

LESSONS OF PRUDHOE BAY: AN EXAMINATION OF LOW-STRESS PIPELINES REGULATIONS

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Introduction

In March 2006, large pipeline leaks caused the shutdown of the BP oil pipeline in Prudhoe Bay, Alaska. This influenced many regulators and legislators to examine the causes of the leaks in an effort to determine how similar interruptions could be avoided in the future. BP America's Chairman, Bob Malone, characterized the shutdown as an unacceptable failure that has "fallen short of what the American people expect of BP and . . . fallen short of what we expect [of] ourselves." Aaron Smith, *BP 'Fell Short' on Pipeline, Execs Admit*, CNNMoney.com, Sept. 7, 2006, <http://money.cnn.com/2006/09/07/news/companies/bp/index.htm>.

The United States possesses a strong interest in ensuring domestic supplies remain uninterrupted, especially with the demand and price of oil continuing to rise. The Prudhoe Bay operations, "the largest field in North America and the 18th largest field ever discovered worldwide," are critical to U.S. consumption. David Ellis, *Oil Falls Back Near \$67 on BP Comments*, CNNMoney.com, Sept. 7, 2006, http://money.cnn.com/2006/09/07/markets/oil_eia/index.htm. As a result of large pipeline leaks and spills, including the shutdown of the BP pipeline at Prudhoe Bay in Alaska, regulators (Transportation Department's Pipeline and Hazardous Materials Safety Administration (PHMSA)) and legislators are troubled by the lack of self governance and pro-active, or even minimal, maintenance of certain oil pipelines' infrastructures including those in Prudhoe Bay.

Pipeline and Hazardous Materials Safety Administration (PHMSA), U.S. Department of Transportation (DOT) Proposed Regulations

Prior to the Prudhoe Bay spill, rural low-stress pipelines had been completely exempt from federal pipeline safety requirements. *See* 49 C.F.R. pt. 195.1(b)(3). Following the Prudhoe Bay spill, Peter T. Lidiak, director of the pipeline segment of the American Petroleum Institute, noted that large low-pressure pipelines are responsible for approximately 50 percent of total oil spill volume nationwide. *See* Steven Mufson, *Regulators Look to Plug Holes in Pipeline Rules*, WASH. POST, (Aug. 16, 2006), D01, available at <http://www.washingtonpost.com/wp-dyn/content/article/2006/08/15/>. PHMSA indicates the reason low-stress pipelines have been exempt from regulation is that they do "not transport a highly volatile liquid (HVL), . . . [are] located in a rural area, and . . . [are] outside a waterway currently used for commercial navigation." *Id.* at 1. Investigators found the pipelines had not been cleaned with a smart pig or tested since 1992. *See* ASSOCIATED PRESS, *Sludge, Lack of Testing Cited in Alaska Pipeline Failure*, (2006), <http://www.msnbc.msn.com/id/14233534/>.

The legislature had an opportunity to close all gaps in the regulatory and legislative scheme when debating the renewal of the 2002 Pipeline Safety Improvement Act. However, the president signed H.R. 5782 reauthorizing the Pipeline Safety Act through 2010 leaving the large gaps in low-stress pipeline regulation. *See* The Pipeline Inspection, Protection, Enforcement, and Safety (PIPES) Act of 2006 (Pub. L. No. 109-468). The PIPES Act calls for the Secretary to "issue regulations subjecting low-stress hazardous liquid pipelines to the same standards and regulations as other hazardous liquid pipelines" which have yet to be adopted by PHMSA.

Since the PIPES Act passage, PHMSA has proposed a number of regulatory changes. According to

PHMSA, it uses a risk-based approach when formulating which portions of the regulatory gap to close. Although PHMSA does not intend to regulate all low-stress pipelines, it does “intend to protect all lines that, in the event of a failure, pose the threat of significant environmental harm to unusually sensitive areas (USAs).” *Low Pressure Liquid Pipelines: In the North Slope, Greater Prudhoe Bay, Alaska: Oversight Hearing Before the H. Comm. on Transportation and Infrastructure, 109th Cong. 5 (2006)* (statement of Thomas J. Barrett, USCG (ret.), Administrator, PHMSA, US Dep’t of Transp.). PHMSA goes on to explain that the “proposal addresses the most significant threats, corrosion and external damage, and applies a full range of protections known to be effective and appropriate against these risks to these lower pressure lines.” *Id.* at 5. While the proposed regulations by PHMSA would eliminate some of the exemptions, the regulations would nonetheless continue to ignore a significant portion of pipelines that do not fit PHMSA’s categorization of significant threats.

Immediately following the spill, PHMSA proposed extending safety rules for “low-stress lines . . . within 440 yards of an unusually sensitive area (USA).” Notice of Proposed Rulemaking, Pipeline Safety: Protecting Unusually Sensitive Areas from Rural Onshore Hazardous Liquid Gathering Lines and Low-Stress Lines, 71 Fed. Reg. 52, 504 (Sept. 6, 2006), *see also* 49 C.F.R. § 195.6. PHMSA continues to consider and discuss the definitions and requirements as evidenced by the recent Notice of Proposed Rulemaking on “Protecting Unusually Sensitive Areas from Rural Low-Stress Hazardous Liquid Pipelines.” 72 Fed. Reg. 28,008 (May 18, 2007). However, the proposed regulation, which defines which low-stress pipelines would be affected, is very limited. Whereas the proposed definition would minimize the greatest risk, it does not address the other risks apparent in low-stress pipelines.

Three advocacy and education organizations—Pipeline Safety Trust, Cook Inletkeeper, and Northern Alaska Environmental Center—submitted a comment stating that “the Pipeline and Hazardous Materials Safety Administration (PHMSA) is still choosing a non-scientific approach to identify rural, low-stress

pipelines that ‘could affect’ an Unusually Sensitive Area (USA), in contrast to the approach used by PHMSA for higher-stress pipelines that ‘could affect’ High Consequence Areas.” Comment to Notice of Proposed Rulemaking, <http://www.regulations.gov/fdmspublic/component/main?main=DocumentDetail&id=09000064802ca841>, *see also* C.F.R. 195.452(a)). In its recent notice, PHMSA proposes to allow operators to choose between the specified distance of the buffer zone or a comprehensive spread analysis (defined by PHMSA as the analysis that would determine how far a spill would spread given the topography, etc.). *See* Notice of Proposed Rulemaking on “Protecting Unusually Sensitive Areas from Rural Low-Stress Hazardous Liquid Pipelines.” 72 Fed. Reg. 28,008 (May 18, 2007). This is problematic as an operator would likely choose the comprehensive spread method only if it would provide less regulation, allowing it within the half-mile proposed buffer of a USA. To provide the best level of safety, as pointed out by the three advocacy groups, PHMSA should propose the comprehensive spread analysis for all low-stress pipelines, as this would take into account the terrain around the pipeline.

The Need to Regulate

Although one would like to think companies have a high standard of care, regulations should be in place to ensure protection of the environment, human safety and oil supplies. It should not have been a surprise that the major spill occurred as employees of BP have been complaining to company officials since 2001 of being “so understaffed and lacking in routine maintenance that [pipelines] are leak-prone and vulnerable to explosions.” Jim Carlton, *Oil Technology Gets Cold Reception*, WALL ST. J.; E.ED., Apr. 13, 2001, at A1. PHMSA should do more than rely on corporate beliefs of safety by regulating and verifying safety mechanisms.

PHMSA stated that the U.S. economy would be impacted by an interruption in supply (PHMSA estimates benefits of approximately \$3.3 million per year of increased regulation); interruption would also likely result in businesses and consumers paying increased prices. *Pipeline Safety: Protecting Unusually Sensitive Areas from Rural Onshore*

Hazardous Liquid Gathering Lines and Low Stress Lines, Regulatory Evaluation, Docket No. PHMSA-2003-15864 (2006). Further, the study found that interruptions in supply would result in increased importation of foreign oil, creating national security implications. *Id.* A disruption could take place outside of a USA and under PHMSA's proposed regulation, it would not be covered. Additionally, this approach does not address the potential movement of spilled oil by flowing water or downward flows within watersheds. Therefore, it would be beneficial economically as well as environmentally to implement such regulations on all low-stress lines, not just those in USAs.

With the proposed regulations applying to only certain low-stress pipelines, it is impractical to believe that a pipeline operator would manage an integrated pipeline that falls under multiple regulatory schemes, or only have a portion of the pipeline excluded from other regulations. It is more practical to require similar testing and safety requirements on all pipelines to avoid the problems shown to occur absent regulation.

Corrosion and Excavation Damage Protection

The most significant requirement of the new regulation requires corrosion and excavation damage protection (such as smart pigging, etc.). The current regulatory scheme does not require low-stress pipelines to undergo any protections. Even if no other portion of the regulation is passed, this is one requirement that is paramount as corrosion is responsible for approximately 24 percent of all pipeline accidents, by far the most common cause. *See* Carol M. Parker, *The Pipeline Industry Meets Grief Unimaginable: Congress Reacts with the Pipeline Safety Improvement Act of 2002*, NAT. RESOURCES J., Winter 2004, at 255. PHMSA believes that the primary cause of accidents on low-stress lines is tied to corrosion and excavation damage. *See 2006 Proposed Rulemaking*, at 52,509.

The two main purposes for corrosion protection are environmental and economic. Environmentally, corrosion can cause serious leaks and ruptures that can

result in contamination of drinking water, damage to wildlife, and explosions and fires. Economically, corrosion protection ensures the reliable delivery of oil. *Pipeline Safety* at 22.

Overall Cost Benefit Analysis

Additional costs will likely be required to implement the new requirements for testing and assurance of pipeline integrity. However, "the costs for compliance with a more comprehensive regulatory scheme would not be large, particularly in comparison to the high costs to society when pipelines fail." BP Pipeline Failure: Its Effects on Oil Supply and How to Prevent a Recurrence: Hearing Before the S. Comm. on Energy and Natural Resource, 109th Cong. 24 (2006) (statement of Peter Van Tuyn). The potentially fatal and environmental impacts far outweigh the slight increase in cost for oversight and increased safety assurances.

The cost to bring pipelines into compliance would likely be similar whether the PHMSA proposal is enacted or whether a more stringent set of regulations is approved covering all low-stress pipelines. PHMSA estimates "that its proposal will cost operators only \$17 million." *Id.* at 25. The costs associated with pipeline failure include the shutdown of the pipeline and the clean-up costs and permanent damage suits that could arise from the accident.

PHMSA conducted an environmental assessment that indicated that most pipelines that would come under regulation are already being inspected by the pipeline operators. *See* John A. Volpe, *Protecting Unusually Sensitive Areas From Rural Onshore Hazardous Liquid Gathering Lines and Low Stress Lines*, Docket No. PHMSA-2003-15864 at 15 (Aug. 2006). The study also found that the "proposed rulemaking would require only limited physical modification or other work." *Id.* at 15. Again, with the potential benefit and low projected cost of implementation, it is puzzling why PHMSA has not proposed removing the exemption completely.

A uniform regulation of all low-stress pipelines would provide uniform management requirements for both PHMSA as well as pipeline operators. If the proposed

regulations containing exemptions are passed, a pipeline operator could be left with a pipeline that would be subject to different regulations (depending on the location and how close it is to a USA). It is unlikely that pipeline operators will actually construct or test a pipeline in different manners. As a practical matter, pipeline operators are likely to adhere to the more stringent regulations for the entire pipeline rather than taking advantage of small exempt areas in the middle of their regulated pipeline. Based on the volatility of the low-stress pipeline, one would think PHMSA would err on the side of caution to protect environmental and economic interests.

Conclusion

Due to PHMSA's focus of regulation within the range of USAs, the proposed rule will have a limited impact on environmental and economic protection. Additionally, new pipelines covered by the regulation do not go as far as other already regulated pipelines.

Although low-stress pipelines have been thought to be low risk, recent events prove they can pose a substantial risk if a leak remains undetected for a long period of time. As such, there is a strong need for increased regulation and oversight. Historically, the public, legislators, and regulators react to major accidents by eliminating exemptions or requiring additional testing measures. It is time for the government to "take the lead in ensuring the short and long-term viability and integrity of our energy production and delivery systems." Peter Van Tuyn, at 20. The associated cost of the increased regulation would be *de minimis* compared to the benefits of increased safety for the economy as well as the environment.

Although we cannot expect pipelines to be failsafe or leak proof, concentrated efforts must be made to avoid spills. PHMSA should be more aggressive in addressing the continued problems with pipelines by imposing regulations on all low-stress pipelines as well as imposing statutorily available civil and criminal penalties.