

Annual Natural Gas Pipeline Safety Report

2009

**Florida Public Service Commission
Division of Service, Safety and Consumer Assistance**

Annual Natural Gas Pipeline Safety Report – 2009

At the March 5, 1984, Internal Affairs meeting, the Commission voted to require staff to prepare an annual summary report of the previous year's natural gas pipeline safety activities. This is the report for calendar year 2009.

Summary of Gas Pipeline Safety Activities For 2009

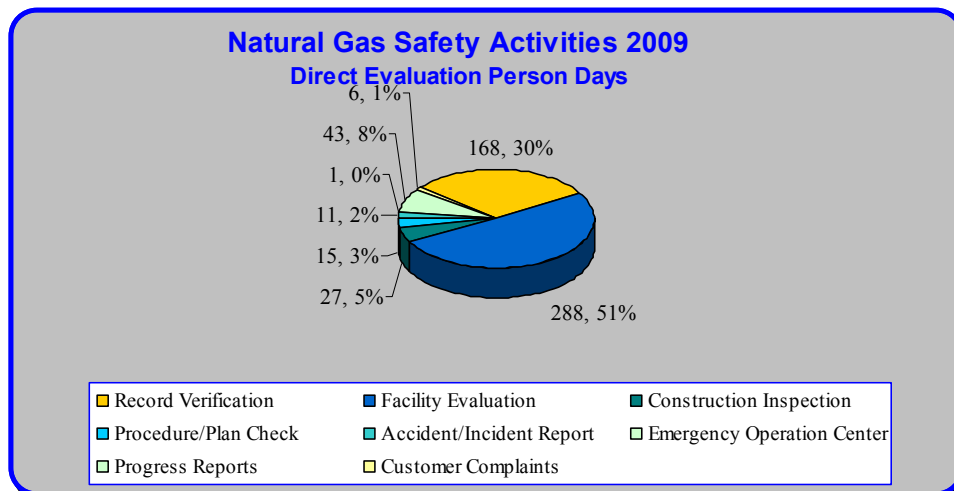
During 2009, the Commission's gas pipeline safety staff evaluated 92 natural gas systems, covering approximately 45,740 miles of pipeline and 840,285 customer service lines. These evaluations resulted in the issuance of written notifications to utilities of gas pipeline safety violations. The notifications cited 120 rule violations, ranging from failure to repair gas leaks, failure to odorize natural gas, and failing to use qualified welding personnel. All violations have been corrected or scheduled for corrective action pursuant to the Commission's enforcement procedures.

General Activities

Safety, reliability, and service monitoring promotes an uninterrupted supply of natural gas service to the public and confirms that such services are provided in a reasonable and timely manner with minimal risks. All natural gas systems are evaluated annually for safety compliance in areas of corrosion control, leak surveys, leak repairs, emergency response, drug testing, employee training and qualification, damage prevention, public awareness, maintenance and operations and new construction.

The gas pipeline safety section also supports and assists the state's Emergency Operations Center in all energy related issues, such as energy security, natural gas explosions, and natural disasters or when any utility related threat is detected that threatens life and property. Regularly this assistance involves supplying expert advice during the emergency and coordinating activities of the gas and electric utilities along with fire, police departments and other public and private agencies.

Commission safety staff utilized 560 direct evaluation person days for 2009. The direct evaluation person day is an 8 hour calculated day in the field checking safety compliance only. This excludes everything else such as travel time, report writing, interviews and administrative time. Facility evaluations and record verifications require 81% of the time spent conducting a gas safety evaluation. Other areas covered include procedure checks, construction inspections, and progress reports on violations. (See chart below.)



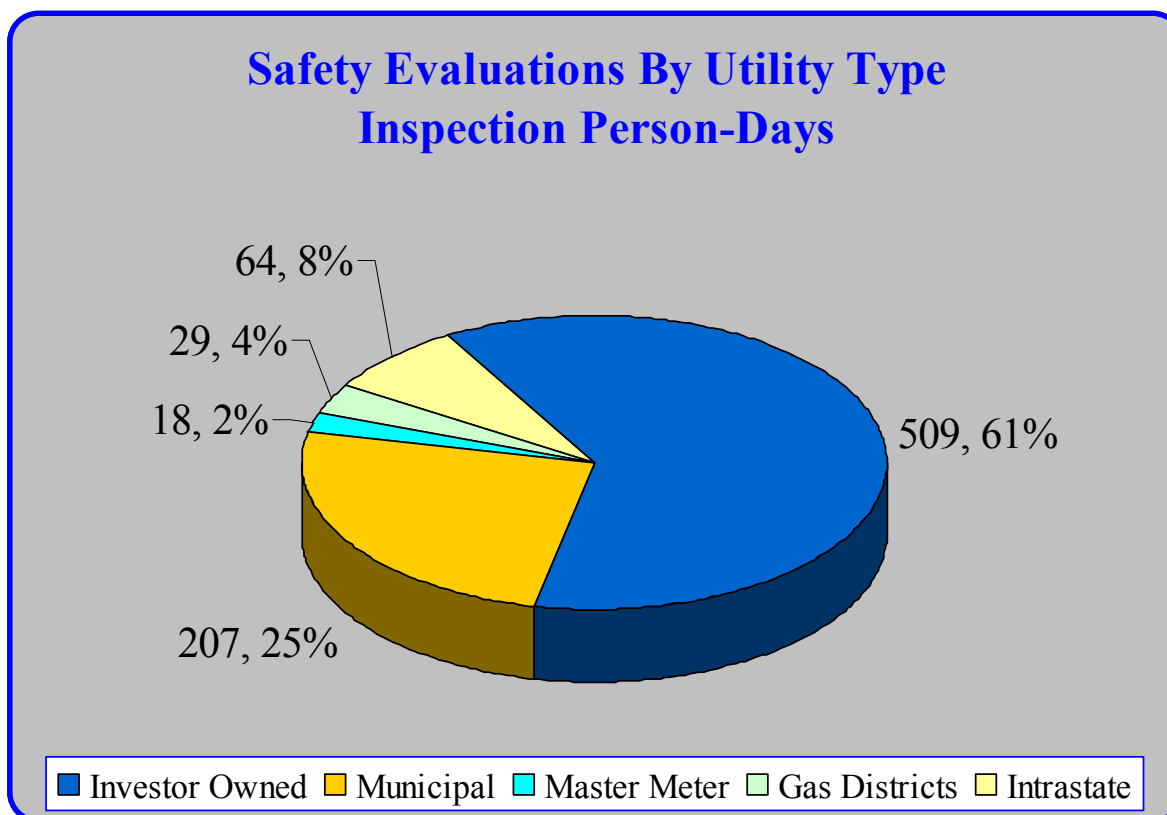
Significant Safety Activities

I. Distribution Integrity Management Program

The Commission's pipeline safety program is evaluating and working with enforcement procedures for a new rule proposed by the Pipeline and Hazardous Materials Safety Administration (PHMSA). The PHMSA has published a proposed rule that would establish integrity management requirements for gas distribution pipeline systems. (This is the final phase of PHMSA's implementation of its integrity management program. Over the past several years, PHMSA has implemented new integrity management regulations for hazardous liquid and gas transmission (versus distribution) pipelines. These regulations are intended to help assure pipeline integrity and improve the already good pipeline safety record.) Significant differences in system design and local conditions affecting distribution pipeline safety preclude applying the same tools and management practices as used for transmission pipeline systems.

Following a joint effort involving PHMSA, the gas distribution industry, representatives of the public, and the National Association of Pipeline Safety Representatives to explore potential approaches, PHMSA has proposed a slightly different approach for distribution integrity management. The final rule establishing integrity management requirements for gas distribution pipeline systems was issued on December 4, 2009. The effective date of the rule was February 12, 2010. Operators are given until August 2, 2011 to write and implement their program. Staff is monitoring the PHMSA guidance for implementation. Staff is assuring that operators are aware of the regulation and the future requirement for their operations and providing guidance on implementation.

The following chart identifies how commission safety workload is conducted by type of utility.



II. Transmission Pipeline Integrity Management

The Department of Transportation's Integrity Management Regulation became law when Congress passed the Pipeline Safety Improvement Act (2002.) This regulation requires a pipeline operator to develop an integrity management program for gas transmission pipelines located in areas where a leak or rupture could cause the most harm, i.e., "high consequence areas." An operator of a gas transmission pipeline is required to perform ongoing assessment of the pipeline's integrity by performing a risk analysis to identify and mathematically rank all threats that could be detrimental to the integrity of the pipeline. These threats may include excavation damage, internal and external corrosion, soil movement, inferior pipe materials and coatings, poor construction practices, stress corrosion cracking, and numerous other environmental or man-made factors that can detrimentally affect the pipeline's integrity. Once identified, each threat must be mitigated to improve public safety and protect the environment. To maximize the improved safety, the transmission operator must evaluate its pipeline right-of-way to identify high consequence areas where an increased number of individuals either live or congregate or where environmentally sensitive areas exist. Pipelines in these areas are to be evaluated first and a continuing program established to determine the effectiveness of the threat mitigation process.

In addition to threat reduction, the operator is also required to establish the baseline condition of the existing pipeline in each of the identified high consequence areas. This baseline condition is to be compared to future integrity data to determine if the pipeline has deteriorated and is more susceptible to failure. This baseline analysis can be achieved using one of three methods; in-line inspection, hydrostatic testing, or direct assessment. In-line inspection consists of the insertion of an electronic tool (pig) into the pipeline to measure the existing wall thickness and the pipe's uniform diameter as it is moved along the pipeline. Hydrostatic testing involves removing the pipeline from service to perform a pressure test to 100 percent of the pipe's specified minimum yield strength. If the pipeline holds this test pressure without rupture, its integrity is to be considered adequate. The third method of establishing the baseline condition of a pipeline is direct assessment which involves a multi-method analysis of the corrosive environment near the pipeline. Data collected in this analysis is to be compared to known characteristics of the pipeline to identify internal and external corrosion problems affecting the integrity of the pipe. Any deficiencies detected by any one of these three methods, which may result near term failure of the pipeline, must be promptly repaired in accordance with time limits established by the regulation.

In summary, this regulation requires Florida's gas transmission pipeline operators to perform ongoing assessment of pipeline integrity, to improve data collection, integration, and analysis, to repair and remediate the pipeline as necessary, and to implement preventative and mitigative actions to improve public safety and protect the environment. Commission staff has completed the first round of assessments and is checking the revaluations for the next phase of the program.

III. Public Awareness

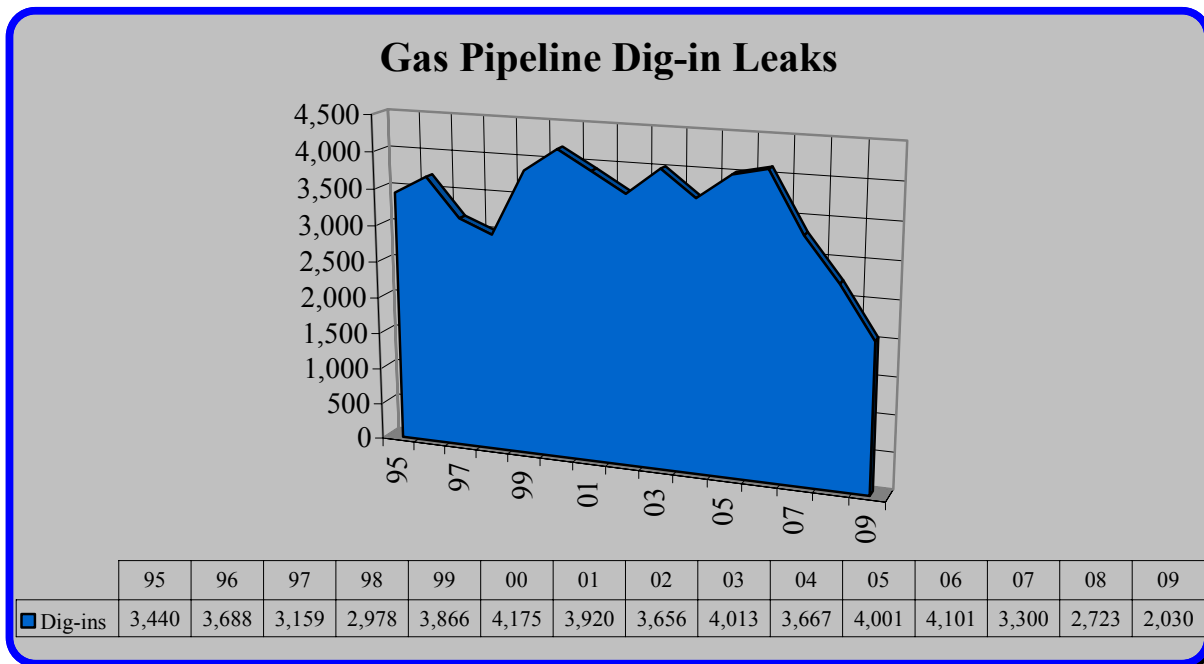
When Congress enacted the Pipeline Safety Improvement Act, it added additional requirements mandating that operators of natural gas distribution and transmission pipelines shall establish and carry out a continuing public education program. This program must assure the operator's participation in a one-call notification system prior to excavation and other damage prevention activities. Procedures shall be established for communication and education activities designed to increase the public's awareness of the pipeline's operations and safety issues. These

procedures should include communications with individuals, such as, local government officials, fire, police, excavators, gas customers and property owners along the pipeline right of way. The purpose of these educational activities is to communicate possible hazards associated with unintended releases of gas from the pipeline facility including the physical indications of a gas release, steps that should be taken in the event of a release, and how an individual can report a natural gas-related incident. Finally, the pipeline operator must review its existing public education program to determine its effectiveness and modify the program where necessary.

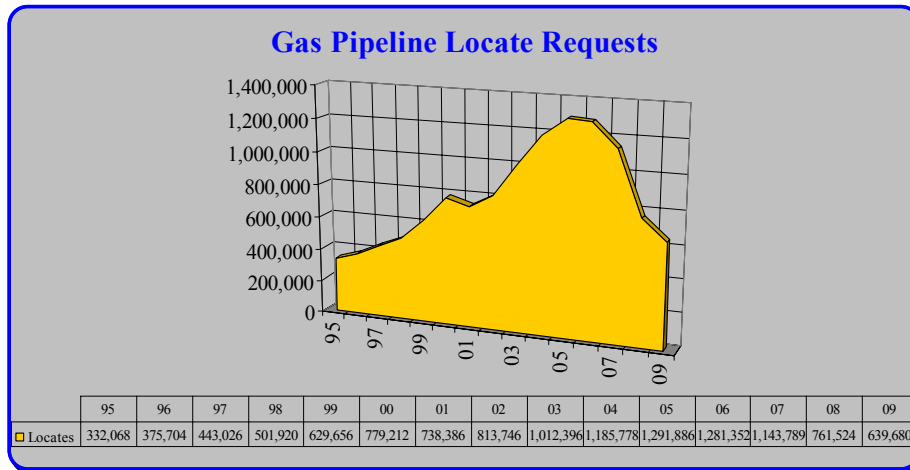
The regulation adopts, by reference, API RP 1162 which is an industry standard developed by the American Petroleum Institute to provide guidance on how to comply with the various aspects of the public awareness requirements. These guidelines provide information as to the types of media to be used, the frequency the educational material should be disseminated, suggested topic content, and suggestions on how operators can work together to better communicate their message. The intent of this regulation is to promote improved pipeline safety through enhanced communications to allow the public to gain a better understanding of the pipeline facilities and operations in their area. Commission staff is continuing to compile information for a comprehensive database.

IV. Prevention of Damage to Gas Pipelines by Excavators

Damage to natural gas pipelines by dig-ins, pipelines cut or damaged by others engaged in excavation activities or directional drilling continues to be the leading gas pipeline safety issue in Florida and in the rest of the United States. The total dig-ins for this reporting year was 2,030, less than the previous year's 2,723, a decrease of 25.5%. (See chart below.)



The gas pipelines locate requests were 639,680, markedly down from previous years. This is believed to be because of the economic slowdown in Florida. In the last years from the base line record year 1995, gas pipeline locate requests to gas utilities have risen 391%, peaking in 2005 while excavation damage for the same time period has returned to below the historical average. These relatively constant damage levels contrast with the increased construction activity over the years evident by the large increased pipeline locate requests and an expansion of the pipeline system by about a third, increasing exposure to possible damages. (See following chart.)



The Florida Legislature enacted Chapter 556, entitled Underground Facility Damage Prevention and Safety Act (UFDPSA) in 1993. Prior to UFDPSA there was a private cooperative one-call before you dig system operated by the major utilities. The purpose of the law was to aid the public by preventing injury to persons or property and the interruption of services resulting from damage to an underground facility caused by excavation or demolition operations. The Act created a not-for-profit corporation (Sunshine State One-Call of Florida) consisting of operators of underground facilities in Florida to administer the provisions of the Act. The Act required the corporation to establish a one-call toll-free telephone notification system (Dial 811.) The purpose of the telephone system is to receive notification of planned excavation or demolition activities and to notify member operations of such planned excavation or demolitions.

V. Gas Operator Qualification Requirement

Congress directed the Pipeline and Hazardous Materials Safety Administration (PHMSA) to require that “all individuals responsible for the operation and maintenance of natural gas pipeline be tested for qualifications and certified to operate and maintain gas facilities.” The rule is a non-prescriptive, performance-based regulation requiring natural gas system operators to develop a written program for the qualification of personnel. This would allow each program to be customized to the unique operations and practices of each operator. This requirement covers all operation and maintenance employees of natural gas systems and contractors, subcontractors or any other entities performing covered tasks for the system operator. Commission staff has reviewed all plans. The evaluations now are focused on field evaluations of utility qualified personnel, direct line field supervision required by rule and employee’s job knowledge and capabilities. In addition, the staff is checking on implementation of the record-keeping aspects of the plans.



Qualified gas workers working on new construction of a major pipeline.

VI. History of Reportable Natural Gas Injuries and Fatalities

The Commission's natural gas pipeline safety program has injury and fatality data back to the beginning of the program in 1972. (See table below.) The peak year for fatalities was 1980 when six people were killed by natural gas pipeline related incidents. The following year in 1981 was the record year for injuries with thirty-six. Most of the fatalities and injuries are related to excavation damages by construction activities or the public.

Natural Gas Accidents and Incidents Reportable to the Commission					
Year	Number Gas Systems Having Incidents	Number of Incidents	Number of Injuries	Number of Fatalities	Number of Dig-ins
1972	1	4	0	0	3
1973	7	12	4	0	11
1974	5	10	7	0	10
1975	2	3	0	0	3
1976	4	5	2	2	4
1977	3	9	0	0	4
1978	3	4	1	0	3
1979	7	14	5	1	7
1980	12	17	6	6	13
1981	13	29	36	1	14
1982	12	29	12	2	11
1983	5	20	8	0	14
1984	8	18	1	0	14
1985	12	25	3	2	17
1986	7	16	2	0	14
1987	8	16	5	2	13
1988	8	19	1	0	18
1989	10	28	3	0	26
1990	8	35	0	0	33
1991	5	23	0	0	21
1992	8	42	3	0	39
1993	7	31	3	0	18
1994	13	20	3	0	15
1995	10	24	2	0	16
1996	12	24	3	0	17
1997	12	24	1	1	21
1998	11	19	1	0	13
1999	8	25	2	0	21
2000	9	23	4	1	16
2001	8	25	4	0	14
2002	4	16	3	0	6
2003	7	18	4	0	7
2004	4	8	2	0	6
2005	12	15	1	0	12
2006	5	11	2	1	8
2007	3	6	7	2	3
2008	3	18	1	0	11
2009	6	14	1	0	4

Note: Natural gas accidents and incidents are reported to the Commission in accordance with Commission Rule 25-12.084 F.A.C.