, MD 20716

**Susan A. Robinson (I)**  
Manager, Health, Environment and  
Loss Protection  
Chevron Pipe Line Company  
Bishop Ranch No. 8  
4000 Executive Parkway  
San Ramon, CA 94583-0959

**Eric P. Serna (G)**  
Chairman  
New Mexico State Commission  
PERA Building, Room 401  
Santa Fe, NM 87501

**Jean Snider (G)**  
Interagency Liaison  
Hazardous Materials Response and  
Assessment  
National Oceanic and Atmospheric  
Administration  
Department of Commerce  
2100 2nd Street, SW., (G-MEP)  
Washington, DC 20593

**Maassoud Tahamtani (G)**  
Assistant Director, Division of Energy  
Regulation  
Virginia State Corporation  
Commission  
1300 E. Main Street  
Richmond, VA 23219

*\*Note: Public vacancy to be filled.*

**Table 2****1995 Natural Gas Pipeline Safety Grant Allocation**

<b>STATE</b>	<b>\$ ALLOCATION</b>	<b>STATE</b>	<b>\$ ALLOCATION</b>
Alabama	296,211	Nevada	103,193
Arizona	345,361	New Hampshire	54,665
Arkansas	158,546	New Jersey	294,780
California	972,279	New Mexico	124,597
Colorado	147,155	New York	1,218,746
Connecticut	122,912	North Carolina	150,445
Delaware	14,899	North Dakota	30,754
District of Columbia	42,131	Ohio	412,482
Florida	43,247	Oklahoma	210,180
Georgia	178,260	Oregon	108,229
Illinois	199,705	Pennsylvania	212,944
Indiana	128,985	Puerto Rico	25,056
Iowa	134,339	Rhode Island	53,099
Kansas	283,794	South Dakota	35,235
Kentucky	169,200	Tennessee	197,471
Louisiana	348,571	Texas	817,193
Maryland	124,934	Utah	112,875
Massachusetts	262,570	Vermont	43,363
Michigan	193,409	Virginia	164,278
Minnesota	392,295	Washington	103,356
Mississippi	101,994	West Virginia	196,405
Missouri	209,402	Wisconsin	104,324
Montana	24,357	Wyoming	91,755
Nebraska	59,535		

<b>Subtotal</b>	<b>\$9,819,514</b>
<b>State Travel Expenses</b>	<b><u>90,000</u></b>
<b>Total</b>	<b>\$9,909,514</b>

**Table 2****1996 Natural Gas Pipeline Safety Grant Allocation**

<b>STATE</b>	<b>\$ ALLOCATION</b>	<b>STATE</b>	<b>\$ ALLOCATION</b>
Alabama	323,007	Nevada	106,605
Arizona	329,229	New Hampshire	67,594
Arkansas	142,955	New Jersey	288,400
California	987,834	New Mexico	111,738
Colorado	148,035	New York	1,098,307
Connecticut	123,105	North Carolina	153,204
Delaware	15,650	North Dakota	33,235
District of Columbia	49,811	Ohio	362,403
Florida	45,786	Oklahoma	179,966
Georgia	166,460	Oregon	107,771
Illinois	215,055	Pennsylvania	227,281
Indiana	127,371	Puerto Rico	23,334
Iowa	122,716	Rhode Island	50,376
Kansas	270,037	South Dakota	36,523
Kentucky	188,367	Tennessee	178,440
Louisiana	282,254	Texas	837,995
Maryland	131,132	Utah	110,917
Massachusetts	239,274	Vermont	38,852
Michigan	175,125	Virginia	215,973
Minnesota	442,114	Washington	104,963
Mississippi	107,079	West Virginia	114,898
Missouri	184,948	Wisconsin	126,374
Montana	24,294	Wyoming	96,294
Nebraska	64,448		

<b>Subtotal</b>	<b>\$9,577,530</b>
<b>State Travel Expenses</b>	<b><u>\$90,000</u></b>
<b>Total</b>	<b>\$9,667,530</b>

**Table 3**

**States Participating in the Federal/State Cooperative Natural Gas and Hazardous Liquid Pipeline Safety Program in 1995**

**NATURAL GAS PROGRAM**

*STATE AGENCIES UNDER SECTION 60105(A) CERTIFICATION (48)*

Alabama	Illinois	Montana	Puerto Rico
Arizona	Indiana	Nebraska	Rhode Island
Arkansas	Iowa	Nevada	South Carolina
California	Kansas	New Hampshire	South Dakota
Colorado	Kentucky	New Jersey	Tennessee
Connecticut	Louisiana	New Mexico	Texas
District of Columbia	Maryland	New York	Utah
Florida (Public Service Commission)	Massachusetts	North Carolina	Vermont
Florida (State Treasurer-LP Gas Division)	Michigan	Ohio	Virginia
Georgia	Minnesota	Oklahoma	West Virginia
	Mississippi	Oregon	Wisconsin
	Missouri	Pennsylvania	Wyoming

*STATE AGENCY UNDER SECTION 60106(a) AGREEMENT (1)*

Delaware

*STATE AGENCIES ACTING AS INTERSTATE AGENTS (12)*

Arizona	Michigan	New York	Utah
Connecticut	Minnesota	Ohio	West Virginia
Iowa	Nevada	Rhode Island	Wyoming

**HAZARDOUS LIQUID PROGRAM**

*STATE AGENCIES UNDER SECTION 60105(a) CERTIFICATION (11)*

Alabama	Louisiana	New York	Virginia
Arizona	Minnesota	Oklahoma	West Virginia
California (Fire Marshal)	Mississippi	Texas	

*STATE AGENCY UNDER SECTION 60106(a) AGREEMENT (1)*

New Mexico

*STATE AGENCIES ACTING AS INTERSTATE AGENTS (4)*

Arizona	California (Fire Marshal)	Minnesota	New York
---------	---------------------------	-----------	----------

**Table 3**

**States Participating in the Federal/State Cooperative Natural Gas and Hazardous Liquid Pipeline Safety Program in 1996**

**NATURAL GAS PROGRAM**

***STATE AGENCIES UNDER SECTION 60105(A) CERTIFICATION (48)***

Alabama	Illinois	Montana	Puerto Rico
Arizona	Indiana	Nebraska	Rhode Island
Arkansas	Iowa	Nevada	South Carolina
California	Kansas	New Hampshire	South Dakota
Colorado	Kentucky	New Jersey	Tennessee
Connecticut	Louisiana	New Mexico	Texas
District of Columbia	Maryland	New York	Utah
Florida (Agriculture Consumer Services)	Massachusetts	North Carolina	Vermont
Florida (Public Service Commission)	Michigan	Ohio	Virginia
Georgia	Minnesota	Oklahoma	West Virginia
	Mississippi	Oregon	Wisconsin
	Missouri	Pennsylvania	Wyoming

***STATE AGENCIES UNDER SECTION 60106(a) AGREEMENT (2)***

California (municipals)	Delaware
-------------------------	----------

***STATE AGENCIES ACTING AS INTERSTATE AGENTS (12)***

Arizona	Michigan	New York	Utah
Connecticut	Minnesota	Ohio	West Virginia
Iowa	Nevada	Rhode Island	Wyoming

**HAZARDOUS LIQUID PROGRAM**

***STATE AGENCIES UNDER SECTION 60105(a) CERTIFICATION (12)***

Alabama	Louisiana	New York	Washington
Arizona	Minnesota	Oklahoma	West Virginia
California (Fire Marshal)	Mississippi	Texas	Virginia

***STATE AGENCY UNDER SECTION 60106(A) AGREEMENT (1)***

New Mexico
------------

***STATE AGENCIES ACTING AS INTERSTATE AGENTS (4)***

Arizona	California (Fire Marshal)	Minnesota	New York
---------	------------------------------	-----------	----------

**Table 4**

**1995 Hazardous Liquid Pipeline Safety Grant Allocation**

<b>STATE</b>	<b>\$ ALLOCATION</b>	<b>STATE</b>	<b>\$ ALLOCATION</b>
Alabama	17,358	New Mexico	6,050
Arizona	33,981	New York	71,091
California (FM)	747,278	Oklahoma	86,344
Louisiana	57,420	Texas	144,363
Minnesota	101,710	Virginia	22,916
Mississippi	3,204	West Virginia	38,772

**Subtotal** **\$1,330,486**  
**State Travel Expenses** **\$10,000**  
**Total** **\$1,340,486**

**Table 4**

**1996 Hazardous Liquid Pipeline Safety Grant Allocation**

<b>STATE</b>	<b>\$ ALLOCATION</b>	<b>STATE</b>	<b>\$ ALLOCATION</b>
Alabama	19,524	New York	36,335
Arizona	34,577	Oklahoma	124,406
California (FM)	856,857	Texas	147,880
Louisiana	72,234	Virginia	33,030
Minnesota	108,159	Washington	41,277
Mississippi	4,222	West Virginia	30,776
New Mexico	7,192		

**Subtotal** **\$1,516,470**  
**State Travel Expenses** **\$10,000**  
**Total** **\$1,526,470**



**Table 5****1995 Natural Gas State Inspector Qualifications**

<b>STATE</b>	<b>CAT I</b>	<b>CAT II</b>	<b>CAT III</b>	<b>CAT IV</b>	<b>CAT V</b>	<b>TOTAL</b>
AL PSC	0	7	1	0	0	8
AR PSC	2	2	2	0	0	6
AZ CC	0	9	0	1	1	11
CA PUC	12	0	6	0	0	18
CO PUC	3	0	0	0	0	3
CT DPUC	1	0	2	0	0	3
DC PSC	0	0	1	0	0	1
DE PSC	1	0	1	0	0	2
FL PSC	0	2	2	2	0	6
FL LPG	0	3	0	0	0	3
GA PSC	0	3	0	1	0	4
IA DC	2	2	1	0	0	5
IL CC	0	6	1	0	0	7
IN PSC	0	2	2	0	0	4
KS CC	2	6	1	0	0	9
KY PSC	0	4	1	0	0	5
LA DNR	0	13	0	0	0	13
MA DPU	0	4	1	0	0	5
MD PSC	2	0	2	0	0	4
MI PSC	2	0	1	0	0	3
MN OPS	5	3	1	0	0	9
MO PSC	3	4	1	0	0	8
MS PSC	0	3	1	0	0	4
MT PSC	1	1	0	0	0	2
NC UC	0	3	0	0	0	3
ND PSC	0	1	0	1	0	2
NE SFM	0	2	0	0	0	2
NH PUC	1	0	1	0	0	2
NJ BPU	4	0	1	0	0	5
NM SCC	1	2	0	1	1	5
NV PSC	2	1	1	0	0	4
NY PSC	1	16	11	3	0	31
OH PUC	1	5	2	0	0	8
OK CC	0	4	3	1	0	8
OR PUC	0	1	1	0	0	2
PA PUC	3	3	0	0	0	6
PR PSC	0	1	0	0	0	1

STATE	CAT I	CAT II	CAT III	CAT IV	CAT V	TOTAL
RI PUC	0	0	1	1	0	2
SD PUC	0	0	2	0	0	2
SC PSC	0	3	0	0	0	3
TN RA	5	0	0	0	0	5
TX RC	6	14	5	5	1	31
UT DBR	0	1	2	0	0	3
VA SCC	2	0	2	0	0	4
VT DPS	0	1	0	0	0	1
WA UTC	0	3	0	0	0	3
WI PSC	2	0	2	0	0	4
WV PSC	1	3	0	1	0	5
WY PSC	1	2	0	0	0	3
<b>TOTAL</b>	<b>66</b>	<b>140</b>	<b>62</b>	<b>17</b>	<b>3</b>	<b>258</b>

**Table 5**

**1995 Hazardous Liquid State Inspector Qualifications**

STATE	CAT I	CAT II	CAT III	CAT IV	CAT V	TOTAL
AL PSC	0	7	1	0	0	8
AZ CC	0	5	0	0	0	5
CA SFM	2	2	2	0	0	6
LA DNR	0	2	0	0	0	2
MN OPS	5	3	1	0	0	9
MS PSC	0	1	1	0	0	2
NM SCC	0	0	2	0	0	2
NY PSC	0	8	0	0	0	8
OK CC	0	2	4	1	0	7
TX RC	6	14	5	5	1	31
VA SCC	2	0	0	0	0	2
WV PSC	0	2	0	0	0	2
<b>TOTAL</b>	<b>15</b>	<b>46</b>	<b>16</b>	<b>6</b>	<b>1</b>	<b>84</b>

**CATEGORY:**

- I Have engineering degrees from accredited engineering schools or are registered professional engineers, and have a minimum of 3 years' experience with gas or liquid pipelines or the enforcement of pipeline safety regulations at state or Federal level. In addition, have completed all applicable training at TSI or received an exemption.
- II Have engineering degrees from accredited engineering schools, are registered professional engineers, or have a minimum of 5 years' experience as state or Federal pipeline inspectors monitoring gas or liquid operators for compliance with state and Federal pipeline safety regulations. Have completed all applicable TSI training, or have 10 years' experience and have completed half the applicable training.
- III Have college degrees or minimum of 5 years' experience in gas or liquid pipelines.
- IV Have less than 5 years' experience as state pipeline inspectors.
- V Have less than 1 year experience as state pipeline inspector.

**Table 5****1996 Natural Gas State Inspector Qualifications**

<b>STATE</b>	<b>CAT I</b>	<b>CAT II</b>	<b>CAT III</b>	<b>CAT IV</b>	<b>CAT V</b>	<b>TOTAL</b>
AL PSC	0	7	1	0	0	8
AR PSC	1	4	0	0	0	5
AZ CC	0	7	0	1	2	10
CA PUC	11	0	13	0	0	24
CO PUC	3	0	1	0	0	4
CT DPUC	3	0	0	0	0	3
DC PSC	1	0	0	0	0	1
DE PSC	2	0	0	0	0	2
FL PSC	0	4	2	0	0	6
FL LPG	0	3	1	0	0	4
GA PSC	0	3	0	1	0	4
IA DC	2	2	1	0	0	5
IL CC	0	5	2	0	0	7
IN PSC	0	2	2	0	0	4
KS CC	1	7	1	0	0	9
KY PSC	0	3	1	0	0	4
LA DNR	0	13	0	0	0	13
MA DPU	2	3	0	0	0	5
MD PSC	3	0	1	0	0	4
MI PSC	1	4	0	0	0	5
MN OPS	5	3	2	0	0	10
MO PSC	4	2	2	0	0	8
MS PSC	0	3	1	0	0	4
MT PSC	0	1	0	0	0	1
NC UC	0	4	0	0	0	4
ND PSC	0	1	0	1	0	2
NE SFM	0	2	0	0	0	2
NH PUC	1	1	0	0	0	2
NJ BPU	5	0	0	0	0	5
NM SCC	1	1	0	0	0	2
NV PSC	2	1	0	0	0	3
NY PSC	3	15	12	1	0	31
OH PUC	1	6	1	0	0	8
OK CC	0	9	0	0	0	9
OR PUC	1	1	0	0	0	2
PA PUC	3	3	0	0	0	6
PR PSC	0	1	0	0	1	2

STATE	CAT I	CAT II	CAT III	CAT IV	CAT V	TOTAL
RI PUC	0	0	0	1	0	1
SD PUC	0	1	1	0	0	2
SC PSC	0	3	0	0	0	3
TN RA	5	0	0	0	0	5
TX RC	3	12	9	5	0	29
UT DBR	0	2	1	0	0	3
VA SCC	2	1	3	0	0	6
VT DPS	0	1	0	0	0	1
WA UTC	1	3	0	0	0	4
WI PSC	2	2	0	0	0	4
WV PSC	1	3	0	1	0	5
WY PSC	0	2	0	0	0	2
<b>TOTAL</b>	<b>71</b>	<b>151</b>	<b>58</b>	<b>10</b>	<b>3</b>	<b>294</b>

**Table 5**

**1996 Hazardous Liquid State Inspector Qualifications**

STATE	CAT I	CAT II	CAT III	CAT IV	CAT V	TOTAL
AL PSC	0	8	0	0	0	8
AZ CC	0	5	0	1	0	6
CA SFM	3	3	0	0	0	6
LA DNR	0	2	0	0	0	2
MN OPS	5	2	0	0	0	7
MS PSC	0	1	1	0	0	2
NM SCC	0	1	0	0	0	1
NY PSC	3	11	9	1	0	24
OK CC	0	7	0	0	0	7
SC PSC	0	3	0	0	0	3
TX RC	3	12	9	5	0	29
VA SCC	2	1	2	0	0	5
WA UTC	1	3	0	0	0	4
WV PSC	0	2	0	0	0	2
<b>TOTAL</b>	<b>17</b>	<b>61</b>	<b>21</b>	<b>7</b>	<b>0</b>	<b>106</b>

**CATEGORY:**

- I Have engineering degrees from accredited engineering schools or are registered professional engineers, and have a minimum of 3 years' experience with gas or liquid pipelines or the enforcement of pipeline safety regulations at state or Federal level. In addition, have completed all applicable training at TSI or received an exemption.
- II Have engineering degrees from accredited engineering schools, are registered professional engineers, or have a minimum of 5 years' experience as state or Federal pipeline inspectors monitoring gas or liquid operators for compliance with state and Federal pipeline safety regulations. Have completed all applicable TSI training, or have 10 years' experience and have completed half the applicable training.
- III Have college degrees or minimum of 5 years' experience in gas or liquid pipelines.
- IV Have less than 5 years' experience as state pipeline inspectors.
- V Have less than 1 year experience as state pipeline inspector.

**Table 6**

**1995 State Agency Inspection Activities—Natural Gas**

STATE	OPERATOR (S)	OPERATORS INSPECTED	INSPECTION UNITS	INSPECTION UNITS INSPECTED	INSPECTORS	PERSON YEARS	INSPECTIONS MADE PER-SON DAYS	PROBABLE VIOLATIONS	COMPLIANCE ACTIONS TAKEN	INCIDENTS LISTED ON CERT/AGR.
AL PSC	231	231	306	306	8	7.50	1,154	128	90	3
AR PSC	563	109	732	212	6	4.25	510	347	113	0
AZ CC	1,235	813	1,259	837	11	10.00	1,395	2,473	38	11
CA PUC	5,808	2,364	5,943	2,464	18	5.25	1,176	1,421	972	2
CO PUC	107	79	163	124	3	2.50	306	51	26	1
CT DPUC	9	9	34	34	3	3.00	297	59	12	1
DC PSC	1	1	5	5	1	1.00	101	0	1	0
DE PSC	15	15	20	20	2	2.00	104	4	0	1
FL PSC	61	61	78	78	6	6.00	752	67	40	3
FL LPG	76	75	318	317	3	3.00	468	485	67	0
GA PSC	221	160	279	188	4	4.00	830	240	94	5
IA DC	67	37	119	54	5	4.75	404	428	49	3
IL CC	115	110	179	156	7	6.75	639	34	19	3
IN PURC	103	103	204	186	4	3.00	490	40	17	4
KS CC	176	176	224	212	9	8.75	1,021	262	123	2
KY PSC	223	101	264	107	5	4.00	317	176	63	4
LA DNR	359	280	453	349	13	12.50	948	355	94	3
MA DPU	15	14	46	34	5	5.00	719	39	13	2
MD PSC	103	79	117	93	4	3.60	348	345	65	1
MI PSC	34	34	0	0	3	3.00	326	62	0	2
MN OPS	49	49	73	68	9	8.83	649	257	30	2
MO PSC	66	52	107	86	8	6.50	620	154	71	1
MS PSC	150	108	197	144	4	3.33	303	153	0	4
MT PSC	63	29	75	33	2	1.83	67	15	1	2
NC UC	36	38	86	86	3	3.00	408	111	39	0
ND PSC	20	20	28	28	2	0.84	132	50	14	0
NE SFM	27	17	34	21	2	2.00	203	58	13	1
NH PUC	10	7	15	11	2	2.00	45	5	0	0
NJ BRC	65	24	98	44	5	5.00	474	39	28	4
NM SCC	272	108	347	127	5	5.00	178	198	53	2
NV PSC	41	17	50	17	4	2.33	164.5	177	20	3
NY PSC	42	41	105	95	31	20.70	3,312	144	105	4
OH PUC	227	96	357	162	8	8.00	925	141	48	3
OK CC	192	93	250	110	8	6.50	420	523	105	1
OR PUC	15	14	21	16	2	1.88	266	240	31	0
PA PUC	37	36	129	127	6	6.00	796	227	57	6
PR PSC	1	1	2	2	1	1.00	61	2	0	0

STATE	OPERATOR (S)	OPERATORS INSPECTED	INSPECTION UNITS	INSPECTION UNITS INSPECTED	INSPECTORS	PERSON YEARS	INSPECTIONS MADE PER-SON DAYS	PROBABLE VIOLATIONS	COMPLIANCE ACTIONS TAKEN	INCIDENTS LISTED ON CERT/AGR.
RI PUC	15	10	17	11	2	1.30	179	8	6	0
SC PSC	31	31	107	107	3	3.00	443	109	83	0
SD PUC	19	18	25	24	2	2.00	48	26	0	0
TN PSC	190	190	210	210	5	5.00	321	120	73	2
TX RC	1,514	586	1,930	808	31	19.78	2,589.5	2,469	588	6
UT DBR	478	9	491	92	3	1.70	257	133	78	2
VA SCC	9	9	31	31	4	3.00	339	21	15	2
VT DPS	41	28	41	15	1	1.00	89	11	5	0
WA UTC	39	24	46	29	3	3.00	254	161	19	0
WI PSC	13	13	65	39	4	3.00	139.15	128	13	0
WV PSC	327	72	349	87	5	5.00	482	40	15	6
WY PSC	43	29	45	29	3	2.42	150	128	117	1
<b>TOTAL</b>	<b>13,554</b>	<b>6,620</b>	<b>16,074</b>	<b>8,435</b>	<b>288</b>	<b>234.79</b>	<b>26,616.74</b>	<b>12,864</b>	<b>3,523</b>	<b>103</b>

**Table 6**

**1995 State Agency Inspection Activities—Hazardous Liquid**

STATE	OPERATOR (S)	OPERATORS INSPECTED	INSPECTION UNITS	INSPECTION UNITS INSPECTED	INSPECTORS	PERSON YEARS	INSPECTIONS MADE PER-SON DAYS	PROBABLE VIOLATIONS	COMPLIANCE ACTIONS TAKEN	INCIDENTS LISTED ON CERT/AGR.
AL PSC	9	9	9	9	8	0.14	18	1	1	0
AZ CC	6	6	7	7	5	0.84	126	34	0	0
CA SFM	77	57	104	88	6	6.00	529	64	1	6
LA DNR	31	31	42	40	2	1.85	178	82	15	0
MN OPS	15	15	25	21	9	1.50	168	23	9	2
MS PSC	2	2	2	2	2	0.45	22	4	0	0
NM SCC	9	9	9	9	2	0.50	17	0	0	0
NY PSC	15	8	15	8	8	0.29	73	0	0	1
OK CC	11	8	55	24	7	1.53	162	67	0	3
TX RC	192	89	277	116	31	3.49	409	183	57	18
VA SCC	1	1	1	1	2	0.06	4	7	1	0
WV PSC	2	2	2	2	2	0.21	14	0	0	0
<b>TOTAL</b>	<b>370</b>	<b>237</b>	<b>548</b>	<b>327</b>	<b>84</b>	<b>16.86</b>	<b>1,720</b>	<b>465</b>	<b>84</b>	<b>30</b>

Some of these inspectors also inspect gas pipeline operators and are also counted in the complement of 279 gas inspectors.

**Table 6**

**1996 State Agency Inspection Activities—Natural Gas**

STATE	OPERATOR (S)	OPERATORS INSPECTED	INSPECTION UNITS	INSPECTION UNITS INSPECTED	INSPECTORS	PERSON YEARS	INSPECTIONS MADE PER-SON DAYS	PROBABLE VIOLATIONS	COMPLIANCE ACTIONS TAKEN	INCIDENTS LISTED ON CERT/AGR.
AL PSC	228	228	305	304	8	8.00	1,207	176	95	3
AR PSC	281	250	514	372	5	5.00	37	756	245	1
AZ CC	1,200	923	1,221	944	10	9.00	1,324	2,092	27	11
CA PUC	4,876	1,297	5,001	1,367	24	17.50	1,127	1,477	548	9
CO PUC	98	77	115	118	7	3.66	244	89	45	1
CT DPUC	10	10	35	35	3	3.00	267	111	22	3
DC PSC	1	1	5	5	1	1.00	92	0	0	3
DE PSC	14	14	19	19	2	2.00	96	14	0	1
FL PSC	62	62	80	78	6	6.00	683	51	32	1
FL LPG	76	76	348	348	4	3.00	366	522	64	0
GA PSC	217	147	275	190	4	4.00	670	97	52	2
IA DC	63	34	122	48	5	4.25	316	209	40	3
IL CC	116	111	179	162	7	6.50	765	25	15	3
IN PSC	103	102	205	191	4	4.00	527	99	35	3
KS CC	171	171	216	195	9	8.80	1,125	243	120	2
KY PSC	230	94	272	109	4	4.00	355	352	106	2
LA DNR	351	269	447	336	13	12.25	1,004	512	122	3
MA DPU	16	14	46	40	5	5.00	655	85	18	0
MD PSC	93	92	107	105	4	4.00	321	164	45	12
MI PSC	36	35	119	119	5	3.80	369	74	0	4
MN OPS	56	56	80	73	10	8.90	719	360	56	3
MO PSC	68	51	109	82	8	6.70	550	166	60	8
MS PSC	158	126	217	187	4	4.00	565	267	0	0
MT PSC	58	8	70	9	2	2.00	62	13	5	2
NC UC	35	36	82	83	4	4.00	384	90	44	0
ND PSC	21	21	30	30	2	2.00	86	9	3	1
NE SFM	27	11	34	17	2	2.00	213	60	15	1
NH PUC	8	7	13	12	2	2.00	63	4	1	0
NJ BRC	56	27	128	83	5	5.00	499	27	20	10
NM SCC	272	107	355	118	2	1.25	120	236	84	0
NV PSC	33	23	44	26	3	3.00	288	259	25	0
NY PSC	41	34	102	91	31	31.05	4,269	272	35	13
OH PUC	211	70	315	164	8	7.50	1,033	164	48	6
OK CC	182	138	248	155	9	9.00	677	259	69	2
OR PUC	15	12	21	16	2	2.00	178	180	31	2
PA PUC	38	38	128	128	6	6.00	823	97	59	9
PR PSC	1	1	1	1	2	1.25	108	69	0	2

STATE	OPERATOR (S)	OPERATORS INSPECTED	INSPECTION UNITS	INSPECTION UNITS INSPECTED	INSPECTORS	PERSON YEARS	INSPECTIONS MADE PER-SON DAYS	PROBABLE VIOLATIONS	COMPLIANCE ACTIONS TAKEN	INCIDENTS LISTED ON CERT/AGR.
RI PUC	16	9	19	12	1	1.00	86	6	12	1
SC PSC	31	31	107	107	3	3.00	441	50	42	0
SD PSC	15	15	22	22	2	1.40	65	5	3	1
TN PSC	192	192	209	209	5	4.70	350	309	75	4
TX RC	1,437	594	1,889	843	29	26.99	3,242	3,829	623	27
UT DBR	434	74	443	79	3	3.00	267	110	0	1
VA SCC	103	103	230	230	6	4.00	275	12	9	3
VT DPS	23	18	42	31	1	1.00	89	20	13	0
WA	51	27	57	31	4	3.50	234	110	18	2
WI PSC	13	13	67	49	4	4.00	214.9	106	0	4
WV PSC	206	75	227	92	5	5.00	560	40	13	2
WY PSC	45	39	48	42	2	2.00	174	88	80	3
<b>TOTAL</b>	<b>12,088</b>	<b>5,963</b>	<b>14,968</b>	<b>8,107</b>	<b>294</b>	<b>272.00</b>	<b>28,183.75</b>	<b>14,365</b>	<b>3,074</b>	<b>174</b>

**Table 6**

**1996 State Agency Inspection Activities—Hazardous Liquid**

STATE	OPERATOR (S)	OPERATORS INSPECTED	INSPECTION UNITS	INSPECTION UNITS INSPECTED	INSPECTORS	PERSON YEARS	INSPECTIONS MADE PER-SON DAYS	PROBABLE VIOLATIONS	COMPLIANCE ACTIONS TAKEN	INCIDENTS LISTED ON CERT/AGR.
AL	9	9	9	9	8	.09	16	28	7	0
AZ CC	6	6	7	7	6	.80	90.5	17	0	0
CA SFM	79	58	103	76	6	6.00	568	50	1	7
LA DNR	39	39	52	51	2	2.00	176	121	10	2
MN OPS	13	13	25	20	7	1.45	161	55	5	3
MS PSC	5	3	5	3	2	.35	10	14	0	2
NM SCC	10	6	10	6	1	1.00	23	17	5	0
NY PSC	16	8	16	8	24	.11	68	0	0	1
SC	2	2	2	2	3	3.00	4	0	0	0
OK CC	13	9	18	13	7	2.01	192	28	11	1
TX RC	206	112	290	142	29	3.50	612.5	642	75	13
VA CC	1	1	1	1	5	.13	12.4	13	1	0
WATC	6	6	0	1	4	.53	53	0	0	0
WV PSC	2	2	2	2	2	.21	28	0	0	0
<b>TOTAL</b>	<b>407</b>	<b>274</b>	<b>540</b>	<b>341</b>	<b>106</b>	<b>21.18</b>	<b>2,014.4</b>	<b>985</b>	<b>115</b>	<b>29</b>

Some of these inspectors also inspect gas pipeline operators and are also counted in the complement of 297 gas inspectors.

INSPECTION PROFILE			COMPLIANCE ACTIONS TAKEN			
Program	Inspection Units Inspected	Person Days Spent on Inspections	Program	Compliance Action Taken	Hazardous Facility Orders Issued	Penalties Collected No. Amount
State Hazardous Liquid	324	191.74	State Hazardous Liquid	103	NA	NA NA
State Hazardous Gas	8107	28,183.75	State Natural Gas	3,074	NA	NA NA



**Table 7****1995 Natural Gas Transmission and Gathering Pipeline Incidents Reported by Cause**

<b>CAUSE</b>	<b>INCIDENTS</b>	<b>PROPERTY DAMAGE</b>	<b>FATALITIES</b>	<b>INJURIES</b>
Damage from Outside Forces	27	\$4,435,250	0	2
Internal Corrosion	5	\$289,500	0	1
Construction/Material Defect	13	\$2,498,000	0	2
External Corrosion	4	\$1,750,000	0	0
Other	15	\$985,000	2	5
<b>TOTAL</b>	<b>64</b>	<b>\$9,957,750</b>	<b>2</b>	<b>10</b>

**Table 8****1995 Natural Gas Distribution Pipeline Incidents Reported by Cause**

<b>CAUSE</b>	<b>INCIDENTS</b>	<b>PROPERTY DAMAGE</b>	<b>FATALITIES</b>	<b>INJURIES</b>
Damage from Outside Forces	66	\$8,957,046	6	24
Construction Operating Error	5	\$1,027,127	0	4
External Corrosion	3	\$31,000	1	2
Accidentally Caused by Operator	6	\$90,000	1	8
Internal Corrosion	0	\$0	0	0
Other	17	\$845,500	8	5
<b>TOTAL</b>	<b>97</b>	<b>\$10,950,673</b>	<b>16</b>	<b>43</b>

**Table 9****1996 Natural Gas Transmission and Gathering Pipeline Incidents Reported by Cause**

<b>CAUSE</b>	<b>INCIDENTS</b>	<b>PROPERTY DAMAGE</b>	<b>FATALITIES</b>	<b>INJURIES</b>
Damage from Outside Forces	38	\$4,652,387	1	1
Internal Corrosion	7	\$703,400	0	1
Construction/Material Defect	8	\$1,076,923	0	0
External Corrosion	8	\$1,382,000	0	0
Other	16	\$5,263,764	0	3
<b>TOTAL</b>	<b>77</b>	<b>\$13,078,474</b>	<b>1</b>	<b>5</b>

**Table 10****1996 Natural Gas Distribution Pipeline Incidents Reported by Cause**

<b>CAUSE</b>	<b>INCIDENTS</b>	<b>PROPERTY DAMAGE</b>	<b>FATALITIES</b>	<b>INJURIES</b>
Damage from Outside Forces	64	\$6,182,575	7	37
Construction Operating Error	6	\$400,000	2	3
External Corrosion	1	\$50,000	0	2
Accidentally Caused by Operator	6	\$930,000	0	6
Internal Corrosion	1	\$70,000	0	0
Other	31	\$3,620,267	5	19
<b>TOTAL</b>	<b>109</b>	<b>\$11,252,842</b>	<b>14</b>	<b>67</b>

The 1996 distribution statistics do not include 33 fatalities, 42 injuries, and \$5,000,000.00 in property damage costs associated with a San Juan, Puerto Rico incident that was attributed to natural gas at the time of the incident. The root cause of this incident is currently in dispute, and subject to litigation.

**Table 11****1995 Hazardous Liquid Pipeline Accidents Reported by Cause**

CAUSE	ACCIDENTS	BARRELS LOST	PROPERTY DAMAGE	FATALITIES	INJURIES
Internal Corrosion	13	3,828	\$1,045,572	0	0
External Corrosion	23	9,506	\$1,355,750	0	0
Defective Weld	9	30,384	\$349,823	0	0
Incorrect Operation	26	8,147	\$888,800	0	2
Defective Pipe	14	13,204	\$3,773,100	0	2
Outside Damage	53	36,284	\$22,299,373	0	4
Equipment Malfunction	5	1,209	\$513,005	0	0
Other	45	7,675	\$2,293,266	3	3
<b>TOTAL</b>	<b>188</b>	<b>110,237</b>	<b>\$32,518,689</b>	<b>3</b>	<b>11</b>

**Table 11****1996 Hazardous Liquid Pipeline Accidents Reported by Cause**

CAUSE	ACCIDENTS	BARRELS LOST	PROPERTY DAMAGE	FATALITIES	INJURIES
Internal Corrosion	22	8,482	\$2,283,718	0	0
External Corrosion	40	45,526	\$12,564,740	0	0
Defective Weld	9	4,131	\$1,603,317	0	0
Incorrect Operation	11	4,224	\$2,750,000	0	0
Defective Pipe	10	2,388	\$2,136,324	0	0
Outside Damage	48	66,906	\$7,409,447	3	10
Equipment Malfunction	6	1,969	\$224,627	0	0
Other	49	21,335	\$20,732,558	2	3
<b>TOTAL</b>	<b>195</b>	<b>154,961</b>	<b>\$49,704,731</b>	<b>5</b>	<b>13</b>

**Table 12****1995 Hazardous Liquid Pipeline Accidents Reported by Commodity**

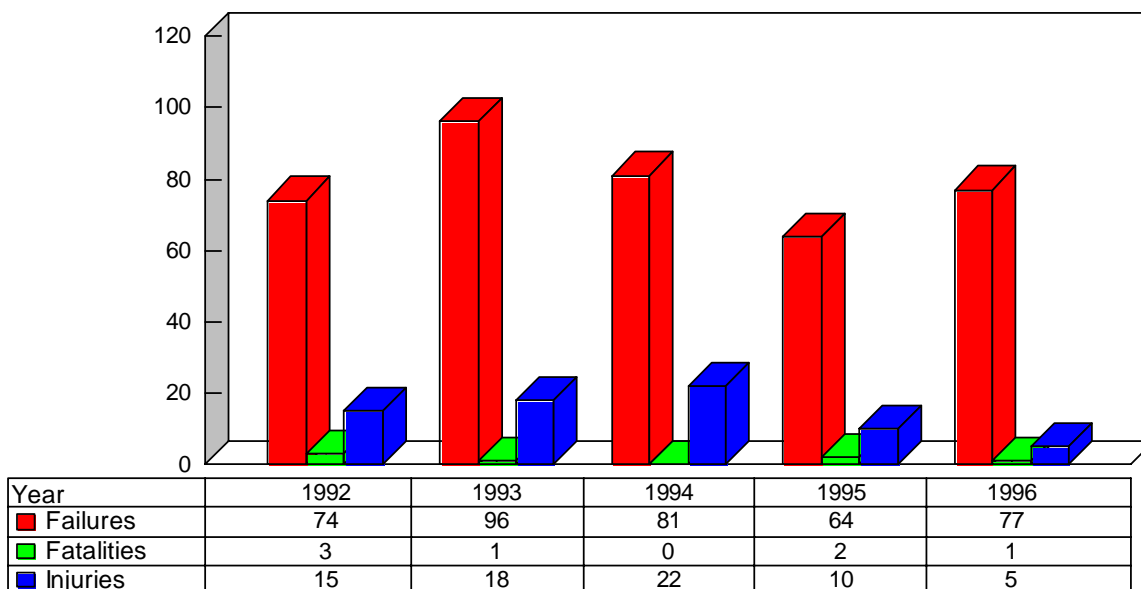
COMMODITY	# INCIDENTS	% OF TOTAL	BARRELS LOST	PROPERTY DAMAGE	% OF TOTAL	FATALITIES	INJURIES
Anhydrous Ammonia	8	4.19	330	\$267,187	0.82	0	0
Carbon Dioxide	1	0.05	0	\$500	0.00	0	0
Condensate	1	0.52	4	\$0	0.00	0	0
Crude Oil	78	41.88	60,306	\$22,666,694	68.62	0	0
Diesel Fuel	8	4.19	3,595	\$1,421,000	4.36	0	0
Fuel Oil	16	8.38	4,607	\$781,052	2.40	0	0
Gasoline	31	16.23	15,173	\$4,990,600	15.31	0	3
Jet Fuel	3	1.57	1,032	\$263,000	0.81	0	0
Kerosene	1	0.52	75	\$5,000	0.02	0	0
L.P.G.	12	6.28	10,685	\$748,389	2.30	0	4
Natural Gas Liquid	16	8.38	13,901	\$879,467	2.70	0	2
Oil and Gasoline	2	1.05	290	\$128,000	0.39	0	0
Turbine Fuel	1	0.52	2	\$35,000	0.11	0	0
Various Petrol Prod	4	2.09	132	\$213,800	0.66	0	0
Benzene/Benzol	1	0.05	30	\$4,000	0.01	0	0
Not Given	5	2.60	75	\$115,000	0.35	3	2
<b>TOTAL</b>	<b>188</b>	<b>100</b>	<b>110,237</b>	<b>\$324,518,689</b>	<b>99.99</b>	<b>3</b>	<b>11</b>

**Table 12****1996 Hazardous Liquid Pipeline Accidents Reported by Commodity**

COMMODITY	# INCIDENTS	% OF TOTAL	BARRELS LOST	PROPERTY DAMAGE	% OF TOTAL	FATALITIES	INJURIES
Anhydrous Ammonia	3	1.5	3	\$59,317	0.12	0	0
Carbon Dioxide	3	1.50	4,499	\$33,000	0.07	0	0
Condensate	1	0.50	1	\$36,187	0.07	0	0
Crude Oil	77	39.40	45,534	\$7,214,511	14.51	0	1
Diesel Fuel	16	8.20	28,759	\$10,029,000	20.18	0	1
Fuel Oil	9	4.60	3,324	\$1,300,000	2.62	0	0
Gasoline	26	13.3	14,206	\$7,065,599	14.22	0	1
Jet Fuel	5	2.50	768	\$481,500	0.97	0	3
Kerosene	1	0.50	33	\$50,000	0.1	0	0
L.P.G.	17	8.70	25,594	\$1,621,580	3.26	1	1
Natural Gas Liquid	21	10.70	15,619	\$628,579	1.26	0	0
Turbine Fuel	1	0.50	50	\$300	0.00	0	0
Various Petrol Prod	3	1.50	1,378	\$2,011,500	4.05	0	0
Butane	6	3.00	7,936	\$9,418,658	18.95	2	0
Not Given	6	3.00	7,257	\$9,755,000	19.63	2	6
<b>TOTAL</b>	<b>195</b>	<b>100</b>	<b>154,961</b>	<b>\$49,704,731</b>	<b>100.00</b>	<b>5</b>	<b>13</b>

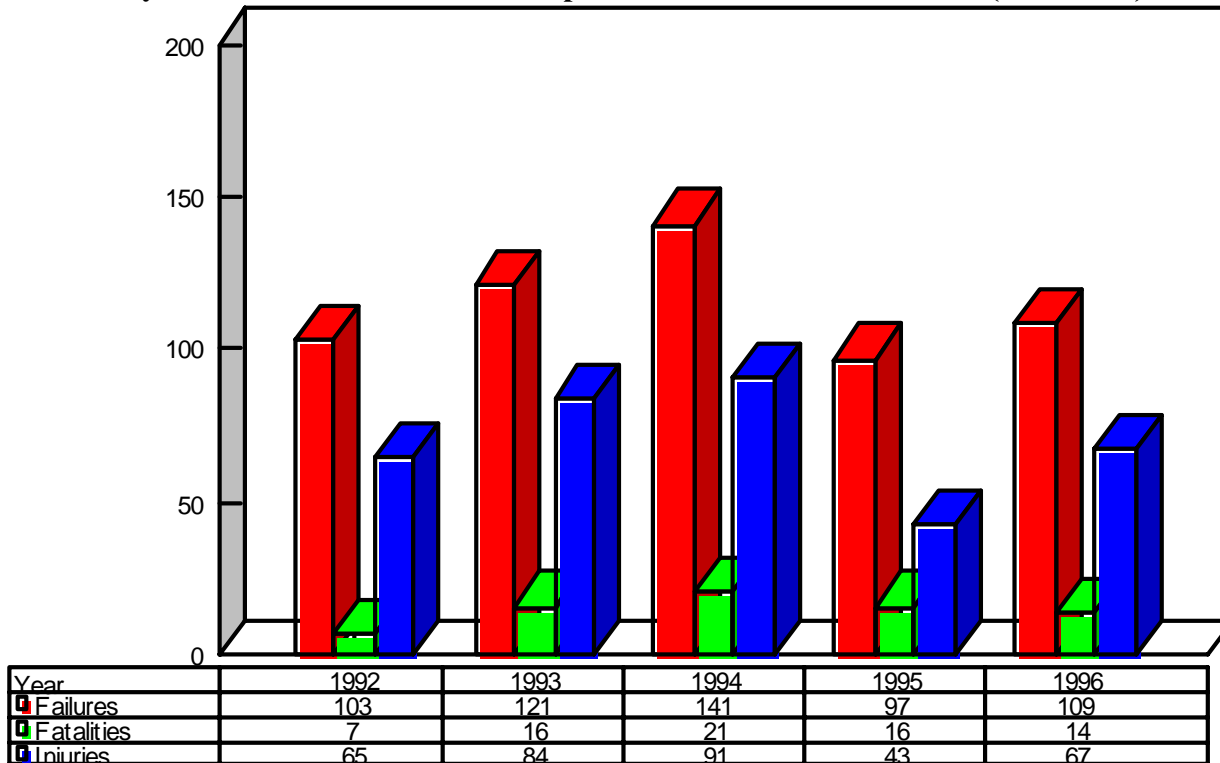
**Table 13**

**Summary of Natural Gas Transmission and Gathering Pipeline Incidents and Casualties (1992-1996)**



**Table 14**

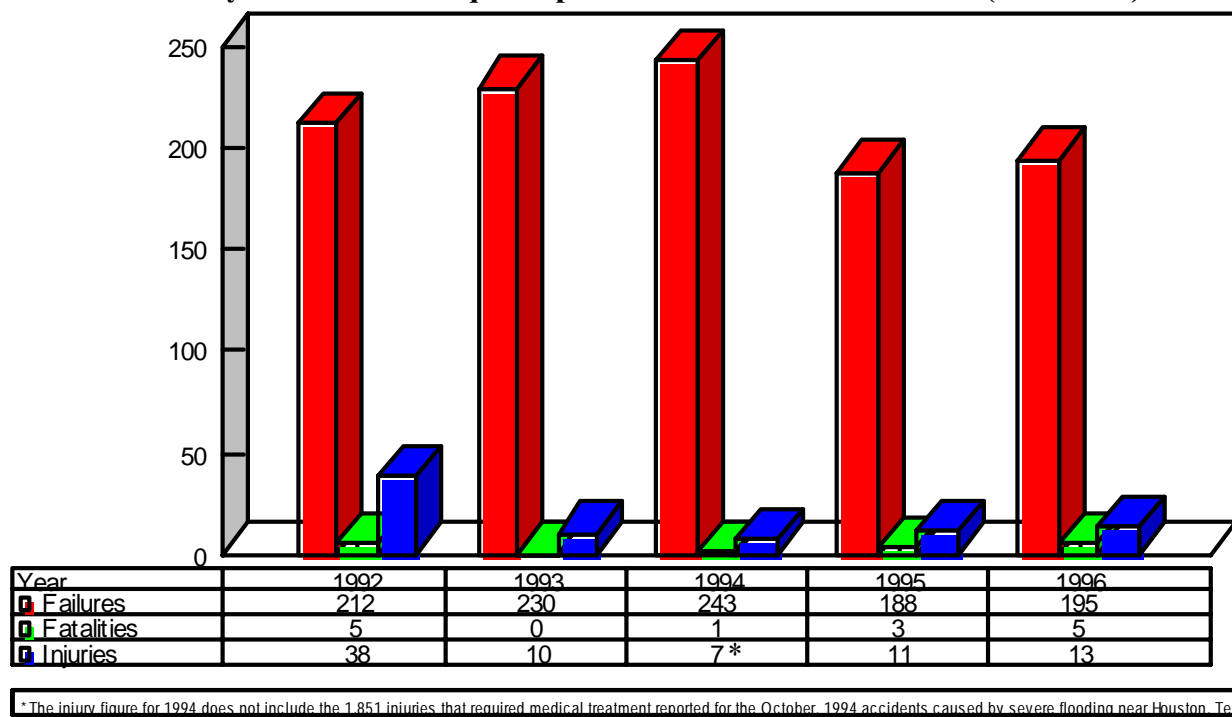
**Summary of Natural Gas Distribution Pipeline Incidents and Casualties (1992-1996)**



The 1996 distribution statistics do not include 33 fatalities, 42 injuries, and \$5,000,000.00 in property damage costs associated with a San Juan, Puerto Rico incident that was attributed to natural gas at the time of the incident. The root cause of this incident is currently in dispute, and subject to litigation.

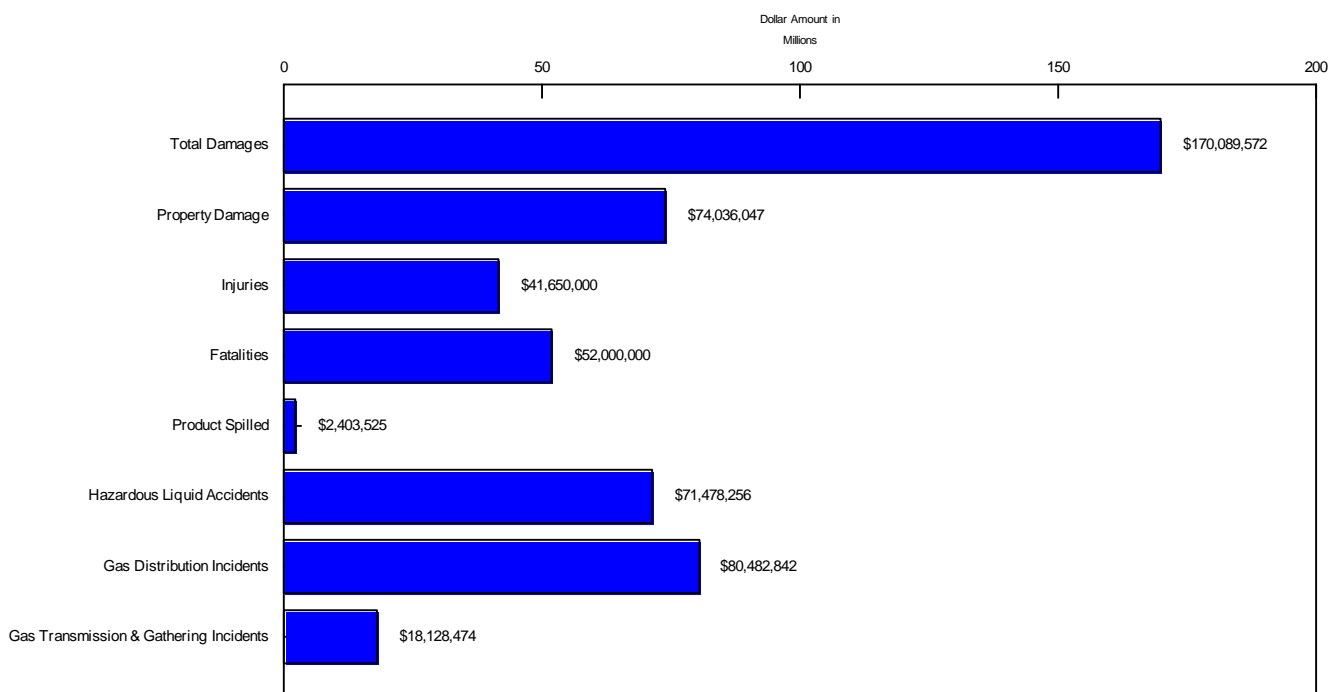
**Table 15**

**Summary of Hazardous Liquid Pipeline Accidents and Casualties (1992-1996)**



**Table 16**

**1996 Economic Impact of Pipeline Accidents**



\*Conversion factor for calculating economic impact: \$490,000 per injury; \$2,600,000 per death; \$25 per barrel of product spilled (hazardous liquid only).

**Table 17**

**1996 Pipeline Safety Training Conducted by TSI**

COURSE	# CLASSES	# STATE & OTHER STUDENTS	# FEDERAL STUDENTS	TOTAL STUDENTS
Safety Evaluation of Pipeline Corrosion Control Systems I	2	25	15	40
Safety Evaluation of Pipeline Corrosion Control Systems II	2	29	6	35
Liquefied Natural Gas Safety Technology & Inspection	1	14	8	22
Joining of Pipeline Materials	1	19	7	26
Gas Pressure Regulations & Overpressure Protection	2	23	11	34
Pipeline Failure Investigation Techniques	2	40	6	46
Pipeline Safety Regulation Application & Compliance	1	30	3	33
Safety Evaluation of Hazardous Liquid Pipeline Systems	2	32	16	48
General Pipeline Safety Awareness	1	10	3	13
Regulation Compliance Requirements (Industry)	5	86	0	86
Safety Evaluation of Pipeline Corrosion Control (Industry)	2	28	0	28

**State Seminars**

STATE	SEMINARS	STUDENTS
ALABAMA	1	252
ARKANSAS	1	59
ARIZONA	1	103
CALIFORNIA	4	223
COLORADO	1	116
FLORIDA	1	145
ILLINOIS	1	193
KANSAS	1	323
KENTUCKY	1	222
LOUISIANA	3	395
MARYLAND	1	144
MISSOURI	1	24
MONTANA	1	64
NORTH DAKOTA	1	57
NEVADA	1	39
NEW HAMPSHIRE	1	125
NEW MEXICO	1	99
OHIO	1	179
OKLAHOMA	2	278
TEXAS	2	106
UTAH	2	93
WEST VIRGINIA	2	130
WYOMING	1	69

<b>Summary: Number of Classes</b>	<b>21</b>
<b>Class Students</b>	<b>411</b>
<b>Number of Seminars</b>	<b>32</b>
<b>Seminar Students</b>	<b><u>3,438</u></b>
<b>Total Trained</b>	<b>3,849</b>





# Appendices

**Appendix A**  
**1995 Natural Gas Enforcement Cases Opened**

**OPERATOR**

**LOCATION**

**Eastern Region**

South Jersey Gas Company  
Philadelphia Gas Works  
Columbia Gas Transmission Corporation  
Texas Eastern Transmission Corporation  
Algonquin Gas Transmission Company  
Transcontinental Gas Pipe Line Corporation

Folsom, New Jersey  
Philadelphia, Pennsylvania  
Charleston, West Virginia  
Lambertville, New Jersey  
Westwood, Massachusetts  
Princeton, New Jersey

**Southern Region**

Texas Gas Transmission Corporation  
Alabama-Tennessee Natural Gas Company  
Natural Gas Pipeline Co. Of America  
ArkansasWestern Gas Company  
Trunkline Gas Company  
Arkansas Western Gas Company  
Tenneco Gas  
Transcontinental Gas Pipe Line Corporation

Owensboro, Kentucky  
Florence, Alabama  
Texarkana, Arkansas  
Blytheville, Arkansas  
Shaw, Mississippi  
Yarboro, Arkansas  
Kingsport, Tennessee  
Alabama, Georgia, Mississippi, North Carolina,  
and South Carolina

**Central Region**

Montana-Dakota Utilities Company  
Phillips 66 Propane Company  
Williams Natural Gas Company  
Panhandle Eastern Pipeline Company  
Northern Natural Gas Company  
Northern Border Pipeline Company  
Noram Gas Transmission Company  
Texas Gas Transmission Corporation  
KN Interstate Gas Transmission Company  
Great Plains Natural Gas Company  
Greeley Gas Company  
Williston Basin Interstate Pipeline Company

Rapid City, South Dakota  
Flint Hill, Missouri  
Shawnee, Kansas  
Louisberg, Kansas  
South Sioux City, North Dakota  
Brookings, South Dakota  
Columbia, Illinois  
Bedford, Indiana  
Lakewood, Colorado  
Fergus Falls, Minnesota  
Pleasanton, Kansas  
Bismarck, North Dakota

**Southwest Region**

Valero Transmission L.P.  
Southwest Gas Corporation  
Trunkline Gas Company  
Florida Gas Transmission Company  
Western Gas Interstate  
Santa Fe Minerals Incorporated  
Levinson Partners Corporation

Houston, Texas  
Tucson, Arizona  
Kaplan, Louisiana  
Tucson, Arizona  
Austin, Texas  
Dallas, Texas  
Houston, Texas

**Western Region**

Safety Investment Company  
Northwest Pipeline Corporation

Grass Valley, California  
Plymouth, Washington

## Appendix A

### 1995 Hazardous Liquid Enforcement Cases Opened

#### OPERATOR

#### LOCATION

##### Eastern Region

Kiantone Pipeline Corporation

Warren, Pennsylvania

##### Southern Region

Amoco Pipeline Company

Decatur, Alabama

South Carolina Pipeline Corporation

Columbia, South Carolina

Florida Power and Light Company

Palmetto, Florida

Tampa Bay Pipeline Company

Tampa, Florida

##### Central Region

Norther Natural Gas Company

Wensheill, Minnesota

Conoco Pipe Line Company

Medford, Oklahoma

BP Oil Pipeline Company

Vandalia, Ohio

Mid-America Pipeline Company

Sanbon, Iowa

Buckeye Pipe Line Company

Pennsylvania

Explorer Pipeline Company

Woodriver, Illinois

Williams Pipe Line Company

Minnesota and South Dakota

BP Oil Pipeline Company

Vandalia, Ohio

Marathon Pipe Line Company

Martinsville, Illinois

Dome Pipeline Corporation

Iowa City, Iowa

Wolverine Pipeline Company

Kalamazoo, Michigan

Countrymark Cooperative, Incorporated

Mount Vernon, Indiana

Koch Nitrogen

Hermann, Missouri

Williams Pipe Line Company

Oklahoma, Kansas, Iowa, Minnesota, Wisconsin

##### Southwest Region

Fina Pipeline Company

Big Spring, Texas

Koch Pipelines Incorporated

Midland, Texas

Total Petroleum Incorporated

Kadan, Texas; Oklahoma

Texaco Pipeline Incorporated

Houston, Texas

Dixie Pipeline Company

Zachary, Louisiana

Koch Pipeline Company, L.P.

Shawnee, Oklahoma

Mitchell Energy Corporation

Woodlands, Texas

Kerr-McGee Corporation

Lafayette, Louisiana

Aran Energy Corporation

Houston, Texas

##### Western Region

Northwest Pipeline Corporation

Plymouth, Washington

Alyeska Pipeline Service Company

Anchorage, Alaska

Sinclair Pipeline Company

Sinclair, Wyoming

Chevron Pipe Line Company

Salt Lake City, Utah

Marathon Pipe Line Company

Montana and Wyoming

**Appendix A**  
**1996 Natural Gas Enforcement Cases Opened**

<b>OPERATOR</b>	<b>LOCATION</b>
<b><u>Eastern Region</u></b>	
Delmarva Power	Wilmington, Delaware
Lomak Petroleum Incorporated	Conneaut, Pennsylvania
S-2 Properties	Aliquippa, Pennsylvania
Danville Gas Department	Danville, Virginia
Columbia Gas Transmission Corporation	Charleston, West Virginia
Iroquois Gas Transmission System	Westwinfield, New York
Eastern Shore Natural Gas	Dover, Delaware
<b><u>Southern Region</u></b>	
Koch Gateway Pipeline Company	Pearl, Mississippi
Louisiana-Nevada Transit Company	Hope, Arkansas
<b><u>Central Region</u></b>	
Great Lakes Gas Transmission Company	Duluth, Minnesota
Northern Natural Gas Company	Nebraska
Northern National Gas Company	Clifton, Kansas
ANR Pipe Line Company	Detroit, Michigan
Tennessee Gas Pipe Line Company	Paris, Illinois
Crossroads Pipe Line Company	Merrilville, Indiana
Midwest Gas Storage Incorporated	Brazil, Indiana
Northern State Power Company	Inner Grove Heights, Minnesota
Northern State Power Company	Wisconsin
<b><u>Western Region</u></b>	
Chevron U.S.A. Production Company	Bakersfield, California
Breitburn Energy Corporation	Los Angeles, California
Phillips Petroleum Company	Kenai, Alaska
ENSTAR/Alaska Pipe Line Company	Barrow, Alaska
Norgasco Incorporated	Anchorage, Alaska
Enstar Natural Gas Company	Anchorage, Alaska
Unocal Energy Resources	Santa Fe Springs, California
Intermountain Gas Company	Boise, Idaho
MIGC Incorporated	Gillette, Wyoming
Colorado Interstate Gas	Colorado Springs, Colorado
Northwest Pipe Line Corporation	Idaho and Utah
Union Pacific Resources	Evanston, Wyoming
Phillips Petroleum Company	Kenai, Alaska

## Appendix A

### 1996 Hazardous Liquid Enforcement Cases Opened

#### OPERATOR

#### LOCATION

##### Southern Region

Colonial Pipeline Company	Alabama, Georgia, Tennessee
Colonial Pipeline Company	Texas to New Jersey Line
Colonial Pipeline Company	Macon, Georgia
Colonial Pipeline Company	Nashville, Tennessee

##### Central Region

Dome Pipe Line Corporation	Charles City, Iowa
Jayhawk Pipe Line, L.L.C.	Meade and Chase, Kansas
Lakehead Pipe Line Company	Bemidji, Minnesota
BP Oil Pipe Line Company	Cleveland, Ohio
Unocal Pipe Line Company	Mokena, Illinois
Kaneb Pipe Line Company	Wichita, Kansas
Laclede Gas Company	St. Louis, Missouri
Mid-America Pipe Line Company	Kearney, Missouri; Greenwood, Nebraska; Iowa City, Iowa
Countrymark Cooperative Incorporated	Mt. Vernon, Indiana
Explorer Pipe Line Company	Tulsa, Oklahoma
Marathon Pipe Line Company	Martinsville, Illinois
Lakehead Pipe Line Company	Bemidji, Minnesota
Enron Liquids Pipe Line Company	Morris, Illinois
Koch Pipe Line	Medford, Oklahoma
Cenex Incorporated	Laurel, Montana
Portal Pipe Line Company	Minot, North Dakota

##### Southwest Region

Koch Pipe Line Company, L.P.	McCamey, Texas
Enterprise Products Company	Mt. Belview, Texas
Mid-Valley Pipe Line Company	Haynesville, Louisiana
Total Petroleum Incorporated	Healdton, Oklahoma
Conoco Pipe Line Company	Oklahoma City, Oklahoma
Shell Pipe Line Corporation	McCamey, Texas
Koch Pipe Line Company	Lively, Texas
Amoco Production Company	New Orleans, Louisiana

##### Western Region

Continental Pipe Line Company	Spokane, Washington
Phillips Pipe Line Company	Bartlesville, Oklahoma
Koch Gathering Systems Incorporated	Belfield, North Dakota
Alyeska Pipe Line Service Company	Anchorage, Alaska
Trans Mountain Oil Pipe Line Corporation	Anchorage, Alaska
Texaco Trading and Transportation Incorporated	Bellingham, Washington

## Appendix A

### 1996 Hazardous Liquid Enforcement Cases Opened, continued

<b>OPERATOR</b>	<b>LOCATION</b>
CalNev Pipe Line Company	San Bernardino, California
Western Gas Resources	Denver, Colorado
Tesoro Alaska Pipe Line Company	Kenai, Alaska
Cook Inlet Pipe Line Company	Anchorage, Alaska
Mapco Alaska Petroleum	North Pole, Alaska
Signature Flight Support	Anchorage, Alaska
Unocal Corporation	Kenai, Alaska
Texaco Exploration and Production Incorporated	Ventura, California
Pacific Operators Offshore Incorporated	Ventura, California

## Appendix B

### 1995 Natural Gas Enforcement Cases Closed

#### OPERATOR

#### DISPOSITION

##### Eastern Region

S.R. Young, Inc.  
Columbia Gas Transmission Company  
Charlottesville Department of Public Works

Closed without Penalty  
Hazardous Facility Order  
Closed without Penalty

##### Southern Region

Richmond Gas System  
Hazard Gas System  
Olive Hill Natural Gas System

Notice Withdrawn by Region  
Notice Withdrawn by Region  
Notice Withdrawn by Region

##### Central Region

South Dakota Intrastate Pipe Line Company  
Williston Basin Interstate Pipe Line Co.  
Northern States Power Company  
Montana-Dakota Utilities Company  
Williams Natural Gas Company

Civil Penalty \$70,000  
Closed by Region - Action Taken  
Closed by Region - Action Taken  
Closed by Region - Action Taken  
Closed by Region - Action Taken

##### Southwest Region

Lone Star Gas Company  
Trunkline LNG Company  
Trunkline Gas Company  
Western Gas Interstate

Civil Penalty \$7,500  
Notice Withdrawn by Region  
Notice Withdrawn by Region  
Notice Withdrawn by Region

##### Western Region

The Gas Company, Pacific Resources, Inc.  
Mobil Oil Corporation  
Palute Pipeline Company  
KN Energy, Inc.  
Enstar/Alaska Pipeline Company  
Unocal Energy Resources

Civil Penalty \$10,060  
Compliance Order  
Civil Penalty \$1,250  
Civil Penalty \$9,000  
Closed by Region - Action Taken  
Civil Penalty \$2,500

## Appendix B

### 1995 Hazardous Liquid Enforcement Cases Closed

#### OPERATOR

#### DISPOSITION

##### Eastern Region

CNG Transmission Corporation

Closed by Region - Action Taken

##### Southern Region

South Carolina Pipeline Corporation

Closed by Region - Action Taken

Hess Pipeline Company

Closed by Region - Action Taken

Mid-Valley Pipeline Company

Closed by Region - Action Taken

Farm Bureau Oil Company

Closed by Region - Action Taken

South Carolina Pipeline Corporation

Notice Withdrawn by Region

Florida Power and Light Company

Notice Withdrawn by Region

##### Central Region

Koch Pipelines, Inc.

Closed Post Compliance Order Review

Conoco Incorporated

Closed without Penalty

Conoco Pipe Line Company

Closed by Agreement

Mid-America Pipeline Company

Closed by Region - Action Taken

Buckeye Pipe Line Company

Civil Penalty \$6,000

Explorer Pipeline Company

Closed by Region - Action Taken

Williams Pipe Line Company

Closed by Region - Action Taken

BP Oil Pipeline

Closed by Region - Action Taken

Dome Pipeline Corporation

Closed Post

Koch Nitrogen

Closed without Penalty

Amoco Pipeline Company

Hazardous Facility Order

##### Southwest Region

Mid-Valley Pipeline Company

Civil Penalty \$21,000

Diamond Shamrock Refining and Marketing

Civil Penalty \$7,500

Chevron Pipe Line Company

Civil Penalty \$10,000

Fina Pipeline Company

Notice Withdrawn by Region

Koch Pipelines, Inc.

Closed by Agreement; Civil Penalty \$75,000

Total Petroleum, Inc.

Notice Withdrawn by Region

Texaco Pipeline Inc.

Notice Withdrawn by Region

Mitchell Energy Corp

Notice Withdrawn by Region

Kerr-McGee Corp

Closed by Agreement

Civil Penalty \$11,000

##### Western Region

Alyeska Pipeline Service Company

Civil Penalty \$30,000

Alyeska Pipeline Service Company

Closed by Region

Civil Penalty \$100,000



## Appendix B

### 1996 Natural Gas Enforcement Cases Closed

#### OPERATOR

#### DISPOSITION

##### Eastern Region

CNG Transmission Corporation	Civil Penalty \$52,000
Central Hudson Gas & Electric Corporation	Civil Penalty \$5,000
Tennessee Gas Pipeline	Compliance Order
Washington Gas Light Company	Civil Penalty \$5,000
Bay State Gas Company	Civil Penalty \$5,000
Columbia Gas Transmission Corporation	Civil Penalty \$4,700

##### Southwest Region

City of North Middletown, Kentucky	Notice Withdrawn by Region
City of Scottsville, Kentucky	Civil Penalty \$1,000
Louisiana-Nevada Transit Company	Closed by Region - Action Taken
Texas Gas Transmission Corporation	Civil Penalty \$6,526
Natural Gas Pipeline Company of America	Closed without Penalty
Arkansas Western Gas Company	Closed without Penalty
Trunkline Gas Company	Notice Withdrawn by Region
Arkansas Western Gas Company	Closed without Penalty

##### Central Region

Illinois Power Company	Civil Penalty \$1,000
Central Illinois Light Company	Civil Penalty \$2,000
Northern Natural Gas Company	Civil Penalty \$6,000
Texas Gas Transmission Corporation	Compliance Order
Great Lakes Gas Transmission Company	Closed without Penalty
ANR Pipeline Company	Notice Withdrawn by Region

##### Southwest Region

Phillips Gas Pipeline Company	Civil Penalty \$15,000; Compliance Order
West Texas Gas, Incorporated	Compliance Order
AEDC (USA), Inc.	Civil Penalty \$3,000
Southwest Gas Corporation	Civil Penalty \$5,000
Sante Fe Minerals Inc.	Civil Penalty \$5,000
Koch Gateway Pipeline Company	Closed by Region - Action Taken

##### Western Region

Weyerhaeuser Gas Transmission Company	Compliance Order
Chevron Pipe Line Company	Compliance Order
Phillips Petroleum Company	Civil Penalty \$22,000
Brea Canon Oil Company	Civil Penalty \$3,250
Superior Propane Order	Compliance Order
Raton Natural Gas Company	Compliance Order
Lomita Gasoline Company, Inc.	Closed by Region - Action Taken
Turner Gas Company	Closed without Penalty

## Appendix B

### 1996 Natural Gas Enforcement Cases Closed, continued

<b>OPERATOR</b>	<b>DISPOSITION</b>
Northwest Pipeline Corporation	Closed by Region - Action Taken
Unocal Energy Resources	Closed by Region - Action Taken
Intermountain Gas Company	Closed without Penalty
Colorado Interstate Gas (WY-Agent)	Civil Penalty \$1,000
Colorado Interstate Gas	Closed without Penalty

## Appendix B

### 1996 Hazardous Liquid Enforcement Cases Closed

<b>OPERATOR</b>	<b>DISPOSITION</b>
<b><u>Eastern Region</u></b>	
Kiantone Pipeline Corporation	Civil Penalty \$1,000
<b><u>Southern Region</u></b>	
Texas Eastern Product Pipeline Company	Civil Penalty \$2,000
Texas Eastern Product Pipeline Company	Civil Penalty \$3,000
Amoco Pipeline Company	Closed without Penalty
<b><u>Central Region</u></b>	
Mid-America Pipeline Company	Civil Penalty \$35,000
Mid-America Pipeline Company	Compliance Order
Farmland Industries Incorporated	Civil Penalty \$1,500
Mid-America Pipeline Company	Civil Penalty \$5,000
Williams Pipe Line Company	Compliance Order
Countrymark Cooperative Incorporated	Closed without Penalty
Dome Pipeline Corporation	Notice Withdrawn by Region
<b><u>Southwest Region</u></b>	
Conoco Pipe Line Company	Civil Penalty \$4,000
Ciniza Pipe Line Company	Civil Penalty \$7,350
Energy Development Corporation	Civil Penalty \$3,000
Agip Petroleum Incorporated	Civil Penalty \$5,000
Aran Energy Corporation	Civil Penalty \$8,000
Enterprise Products Company	Civil Penalty \$4,500
<b><u>Western Region</u></b>	
Alyeska Pipeline Service Company	Civil Penalty \$10,000
Continental Pipe Line Company	Civil Penalty \$4,500
Western Gas Resources	Compliance Order
Total Petroleum Incorporated	Civil Penalty \$5,000; Compliance Order
CalNev Pipelines	Civil Penalty \$5,000; Compliance Order

## Appendix C

### 1995 Hazardous Liquid Enforcement Actions—Warning Letters

#### OPERATOR

#### LOCATION

##### Eastern Region

Tennessee Gas Pipeline Company  
Penn-Jersey Pipeline Company  
Texas Eastern Gas Transmission Company  
Carnegie Natural Gas Company  
Columbia Gas Transmission

Houston, Texas  
Short Hills, New Jersey  
South Plainfields, New Jersey  
Pittsburgh, Pennsylvania  
Charleston, West Virginia

##### Southern Region

Columbia Gas Transmission Corporation  
Southern Natural Gas Company  
Natural Gas Pipeline Company of America  
Colonial Pipeline Company  
Plantation Pipeline Company  
Florida Power Corporation  
ST Services

Charleston, West Virginia  
Birmingham, Alabama  
Lombard, Illinois  
Atlanta, Georgia  
Atlanta, Georgia  
St. Petersburg, Florida  
Macon, Georgia

##### Central Region

Midwest Gas Company  
Shell Pipeline Company  
Amoco Pipeline Company  
Ashland Pipe Line Company

Sioux City, Iowa  
Roxana, Illinois  
Oakbrook Terrace, Illinois  
Owensboro, Kentucky

## Appendix C

### 1995 Natural Gas Enforcement Actions—Warning Letters

#### OPERATOR

#### LOCATION

##### *Eastern Region*

Pennsylvania Gas and Water  
Texas Eastern Gas Transmission Corporation  
CNG Transmission Corporation  
Buckeye Pipe Line Company

Lackawanna, Pennsylvania  
Ridley Park, Pennsylvania  
Clarksburg, West Virginia  
Allentown, Pennsylvania

##### *Southern Region*

City of Waveland, Mississippi  
Tennessee Gas Pipeline Company  
Indiana Gas Company  
Chevron USA Production Company  
South Georgia Natural Gas Company  
Collins Pipeline Company  
Amoco Pipeline Company  
Exxon Pipeline Company  
Ashland Pipeline Company  
Central Florida Pipeline Corporation  
The Pipelines of Puerto Rico Incorporated  
Everglades Pipeline Company

Waveland, Mississippi  
Houston, Texas  
Clarksville, Indiana  
New Orleans, Louisiana  
Birmingham, Alabama  
Waveland, Mississippi  
Evansville, Indiana  
Houston, Texas  
Owensboro, Kentucky  
Tampa, Florida  
San Juan, Puerto Rico  
Fort Lauderdale, Florida

##### *Central Region*

Columbia Gas Transmission Corporation  
Natural Gas Pipeline Company of America  
Tennessee Gas Pipeline  
Dome Pipeline Corporation  
Williams Pipeline Company

Charleston, West Virginia  
Mahaska County, Iowa  
Albany, Ohio  
Calgary, Alberta  
La Platte, Nebraska

##### *Southwest Region*

Transcontinental Gas Pipeline Company  
Coastal Oil & Gas Corporation  
Chandeleur Pipe Line Company  
CITGO Products Pipeline Company  
Dow Hydrocarbons and Resources, Incorporated  
Mobil Pipeline Company  
Williams Pipeline Company  
Koch Pipelines Incorporated  
Mobil Pipeline Company

Markham, Texas  
Houston, Texas  
Sam Ramon, California  
Arlington, Texas  
Plaquemine, Louisiana  
Corsicana, Texas  
Medford, Oklahoma  
Guymon, Oklahoma

##### *Western Region*

Sierra Pacific Power Company  
Tuscarora Gas Transmission Company  
Kem River Gas Transmission Company  
Tuscarora Gas Transmission Company

Reno, Nevada  
Sparks, Nevada  
Las Vegas, Nevada  
Reno, Nevada

## Appendix C

### 1996 Natural Gas Enforcement Actions—Warning Letters

#### OPERATOR

#### LOCATION

##### Eastern Region

City of Richmond, Virginia	Richmond, Virginia
Delmarva Power and Light	Wilmington, Delaware
Three River Pipeline Company	Pittsburgh, Pennsylvania
Danville Gas Department	Danville, Virginia
Charlottesville Department of Public Works	Charlottesville, Virginia
Northern Utilities Incorporated	Portland, Maine
Equitable Resources Incorporated	Pittsburgh, Pennsylvania
Transcontinental Gas Pipeline Corporation	New York and New Jersey
CNG Transmission Corporation	Harrison, Pennsylvania
Columbia Gas Transmission Corporation	East Stroudsburg, Pennsylvania
Granite State Gas Transmission Incorporated	Portsmouth, New Hampshire

##### Southern Region

Kentucky Hydrocarbon	Langley, Kentucky
Georgia Pacific Corporation	Crossett, Arkansas
East Tennessee Natural Gas Company	Kingsport, Monterey, and Ooltewah, Tennessee
Tennessee Gas Pipeline Company	Mississippi, Tennessee, and Kentucky
Texas Gas Transmission Company	Owensboro, Kentucky
Mississippi River Transmission Corporation	Houston, Texas
Mobil Pipe Line Company	Malvern, Pennsylvania
NorAm Gas Transmission (ARKA Energy)	Houston, Texas
Dixie Pipeline Company	Atlanta, Georgia
Tampa Bay Pipeline Company	Tampa, Florida

##### Central Region

Panhandle Eastern Pipeline Company	
Natural Gas Pipeline Company of America	
Jayhawk Pipeline LLC	McPherson, Kansas
Kaneb Pipe Line Company	Wichita, Kansas
Williams Pipe Line Company	Roseville, Minnesota
Koch Pipeline Company, L.P.	Wichita, Kansas
Laclede Gas Company	St. Louis, Missouri
Panhandle Eastern Pipeline Company	Houston, Texas
Williams Natural Gas Company	Missouri and Kansas
Great Lakes Gas Transmission Company	Detroit, Michigan
NorAm Gas Transmission	State of Kansas

##### Southwest Region

Southern Union Gas Company	Woodward, Texas
Natural Gas Pipeline Company of America	Lombard, Illinois
OKTex Pipeline Company	Tulsa, Oklahoma
Phillips Pipe Line Company	Borger, Texas
Air Liquide	Artesia, New Mexico

## Appendix C

### 1996 Natural Gas Enforcement Actions—Warning Letters, continued

#### OPERATOR

#### LOCATION

##### Southwest Region

Navajo Refining Company	Artesia, New Mexico
Koch Pipeline Company L.P.	Castorville, Texas
Gulfstream Resources Incorporated 1515L	Metairie, Louisiana
Freeport McMoran Incorporated	New Orleans, Louisiana
Pogo Production Company	Houston, Texas
Transcontinental Gas Pipeline Corporation	Houston, Texas
ANR Pipeline Company	State of Louisiana
Southern Natural Gas Company	Franklin, Louisiana
Texas Eastern Transmission Corporation	Houston, Texas
Columbia Gulf Transmission Company	Pecan Island, Louisiana
Koch Gateway Pipeline Company	Wichita, Kansas

##### Western Region

Cal Resources, LLC	Bakersfield, California
City of Long Beach	Long Beach, California
Kern Canyon Estates	Bakersfield, California
WestGas Interstate	Laramie County, Wyoming
Enstar/Alaska Pipeline Company	Anchorage, Alaska
Northwest Pipeline Corporation	Plymouth, Washington

## Appendix C

### 1996 Natural Gas Enforcement Actions—Warning Letters and Letters of Concern

<b>OPERATOR</b>	<b>LOCATION</b>
<b><u>Eastern Region</u></b>	
Hentago Court & Abbey Walk Apartments	Newark, Delaware
Georgetown Apartments	New Castle, Delaware
Buckeye Pipe Line Company	Emmaus, Pennsylvania
Buckeye Pipe Line Company	New Haven, Connecticut
<b><u>Southern Region</u></b>	
Texas Eastern Transmission	Houston, Texas
Transcontinental Gas Pipeline Corporation	Houston, Texas
Teppco	Houston, Texas
Mid-America Pipeline Company	Alabama, Tennessee, and Kentucky
Tampa Pipeline Limited Partnership	Tampa, Florida
Defense Fuel Supply Center	Hanahan, South Carolina
Central Florida Pipeline Corporation	Tampa, Florida
<b><u>Central Region</u></b>	
ANR Pipeline Company	Celestine, Michigan
Willston Basin Interstate Pipeline Company	Bismarck, North Dakota
Michigan Gas Storage Company	Marion, Michigan
Northern States Power Company	Staples, Minnesota
Sun Pipe Line Company	Detroit, Michigan
Wolverine Pipe Line	Kalamazoo, Michigan
Mid-Valley Pipeline Company	Hobron, Kentucky
Dome Pipeline Corporation	Goshen, Indiana
Texaco Pipeline Incorporated	Russell, Kansas
Explorer Pipeline Company	Tulsa, Oklahoma
Total Petroleum Incorporated	Arkansas City, Kansas
National Cooperative Refinery Association	McPherson, Kansas
Sinclair Pipeline Company	Carrollton, Missouri
Enron Liquid Pipeline Company	Conway, Kansas
<b><u>Southwest Region</u></b>	
Natural Gas Pipeline Company of America	Lombard, Illinois
ARCO Pipeline Company	Houston, Texas
Amoco Pipeline Company	Texas City, Texas
Diamond Shamrock Pipeline & Terminals	Amarillo, Texas
Exxon Pipeline Company	
All American Pipeline Company	
Conoco Pipe Line Company	State of Texas
Chevron Pipe Line Company	Woodlands, Texas
Texas-New Mexico Pipeline Company	Hobbs, New Mexico
LOOP, Inc	New Orleans, Louisiana
Unocal Pipeline Company	Louisiana
Marathon Oil Company	Lafayette, Louisiana
Oxy Petrochemical Incorporated	Lake Charles, Louisiana



## Appendix C

### 1996 Natural Gas Enforcement Actions—Warning Letters and Letters of Concern, continued

#### OPERATOR

#### LOCATION

##### Western Region

Alyeska Pipeline Service Company	Anchorage, Alaska
Conoco Pipeline Company	Salt Lake City, Utah
Express Pipeline Company	Thermopolis, Wyoming
MAPCO Alaska Petroleum Incorporated	North Pole, Alaska
CENEX (Farmers Union Central Incorporated)	Laurel, Montana

**Appendix D**  
**Office of Pipeline Safety Locations**

---

**Headquarters**

Office of Pipeline Safety, DPS-1  
400 Seventh Street, SW., Room 2335  
Washington, DC 20590  
(202) 366-4595

---

**Regional Offices**

Eastern Region, DPS-24  
400 Seventh Street, SW., Room 2108  
Washington, DC 20590  
(202) 366-4580

**States Under Regional Jurisdiction**

Connecticut	New Jersey
Delaware	New York
District of Columbia	Pennsylvania
Maine	Rhode Island
Maryland	Vermont
Massachusetts	Virginia
New Hampshire	West Virginia

---

Southern Region, DPS-25  
Atlanta Federal Center  
100 Alabama Street, 16th Floor  
Atlanta, GA 30303-3104  
(404) 562-3530

Alabama	Mississippi
Arkansas	North Carolina
Florida	Puerto Rico
Georgia	South Carolina
Kentucky	Tennessee

---

Central Region, DPS-26  
1100 Main Street, Room 1120  
Kansas City, MO 64105  
(816) 426-2654

Illinois	Missouri
Indiana	Nebraska
Iowa	North Dakota
Kansas	Ohio
Michigan	South Dakota
Minnesota	Wisconsin

---

Southwest Region, DPS-27  
2320 La Branch, Room 2116  
Houston, TX 77004New  
(713) 718-3746

Arizona	Oklahoma
Louisiana	Texas
Mexico	

---

Western Region, DPS-28  
Golden Hills Centre, Suite A-250  
12600 W. Colfax Avenue  
Lakewood, CO 80215-3736  
(303) 231-5701

Alaska	Montana
California	Nevada
Colorado	Oregon
Hawaii	Utah
Idaho	Washington
	Wyoming

---

**Transportation Safety Institute**

Pipeline Safety Branch, DTI-60  
6500 South MacArthur Boulevard  
Oklahoma City, OK 73169  
(405) 954-7219