WRITTEN STATEMENT
OF
CYNTHIA L. QUARTERMAN
ADMINISTRATOR
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
BEFORE THE
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
SUBCOMMITTEE ON RAILROADS, PIPELINES AND HAZARDOUS MATERIALS
UNITED STATES HOUSE OF REPRESENTATIVES

April 12, 2011

Introduction

Chairman Shuster, Ranking Member Brown, and distinguished Members of the Committee, on behalf of Secretary of Transportation Ray LaHood, I appreciate the opportunity to discuss the progress the Pipeline and Hazardous Materials Safety Administration (PHMSA) is making with addressing current safety issues in the hazardous materials safety program.

With more than $1.4 trillion in hazardous materials shipments each year across the United States by air, rail, highway, and water totaling 2.2 billion tons[1], PHMSA is the agency responsible for overseeing a hazardous materials safety program that minimizes the risks to life and property inherent in commercial transportation. PHMSA shares enforcement of the Hazardous Materials Regulations with its modal partners, the Federal Aviation Administration (FAA), the Federal Motor Carrier Safety Administration (FMCSA), the Federal Railroad Administration (FRA) and the U.S. Coast Guard (USCG).

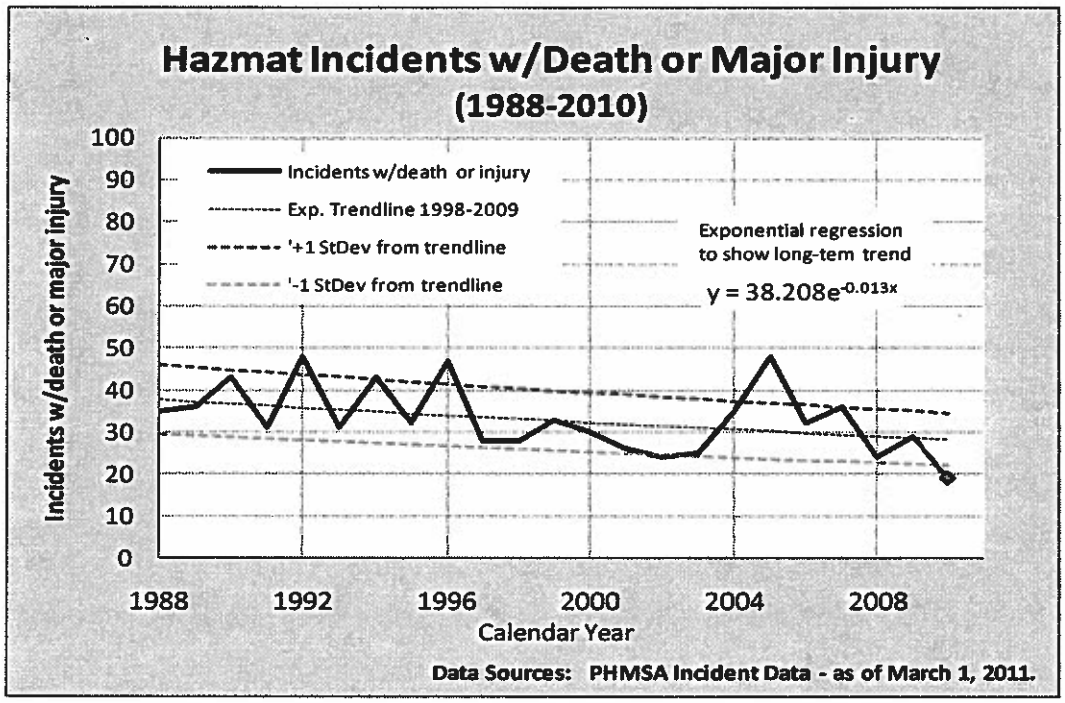
I. Overview

Mr. Chairman, we have made groundbreaking progress over the past year in the hazardous materials program. Beginning in September 2009, a major re-organization was initiated and fully implemented in 2010 to improve program oversight, efficiency, and safety initiatives. We also undertook an extensive recruitment campaign, filling 90 percent of all vacancies.

As a result of our actions, we had a banner year in fiscal year 2010, with the lowest number of hazardous materials incidents (hazmat) in recorded history as indicated in Figure 1 below.

[1] *2007 Commodity Flow Survey, Research and Innovative Technology Administration, Bureau of Transportation Statistics.*

Figure 1[2]



In March 2011, we published a brief report, which for the first time identifed the top 10 hazardous materials and other transportation commodities causing casualties and the top 10 failure modes based on the previous five years of incident data.

Top 10 Commodities 2005-09 Ranked by Weighted High-Impact Casualties
(High Impact Casualties = Fatalities + [Major Injuries or Hospitalizations * VSL[3]weight])

Rank	Commodity Name	High-Impact Casualties (Weighted)	Fatalities	Major Injuries	Incidents
1.	Gasoline	35.94	32	21	1,386
2.	Chlorine	24.56	9	83	48
3.	Diesel fuel	15.69	14	9	2,714
4.	Propylene	4.94	1	21	15
5.	Fireworks	4.19	4	1	2
6.	Liquefied petroleum gas (LPG)	4.00	1	16	471
7.	Carbon dioxide, refrigerated liquid	3.56	3	3	51
8.	Sulfuric acid	3.31	2	7	1,270
9.	Propane	3.00	3	0	31
10.	Argon, refrigerated liquid	3.00	3	0	42

[2] *The formula shows how the number of incidents with death or major injury (Y) varies over time (X), with X measured in the number of years from the starting point (1988 is the 1st year, 1989 is the 2nd year, etc.). The regression shows the long term trend is downward at the rate of 1.3 percent (0.013X) per year.*

[3] VSL = Value of a Statistical Life.

Top 10 Failure Modes (across all Transportation Phases) Ranked by Weighted High Impact Casualties (High Impact Casualties = Fatalities + [Major Injuries or Hospitalizations * VSLweight])

Rank	Failure Mode	High-Impact Casualties (Weighted)	Casualties (Unweighted)	Fatalities	Major Injuries	Incidents with Fatalities or Major Injuries	Primary Transportation Phase(s) (with corresponding weighted casualties)
1.	Derailment	133.19	133	24	109	3	Enroute –133.19
2.	Rollover Accident	25.19	39	22	17	27	Enroute- 25.19
3.	Cause Not Reported	22.00	48	16	32	35	Enroute – 15.63 Unloading - .94 Loading – 5.44
4.	Human Error	10.38	25	7	18	19	Enroute – 2.19 Temporary Storage – 4.38 Unloading – 3.44 Loading - .38
5.	Component or Device[4]	11.06	46	3	43	20	Enroute – 7.44 Unloading – 3.25 Loading - .38
6	Vehicular Crash or Accident Damage	9.31	15	8	7	11	Enroute – 9.31
7.[5]	Multiple Causes	8.44	19	6	13	16	Unloading - .38 Loading - .19 Enroute – 7.88
8.	Fire, Temperature, or Heat	2.50	9	1	8	5	Enroute – 2.31 Unloading - .19
9.	Impact with Sharp or Protruding Object (e.g., nails)	1.94	6	1	5	3	Enroute – 1.56 Temporary Storage - .38
10.	Inadequate/ Improper Preparation for Transportation[6]	1.50	8	0	8	6	Enroute – 1.13 Loading - .19 Unloading - .19

This report outlines the various risks in the hazmat transportation system that caused fatalities and major injuries. This effort is part of a series of steps that are designed to allow PHMSA to better identify areas of concern, to target hazmat risks for further attention, and to develop data-driven regulatory and compliance strategies. A quick sample of some key findings from this report includes the following:

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[4] *This failure mode is an aggregate of five failure modes: 1) Broken Component or Device; 2) Loose Closure, Component or Device; 3) Defective Component or Device; 4) Missing Component or Device; and 5) Misaligned Material, Component or Device. The values provided have been adjusted to assure that there is no double counting as a result of this aggregation.*

[5] *A previous version of this table included "Dropped" as #7 due to misrecorded data; it will hereforth be removed.*

[6] *This failure mode is an aggregate of two failure modes: 1) Improper Preparation for Transportation; and 2) Inadequate Preparation for Transportation. The values provided have been adjusted to assure that there is no double counting as a result of this aggregation.*

- Some hazardous materials had higher consequences due to their more frequent level of transport providing for greater exposure, such as gasoline and diesel fuel;
- The majority of the deaths and injuries arising from hazmat transportation were linked to a relatively small sub-set of all hazardous materials;
- In other cases it was the sheer volatility or danger of the substance that lead to significant consequences;
- The majority of the hazmat fatalities and injuries during the last five years occurred during highway or rail transport; and
- Highway rollovers and derailment while in transit were the two principal failure causes recorded.

II. Accomplishments

In the past year, we have addressed 12 of the 22 National Transportation Safety Board's (NTSB) recommendations. These initiatives for improving the safe transportation of hazardous materials, include lithium batteries aboard aircraft, cargo tank motor vehicle wetlines, and loading and unloading of hazardous materials.

We recently began to take a closer look at the Hazardous Materials Emergency Preparedness (HMEP) Grants program to ensure that the funds allocated to States, territories and Native American Tribes are being accounted for and used for their intended purpose.

Since the last hearing inApril 2010, PHMSA has more than doubled its rulemaking output activities by publishing 33 separate Federal Register publications.

PHMSA has also been very active in incorporating 45 Special Permits into the Hazardous Material Regulations. The conversion of these 45 Special Permits has provided the appropriate regulatory relief to hundreds of permit holders.

Also, in 2010, and through employment of non-compliance strategies, PHMSA has completed a major Systems Integrity Safety Program agreement with one of the largest retail operations in the world. This effort alone affected numerous battery, pharmaceutical, and transportation industries, comprised of more than 50,000 operators and 1.4 million employees. The completion of this agreement resulted in a 90-percent compliance rate improvement in all of these industries.

Finally, I am pleased to inform you that PHMSA has successfully closed all outstanding Office of the Inspector General audit recommendations with respect to its Special Permits and Approvals Program, and has made great progress in eliminating previous significant backlog in those programs.

A. Hazardous Materials Special Permit and Approval Application Processing

Mr. Chairman, I would like to share with you several further accomplishments made over the past year that deserve notice.

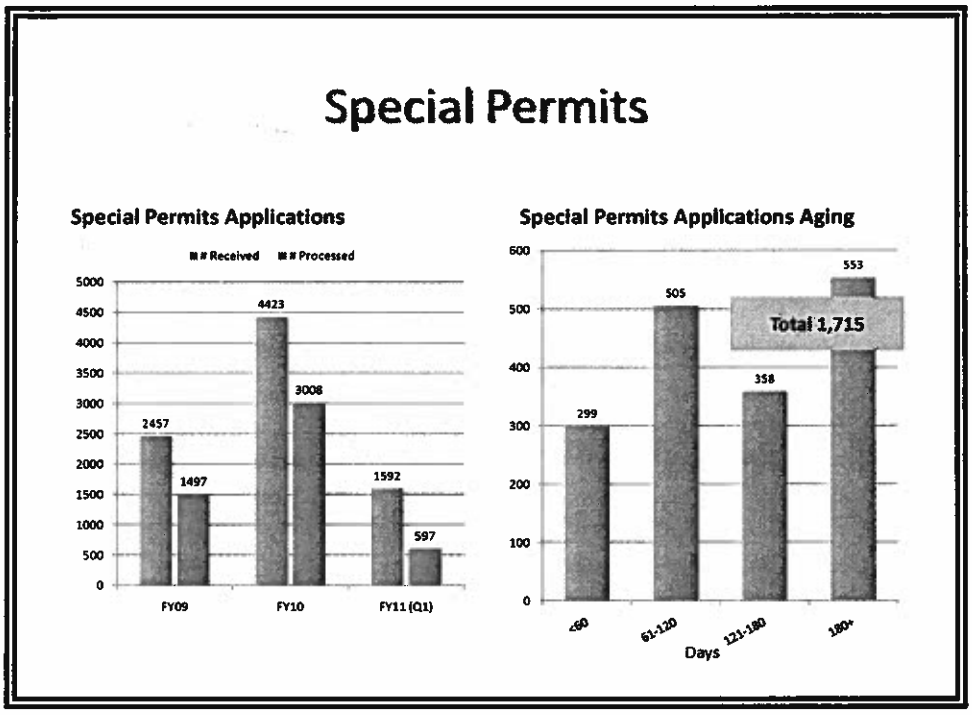
I would like to start with our progress with the special permits and approval programs. As background, our regulations are performance-oriented in a way that provides the industry with ample flexibility in meeting our safety standards. Not every transportation situation can be anticipated or timely incorporated into the regulations; therefore the hazardous materials statute (49 U.S.C. ch.51) gives PHMSA the authority to issue special permits, allowing for the safe transport of such items. These special permits may be issued only if they provide an equivalent level of safety or overriding public interest that does not compromise safety.

Our regulations also require that we provide written authorization or "approval" for the classification of certain materials or the performance of certain hazardous materials transportation functions. For example, PHMSA issues approvals covering the classification and transportation of explosives, certain lithium batteries, fuel cells, chemical oxygen generators, and radioactive materials. In addition, PHMSA issues approvals authorizing companies to manufacture certain types of packaging, such as cylinders, and to perform the tests and inspections required to ensure that the packaging may continue to be used safely for transporting hazardous materials. PHMSA also issues competent authority approvals for the transportation of select hazardous materials in accordance with international transportation standards and regulations.

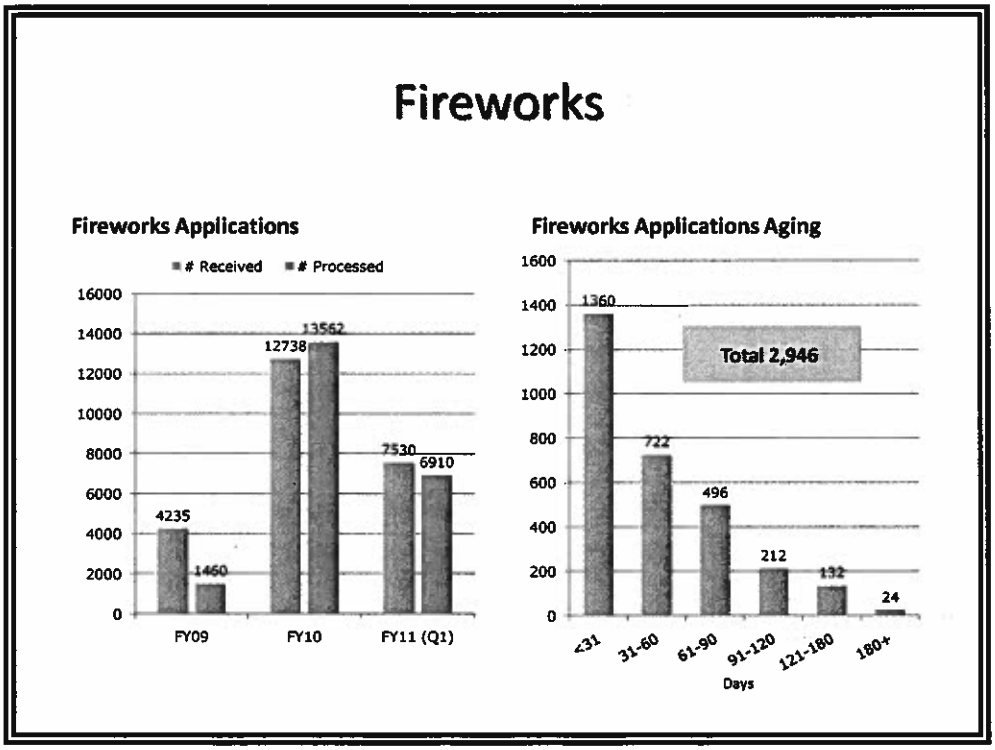
Given the criticality of these programs to the industry, I am happy to share with you some of our recent accomplishments. PHMSA has:

- Eliminated all backlogs in the fireworks and explosive approvals despite the marked growth in the number of applications received. For example, in 2010, we received close to four times as many fireworks applications as we had the year before. And in 2011, we are on pace to receive more than double last year's number of applications;
- Implemented and nearly completed a recovery plan to ensure all safety equivalency documentation is in place prior to the issuance of any new special permits or renewal of existing special permits, as required by our regulations;
- Developed and published standard operating procedures for all our approvals and special permits business processes;
- Published safety fitness procedures and held a public meeting to solicit further industry input on such processes;
- Audited all of our independent Explosive Test Laboratories, and implemented new procedures for qualifying such laboratories;
- Introduced for the first time an on-line application capability to better streamline processes and to help industry applicants; and
- Discontinued issuing special permits to Trade Associations and implemented plans to eliminate all Association permits.

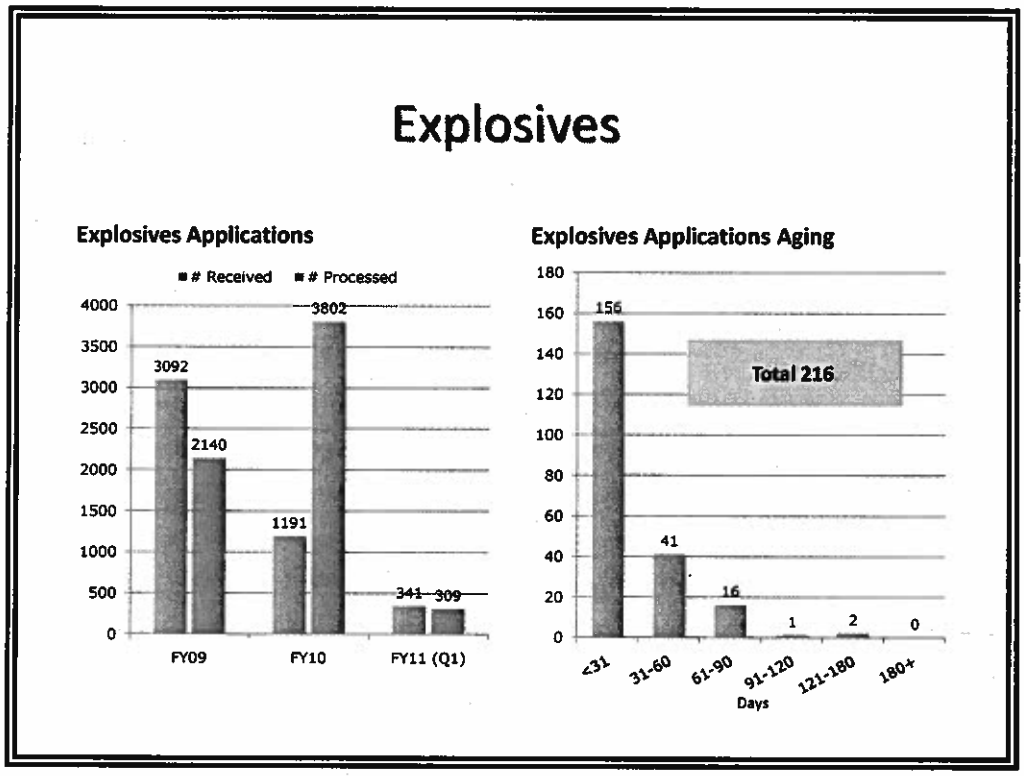
The following chart highlights the significant increase in the number of special permits applications received and processed.



For fireworks, PHMSA saw a significant increase in the number of applications received in 2010 versus 2009, as shown in the following chart. A large percentage of fireworks applications are from foreign manufacturers. In order to improve the quality of applications we have further expanded our international relationships. For example, in August 2010, PHMSA safety investigators visited China to help better train fireworks professionals and Chinese Government officials on U.S. and International requirements to ensure better transportation safety. The same chart also shows that in 2010, PHMSA processed nearly 10 times the number of applications compared to 2009.



As to explosive applications, PHMSA received and processed nearly twice as many applications in 2010 as 2009.



B. Field Operations Update

To ensure that all the requirements of special permits and approvals issued are followed, and all related hazardous materials movements are safe, PHMSA employs a number of enforcement and compliance strategies, including frequent field inspections. Keeping hazardous materials contained in approved packages is often the most basic safety management practice. PHMSA understands that low-probability hazardous materials accidents can lead to high consequence incidents, so we leverage our staff of 57 fully trained hazardous materials enforcement professionals. Our field inspectors are technical experts in multimodal packaging, special permits, approvals, explosives, radioactive materials, cylinders, shippers, and transporters.

PHMSA utilizes several tools to maximize the outcomes of its resources and activities. We leverage our resources by conducting joint activities with other Federal, State, and local law enforcement personnel. In 2010, we conducted 13 Multi-Agency Strike Force Operations that brought a number of regulatory and law enforcement agencies together from across the United States to include the first-ever international operation with Interpol. These efforts focused on risked-based inspections of containerized and portable tank cargoes, and risks posed by trucks, trailers, and chassis that may have not been fully in compliance with safety standards. The joint efforts last year resulted in the safety inspection of 3,753 hazardous materials containers.

Over the past year, PHMSA conducted over 2,000 inspections of regulated companies and provided hazardous materials outreach to over 3,500 stakeholders. We hired 12 new inspectors in FY 2010, which gives PHMSA the potential to increase our productivity by 20 percent.

III. PHMSA's Regulatory Program Is Addressing Several Long Term Safety Issues

In terms of our progress in regulatory action, PHMSA published 33 separate Federal Register publications in the last 12 months to establish new hazardous materials rulemakings that are in the process of being finalized. Current regulatory priorities include considering and addressing several open NTSB recommendations related to the transportation of lithium batteries, wetlines and the loading and unloading of cargo tank motor vehicles; harmonization efforts for international and domestic regulations; departmental safety and security risks; regulatory review; and petitions for rulemaking.

A. Lithium Battery Transportation

A final rule related to the transportation of lithium batteries is in the Office of Management and Budget for review under the procedures of Executive Orders 12866 and 13563.

B. Cargo Tank Truck Wetlines Rulemaking

In January of this year, PHMSA published a Notice of Proposed Rulemaking (NPRM) that would amend the Hazardous Materials Regulations to prohibit flammable liquids from being transported in unprotected product piping on existing and newly manufactured cargo tank motor vehicles.

As outlined in PHMSA's NPRM, incident analysis and our assessment of the technologies currently available to remove cargo from product lines after loading demonstrates that rulemaking to prohibit the transportation of flammable liquids in wetlines may reduce the safety risks associated with one of the highest risk commodities transported without imposing undue cost burdens on the regulated community. PHMSA extended the comment period for this NPRM to April 27, 2011.

C. Loading/Unloading Rulemaking

PHMSA data show that the most dangerous part of cargo tank motor vehicle transportation occurs when a hazardous material is being transferred by hose or pipe between the holding facility and the cargo tank. The data also show that human error and equipment failure cause the greatest number of incidents during loading and unloading operations, sometimes with tragic consequences.

We have proposed a rule that would require additional training for employees and establish new safety requirements for motor carriers and facilities that transfer hazardous materials to and from cargo tank motor vehicles.

D. Harmonization

Our harmonization efforts include both international and domestic regulations. Uniform standards and regulations promote compliance with safety regulations. PHMSA is focused on evaluating standards to promote regulatory consistency where appropriate. Rules related to harmonization include the following:

- The Air Packaging Final Rule, a joint effort between PHMSA and FAA, to propose enhanced packaging requirements. The final rule includes test protocols and secondary closures to ensure that combination packagings fully account for conditions normally incident to air transportaion.
- The Combustible Liquids NPRM which considers whether current Hazardous Materials Regulations requirements applicable to combustible liquids should be revised to accommodate differences between those regulations and international standards.

E. Departmental Safety and Security Risks Identified by PHMSA, the Regulated Community, or Others

PHMSA receives feedback from our stakeholders, including State, local, modal, and other PHMSA Divisions on a daily basis. We focus on comments, requests for change and concerns to identify areas where HMR are inconsistent or could be improved. Examples of these rules include:

- The Explosives Safe Havens Final Rule which proposes to strengthen requirements for the storage of explosives during transportation to provide explosives carriers with safe parking for high-explosives.
- The Distracted Driving - - Mobile Phones NPRM which would improve health and safety on the Nation's highways by reducing the prevalence of distracted driving-related crashes, fatalities, and injuries involving drivers of commercial motor vehicles.

F. Regulatory Review

PHMSA has undertaken an initiative to identify areas where an in-depth regulatory review could have significant beneficial impacts on the public and industry. This initiative focuses on reviewing existing requirements, letters of interpretation, special permits, enforcement actions, approvals, and telephone logs to identify obstacles and take action to promote hazardous materials safety. Examples of rules related to regulatory review include:

- The Miscellaneous Clarifications Final Rule, which proposes to update the HMR to account for improved technologies and new ways of doing business. In addition, the rule will eliminate outdated or obsolete requirements and clarify confusing regulatory requirements; and
- The Rail Special Permits NPRM which proposes to incorporate a number of special permits for rail operations into the Hazardous Materials Regulations.

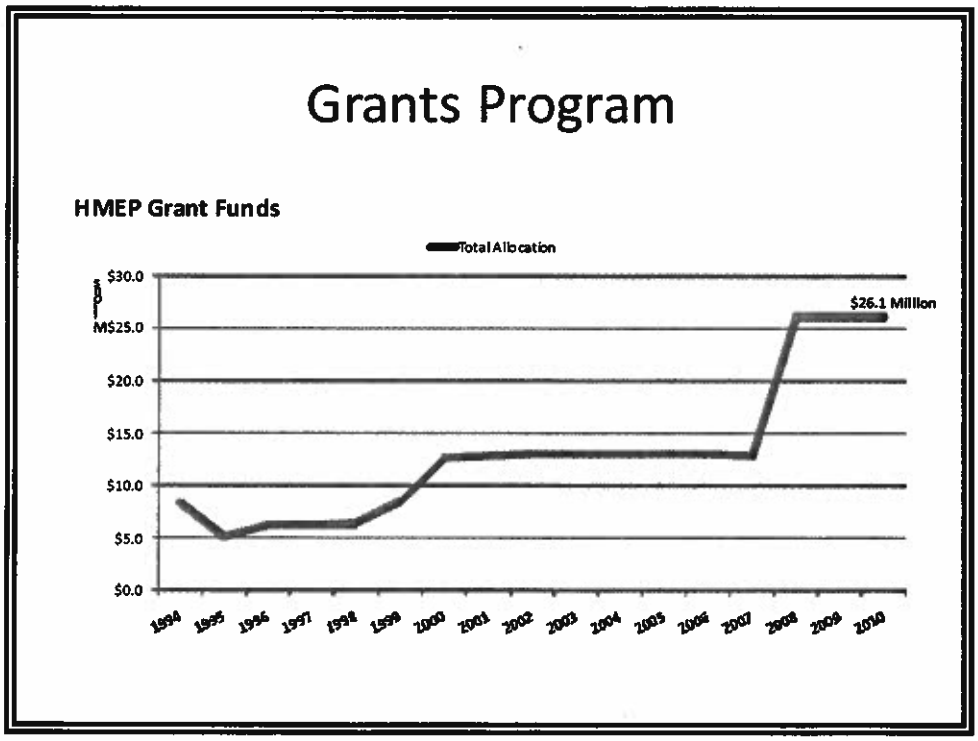
G. Petitions for Rulemaking

In response to petitions from the public, we are also proposing revisions to the requirements in the Hazardous Materials Regulations to reference the applicable requirements in the American Society of Mechanical Engineers Boiler and Pressure Vessel Code.

IV. PHMSA's Hazardous Materials Emergency Preparedness (HMEP) Grants Program

In addition to the regulatory actions we use to improve the safety of the transportation of hazardous materials, Congress created a HMEP grants program almost 20 years ago. The program helps States, local governments and Native American Tribes develop, improve, and implement emergency plans, train fire fighters and other emergency response personnel to respond to accidents and incidents involving hazardous materials. In addition, HMEP grants help recipients determine flow patterns of hazardous materials within a State or between States, and determine the need within a State for equipment and regional hazardous materials emergency response teams. More than 2.5 million emergency responders have been trained using HMEP grants program funds since the program's inception in 1992.

Over that time, funding increased dramatically recently from an initial award level of $8.4 million in 1993 to $26.8 million in 2010. We are in the process of tightening our controls over the larger grant program. Funds are allocated using an established formula to the States, Native American Tribes, and territories that apply. The formula is based on criteria established in the Hazardous Materials Regulations. Grantees are reimbursed for programs that meet those criteria.



In 2010, PHMSA commissioned an independent audit of our HMEP grants program to identify gaps and institute improvements. Program gaps that have been identified in the HMEP program include issues with appropriateness of grant activities and lack of documentation for reimbursement claims. The preliminary findings have already resulted in improvements to the program. For example, PHMSA has released a sample application that provide state and territorial grantees with best practices demonstrating effective planning and training activities for the upcoming grant cycle.

The audit team is currently conducting on-site reviews of four State grantees and desk or phone reviews for up to four additional States and territories. In the interim, PHMSA initiated an Action Plan to address grant program deficiencies already identified. Also, PHMSA is reaching out to other DOT operating administrations and external Federal granting agencies to share grants program knowledge and best practices.

In addition to the HMEP Grants Program, there is also the Hazardous Materials Instructor Training (HMIT) Grants Program, which was created three years ago and is currently funded with $2.6 million. HMIT grants provide non-profit hazmat employee organizations with the funding to develop and institute a train-the-trainer curriculum. This fiscal year four unions applied and are receiving grants.

Conclusion

In summary, DOT and PHMSA are taking positive steps to address its regulatory priorities by improving the safe transportation of lithium batteries aboard aircrafts, lowering the risks associated with cargo tank motor vehicle wetlines, decreasing the incidents associated with loading and unloading operations as well as the proper management of the Special Permits and Approvals Program.

We are aware of our role as the stewards of public grant funding and are taking a close look at the HMEP Grants Program to ensure that the funds allocated to States, territories and Native American Tribes are being accounted for and used for their intended purpose.

We welcome any and all recommendations for making our safety programs more effective and further ensuring the public's safety. I look forward to working with the Committee as we continue to implement measures to enhance our safety oversight and any actions related to the reauthorization of DOT's Hazardous Materials Safety Program.

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