PHMSA FOCUS

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Special Edition

Public Workshop on the Future of Hazmat Safety Draws Stakeholder Participation

Hazmat Safety Workshop keynote speaker National Transportation Safety Board Vice Chairman Robert Sumwalt (left) led the discussion on safety culture. He is greeted by PHMSA Deputy Administrator Krista L. Edwards (center) and PHMSA Administrator Carl T. Johnson (right).

One hundred years ago, Congress charged the Federal government to reduce the dangers associated with the transportation of explosives and other dangerous articles. Thus began the Federal hazardous materials safety program.

We have been meeting the challenges associated with the transportation of hazardous materials ever since. Since 1908, the Federal program has evolved from its initial focus on the regulation of explosives to a broad and comprehensive safety and security program applicable to a wide variety of materials and articles shipped by multiple modes of transport across interstate and international boundaries.

Hazardous materials are essential to the economy of the United States and the well-being of its people. From medicines to household cleaners and batteries to biofuels, we continue to develop new materials and products to make our lives better—healthier, more productive and enjoyable. Our communities, the public, and workers engaged in hazardous materials commerce count on the safety and security of these shipments.

"Recently we marked the 100th anniversary of Federal hazmat safety regulation. We invited our hazmat stakeholders to consider and share views on the future of the hazardous materials safety program."

PHMSA Administrator
Carl T. Johnson

It's PHMSA's job to see that these critical materials are transported safely to our homes and businesses. The system of controls and standards developed over the last 100 years has achieved considerable success in reducing the risks posed by the commercial transportation of hazardous materials. As we look to the future, we want to build on this success, particularly in the development of innovative safety solutions that provide the agency, our Federal and state partners, the regulated community, and emergency response officials with flexible tools to manage and reduce safety risks.

Working with our stakeholders, we want to move towards a dynamic safety culture that promotes continuous improvement in safety performance. To that end, we must identify proven best practices, cutting-edge technologies, new approaches to training, and other strategies for reducing risk and enhancing safety. Together, we can build the best system to transport hazardous materials safely for the next 100 years.

Thanks to all who participated in our Hazmat Stakeholder Workshop.

TRANSPORTING HAZARDOUS MATERIALS— THE NEXT 100 YEARS

A Stakeholer Workshop—July 31, 2008

To mark the 100th Anniversary of the Federal hazardous materials transportation safety program, PHMSA invited its stakeholders to open a dialog about the future direction of the hazardous materials transportation safety program. The purpose of the Stakeholder Workshop held July 31, 2008, was to identify and discuss strategies for meeting emerging hazardous materials transportation safety challenges, particularly in the development of innovative safety solutions that provide the Department of Transportation, other federal agencies, state agencies, the regulated community, and emergency response organizations with flexible tools to manage and reduce safety risks.

As Administrator Carl T. Johnson pointed out in his opening remarks, the genesis of the Federal hazardous materials safety program was a disastrous accident. In 1905, in Harrisburg, Pennsylvania, a passenger train sideswiped some derailed freight cars, one of which was loaded with dynamite. The resulting explosion cost 20 people their lives, injured 100 more, and caused over $600,000 in property damage. In response, in 1908, Congress passed an Act to Promote the Safe Transportation of Explosives and other Dangerous Articles. The Act charged the Interstate Commerce Commission (ICC) with formulating binding regulations "in accord with the best known practicable means for securing safety in transit, covering the packing, marking, loading, handling while in transit, and the precautions necessary to determine whether the material when offered is in proper condition to transport."

Since 1908, the Federal hazardous materials regulatory program has grown along with the hazardous materials industry. Today, the program is focused on four principal areas. First, we have in place comprehensive regulations for the safe and secure transportation of hazardous materials. Second, we help shippers and carriers understand the regulations and how to comply with them. Third, we identify those persons who refuse or neglect to comply with safety and security requirements and stop their illegal activities. Finally, we assist the Nation's response community to plan for and respond to hazardous materials transportation emergencies. All of these components are designed to reduce risk throughout the hazmat transportation system.

Over the last 100 years, the rapid pace of technological advancement has presented the hazardous materials regulatory program with new challenges and new opportunities. The size and complexity of the hazardous materials industry continue to grow, as companies introduce new products on an almost daily basis, the transportation system evolves to meet ever-increasing productivity and supply-chain demands, and the industry expands to compete in a globalized economy. As we look to the future, we are challenged to find innovative, flexible, and adaptable safety solutions as we identify opportunities for revolutionary changes in safety controls.

21st Century Solutions

Panel Discussion Led by Cliff Eby, Deputy Administrator, FRA

A major challenge for the hazardous materials transportation safety program reflects the opportunities and risks posed by rapid technological advances. The safety controls developed over the program's first 100 years need to keep pace with the demands of our fast-moving, far-reaching economy and transportation systems. As we embark on the program's second century, we are committed to improving the quality, reliability, and timeliness of information guiding all parts of the safety control system, including hazard communication. Because of their capabilities to improve the speed, accuracy, and efficiency of communications, wireless and electronic data systems and tools are rapidly replacing paper-based systems for documenting transactions, tracing shipments, and exchanging commercial information. As the private sector and government agencies transition to paperless systems, adherence to longstanding paper-based requirements for hazardous materials transportation places an increasing burden on the system, contributing to freight delays and congestion. At the same time, reliance on paper-based communications may limit the effectiveness of hazard communication and impair or delay response to hazmat incidents and emergencies. Deploying new communication technologies holds the promise of improving safety, even as it reduces regulatory burdens and improves the performance of the transportation system.

A related challenge is to find ways to quickly develop and implement appropriate safety controls for new materials or technologies that are not covered by current regulatory requirements. Transportation is key to promoting the development and widespread utilization of new technologies. Government and industry must be able to address possible safety risks associated with new materials or technologies without undue delays in authorizing their transportation.

Currently, PHMSA's hazardous materials transportation safety program utilizes two mechanisms to accommodate the development and utilization of new technologies. First, PHMSA's authority to issue special permits allows the industry to quickly implement new technologies and to evaluate new operational techniques that often enhance safety and increase productivity. Many technological innovations have initially been authorized through special permits, including carbon fiber cylinders, acoustic and ultrasonic emissions testing of cylinders, fuel cells and lithium batteries, and use of recycled plastic materials for fabrication of certain hazardous materials packagings. Second, PHMSA may move to adopt new regulatory requirements applicable to a new technology or operational innovation based on a petition for rulemaking.

Our stakeholders agreed with the 21st Century Solutions panel that neither of PHMSA's current mechanism for facilitating the use of new technologies offers the optimum solution for ensuring the safety of new technologies while facilitating their development and widespread implementation and use. Workshop participants support PHMSA's efforts to work cooperatively with its stakeholders to identify technological advances, such as electronic communications, that can increase both safety and performance and to eliminate impediments to their use. More broadly, workshop participants encouraged PHMSA to develop strategies for quickly evaluating the safety of new technologies and developing appropriate measures to ensure they can be transported safely.

Safety, Risk Reduction and Integrity Management

Panel Discussion Lead by Jo Strang,
Associate Administrator, Office of Safety, FRA

More than 3 billion tons of regulated hazardous materials—including explosive, poisonous, corrosive, flammable, and radioactive materials—are transported in this country each year. Over 800,000 shipments of hazardous materials move daily by plane, train, truck, or vessel in quantities ranging from several ounces to many thousands of gallons. These shipments frequently move through densely populated or sensitive areas where the consequences of an incident could be loss of life or serious environmental damage. Even as the volumes of hazardous materials shipped have increased, the number of serious incidents has decreased significantly in recent years. Indeed, the vast majority of these shipments arrive at their destinations without incident. Although this is an achievement to be proud of, we will not rest here. As the size and complexity of the hazardous materials industry grows, we plan to continue an aggressive focus on quickly identifying emerging risks and developing innovative, flexible, and effective safety controls to address those risks.

To that end, we are considering whether integrity management principles could be effectively applied to hazardous materials transportation activities to enhance safety. Integrity management is a risk reduction program that promotes continuous improvement in safety performance by requiring companies to collect and use information to guide system-specific planning and implementation of risk controls. PHMSA has successfully implemented integrity management requirements under its Pipeline Safety program, achieving improved safety performance without undue regulatory burden.

Our stakeholders strongly support our efforts to identify new and creative strategies for enhancing hazardous materials transportation safety. Many in the industry have implemented programs that are leveraging new technologies to reduce risk and improve safety outcomes. Several participants in the workshop identified opportunities for DOT to improve its oversight of hazardous materials shippers and carriers. Others described best practices that have proven effective in addressing safety problems. Most participants were enthusiastic about the potential for an integrity management approach to support robust risk assessment and strengthen existing safety systems.

Achieving Balance and Effectiveness—Consistency and Uniformity

Panel Discussion Led by Jeff Wiese,
Associate Administrator,
Office of Pipeline Safety, PHMSA

A significant challenge for the hazardous materials transportation safety program is to identify integrated strategies for advancing safety that involve the many regulatory agencies and non-federal jurisdictions with hazardous materials oversight responsibilities. A number of federal agencies, including the Environmental Protection Agency, the Occupational Safety and Health Administration, the Bureau of Alcohol, Tobacco, Firearms, and Explosives, and the Department of Homeland Security, have regulatory authority over facilities that manufacture, handle, and store hazardous materials outside of transportation. In addition, state and local governments may elect to regulate facilities that manufacture or store hazardous materials within their jurisdictions. Because these agencies and authorities have different interests and goals, regulated entities are sometimes confronted with a myriad of differing and, perhaps, inconsistent requirements that impair productivity and efficiency and could adversely affect safety. At the same time, critical safety issues may not be addressed at all.

Workshop participants engaged in a spirited discussion of issues related to the question of how PHMSA's

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Do You Have a Safety Culture?

Special Presentation by NTSB Chairman Robert Sumwalt

As Vice Chairman Sumwalt remarked, "A learning disability is tragic in a child, but fatal in an organization."

If you think you do—you probably do not.

Vice Chairman Robert Sumwalt, of the National Transportation Safety Board (NTSB), rounded out the workshop by challenging all participants to promote a safety culture within their organizations. Drawing on his extensive professional experience and academic scholarship, the Vice Chairman delivered an inspiring presentation, reminding us that technological innovation and improved oversight cannot alone deliver optimum safety outcomes. He focused on NTSB investigations of serious hazmat incidents attributable to a lack of procedures or training of employees involved in safety sensitive activities. And he offered practical insight from his own career in aviation and operational safety. He stressed that a safety culture starts at the top, with leaders who embrace, promote, and communicate safety values at all levels in the organization, creating an environment in which employees do the right thing, "even when no one is watching." He challenged managers to assess their own safety culture, asserting that those who think they have a safety culture probably do not.

Safety culture, the Vice Chairman observed, is more about the process than the product. It depends on the integrity and core values of leadership and how those values are communicated and enforced by the organization. The Vice Chairman emphasized the importance of standardization and discipline and addressed the key elements of safety culture, as recognized in the field:

Informed Culture—making it easy to collect and analyze the right kind of data;

Reporting Culture—allowing employees to openly report problems without fear of reprisal;

Just Culture—ensuring that employees will be treated fairly; and

Learning Culture—making sure the organization is able to learn and change from mistakes.

Achieving Balance

(Contined from page 4)

hazardous materials safety program should address critical intersections with other Federal agencies and with state and local governments. Many participants emphasized that duplicative or inconsistent Federal regulations coupled with additional state or local requirements combine to drive costs up and burden administrative processes. Some stakeholders noted that applying for separate state permits is a persistent problem.

Industry stakeholders in particular cited the need for nationally uniform standards applicable to hazardous materials transportation and expressed support for strengthening Federal preemption authority over state regulations that create obstacles to safe and efficient transportation. Stakeholders also expressed a concern over inconsistent enforcement procedures and policies among Federal and state enforcement agencies and emphasized the critical role played by the Motor Carrier Safety Assistance Program in promoting regulatory and enforcement uniformity. More broadly, participants encouraged PHMSA to develop a systems-oriented strategy to integrate Federal and state hazardous materials oversight programs through information and data sharing and leveraging of resources.

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