

Pipeline Safety New Voices Project



Pipeline safety statutes, regulations, consensus standards, recommended practices

1. Introduction and a brief civics lesson

Or:

Why federal rules are primary, and why we have not included much about state regulations

Pipeline safety is within the domain of the U.S. Department of Transportation's Pipelines and Hazardous Materials Safety Administration (PHMSA), and pipeline safety is predominantly based in federal laws and regulations, or in authorities exercised by states through agreements with or certifications by the federal government.

An extremely short version of the reason for this follows: The interstate commerce clause of the Constitution, Article I, Section 8, clause 3, gives Congress the power “to regulate commerce with foreign Nations, and among the several States, and with the Indian Tribes.” The Supremacy Clause of the Constitution, Article IV, clause 2, provides that “*This Constitution, and the Laws of the United States which shall be made in Pursuance thereof ... shall be the supreme Law of the Land; ... any Thing in the Constitution or Laws of any state to the Contrary notwithstanding.*”

The shorthand version of this is: Where Congress exercises its power under the commerce clause to regulate something like the transportation of fuels, any state laws in conflict with those federal rules are without effect. Where there's no federal law precisely on that topic, or where the state law might not directly conflict with the federal law, things get a bit fuzzier and the lawyers get to earn their keep. Attorney Paul Blackburn (one of our group members) gave this presentation on issues of state authority over aspects of the proposed Keystone XL pipeline in anticipation of the special session held last year in Nebraska: http://boldnebraska.org/uploaded/pdf/kxl_lincoln_presentation_2011-11-03.pptx

We will explore some of these issues of state authority in the final briefing paper of the series, which will discuss a variety of opportunities for pipeline safety advocates to become more involved.

The other simple reason for not including much about state regulations is that there are 50 sets of them, and it would simply overwhelm you all with details. When we get through a few more briefing papers, we will produce one whose working title is currently “Where can I find information about _____?” In that briefing paper, we will include links to each of the state's pipeline safety pages.

2. Federal Statutes –

A little history: The first federal statute governing pipeline safety was enacted in 1968: The Natural Gas Pipeline Safety Act of 1968. Liquid pipelines were added in 1979, in the Pipeline Safety Act of 1979. Subsequent changes were made in the Pipeline Safety Reauthorization Act of 1988, the Pipeline Safety Act of 1992, the Accountable Pipeline Safety and Partnership Act of 1996, the Pipeline Safety Improvement Act of 2002, the Pipeline Inspection, Protection, Enforcement and Safety Act of 2006, and the newest reauthorization bill passed just last session, the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011. For a bit more detail and a vivid description of the sorry state of pipeline safety regulation and the abysmal record of the Office of Pipeline Safety just after the adoption of the 2002 reauthorization bill, when the Bellingham, WA and Carlsbad, NM explosions were still very fresh memories, feel free to read this article by Carol Parker, now a Pipeline Safety Trust board member. [Click here for the pdf \(2.2MB\)](#)

About the 12 people that died in 2000 at a campsite near Carlsbad when an El Paso gas line ruptured, caused by corrosion, Parker says:

These twelve people died because there was no requirement to inspect pipelines - ever - anywhere. These victims were not the first to die from unsafe pipelines and they may not be the last. This article describes what Congress did about the accident and where Congress fell short.
Parker, at 244.

Fortunately, there have been several huge strides in pipeline safety regulations since then, but many needed improvements, some of them recommended by the National Transportation Safety Board for years, are yet to be adopted.

The pipeline safety statutes are all codified in Title 49 of the U.S. Code, sections 60601-60301. You can link to the statutes from the PHMSA web page here: [Click here for the pdf \(321k\)](#)

Under the federal statutes, states are authorized to enter into certifications or agreements with the federal government, allowing states to assume all or part of the *intrastate* regulatory and enforcement responsibility, as long as the state has adopted all of the federal minimum safety regulations; and to inspect and regulate, but not enforce, on *interstate* lines. As the PHMSA web page describes it: “Federal grant funds are used as an incentive to improve state program performance and to encourage states to take on more responsibility for pipelines. OPS is authorized to reimburse a state agency up to 80 percent of the actual cost for carrying out the state’s pipeline safety program, including the cost of personnel and equipment. Federal funding is determined through an allocation formula based on factors such as the extent to which the state asserts safety jurisdiction, whether the state has adopted all federal requirements, and the number and qualifications of the inspectors.”

State regulators operating under PHMSA certifications and/or agreements

Here is a link to PHMSA's webpage which identifies which states operate under certifications under 49 USC 60105(a) for liquid or gas lines, which under agreements for liquid or gas lines, and which do neither.

<http://primis.phmsa.dot.gov/comm/Cooplist.htm?nocache=6735> - Gas

If you prefer to sort these out on a map, here is the page where you can do that:

<http://primis.phmsa.dot.gov/comm/Coop.htm?nocache=6154>

FERC's role in pipelines

Federal statutes also give FERC (the Federal Energy Regulatory Commission) a role in pipeline matters, some of them closely related to safety issues. Since the late 1930s, with the Natural Gas Act of 1938, the federal government has required a permit for the construction of new interstate natural gas pipelines. According to the US Energy Information Administration:

The Natural Gas Act (NGA) of 1938 was the first instance of direct Federal regulation of the natural gas industry. Concern about the exercise of market power by interstate pipeline companies prompted the NGA, which gave the Federal Power Commission (FPC) (subsequently the Federal Energy Regulatory Commission (FERC)) the authority to set "just and reasonable rates" for the transmission or sale of natural gas in interstate commerce. It also gave FPC the authority to grant certificates allowing construction and operation of facilities used in interstate gas transmission and authorizing the provision of services. A "certificate of public convenience and necessity" is issued under Section 7 of the NGA, and permits pipeline companies to charge customers for some of the expenses incurred in pipeline construction and operation. The NGA also requires Commission approval prior to abandonment of any pipeline facility or services.

Section 3 of the NGA requires Federal approval by the Department of Energy for the import and export of natural gas, including liquefied natural gas (LNG), and approval by FERC for the siting, construction, and operation of onshore LNG import and export facilities.

Regulatory functions under the NGA were originally delegated to the Federal Power Commission, and subsequently transferred to the Federal Energy Regulatory Commission and to the Department of Energy in 1977, by the Department of Energy Organization Act.

FERC's duties now include:

- Regulate the transmission and sale of natural gas for resale in interstate commerce;
- Regulate the transportation of oil by pipeline in interstate commerce;
- Approve the siting and abandonment of interstate natural gas pipelines and storage facilities;
- Ensure the safe operation and reliability of proposed and operating LNG terminals;
- Enforce FERC regulatory requirements through imposition of civil penalties and other means;
- Oversee environmental matters related to natural gas projects and other matters; and
- Administer accounting and financial reporting regulations and conduct of regulated companies.

See www.ferc.gov. The “regulate” referred to in the first two bullets has to do with establishing the rates charged for shipping various products by pipeline. The procedures for obtaining a certificate of public convenience and necessity and obtaining approval for the routing of an interstate pipeline are complicated and require a good deal of diligence for a public participant to have any meaningful role.

Although PHMSA regulations cover some aspects of construction and design, FERC regulations also play a role in construction, and are intended to reduce environmental damage from construction and repair of interstate natural gas lines. These include sets of regulations for construction (and replacement/repair projects) in:

- a) wetlands and waterbodies, <http://ferc.gov/industries/gas/enviro/wetland.pdf> (76.4kb); and
- b) upland areas <http://ferc.gov/industries/gas/enviro/uplndctl.pdf> (65.3kb).

FERC has enforcement authority for violations of these regulations.

3. Federal Pipelines Regulations

As you begin to look at the statutes, you will discover that there are not many that establish any identifiable minimum standards. Most essentially say: “The Secretary shall issue a rule on [some subject] by [some date].” To learn what the rules are, you’ll eventually need to delve into the federal regulations, found in Title 49 of the Code of Federal Regulations. [You can find the federal regulations here.](#)

You may occasionally be surprised or perplexed when you compare the statutes and the regulations. For example, 49 USC 60101(h) requires the Secretary to make rules requiring each operator of a pipeline facility [except master meters] to submit a written report to the Secretary on any (a) condition that is a hazard to life, property, or the environment; and (b) any safety related condition that causes or has caused a significant change or restriction in the operation of a pipeline facility. That written report has to go to the Department and the state regulators within 5 days of the operator first establishing that the condition exists.

Pretty clear direction to the Secretary, or so it appears, to enact a broad reporting requirement for any condition hazardous to life, property or the environment. The rules (49 CFR 191.23 and 195.55) enacted to implement that statute, however, lists only 8 specific kinds of safety related conditions, most with a large amount of operator discretion built into their definitions, and then provides a set of 3 reasons that even if the condition meets one of those 8 requirements, a report isn’t required.

So, for one example, a gas transmission company exceeding its maximum allowable operating pressure (MAOP) didn’t need to report the exceedance because it was “corrected” before the deadline for reporting. The new reauthorization bill specifically fills this loophole and requires MAOP exceedances to be reported. However, if PHMSA’s rules had more clearly complied with the statute in the first place, a second statutory provision would not have been necessary.



For a second, perhaps more egregious example, if the condition is further than 200 meters from a building intended for human occupancy or a place of public assembly (terms not defined by the regulation) a report is not required [unless it's in the right of way of a railroad, or road]. What happened to the statutory language that the Secretary must require reporting of all conditions that are a hazard to life, property or the environment? Apparently PHMSA thinks none of those things are found further than 200 meters from a building intended for human occupation, and apparently no hazard exists if the condition is corrected within 5 days. The devil is in the details, in pipeline safety as in everything else. Aside from the real safety risks to which the public and environment may unknowingly be subjected by the exemptions to the reporting requirements, the reporting exemptions also hamstring PHMSA in gaining enough knowledge from reports to identify and regulate safety issues that may be occurring, but which the agency never knows about, because reports are not required.

Title 49 Code of Federal Regulations – a general overview

- Part 190 – Program operations, Enforcement, Rulemaking procedures – This section includes procedural rules for enforcement actions, rulemakings and what PHMSA calls “special permits,” which are essentially variances from one or more regulations for a given pipeline or segment.
- Part 191 – Gas Pipelines - ANNUAL REPORTS, INCIDENT REPORTS, AND SAFETY-RELATED CONDITION REPORTS – These include reporting requirements for transmission, gathering and distribution lines
- Part 192 - MINIMUM FEDERAL SAFETY STANDARDS for TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE – this is the meat of the safety standards for gas lines and covers everything from design and materials to class locations, welds, meters, regulators, corrosion control systems, maximum operating pressures, testing and maintenance, and integrity management requirements for both transmission and distribution lines.
- Part 193 - FEDERAL SAFETY STANDARDS - LIQUEFIED NATURAL GAS FACILITIES
- Part 194 - RESPONSE PLANS FOR ONSHORE OIL PIPELINES – Oil spill response plan requirements – Requires a plan for the operator’s response to a worst case discharge, calculated by the operator, in a plan submitted to PHMSA and a state, if the state requires a response plan. The submittal and approval process is completely closed to the public unless state regulations provide otherwise. The standards for response times that are supposed to be met are included. The lack of numeric standards, the qualification of responding “to the maximum extent practicable”, the partial list of those rivers considered “high volume areas”, and the lack of public review of the approval process all weaken this entire part. States can adopt more stringent requirements for spill response plans under the Oil Pollution Act of 1990. The new reauthorization bill requires some aspects of these plans to be made publicly available, but until PHMSA issues rules to implement that requirement, we won’t know how much access will improve.
- Part 195 - MINIMUM FEDERAL SAFETY STANDARDS for TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE – The meat of the minimum safety standards for hazardous liquid pipelines and reporting requirements. Covers design, construction, testing, operation, maintenance, corrosion control and qualification of personnel.
- Part 198 - GRANTS TO AID STATE PIPELINE SAFETY PROGRAMS – This part includes both grants to the states for their programmatic activities under agreements and certifications from PHMSA, as well as grants for the states’ damage prevention (811 or one-call) programs.

- Part 199 - DRUG AND ALCOHOL TESTING – This part includes the various types of drug and alcohol testing required of operator employees: pre-employment, post incident, and probable cause.

State Regulations providing additional public safety beyond federal regulations

Here is a link to a paper put out by NAPSRS, the National Association of Pipeline Safety Representatives, which is the organization of state regulators – not the Commission level folks, but the actual program managers. They put together a compendium of all of the state regulations that provide higher levels of safety or reporting than that required by the associated federal regulations, including regulations relating to valves, reporting requirements and a variety of other issues. http://napsr.org/Compendium_FINAL_NAPSRS_Oct_28_2011_First_EditionR.pdf The compendium for some reason does not report any state spill response planning requirements, even when those requirements far exceed those of the federal regulations.

4. Concerns with industry developed standards being incorporated into federal regulations

PHMSA has incorporated by reference into its regulations standards developed by organizations made up in whole or in part of industry representatives. A review of the Code of Federal Regulations under which PHMSA operates finds the following numbers of incorporated standards:

Standards Incorporated by Reference in 49 CFR Parts 192, 193, 195
(As of 6/9/2010)

CFR Part	Topic	Standards*
192	Natural and Other Gas	39
193	Liquefied Natural Gas	8
195	Hazardous Liquids	38

Total 85

*Note: Some standards may be incorporated by reference in more than one CFR Part.

Those standards were developed by the following organizations:

- American Gas Association (AGA)
- American Petroleum Institute (API)
- American Society for Testing and Materials (ASTM)
- American Society of Civil Engineers (ASCE)
- ASME International (ASME)
- Gas Technology Institute (GTI)
- Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS)
- NACE International (NACE)
- National Fire Protection Association (NFPA)
- Pipeline Research Council International, Inc. (PRCI)
- Plastics Pipe Institute, Inc. (PPI)

While the Pipeline Safety Trust has not done an extensive review of these organizations or their standard setting practices, it is of great concern to us—and we believe it should be to Congress as well—whenever an organization whose mission is to represent the regulated industry is—in essence—writing regulations that members of the organization must follow. A very quick review of the mission statements of some of these organizations reveals statements like these below that show, at a minimum, a conflict between the best possible regulations for the entire public and the economic interests of the industry.

API – “We speak for the oil and natural gas industry to the public, Congress and the Executive Branch, state governments and the media. We negotiate with regulatory agencies, represent the industry in legal proceedings, participate in coalitions and work in partnership with other associations to achieve our members’ public policy goals.”

AGA – “Focuses on the advocacy of natural gas issues that are priorities for the membership and that are achievable in a cost-effective way.” “Delivers measurable value to AGA members.”

PPI – “PPI members share a common interest in broadening awareness and creating opportunities that expand market share and extend the use of plastics pipe in all its many applications.” “The mission of The Plastics Pipe Institute is to make plastics the material of choice for all piping applications.”

PRCI – “PRCI is a community of the world’s leading pipeline companies, and the vendors, service providers, equipment manufacturers, and other organizations supporting our industry.”

The pipeline industry has considerable knowledge and expertise that needs to be tapped to draft standards that are technically correct and that can be implemented efficiently. But we also know the industry’s standard setting practices exclude experts and stakeholders who can bring a broader “public good” view to standard setting. When a regulatory agency needs to adopt industry-developed standards it is a “red flag” that the agency lacks the resources and expertise to develop these standards on its own.

It should be noted that the development of such standards is not an open process where interested members of the public or experts outside the industry (such as those in universities and colleges) can review the material and comment. One of the most ridiculous examples of this one sided process was the development of the Public Awareness standard (API RP 1162) which now governs how pipeline companies have to communicate with the affected public. The process was controlled by industry, even though industry has no particular expertise in this type of public awareness or communication. The many possible independent experts and organizations in the field of communications and education were not sought and ultimately were not a part of the development of this standard.

Even once the standards are incorporated by reference into federal regulations, the standards remain the property of the standard setting organization and are not provided by PHMSA in their published regulations. If the public, state regulators, or academic institutions want to review the standards they have to purchase a copy from the organization that drafted them. In many cases, this further removes review of

the standards from those outside of the industry. Below are just a handful of examples of the cost to purchase for review the standards that are part of the federal pipeline regulations:

**Sample Cost of Pipeline Safety Standards Incorporated by
Reference Into Federal Regulations (As of 6/8/2010)**

Standard	Organization	Code of Federal Regulations (Incorporated by Reference)	Cost
ANSI/API Spec 5L/ISO 3183 "Specification for Line Pipe"	API	49 CFR §192.55, §192.112, §192.113, §195.106	\$245.00
ASME B31.4 -2002 "Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids"	ASME	49 CFR §195.452	\$129.00
GRI 02/0057 (2002) "Internal Corrosion Direct Assessment of Gas Transmission Pipelines Methodology"	GTI	49 CFR §192.927	\$295.00
NACE Standard RP0502-2002 "Pipeline External Corrosion Direct Assessment Methodology" NACE 49 CFR §192.923, §192.925, §192.931, §192.935, §192.939, §195.588			\$83.00
A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe,"	PRCI	49 CFR §192.933, §192.485, §195.452	\$995.00

Note: The new reauthorization bill provides that after January 2012, the Secretary may not: "issue guidance or a regulation pursuant to this chapter that incorporates by reference any documents or portions thereof unless the documents or portions thereof are made available to the public, free of charge, on an Internet Web site." It is not yet clear whether all existing standards will be made available as well, or whether the new rule will be incorporated as standards are amended and added. In response to concerns raised about the unavailability of these standards some of the organizations (such as API) have recently started to make non-printable, non-downloadable versions of their standards available online for public review.

5. Best practices, recommended practices, non-incorporated industry standards, industry guiding principles

There are a variety of non-regulatory industry best practices documents on subjects from preventing third party damage, to land use planning, to integrity management. While the voluntary industry organizations developing these practices may have the best of intentions, the practices are usually aspirational in nature, with few or no consequences for failing to meet them.

Probably the most widely known set of these practices was developed following a Congressionally required study of practices to prevent damage to underground utilities. Known as the Common Ground Study, it resulted in the production of a set of consensus based best practices for pipeline operators, excavators, developers, and other underground utilities (cable, electric, water, sewer) to avoid damage to the utilities after they are installed. After the study was completed in 1999, the Common Ground Alliance (CGA) was formed as a non-profit to publicize the best practices, and to maintain a group of stakeholders who would continue to review and update the practices. The CGA just recently published a revised set of its best practices: http://www.commongroundalliance.com/Content/NavigationMenu/Best_Practices/Best_Practices_2010/BP_8.0_Web.pdf (1.5MB)

Using a similar format to that used by the Common Ground Study, the Pipeline and Informed Planning Alliance (PIPA) gathered a large group of stakeholders that met for several years to try to agree on consensus based best practices for improving land uses near existing pipelines. The PIPA report was issued in November of 2010, and includes recommended practices for industry, local governments and others. Implementation of the PIPA practices, including the development of tens of thousands of local government ordinances governing development practices near pipelines faces some very large hurdles. A communications team, including a variety of stakeholders, continues to meet and determine the best method of broad scale implementation. The PIPA report can be found on both the PHMSA web page and the Trust's website. <http://www.pstrust.org/library/docs/PIPA-Report-Final-20101117.pdf> (4.5MB)

In 2011, the industry trade group representing operators of about two thirds of the gas transmission lines in the U.S., the Interstate Natural Gas Association of America (INGAA), adopted a set of 5 aspirational "guiding principles" for its members, aimed at a goal of zero pipeline incidents. <http://ingaa.org/Topics/Safety.aspx> One of those principles, a commitment to applying integrity management principles on a system wide basis, was the subject of most of the comments submitted by INGAA on the recent advance notice of proposed rulemaking for gas transmission lines by PHMSA. We are hopeful that the ANPRM will lead to a proposed rulemaking that incorporates many of the NTSB recommendations made to PHMSA after the San Bruno explosion. More examples of situations where the devil will be in the details.