

**Before the Committee on Transportation and Infrastructure
Subcommittee on Railroads, Pipelines, and Hazardous Materials
United States House of Representatives**

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**Actions Needed
To Enhance
Pipeline Security**

**Statement of
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Chairwoman Brown, Ranking Member Shuster, and Members of the Subcommittee:

We are pleased to be here today to discuss pipeline security issues and the actions taken by and needed from the Departments of Transportation (DOT) and Homeland Security (DHS) to enhance the security of the Nation's pipeline infrastructure.

This infrastructure is an elaborate network of approximately 2 million miles of pipelines that move millions of gallons of hazardous liquids and billions of cubic feet of natural gas daily. Within the United States, there are about 2,200¹ natural gas pipeline operators and 300 hazardous liquids pipeline operators. The Pipeline and Hazardous Materials Safety Administration (PHMSA) within DOT oversees the safety of the Nation's pipeline system, while the Transportation Security Administration (TSA) within DHS oversees security-related matters.

Over the past several years, we have issued numerous reports and testimonies on pipeline safety and security challenges facing the Department and industry. We have seen considerable progress by PHMSA in closing out congressional mandates, including mandates from the Pipeline Inspection, Protection, Enforcement, and Safety (PIPES) Act of 2006.² This is the direct result of attention from Congress, including this Subcommittee, and from the highest levels of DOT management.

In September 2004, DOT and DHS entered into a Memorandum of Understanding (MOU) to facilitate the development and deployment of transportation security measures. In our March 2006 testimony before the House Subcommittee on Highways, Transit, and Pipelines,³ we recognized that finalizing the MOU was the first critical step in what is a very dynamic process. We pointed out, however, that the roles and responsibilities between PHMSA and TSA still needed to be clarified through a security annex to the MOU that specifically related to pipelines. PHMSA and TSA signed a pipeline security annex in August 2006.

As this Subcommittee is aware, the PIPES Act directed us to assess PHMSA's and TSA's actions to implement the pipeline security annex. We issued our report last month⁴ and recommended several actions that PHMSA, in collaboration with TSA, must take with a sense of urgency, as the current situation is far from an "end state" for enhancing the security of the Nation's pipeline system.

My testimony today will focus on these needed actions across the three following areas:

¹ Of the 2,200 operators of natural gas pipelines, there are approximately 1,300 operators of natural gas distribution pipelines and 880 operators of natural gas transmission pipelines.

² Pub. L. No. 109-468 (2006).

³ OIG Testimony Number CC-2006-023, "Pipeline Safety: Progress and Remaining Challenges," March 16, 2006. OIG reports and testimonies are available on our website: www.oig.dot.gov.

⁴ OIG Report Number AV-2008-053 "Actions Needed To Enhance Pipeline Security," May 21, 2008.

- ***PHMSA's and TSA's progress toward implementing the security annex and the challenges that remain.*** The pipeline security annex required PHMSA and TSA to jointly develop an action plan by February 2007 to implement the annex provisions and program elements. Implementing the annex is important because it includes program elements such as identifying critical infrastructure and key resources and developing security regulations, guidelines, and directives.

In December 2007, we were concerned about an overall lack of progress in several areas, and we later communicated these concerns to PHMSA and TSA. At the time, the agencies had neither finalized the action plan nor completed 9 of the 11 annex program elements because they had no deadlines to foster timely decisions and reviews.

To their credit, both PHMSA and TSA began to address these issues early this year, and considerable progress has been made. The two agencies developed a new action plan and began addressing outstanding program elements and associated initiatives. This progress, however, began nearly a year after the deadline agreed to in the annex, and the action plan still does not contain all initiatives required by the annex. Going forward, both agencies must sustain the progress made to finalize and effectively execute the annex provisions and program elements.

- ***The need for clearer lines of authority to address security oversight and enforcement for operators of liquid natural gas (LNG) facilities.***⁵ Although the annex was an important step, it still does not explicitly state which agency has primary oversight and enforcement authority for LNG operators. As a result, there is a lack of clearly defined roles at the working level. Both PHMSA and TSA review pipeline operators' compliance with their respective security guidance. TSA's guidance, however, is voluntary and will remain unenforceable unless a regulation is issued to require industry compliance. Conversely, PHMSA is able to enforce its LNG security regulations, which existed prior to the creation of TSA in 2001. This can cause pipeline operators to receive conflicting or duplicative guidance and create confusion as to which agency they should look to as the lead Federal security regulator. To resolve issues of overlapping authority, PHMSA and TSA should take steps to amend the annex.
- ***Ways to maximize PHMSA's and TSA's resources for assessing pipeline operators' security plans and guidance.*** Last year, Congress passed the Implementing Recommendations of the 9/11 Commission Act of 2007 (9/11 Commission Act), which requires DOT and DHS to develop a plan to review the 100 most critical operators' security plans and critical facilities by August 2008. The act also stipulates that if DHS determines that regulations are

⁵ LNG is natural gas cooled to an extremely low temperature, which causes it to liquefy. There are 113 LNG facilities in the United States.

appropriate, it is required to consult with DOT. One of the two agencies shall then promulgate the regulations and perform necessary inspection and enforcement functions.

We see areas where PHMSA and TSA can maximize their resources to effectively measure operators' compliance with existing guidance or assess the adequacy of the guidance. Specifically, (1) PHMSA should participate in these inspections on a regular basis to ensure effective and timely execution of this congressional mandate—especially given its level of expertise in security-related matters—and (2) PHMSA and TSA should develop testing protocols and perform vulnerability tests to ascertain whether unauthorized individuals can penetrate operators' critical infrastructure (including cyber attacks).

Before I discuss these key points in further detail, I would like to briefly touch on a few of the challenges the agencies face in securing the Nation's pipeline system.

Safeguarding the Nation's massive pipeline infrastructure from catastrophic events (i.e., terrorism or natural disasters) is a continuing challenge for DOT and DHS. In 2005, Hurricane Katrina devastated the Gulf Coast region and demonstrated the vulnerabilities of the Nation's critical infrastructure. Loss of electrical power to pumping stations forced three major pipeline operators to shut down. This eliminated most fuel sources to the entire eastern seaboard and caused a vast array of economic disruptions, including hoarding and severe price spikes.

It should be noted that the most frequently targeted mode of transportation by terrorists worldwide is pipeline systems. In Colombia, for example, rebels have bombed the Caño Limón oil pipeline over 600 times since 1995. Terrorist plots against pipelines have also occurred within the United States.

- In June 2007, the U.S. Department of Justice arrested members of a terrorist group planning to attack jet fuel pipelines and storage tanks at the John F. Kennedy International Airport in New York.
- In November 2007, a U.S. citizen was sentenced to 30 years in Federal prison for plotting to help an alleged al-Qaeda operative blow up U.S. oil pipelines and refineries.

In addition, pipeline incidents can have deadly implications, such as the August 19, 2000, natural gas transmission pipeline (30-inch-diameter) that ruptured adjacent to the Pecos River near Carlsbad, New Mexico. The released gas ignited and burned for 55 minutes. Twelve people who were camping under a concrete-decked steel bridge that supported the pipeline across the river were killed, and their three vehicles were destroyed. Two nearby steel suspension bridges for gas pipelines crossing the river were also extensively damaged.

These events underscore the need for a well-defined, well-coordinated, interagency approach to prevent, detect, and respond to both safety and security events. In today's constrained fiscal environment, DOT and DHS must leverage their resources to secure the Nation's pipelines. TSA's pipeline security program—with just 11 personnel—has the biggest challenge to effectively oversee security for the vast network of natural gas and hazardous liquids pipeline operators. Although PHMSA has regional offices and about 80 inspectors nationwide, it partners with state agencies—which have over 400 inspectors—to oversee and enforce compliance with pipeline safety requirements, primarily at operators of natural gas distribution pipeline systems. It is therefore incumbent upon PHMSA, TSA, and their state partners to work together effectively to enhance the security of the Nation's pipeline infrastructure.

It is against this backdrop that I will discuss my three points on pipeline security in greater detail.

PHMSA AND TSA HAVE MADE PROGRESS TOWARD IMPLEMENTING THE SECURITY ANNEX, BUT CHALLENGES REMAIN

PHMSA and TSA have taken initial steps toward formulating an action plan to implement the provisions of the annex; however, further actions are needed as the current situation is far from an “end state” for enhancing the security of the Nation's pipeline system. After PHMSA and TSA signed the annex, they designated a joint working group to develop a multi-year action plan for implementing the provisions and program elements of the annex. The working group was to complete its efforts on developing the action plan by February 2007.

In December 2007, we were concerned about an overall lack of progress in several areas, and we later communicated these concerns to PHMSA and TSA. At the time, the agencies had neither finalized the action plan nor completed 9 of the 11 annex program elements because they had no deadlines to foster timely reviews. These elements include identifying critical infrastructure and key resources; performing risk assessments; strategic planning; developing regulations, guidelines, and directives; and conducting inspection and enforcement actions (see exhibit).

Further, the December 2007 draft action plan did not contain several initiatives called for in the annex, which were specifically designed to enhance coordination efforts. These include initiatives for (1) PHMSA to provide TSA with data collected during PHMSA's security inspections or reviews of security plans and (2) TSA to coordinate with PHMSA on observations or recommended measures—derived from the results of criticality and vulnerability assessments of facilities—to evaluate whether those measures conflict with or adversely affect current or planned safety requirements. This coordination is essential to prevent security recommendations that could unintentionally contradict safety regulations and put the safety of the Nation's pipelines at risk.

Also, under the annex, PHMSA and TSA agreed to develop a plan with specific timeframes for implementing the program elements. The December 2007 plan, however, did not contain timeframes to: (1) develop a procedure for requesting special permits to install pipeline facilities in the event of a security incident, (2) provide training to TSA staff on technical issues related to PHMSA's mission, or (3) perform a study on the petroleum pipeline network supply. Without interim deadlines and accountability, there is no guarantee the action plan will be finalized and properly executed.

To their credit, both PHMSA and TSA began to address these concerns in January and February of this year, and considerable progress has been made. The two agencies developed a new action plan and began addressing outstanding program elements and associated initiatives. The majority of initiatives are now planned for completion by the end of 2009. We note that this progress, however, began nearly a year after the deadline agreed to in the annex. In addition, we are concerned that the new action plan still does not contain initiatives for (1) the agencies to develop protocols for ongoing information sharing and participation in their respective research and development planning and (2) TSA to coordinate with PHMSA on observations or recommended measures from vulnerability assessments.

Going forward, both agencies must sustain the progress made to finalize and effectively execute the annex provisions and corresponding program elements and ensure they coordinate efforts.

CLEARER LINES OF AUTHORITY ARE NEEDED TO ADDRESS SECURITY OVERSIGHT AND ENFORCEMENT FOR LNG FACILITY OPERATORS

A central goal of the annex was to delineate clear lines of authority and prevent duplication of effort. Yet, the annex does not explicitly state which agency will be responsible for the enforcement and oversight of LNG facilities. Since both PHMSA and TSA can conduct reviews of LNG facilities, a clear line of authority does not exist. This creates the potential for duplicative efforts and confusion among LNG operators as to which agency they should look to for guidance as the lead Federal security regulator.

By law, TSA holds the lead authority and primary responsibility for security activities in pipelines. Conversely, PHMSA has—and enforces—its own security regulations specific to LNG facility operators⁶ that existed prior to the creation of TSA in 2001. Under PHMSA regulations, LNG facilities must have, among other things, a (1) security manual, (2) security training program for employees, (3) security communications system, and (4) security lighting and monitoring system. PHMSA inspects LNG facilities to ensure they meet these requirements. The LNG facilities regulations are the only PHMSA pipeline regulations that specifically delineate

⁶ Liquefied Natural Gas Facilities: Federal Safety Standards, 49 C.F.R. § 193 (2007).

operators' security responsibilities in detail. For hazardous liquid and gas pipelines, PHMSA has other pipeline safety regulations that require pipeline operators to prevent vandalism and unauthorized use of equipment.

While PHMSA continues to oversee the security of LNG facilities, TSA has stated that it can issue security directives, but it has not done so. These directives would allow TSA to take enforcement actions against pipeline operators. TSA currently conducts reviews of pipeline operators' compliance with voluntary guidance, but it neither has regulations related to pipeline security nor takes enforcement actions against pipeline operators.

To further complicate the matter, the United States Coast Guard—a DHS agency responsible for marine and port security—also has authority to oversee and enforce its security regulations for operators of LNG facilities.⁷ Several of the operators' LNG facilities are located in the Nation's ports or along its eastern seaboard. PHMSA, the Coast Guard, and the Federal Energy Regulatory Commission⁸ executed an interagency agreement for safety and security reviews of LNG facilities in 2004 to “avoid duplication of effort, and to maximize the exchange of relevant information related to the safety and security aspects of LNG facilities and the related marine concerns.”

In our view, a similar approach should be taken with the pipeline security annex to resolve the issue of overlapping authority between PHMSA and TSA. The annex should be amended to specifically delineate the agencies' roles and responsibilities in overseeing and enforcing security regulations for LNG operators.

PHMSA AND TSA NEED TO MAXIMIZE THEIR RESOURCES FOR ASSESSING PIPELINE OPERATORS' SECURITY PLANS AND GUIDANCE

Congress continues to emphasize the importance of securing the Nation's pipelines and related infrastructure. In August 2007, Congress passed the 9/11 Commission Act.⁹ The act mandates the following actions related to pipeline security for the Secretary of Homeland Security and the Secretary of Transportation:

- DHS, in consultation with DOT, is required to establish a program for reviewing pipeline operators' adoption of recommendations in a 2002 PHMSA security guidance document. The PHMSA guidance recommended that, among other things, pipeline operators: (1) identify critical facilities, (2) develop and implement a corporate security plan, and (3) review the corporate security plan on an annual basis and revise as necessary to reflect changing conditions. The program must also include a plan to review pipeline security plans and critical

⁷ Maritime Security: Facilities, 33 C.F.R. § 105 (2007).

⁸ The Federal Energy Regulatory Commission is responsible for authorizing the construction of onshore LNG facilities and also conducts environmental, safety and security reviews of LNG plants and related pipeline facilities.

⁹ Pub. L. No. 110-53 (2007).

facility inspections by May 2008. TSA is currently reviewing the 100 most critical operators and determining how operators are complying with PHMSA's 2002 security guidance.

- DHS and DOT are required to develop and implement a plan for reviewing and inspecting the 100 most critical pipeline operators' pipeline security plans and critical facilities.¹⁰ The agencies are required to develop and implement a plan by August 3, 2008. According to TSA, it is currently reviewing the 100 most critical operators but must still develop a list of those operators' most critical facilities so that facility reviews can be planned.
- DHS and DOT shall develop and transmit to pipeline operators security recommendations for natural gas and hazardous liquid pipelines and pipeline facilities by February 2009.
- If DHS determines that regulations are appropriate, it is required to consult with DOT. One of the two agencies shall then promulgate the regulations and perform necessary inspection and enforcement functions.

To determine whether additional security regulations are needed, PHMSA and TSA will need to evaluate and test the adequacy of existing security standards—as agreed to under the annex. The need for new security regulations will be partly determined by the degree to which pipeline operators are following existing guidance.

The current security guidance under TSA, however, is not mandatory and will remain unenforceable unless a regulation is issued to require industry compliance. Also, the security guidance for operators of natural gas and hazardous liquids pipelines is *not* comprised of a set of prescriptive standards that define how a requirement is to be achieved. Instead, the guidance is general in nature and is intended to provide an overview of security issues in industry and broad guidance on effective policies and practices.

To effectively assess whether existing security guidance is adequate, PHMSA and TSA need to take the following actions:

- Ensure PHMSA is actively engaged in inspecting the 100 most critical operators' security plans and developing a list of critical facilities for review. To date, PHMSA's role has been limited to an "as needed" basis. According to PHMSA, it had not regularly attended past TSA security reviews of pipeline operators. In our opinion, to ensure effective and timely execution of this mandate, PHMSA should participate in these inspections on a regular basis, especially given its level of expertise in security-related matters.

¹⁰ PHMSA security guidance defines a facility's critical categorization by three factors: (1) whether it is a viable terrorist target, (2) how important it is to the Nation's energy infrastructure, and (3) how likely it is to be used as a weapon to harm people.

- Develop testing protocols and perform vulnerability tests to ascertain, among other things, if unauthorized individuals can penetrate operators' critical infrastructure, including cyber attacks against critical infrastructure. Currently, there are no plans to develop protocols and conduct vulnerability tests. Without testing, there is no way to effectively measure operators' compliance with existing guidance or assess the adequacy of the guidance.

PHMSA and TSA are making good progress in their efforts to communicate and coordinate on pipeline security matters, and they must continue to work together to develop a pipeline security strategy that maximizes the value and efficiency of both agencies' efforts. This is a fundamental factor in enhancing pipeline security.

That concludes my statement. I would be glad to answer any questions that you or other Members of the Subcommittee might have.

EXHIBIT. PROGRAM ELEMENTS IN THE PIPELINE SECURITY ANNEX

Program Element	Description
1. Identification of Critical Infrastructure/Key Resources and Risk Assessments	<p>The agencies agreed to review existing definitions of criticality and consider the need to refine definitions. To support TSA efforts in this area, PHMSA agreed to provide compliance data, other information collected in the course of security inspections or reviews of security plans (including those required under 49 CFR § 172.800), and activities of transportation carriers and shippers.</p> <p>Also, TSA will coordinate with PHMSA on observations or recommended measures derived from the results of criticality and vulnerability assessments, including on pipelines, to evaluate whether they conflict with or adversely affect current or planned safety requirements.</p>
2. Strategic Planning	<p>The agencies will seek consensus concerning measures to reduce risk and minimize consequences of emergencies involving pipeline infrastructure. Also, the agencies will identify initiatives and activities for achieving performance goals and will develop a program framework and timetable for their completion.</p>
3. Standards, Regulations, Guidelines, and Directives	<p>The agencies will seek early and frequent coordination in the development standards, regulations, guidelines, or directives affecting transportation security; identify best practices; and explore opportunities to build on existing standards-setting activities. In the course of discharging their safety and security missions, the agencies will review the adequacy of existing standards in the private and public sector, identifying any gaps that should be addressed through rulemaking, guidelines, or directives.</p>
4. Inspections and Enforcement	<p>The agencies will explore opportunities for collaboration in inspection and enforcement activities, with the objective of maximizing the use of available resources and targeting enforcement resources on the basis of system risks. The agencies will immediately develop procedures for referral of safety and security issues to PHMSA and TSA, respectively; inventory existing inspection and enforcement resources; and develop specific plans for closer coordination in the deployment and use of inspectors, including any necessary additional training.</p>
5. PHMSA Technical Support	<p>TSA can ask for PHMSA's support to develop, staff, implement, or enforce regulations, orders, directives, plans, programs, or other measures. TSA can also ask for PHMSA support to conduct security reviews during an elevated security threat.</p>
6. Sharing Information During Emergency Response	<p>The agencies agreed to promptly share information about emergency situations that implicate the missions and interests of each other.</p>

7. Public Communication, Education, and Outreach	The agencies will review existing protocols for public communication concerning security-related matters, specifically including review of existing protocols for publication of information contained in the national pipeline mapping system (a map of the Nation’s pipelines developed by PHMSA).
8. Communicating Protective Measures to Affected Organizations	The agencies agreed to consult with one another before disseminating security requirements, voluntary standards, and guidelines that impact security to the public.
9. Research and Development	The agencies will review their safety- and security-related projects and identify opportunities to collaborate and support their strategic plan through identification, development, and testing of new or modified technologies or processes. Also, the agencies will establish protocols for ongoing information sharing and participation in their respective research and development planning processes.
10. Legislative Matters	The agencies are to consult with each other as soon as possible on the development of proposed legislation, comments on legislative proposals, draft testimony or briefings to be given before congressional bodies or staff, and answers to questions for the record.
11. Budget	The agencies agreed to communicate throughout the budget development, justification, and execution process in order to develop and present a coordinated position on transportation security funding matters and to avoid duplicative requests for funding in connection with pipeline and hazardous material transportation security.