Trends in Pipeline Safety and State Damage Prevention Programs

By Brydon Ross [1]
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States have a significant role to play in regulating the safety of the nation's enormous pipeline network. Policymakers at the state level should be aware that additional federal scrutiny of damage prevention programs is likely to increase from congressional directives and increasing safety expectations from the general public.

Although the U.S. Department of Transportation’s Pipeline and Hazardous Materials Safety Administration is the primary regulator of most interstate pipelines, states play an important role in maintaining the safety of these lines.

State pipeline safety personnel make up more than 75 percent of the inspection workforce and are often referred to as being on the front line of protecting the public, working in conjunction with first responders during an accident.

The DOT can designate a state to act as its agent in the inspection of interstate lines. States that adopt the minimum federal pipeline safety regulations can be certified by the DOT and act as inspectors for interstate pipelines within their borders.

The duties of state pipeline agencies cover a broad swath of activities, such as the inspection and review of safety records, physical facilities, industry personnel qualifications, construction, operations, maintenance, integrity management, compliance and enforcement, accident investigations and other safety programs. While a state may participate in the oversight of interstate pipelines, the DOT always retains authority for enforcement of any violations. Currently the only states that are certified as interstate inspection agents are Arizona, California, Minnesota, New York, Virginia, and Washington.

The nation’s pipeline systems can be divided into two categories: intrastate, in which the pipeline lies completely within a state’s borders, and interstate, in which the pipeline crosses one or more state boundaries for interstate commerce. States have direct safety authority over more than 99 percent of regulated intrastate natural gas and 84 percent of intrastate hazardous liquid system—including oil and other petroleum products—and carbon dioxide pipelines in the country, according to the National Association of Pipeline Safety Representatives. State inspectors also have
safety authority over more than 99 percent of the 2 million miles of natural gas distribution pipelines, those that serve retail consumers, 49 percent of the 329,000 miles of natural gas transmission pipelines and 34 percent of the 187,000 miles of hazardous liquid pipelines.

**Excavation Damage and 811**

Damage during excavations is the leading cause of fatal and injurious pipeline accidents. The Association of Oil Pipe Lines and the American Petroleum Institute estimated that while excavation damage by third parties, such as outside contractors, makes up only seven percent of overall oil pipeline spills, they account for nearly 30 percent of incidents that kill or injure people.

The federal 2002 Pipeline Safety Improvement Act created a three-digit toll-free number, or “One-Call,” for excavators to use before digging so underground utilities can be properly marked and located. A nonprofit association called the Common Ground Alliance—financially supported by private companies, industry trade associations, state regulators and the DOT—promotes 811, the designated three-digit One-Call number. The alliance also shares best practices to ensure public safety and environmental protection and to enhance public awareness of potential excavation damage.

Calls can be made to 811 from anywhere in the country and are routed to the local One-Call center. Operators determine the location of the proposed dig and send information about the excavation to affected infrastructure companies. Under most state One-Call regulations, excavators must wait a specified period of time before beginning any proposed project to give sufficient time to locate and mark underground facilities to prevent accidental excavation damage.

**Grant Programs for States**

States receive funding from the DOT’s Office of Pipeline Safety within three main categories: Pipeline Safety Base Grants, State Damage Prevention Grants and One Call Grants. To qualify, states generally must adopt basic federal pipeline safety regulations and assign a state agency to inspect facilities.

- Pipeline Safety Base Grants are designed to support up to 80 percent of the cost of personnel, equipment, and activities reasonably required to carry out inspection and enforcement activities of intrastate pipeline facilities under a certification or agreement with the Secretary of Transportation;
- State Damage Prevention Grants were created to assist states in designing comprehensive damage prevention programs for underground pipelines and to help existing state programs improve their effectiveness; and
- The One-Call Grant Program was created to assist states with damage prevention efforts, compliance activities, performance improvements, communication and training for state One-Call centers.

Individual state awards are usually small; most One-Call grants average $45,000. These grants, however, are critical sources of funding during lean budget years because of the vast mileage of pipelines state agencies must monitor with limited staff. Overall, roughly 500 to 600 state pipeline inspectors are responsible for overseeing more than 2.2 million miles of pipelines—or roughly one inspector for every 3,667 miles of pipe. The recently approved Pipeline Safety, Regulatory Certainty and Job Creation Act of 2011 extended funding for Pipeline Safety Base Grants at $36.1 million, $1.5 million for State Damage Prevention Grants and $1 million for One-Call grants per year through the 2015 fiscal year.

**State Damage Prevention and Federal Scrutiny**

Congress in 2006 passed the Pipeline Inspection, Protection, Enforcement and Safety, or PIPES, Act,
which outlined the requirements for state damage prevention and One-Call programs. Congress cited the nine elements of an effective state damage prevention program that DOT is required to evaluate when issuing damage prevention grants, including:

- Enhanced communication between pipeline operators and excavators;
- Fostered support and partnership of all stakeholders;
- Requirements for pipeline operators to use underground facility locators;
- Partnership in employee training;
- Partnership in public education;
- Enforcement agencies involvement to resolve disputes;
- Fair and consistent enforcement of the law;
- Use of technology to improve underground facility location; and
- Data analysis to continually improve program effectiveness.

The pipeline industry and public safety organizations like the Pipeline Safety Trust have expressed concerns that too many states have weak or ineffective programs because of numerous exemptions built into state laws or regulations. The oil pipeline industry has recommended that, at a minimum, all excavators, including state agencies and municipalities, should:

- Use state One-Call systems prior to excavation;
- Follow location information or markings established by pipeline operators;
- Report all excavation damage to pipeline operators; and
- Immediately notify emergency responders when excavation damage results in a release of pipeline products.

A DOT assessment conducted in 2010 of each state’s damage prevention program and its effectiveness in utilizing the nine elements outlined in the PIPES Act revealed that few states are following them (see chart). Although the DOT noted that its survey results should not be construed as conclusive, the review did highlight that only eight states—Arizona, Georgia, Louisiana, Maine, Minnesota, New Hampshire, Vermont and Virginia—have fully implemented the nine recommendations of an effective damage prevention program.

Washington is one state that recently took action to improve pipeline safety. In 2009, the Washington State Utilities and Transportation Commission developed a stakeholder group that ultimately formed the basis of a new state law passed in May 2011. The new law increased civil penalties for safety violations, created new enforcement proceedings, and established a 13-member safety committee to review complaints of unsafe excavation.

The Public Utilities Commission of Nevada provides another important example of improved enforcement. Under previous statutes, the commission could act only when complaints were submitted by those affected from excavation damage. After the Nevada commission implemented new regulations that allowed it to take a more proactive enforcement approach, inspections rose from zero in 2006 to 400 by 2009. Damages to underground facilities have also decreased by 50 percent.

Many observers expect the DOT to issue a new rulemaking based on the results of their assessment of state damage prevention programs and other collected stakeholder comments, perhaps even by the spring of 2012.

2011 Pipeline Safety Reauthorization Bill and State Exemptions
The pipeline industry and environmental/safety organizations both have been urging Congress to require more statutory compliance for state damage prevention programs in the reauthorization of
federal pipeline safety laws. Carl Weimer, executive director of the Pipeline Safety Trust, said in his 2010 testimony, “Many states have exemptions to their damage prevention ‘One Call’ rules for a variety of stakeholders, including municipalities, state transportation departments, railroads, farmers, and property owners. We believe such exemptions, except in cases of emergencies, are unwarranted for municipalities, state transportation departments and the railroads, and urge both Congress and DOT to make it clear that these types of exemptions are not acceptable in an effective damage prevention program.”

State officials suggested that instead of additional regulation, Congress should authorize a DOT study to examine individual state One-Call laws and make recommendations for removing only specific exemptions that could exacerbated excavation damage.

The fact that the pipeline industry and its harshest critics were essentially both asking for tougher regulation proved compelling to Congress, especially in light of the government’s response to the Deepwater Horizon event in the Gulf. Several significant provisions were added in the Pipeline Safety, Regulatory Certainty and Job Creation Act—House Resolution 2845—that impacted state damage prevention programs. Under the new statute, signed into law on Jan. 3, 2012, states may not receive federal One-Call or State Damage prevention grants if they exempt state agencies, municipalities or their contractors from the requirements to use 811. These new requirements take effect within two years after the date of the bill’s enactment, which should occur sometime in January 2014.

In addition, the reauthorization bill included a study requiring the DOT to evaluate the safety benefits of removing all exemptions from state One-Call programs, which will likely provide more recommendations to Congress for strengthening state requirements.

**So What?**

According to the most recent data from the National Association of Pipeline Safety Representatives, at least 41 states, territories and the District of Columbia have some type of exemptions built into their damage prevention programs (see chart). A significant portion of these exemptions include state departments of transportation, state agencies and municipalities. Even states that had well-regarded damage prevention programs often had exemptions.

The inclusion of more stringent regulations will likely cause additional delays for state DOT projects that must be marked by underground utility locaters before doing any road repair or construction work. Typically, a One-Call center will dispatch a locater within 24 to 48 hours, but sometimes this can take 72 hours or longer. Many states do not have One-Call centers that are monitored seven days a week, much less 24 hours a day. This could lead to some significant delays for construction projects. For example, if a One-Call ticket was filed on Friday afternoon, a facility locater would not likely be on a project site until Tuesday or Wednesday.

States that find this an unacceptable delay and choose to forego the One-Call requirements could face significant public safety and public perception implications. The financial impact of losing DOT grant money would have minimal impacts to a state’s overall budget, but it would cause substantial disruptions and problems for the small number of staff that run state One-Call centers. During a pipeline safety reauthorization hearing last summer, Randall Knepper of the New Hampshire Public Utilities Commission testified that, “Eliminating these funds will result in less effort by the state in promoting use of the 811 number, in educating locators and excavators and in carrying out other educational efforts with the affected stakeholders to reduce excavation damage to pipelines and other infrastructure. This could actually increase the number of incidents involving excavation damage and result in lower overall levels of safety.”
Some states also use One-Call grants for enforcement activities, so states may now face the predicament of adding potential delays to routine maintenance projects or a reduction in important personnel that are on the front lines of public safety. Further, many states may financially be able to forego federal damage prevention grants, but it comes with likely admonishment from advocacy groups that will charge public safety is being undermined.

Unfortunately, states have no easy solution out of this conundrum. States do have opportunities in other aspects of pipeline safety policy where they can wield significant influence. Most immediately, states can start re-examining their pipeline safety programs for any aspects that DOT suggested need improvements or changes before additional federal regulation is contemplated. Policymakers can and should be more vocal with DOT and Congress to ensure that federal reimbursement rates keep pace with additional mandates for state pipeline safety inspectors.

References:

2 National Association of Pipeline Safety Representatives. "Who We Are." [5].

3 Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation. "PHMSA Grants to States and Communities." [6].

4 "Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006 (PL 109-468), Section 2, § 60134 State Damage Prevention Programs, paragraph (b)." [7].

5 "Regulatory comments from AOPL and API to 74 Federal Register 55797-55803; October 29, 2009; Pipeline Safety: Damage Prevention Programs; Advanced Notice of Proposed Rulemaking." Docket # PHMSA 2009-0192. [8]


10 Testimony of Randall Knepper, p. 6.

Methodology for calculating compliance scores
States were evaluated by PHMSA based on 4 levels of compliance in 9 element areas, which were as follows:

- Communication Between Operator/Excavator
- Fostering Support of All Stakeholders
- Operator Use of Performance Measures for Locators
- Partnership in Employee Training
- Partnership in Public Education
- Enforcement Agency Dispute Resolution
- Fair & Consistent Enforcement of Law
- Use of Technology to Improve Locating

CSG placed the following values on each level of compliance as determined by PHMSA to better quantify compliance for comparative purposes. These values were as follows:

The assigned numerical values were added for each state across each of the 9 program elements and averaged, providing a raw compliance score from 0-3. For example, a score of 3.00 in a particular state meant the state had largely implemented all of the 9 program elements or in every program element for which information was available. In some cases, information was not available for a particular state in a particular program element. For those states, those scores were omitted for averaging purposes (i.e. if information was not available for one element, the denominator for the average was 8, instead of the usual 9 – the total number of elements).

Once a raw compliance score was calculated, it was converted into a 100 point scale for easier understanding. For example, a score of 100 in a particular state meant the state had largely implemented all of the 9 program elements or in every program element for which information was available. It is important to note that the 100 point scale is not equal to a percentage calculation, that is, it is inaccurate to say that a score of 50 is equal to 50 percent compliance.