

**Testimony of  
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on Behalf of the  
Association of Oil Pipe Lines (AOPL) and the American Petroleum Institute (API)**

**Before the Senate Committee on Commerce, Science, and Transportation  
Subcommittee on Surface Transportation and Merchant Marine Infrastructure,  
Safety and Security**

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## **Introduction**

I am Tim Felt, President and CEO of Colonial Pipeline Company. I appreciate this opportunity to appear before the subcommittee today on behalf of AOPL and the American Petroleum Institute (API).

Colonial Pipeline is headquartered in suburban Atlanta, Georgia, from where we operate a pipeline system consisting of 5,519 miles of pipeline, beginning in Houston and crossing the South and East before terminating at the New York harbor. When measuring by volume transported, Colonial is the largest refined products pipeline in the world, daily delivering about 100 million gallons of gasoline, diesel fuel, jet fuel, home heating oil and fuels for the U.S. military.

AOPL is an incorporated trade association representing 51 liquid pipeline transmission companies. API represents over 400 companies involved in all aspects of the oil and natural gas industry, including exploration, production, transportation, refining and marketing. Together, the two organizations represent the operators of 85 percent of total U.S. oil pipeline mileage in the United States.

I will discuss the industry's commitment to safety, our improved safety record, and our view that pipeline safety reauthorization should remain focused on existing programs, specifically damage prevention.

## **Liquid pipelines overview**

Pipelines are the safest, most reliable, economical and environmentally favorable way to transport oil and petroleum products, other energy liquids, and chemicals, throughout the U.S.

Liquid pipelines bring crude oil to the nation's refineries and petroleum products to our communities, including all grades of gasoline, diesel, jet fuel, home heating oil, kerosene, and propane. Some of our members transport renewable fuels via pipeline, as well. Our members transport carbon dioxide to oil and natural gas fields, where it is used to enhance production. In addition to providing fuels for the transportation sector (including cars, trucks, trains, ships and airplanes), we provide hydrocarbon feedstocks for use by many other industries, including food, pharmaceuticals, plastics, chemicals, and road construction. America depends on the network of more than 170,000 miles of hazardous liquid pipelines to safely and efficiently move energy to fuel our nation's economic engine.

Hazardous liquid pipelines transport more than 17 percent of freight moved in America, yet pipelines account for only 2 percent of the country's freight bill. Approximately 2.5 cents of the cost of a gallon of gasoline to an end-user can be attributed to pipeline transportation<sup>1</sup>, resulting in a low and predictable price for pipeline customers (referred to as "shippers"). Liquid pipeline transportation rates are regulated by the Federal Energy

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<sup>1</sup> "Liquid Transportation Fuels from Coal and Biomass: Technological Status, Costs, and Environmental Impacts", National Academy of Sciences, 2009.

Regulatory Commission (FERC). Rates are generally stable and predictable, and do not fluctuate with changes in crude oil and gasoline or other fuel prices. Typically, pipelines only take custody of the product tendered for transportation and, as such, are unaffected by changes in the price of commodities being transported.

Pipelines are the preferred mode of transportation for crude and refined products. The approximate share of domestic shipments, measured in barrels of product moved per mile, is:<sup>2</sup>

- Pipelines – 68 percent
- Water Carriers – 25 percent
- Trucks – 4 percent
- Rail – 3 percent

Our industry had a wake-up call after the Bellingham, Washington fatalities in 1999. Congress and the Office of Pipeline Safety asked more of pipelines, and industry has done more. As a result of enhancements to pipeline safety laws, implementing regulations, and vigorous industry efforts, liquid pipeline spills along rights-of-way have decreased over the past decade, in terms of both the number of spills and the volume of product released per 1,000 barrel-miles<sup>3</sup> transported.

In addition to its record of fewest releases, pipeline transportation enjoys the lowest input energy requirement and carbon footprint as compared to other transportation modes (barge, truck, rail, and marine). Replacing a medium-sized pipeline that transports 150,000 barrels of gasoline a day would require operating more than 750 trucks or a 225-car train every day. Use of trucks or trains would increase mobile source greenhouse gas emissions, wear and tear on our transportation infrastructure, road congestion, and the number and volume of releases.

### **Pipeline operators insist on safety**

Pipelines have every incentive to invest in safety. Indeed, in our members' view, there are no incentives to cut corners on pipeline safety. Most important is the potential for injury or loss of life to members of the public and our employees and contractors. If a pipeline experiences a failure or a release, there are numerous consequences for the operator. We could also incur potentially costly repairs, cleanup, litigation, and fines. Next, the pipeline may not be able to accommodate our customers. Finally, the pipeline company's reputation could be hurt.

Operators of liquid pipelines invest millions of dollars annually to maintain their pipelines and comply with federal pipeline safety laws and regulations. Liquid pipeline assets are inspected regularly and monitored continuously, using a combination of practices. Pipeline operators continually seek to reduce the risk of accidental releases by

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<sup>2</sup> Association of Oil Pipe Lines, *Shifts in Petroleum Transportation*, 2009.

<sup>3</sup> One barrel mile equals one barrel (or 42 gallons) transported one mile.

taking measures to minimize the probability and severity of incidents. These measures include proper pipeline route selection, design, construction, operation, and maintenance, as well as comprehensive public awareness and excavation damage prevention programs.

The frequency of releases from liquid pipelines decreased from 2 incidents per thousand miles in 1999-2001 to 0.7 incidents per thousand miles in 2006-2008, a decline of 63 percent. Similarly, the number of barrels released per 1,000 miles decreased from 629 in 1999-2001 to 330 in 2006-2008, a decline of 48 percent<sup>4</sup>. The industry is proud of this record, but continues to strive for zero releases, zero injuries, zero fatalities and no operational interruptions.

On many pipelines, operators also seek to minimize the consequences of a release through the use of automated systems that detect releases or other abnormal operating conditions and quickly shut off product flow to isolate the incident. Pipeline operators are required to put response plans in place, under the 1990 Oil Pollution Act. These plans are submitted to and reviewed by the Office of Pipeline Safety (OPS) within the Department of Transportation (DOT). Operators must change their plans and notify OPS within 30 days if any operational situation arises that would impact response efforts. Pipeline operators are required to conduct emergency response drills on worst-case discharges, and conduct exercises in cooperation with local first responders to ensure that emergency preparedness and planning is at a continued state of readiness. These response drills are conducted under the National Preparedness for Response Plan (PREP) guidelines issued jointly with OPS, the Environmental Protection Agency (EPA), and the U.S. Coast Guard. Our operators are trained on all elements of PREP guidelines and they are required to conduct equipment deployment drills and are subject to random full drills conducted by OPS.

In 1998, the U.S. oil pipeline industry launched an Environmental and Safety Initiative (ESI) to make further improvements in spill and accident prevention. The ESI promotes inter-company learning, improves pipeline operations and integrity, and provides opportunities for information sharing. An important part of the ESI is the liquid pipeline industry's voluntary reporting system, the Pipeline Performance Tracking System (PPTS), which tracks spills and allows operators to learn from industry data. Another key element of the ESI is the Performance Excellence Team (PET), which seeks to promote inter-company learning to improve pipeline operations and integrity, and provides methods and opportunities for information sharing.

### **Pipeline safety laws and regulations**

In 1979, Congress enacted comprehensive safety legislation governing the transportation of liquids by pipeline in the Hazardous Liquids Pipeline Safety Act of 1979 (HLPSA, 49 U.S.C. 2001). HLPSA added to previous laws and regulations and expanded the existing statutory authority for safety regulation. Since then, several new laws have been passed to govern the liquids pipeline industry, including: the Pipeline Safety Act (PSA) of 1994,

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<sup>4</sup> These figures are from the Industry's Pipeline Performance Tracking System, a voluntary reporting system that tracks pipeline system spills.

the Pipeline Safety Improvement Act of 2002 (PSA), and the Pipeline Inspection Protection, Enforcement, and Safety Act of 2006 (PIPES).

Pipeline safety is closely regulated by the Pipeline and Hazardous Materials Safety Administration (PHMSA) which includes OPS. PHMSA's OPS is responsible for establishing and enforcing regulations to assure the safety of liquid pipelines (Title 49 CFR Parts 190-199). OPS sets prescriptive performance-based regulations and standards that are intended to address the dynamic nature of pipeline operations.

### **Integrity management**

Most pipeline operators are required under federal regulations (Title 49 CFR, Part 195.450 and 452) to develop an Integrity Management Plan (IMP), for pipelines that could affect High Consequence Areas (HCAs). HCAs for liquid pipelines include any of the following:

- Population centers, urbanized areas, or areas with large population density;
- Commercially navigable waters; and
- Unusually sensitive areas such as water supplies and ecological reserves.

Pipeline operators are required in their IMPs to identify segments that could impact HCAs, conduct periodic integrity assessments on those segments at intervals not to exceed five years, and review assessment results to make mitigation and repair decisions. A risk-based approach establishes the appropriate assessment interval within the five-year period. When identifying segments which could affect HCAs, operators conduct risk assessments and consider local topographical characteristics, operational and design characteristics of a pipeline, and the properties of transported commodities in determining potential impacts of an incident.

In their IMPs, all operators conduct a baseline assessment that identifies threats to the pipeline and subsequently apply technologies to mitigate each threat. These baseline assessments also set a point of comparison for subsequent assessments so that operators may gauge the impact of time-dependent threats, like corrosion. Liquid pipeline baseline assessments for pipelines that could affect HCAs were completed for existing pipelines by March 2008.

Assessments include in-line inspection by "smart pigs", which detect features in the pipe that need to be addressed, such as corrosion, pipeline deformation, cracking and others. This technology includes sensitive internal detection devices, such as magnetic flux leakage tools (MFL) and ultrasonic testing, to examine pipeline wall thickness and detect other anomalies. Another assessment method used by pipeline operators is pressure-testing. Many operators use these same techniques beyond pipeline segments which could affect HCAs.

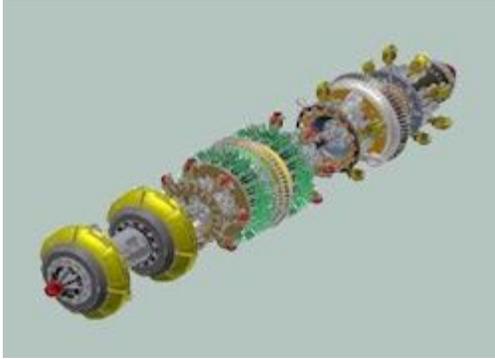


Diagram of a smart pig

Pipeline companies perform visual inspections along rights-of-way, including from the air, for signs of damage, leakage, and encroachment. Pipeline controllers are also trained to identify signs of leaks and respond quickly to shut off pipeline flow, contact first responders (company and local government emergency response), and government officials.

Pipeline automation and supervisory control and data acquisition (SCADA) systems use various techniques to monitor for pipeline leaks. Software monitors pipeline pressure instruments and volumetric metering equipment and uses algorithms to search the data for a signal that may indicate a leak on the pipeline.

In some cases, an operator will install check valves, which automatically prevent backflow into a pipeline during a shutdown, or remote control valves that can be monitored with SCADA systems from a control room and closed if an accident occurs. These valves must be installed if an operator determines they are needed to protect an HCA in the event of a release.<sup>5</sup> Special attention is given to waterway crossings. It is common practice to locate block valves on each side of a waterway.

There are two ways in which pipe is protected from external corrosion: through the use of coatings and by impressed current that makes a pipe act as a cathode. Since corrosion is an electro-chemical process, this electrical charge inhibits corrosion even if the protective coating has been damaged. A protective coating is applied to steel pipe at the pipe mill to help prevent corrosion when placed into service. During the pipeline construction process, construction crews apply protective coatings to joints to safeguard the outside surface of pipeline girth welds from corrosion.

### **Costs of integrity management programs**

Liquid pipelines have implemented comprehensive programs to ensure compliance with PHMSA's IMP regulations, and have incurred significant costs associated with these activities. It was estimated by DOT before implementation that the liquid pipeline industry would spend approximately \$279.5 million from 2001-2007 to comply with the

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<sup>5</sup> 49 CFR Part 195.452.

IMP regulations.<sup>6</sup> However, industry experience demonstrates that the actual costs far exceed DOT's early projection.

Data from a subset of the industry illustrates the extent of these integrity-related costs. Lines representing less than 15 percent of the total DOT-regulated pipeline mileage, including systems that transport refined products, crude oil, and natural gas liquids, estimate expenditures in excess of \$1 billion on required pipeline integrity management activities in the years from 2005 through 2009. In other words, in just the past five years these pipelines alone exceeded by nearly four times DOT's estimated cost for the total industry for the period 2001-2007. These figures, moreover, do not include integrity costs associated with DOT-regulated storage tanks, which would add substantially to the total. With finite resources, pipeline operators need to be able to rank risk and consequence, and apply resources accordingly. Pipeline operators should not be required to treat every mile of pipe with the same level of oversight.

It is important to note that as integrity management tools become more sophisticated, they are more effective at identifying issues for pipeline operators to consider. As a result, integrity management compliance costs have trended upward since implementation of the IMP regulations, a trend that the industry expects to continue in the coming years.

### **Damage prevention and One-Call**

Excavation damage to pipelines is less frequent today, but often results in extremely high consequences. Incidents from excavation damage by third parties accounted for only 7 percent of release incidents from 1999 to 2008. However, 31 percent of all significant incidents (those that result in spills of 50 barrels or more, fire, explosion, evacuation, injury or death) come from excavation damage by third parties. Further, at an even higher frequency, pipelines suffer damages from third parties that are not severe enough to cause a release at the time of excavation.

To protect communities, sensitive environmental areas, as well as the pipeline itself, the pipeline industry and other operators of underground facilities joined together to create notification centers that are used by those preparing to conduct excavation close to underground facilities. These centers – called One-Call Centers – serve as the clearinghouse for excavation activities that are planned close to pipelines and other underground utilities. Established by federal law in 2007, 811 is the national “call-before-you-dig” number which informs operators, homeowners, and excavators about the location of underground utilities before they dig to prevent unintentional damage to underground infrastructure, including pipelines.

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<sup>6</sup> Five Year Review of Oil Pricing Index, FERC Stats and Regs (Order), 71 Fed. Reg. 15,329, 15,331 (March 28, 2006).

When calling 811 from anywhere in the country, a call is routed to the local One-Call Center. Local One-Call Center operators discern the location of the proposed excavation and route information about the proposed excavation to affected infrastructure companies. Under One-Call regulations, excavators must wait a specified amount of time before beginning any excavation project, to allow operators of underground infrastructure time to locate and mark underground infrastructure to protect it from excavation-related damage.

In addition, pipeline operators, associations, state regulators and federal and state agencies take part in the Common Ground Alliance (CGA), an association that promotes effective damage prevention practices for all underground utility industry stakeholders to ensure public safety, environmental protection, public awareness and education to guard against excavation damage. Membership in CGA spans 1,400 members and sponsors, demonstrating that damage prevention is everyone's responsibility. Industry has worked closely with CGA to develop best practices and participates fully in its damage prevention programs, including the establishment and implementation of 811.

### **The need for improved damage prevention enforcement**

We believe more must be done to encourage adherence to state damage prevention laws and strengthen state and national programs already in place. We recognize and support the role of the states in preventing damage to pipelines. However, in some cases, state excavation damage prevention laws are weak or incomplete, or are not adequately enforced.

On October 29, 2009, OPS issued an Advance Notice of Proposed Rulemaking (ANPRM) regarding how it will exert its authority to enforce excavation damage prevention laws in states with inadequate damage prevention programs. API and AOPL submitted comments that supported OPS enforcement in states with inadequate excavation damage prevention programs and reinforced that OPS should not exert its authority in states with strong programs. OPS is headed in the right direction on this important issue. While supporting the ANRPM, we suggested some important changes to the proposed rule. We urge OPS to complete this rulemaking expeditiously. AOPL and API support more aggressive enforcement, recognizing it will apply equally to pipeline operators should they fail to adhere to excavation damage prevention laws.

In many states, state agencies, municipalities and other local entities are exempted from requirements to use the One-Call system before they undertake excavation activities. These exemptions create a gap in enforcement and safety, because the threat of pipeline damage is the same regardless of who the excavator is or who he works for. This is of heightened importance now with the expected increase of infrastructure development, especially road building, resulting from recent stimulus funding.

Under the proposed rule, OPS would assess a state's damage prevention program and make the determinations of adequacy or inadequacy called for by Congress. We believe OPS should promulgate a final rule that prohibits state programs from being determined

“adequate” if they allow One-Call exemptions for state agencies, municipalities, and other commercial excavators.

As AOPL and API commented in the rulemaking,<sup>7</sup> we recommended that as a minimum requirement in a state damage prevention program, all excavators, including state agencies and municipalities:

- (1) use state One-Call systems prior to excavation;
- (2) follow location information or markings established by pipeline operators;
- (3) report all excavation damage to pipeline operators; and
- (4) immediately notify emergency responders when excavation damage results in a release of pipeline products.

Section 2 of the Pipeline Safety Inspection, Protection, and Enforcement (PIPES) Act of 2006 granted OPS the authority to grant funds for damage prevention programs to states adhering to the nine damage prevention principles included in the bill. The Secretary is to “take into consideration the commitment of each State to ensuring the effectiveness of its damage prevention program, including legislative and regulatory actions taken by the state.” Such grants are limited and are not enough to incentivize strong state damage prevention programs. Nevertheless, we believe OPS should withhold damage prevention grant funds from states whose programs do not meet the fundamental minimum requirements we suggested.

### **PIPES Act implementation**

The PIPES Act of 2006 directed both DOT and the liquids pipeline industry to comply with several new and significant safety mandates. Below are several noteworthy provisions of the PIPES Act that have been implemented, or are in the implementation process:

- Damage prevention enforcement – Section 2 of the PIPES Act granted OPS limited authority to enforce damage prevention laws in states which do not have qualified state damage prevention programs. It also established civil penalties applicable to excavators and individuals that fail to use an available One-Call system, ignore markings, or operate without reasonable care. As previously mentioned, OPS issued an ANPRM on October 29, 2009, outlining and collecting input on where and how it might exercise its authority to enforce damage prevention laws in states. AOPL and API provided comments and recommended that OPS move forward with a final rule to promote more effective and streamlined damage prevention rules that will promote safety and respect for pipelines. Finally, OPS has exercised its authority to award state damage prevention grants, promoting stronger state damage prevention programs.

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<sup>7</sup> December 14, 2009 letter to Jeffrey D. Wiese regarding 74 FR 55797 (October 29, 2009).

- Control room management (CRM) - Section 12 in the PIPES Act required OPS to promulgate regulations requiring pipeline operators to develop a control room management plan. A final rule was published on December 9, 2009, that requires operators to define the roles and responsibilities of controllers and provide them with the necessary information, training, and processes to fulfill their responsibilities. Operators must include in their plans how they will address controller fatigue and length of work shifts. It further requires operators to manage SCADA alarms, assure control room considerations are taken into account when changing pipeline equipment or configurations, and review reportable incidents or accidents to determine whether control room actions contributed to the event. As a result of this regulation, the National Transportation Safety Board (NTSB) removed the issue of pipeline controller fatigue from its Federal Most Wanted List of Transportation Safety Improvement. The liquid pipeline industry supports the implementation of the CRM rule, but we hope to resolve on-going issues with OPS's definition of "controllers" and "control rooms" in upcoming workshops. If an overly broad definition is applied, it will cause significant operational problems for pipeline operators.
- Accident reporting requirements - OPS implemented new accident reporting requirements that address whether control room personnel are involved in and contribute to an accident.
- Regulatory exemption eliminated for low stress pipelines - Section 4 of the PIPES Act required a new rule to remove exemptions for rural low-stress lines, which operate at less than 20 percent of their specified minimum yield strength (SMYS). On June 3, 2008, OPS issued regulations for rural low-stress pipelines of 8 5/8" diameter or more within 1/2 mile of an Unusually Sensitive Area. All rural low-stress lines are required to submit an annual infrastructure report under this rule, as well. Generally, we believe this was the right approach. The liquid pipeline industry will review and provide comments to PHMSA on the recent Notice of Proposed Rulemaking (NPRM)<sup>8</sup> that would apply Part 195 requirements to all rural low-stress lines not included in the phase one rule.

### **Pipeline safety reauthorization**

AOPL and API believe OPS is doing a responsible job with the authorities granted in the PIPES Act of 2006 and previous statutes. The results of these programs should be assessed thoroughly before Congress imposes new mandates. The results of the PIPES Act improvements may not be fully apparent for several years. Making additional changes before the programs mandated by the PIPES Act of 2006 have come into full effect is premature and could dilute the efforts of OPS and the industry.

If Congress chooses to make changes to the existing pipeline safety program in pipeline safety reauthorization legislation, AOPL and API believe any such changes should be focused on addressing existing OPS programs. We also suggest the reauthorization

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<sup>8</sup> 75 Fed. Reg. 35366; June 22, 2010.

should be for a longer period than four years, in order to provide more predictability and stability for the pipeline safety program and the industry that must implement it. The PIPES Act and previous legislative efforts have given OPS a thorough set of tools and authorities to effectively regulate liquid pipelines. There is no reason for Congress to greatly expand the pipeline safety program or impose significant new mandates upon OPS or the industry in a new reauthorization bill.

We do believe OPS should move quickly to improve excavation damage prevention programs in the states, and, most importantly, should remove exemptions for state and municipal governments from One-Call requirements. Such exemptions create unnecessary opportunities for third-party damage to pipelines. AOPL and API believe Congress should encourage OPS to move forward to issue a final rule on damage prevention based on the October 2009 ANPRM, disallowing any exemptions to One-Call requirements.

We look forward to working with Congress, OPS and other stakeholders to improve pipeline safety and reauthorize the pipeline safety laws.

I am happy to respond to any questions.