Oil and natural gas pipelines traverse the United States through a network of underground pipelines that transport product throughout the lower 48 states and Alaska.

Despite so many miles of pipeline carrying so much product, U.S. Department of Transportation (DOT) reports that pipelines are the safest mode of transportation for these products, safer than movement by rail, barge or truck. In large part, that safety is due to the very laws that govern pipelines. So, just how are these pipelines regulated?

Federal Statutory And Regulatory Framework

DOT is the primary regulator of the operation of both oil and natural gas pipelines pursuant to two statutes: the Hazardous Liquid Pipeline Safety Act of 1979 and the Natural Gas Pipeline Safety Act of 1978 (both codified at 49 U.S.C. Chapter 601). Within DOT, the Pipeline and Hazardous Materials Safety Administration (PHMSA), through the Office of Pipeline Safety (OPS), is responsible for establishing and enforcing proper design, construction, operation, maintenance, testing and inspection standards for both oil and natural gas pipelines. These regulations are published in the Code of Federal Regulations at 49 C.F.R. Parts 190-199.

In general, the operating regulations for hazardous liquid pipelines, which transport oil, petroleum products, anhydrous ammonia and liquid carbon dioxide, are set forth at 49 C.F.R. Part 195. Natural gas pipeline operating regulations, which cover flammable, toxic or corrosive gas, and liquefied natural gas (LNG), are at 49 C.F.R. Parts 192 and 193.
For hazardous liquid pipelines, the safety regulations for operating pipelines are divided into several broad categories: accident reporting, design requirements, construction, pressure testing, operation and maintenance (including inspection, emergency preparedness and damage prevention), integrity management, operator qualification and corrosion control.

For natural gas, the categories differ slightly: pipe materials and design, welding, general construction requirements, customer meter, service regulators and service lines, corrosion control requirements, test requirements, uprating, operations, maintenance, operator qualification and integrity management.

In contrast to specific command-and-control regulations governing industries in other sectors (such as those regulated by the U.S. Environmental Protection Agency (EPA)), PHMSA's regulations are performance-based. The regulations set minimum standards that operators are required to meet, but allow operators the flexibility to satisfy the regulations in a manner that suits both the dynamic nature of pipeline systems as well as the unique attributes of a particular pipeline system (e.g., type(s) of product moved, diameter of pipe, operating pressures, terrain, throughput, etc.).

One recent example of PHMSA's performance-based regulations is its Integrity Management Program or "IMP" IMP is an inspection-and-repair program designed to provide heightened attention to pipelines that pass through "high consequence areas" (areas of dense population, environmentally sensitive features, and the like) that could be affected in the event of a leak or failure.

The regulations set the minimum standards for inspection, evaluation and repair timeframes, but essentially require each operator to develop their own IMP that takes into account the various risks and features of their pipelines, and to conduct a comprehensive analysis of the integrity of a pipeline.

Many of PHMSA's regulations incorporate by reference and/or rely on technical or "national consensus" standards that are developed on a national level by a committee of engineers and technical experts. These standards set nationally accepted practices for a range of pipeline safety issues, such as tank operation and construction, damage prevention and corrosion protection. The standards are published by a number of trade organizations, including the American Petroleum Institute (API), the American Society of Mechanical Engineers (ASME) and the National Association of Corrosion Engineers (NACE).

Coordination With States

The federal government has primary responsibility for the pipeline safety regulations for both interstate (pipelines that cross state boundaries) and intrastate pipelines (pipelines that are contained within the borders of a state), and has exclusive authority over interstate lines. Although OPS can designate a state to act as its agent in the inspection of interstate lines, OPS remains solely responsible for enforcement. That said, most states (primarily through their fire marshals) work with OPS in the oversight of the pipelines that run through their state in what OPS commonly refers to as the "federal/state partnership."

The federal statutes specifically allow states to assume responsibility for enforcing the regulations of intrastate pipelines through an annual certification. To do so, states are required to adopt the federal regulations. States may have additional and more stringent requirements in place as well, as long as they are not inconsistent with the federal minimum standards.
Even those states that are not certified can take on an enhanced inspection role of intrastate lines on behalf of OPS through a partnership agreement with the agency. Those states have no enforcement authority but can be more active in an inspection capacity.

OPS reports that all of the lower 48 states participate in the natural gas pipeline safety program in one capacity or another whereas approximately 15 states participate in the hazardous liquid program.

Enforcement By DOT

Following criticism in the mid-1990s, OPS made great strides in its oversight and regulation of the pipeline industry, and the statistics support their progress. As reflected on their website (www.phmsa.dot.gov), the number of serious or significant incidents has decreased dramatically over the past 20 years.

In part, this is due to legislative and media scrutiny to various pipeline incidents, and PHMSA's administrative response.

A recent example is the reaction to the BP incident in Alaska in 2006 where a low-stress pipeline failed in the Alaska Prudhoe Bay field. Both low-stress and rural gathering lines were historically exempt from extensive regulation by PHMSA, but in response to the incident, PHMSA proposed new regulations to apply design, construction and inspection requirements—including internal inspection—to lines within one-quarter mile of unusually sensitive areas.

PHMSA's Associate Administrator for Pipeline Safety is responsible for overseeing the inspection and enforcement programs within the agency through the Office of Enforcement and Program Performance. As a practical matter, the compliance and enforcement program is carried out directly by the regional offices of OPS. Regional offices will typically conduct compliance inspections of interstate pipelines except in those states with an agreement in place with OPS. In those states, the state agency is responsible for the inspections. For states with "certified" pipeline safety programs, the state agency is responsible for inspections of all intrastate pipelines in that state.

The scope of inspections can vary. PHMSA conducts investigations of all incidents, but also conducts more routine preventative inspections, field inspections and more specific programmatic inspections of various operator management systems and procedures (such as the integrity management programs).

With respect to enforcement mechanisms, PHMSA has a number of tools in place to respond to violations it observes during an inspection or investigation: warning letters, letters of concern, notices of probable violation, notice of amendments, compliance orders, consent orders, and corrective action orders (see 49 C.F.R. Part 190). Through these tools, PHMSA can require that operators correct the violations and can seek more injunctive-type relief by mandating preventive measures to preclude future violations.

Corrective action orders are PHMSA's harshest tool; typically issued in response to pipe failures, they can be issued without the opportunity for a prior hearing if PHMSA finds that the pipeline is "hazardous to life, property or the environment." Civil and criminal penalties are possible, ranging from $1,000 - $50,000 per violation, and/or up to five years imprisonment.

Oversight By FERC
In addition to DOT/PHMSA's regulation of oil and gas pipeline safety, the Federal Energy Regulatory Commission (FERC) regulates pipelines, but in distinctly different ways.

FERC's oversight of interstate oil pipelines is primarily limited to the regulation of the tariffs that interstate oil pipeline companies charge for the transportation of product. Interstate oil pipelines are regulated as "common carriers" by the Interstate Commerce Act, and as such, FERC is responsible for ensuring that reasonable rates are set for the transportation of petroleum and petroleum products. FERC also is responsible for ensuring that there are "equal service conditions" such that shippers have equal access to pipeline transportation. Other than the rateapproval process, FERC has no jurisdiction over the construction or operation of an oil pipeline.

FERC is also responsible for rate setting for interstate natural gas pipelines; intrastate rates are regulated by state public utility commissions. FERC also has more substantive regulatory authority over natural gas pipelines beyond simply setting "just and reasonable rates." The Natural Gas Act of 1938 conferred the authority on FERC's predecessor agency (the Federal Power Commission) to review and grant certificates for the construction and operation of interstate natural gas pipelines and interstate natural gas facilities. FERC must also give approval to abandon natural gas pipelines.

Prior to receipt of a "certificate of public convenience and necessity" pursuant to section 7 of the Natural Gas Act, gas pipelines typically undergo an extensive pre-filing and filing process with FERC that includes the review and approval of the siting of new lines. This process includes preparation of environmental assessments under the National Environmental Policy Act (NEPA), review of route alternatives, coordinating with the various federal agencies from whom permits may be required (e.g., jurisdictional wetlands determinations with the U.S. Army Corps of Engineers, endangered species issues with U.S. Fish &amp; Wildlife Service, etc.) and interfacing with landowners and the public.

Oversight By Other Agencies

Other statutory authorities also govern aspects of pipeline systems and their related facilities. When pipelines are first constructed, there are myriad permits and approvals that must be obtained from state and federal environmental agencies (e.g., wetlands, storm water, air permits, historic preservation, etc.). Pipeline construction crews are subject to protections under the Occupational Safety and Health Act. State and local requirements apply as well (zoning, land use regulations), including requirements developed by the National Fire Protection Association.

Both during the construction phase and once operational, offshore pipelines traversing the Outer Continental Shelf are subject to additional requirements of the Minerals Management Service of the U.S. Department of Interior. Moreover, the EPA's Spill Prevention, Countermeasure and Control program also applies to certain petroleum storage tanks.

Releases from pipelines can result in yet another layer of oversight and enforcement beyond DOT. For instance, if releases of oil from an oil pipeline reach water, the U.S. EPA has the authority to enforce the Clean Water Act which prohibits releases to water of a harmful quantity. The Fish &amp; Wildlife Service may have claims for natural resources damages. State and local agencies may also have laws in place that create additional liabilities.

The primary authority for the ongoing operation of oil and natural gas pipelines rests with the US. DOT. While there are numerous other state and federal agencies that regulate various aspects of interstate and
intrastate pipelines, DOT is the overarching federal agency responsible for ensuring the "safe, reliable, and environmentally sound operation of America's energy pipelines."

The statistics show that they are doing their job.

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