U.S. Department of Transportation
Biennial Report on
Hazardous Materials Transportation
Calendar Years 1996-1997

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Preface

Hazardous materials (HM) are essential to the economy of the United States (U.S.) and the well-being of its people. These materials fuel cars and trucks and heat and cool homes and offices. Hazardous materials are used for farming and medical applications and in manufacturing, mining, and other industrial processes.

Millions of tons of explosive, poisonous, corrosive, flammable, and radioactive materials are transported every day. HM move by plane, train, truck, or vessel in quantities ranging from several ounces to many thousands of gallons. They frequently move through densely populated or sensitive areas where the consequences of an incident could be severe injury, loss of life, or serious environmental damage.

A major goal for the U.S. Department of Transportation (DOT) is to ensure that these shipments are transported safely. DOT is charged by statute with protecting the public, property, and the environment from the risks inherent in the transportation of HM. The public focuses on highly publicized transportation incidents involving significant numbers of deaths and injuries and thus tends to view HM transportation in terms of worst-case scenarios. In reality, the vast majority of HM shipments arrive safely at their destinations. Most incidents that do occur involve small releases of material and no serious consequences.

DOT administers a comprehensive National HM transportation safety program. This biennial report, prepared as required by the Federal hazardous materials transportation law[1] (Federal hazmat law), describes the program and its accomplishments.

[1] 49 U.S.C. § 5101 et seq., formerly the Hazardous Materials Transportation Act, 49 App. U.S.C. § 1801 et seq.

Executive Summary

The Federal hazmat law requires DOT to protect the public from the risks to life, property, and the environment posed by HM in transportation. This authority has been delegated to five DOT operating administrations - Federal Aviation Administration (FAA), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), Research and Special Programs Administration (RSPA), and the U.S. Coast Guard (USCG).

DOT's comprehensive National safety program includes the following activities:

- Issuing and enforcing regulations to ensure the safe domestic and international movement of HM.
- Forging partnerships with state and local governments, Native American tribes, industry associations, and public interest groups to promote a national, uniform safety program.
- Assisting states and localities with emergency response planning and training.
- Collecting and analyzing data on HM transportation incidents, regulatory actions, enforcement activity, and other information to support the regulatory program.
- Sponsoring research and technology projects to improve transportation safety and efficiency.
- Providing education, training, and technical assistance to government and industry personnel involved with assuring the safe transportation of HM.

The Administrator of RSPA, through the Associate Administrator for Hazardous Materials Safety (HMS), coordinates the Department's HM transportation safety program.

Regulations Development

The Hazardous Materials Regulations (HMR) are designed to achieve two goals:

(1) To ensure that HM are packaged and handled safely during transportation and to minimize the consequences should an incident occur, and

(2) To provide effective communication to carriers and emergency responders of the hazards of the materials being transported.

The HMR covers hazardous materials definitions and classifications, hazard communications, shipper and carrier operations, and packaging and container specifications. In addition, the HMR explains training requirements for persons who prepare HM for shipment or transport HM.

Following are the highlights of RSPA's HM regulatory program for 1996 - 1997:

< RSPA published 87 rulemaking documents. Appendix A summarizes each notice and final rule.

< RSPA issued 253 new exemptions and renewed 2,722 exemptions to the HMR. An exemption permits a company or individual to package or ship a hazardous material in a manner that differs from the HMR so long as an equivalent level of safety is maintained. Exemptions allow the industry to quickly implement new technologies and to evaluate new operational techniques that often enhance safety and increase productivity.

< RSPA issued 4,988 approvals permitting companies or individuals to ship certain materials or to perform inspection or testing activity after having met the standards specified in the HMR. By issuing approvals, RSPA assures that the high level of safety required by the HMR is maintained.

< RSPA registered 2,214 packaging manufacturers and requalifiers. The registration program provides an inventory of persons who perform critical safety functions under the HMR.

< The Hazardous Materials Information Center answered more than 60,000 telephone inquiries from government agencies and the regulated public in 1996 and 1997.

Compliance and Enforcement

Compliance and enforcement activities are key to RSPA's effort to reduce accidents, deaths and injuries, and property damage that can result from unsafe operations by companies or individuals who ship or transport HM or manufacture or maintain HM containers and packagings. As a result of inspections conducted by DOT's staff of full and part-time inspectors, DOT issued 1,163 warning letters and 207 tickets in 1996 and 1997. During the same period, DOT also closed 2,865 civil penalty actions and collected over $14.6 million in total penalties.

Federal compliance and enforcement efforts are complemented by state enforcement programs. To support the states, RSPA sponsors the Cooperative Hazardous Materials Enforcement Development (COHMED) program. This outreach program promotes partnerships among Federal, state, and local agencies; industry associations; public interest groups; and Native American tribes. Our goal is a uniform national HM regulatory and enforcement program. Through semi-annual meetings, RSPA provides a forum for these groups to meet, obtain training, and discuss issues of mutual concern.

RSPA also sponsors a Hazardous Materials Specialist Intern program under the Intergovernmental Personnel Act. This program allows HM specialists and program managers from state and local agencies to familiarize themselves with Federal regulatory processes and safety programs and to use their experience to develop and improve HM in their home jurisdictions. Since 1989, 25 law enforcement and emergency response representatives from state and local governments have participated in this program.

Registration and Emergency Preparedness Grants

RSPA has operational responsibility for the Hazardous Materials Registration Program and the Hazardous Materials Emergency Preparedness (HMEP) grant program. Certain shippers and carriers are required by law to register and pay an annual fee. The money collected funds emergency preparedness grants to states, territories, and Native American tribes to enhance emergency response programs. In each of the years 1996 and 1997, over 27,000 companies submitted registration statements and paid fees amounting to $16,847,000 over the two-year period. Of this amount, $13,893,000 was awarded to states, territories, and Native American tribes for emergency response planning and training and to support other activities related to emergency response. The remaining amount is collected to defray RSPA's costs of administering the program.

International Activities

DOT represents the U.S. at meetings of international standards-setting organizations concerned with the safe transportation of HM with the goal of promoting a uniform, global approach to the safe transportation of HM. Our participation is essential to assure that U.S. policy and practices are considered in the development of any international standard and to safeguard U.S. economic interests. In 1996 and 1997, the Department participated in meetings and activities of these international organizations: the Committee of Experts on the Transport of Dangerous Goods of the United Economic and Social Council, the Working Party on the Transport of Dangerous Goods of the UN Economic Commission for Europe, the International Maritime Organization (IMO), the International Atomic Energy Agency (IAEA)Technical Committee on the Revision of International Regulations for the Safe Transport of Radioactive Materials, the Land Transportation Standards Subcommittee established under the North American Free Trade Agreement, and the Chemicals Group and Management Committee of the Organization for Economic Cooperation and Development.

Hazardous Materials Information System

RSPA's Hazardous Materials Information System (HMIS) is DOT's principal source of safety data related to HM transportation. This database contains comprehensive data on incidents, exemptions and approvals, enforcement actions (not fully accessible to the public), and other elements that support the regulatory program. RSPA improved the HMIS' menu-driven programs (used extensively within DOT and by other Federal agencies, state and local governments, the media, and the public) to permit generation of summary statistical reports. RSPA responded to 1,037 data requests in 1996 and 1997. DOT uses HMIS data to identify emerging safety problems, monitor compliance efforts, support training programs, and supply analytical justification for regulatory proposals.

Research and Technology

DOT's HM research and development program provides the technical and analytical foundation necessary to support regulations development, international standards harmonization, compliance and enforcement strategies, and emergency response planning and training. The operating

administrations conduct research activities specifically related to their transportation modes. RSPA's research and development efforts include projects related to information systems and data collections and analysis; risk analysis; assessment of new technologies; and packaging testing to ascertain

compliance with the HMR.

Training and Information Dissemination

To inform the public and private sectors of the principles and application of the HM regulatory program and emergency response procedures, DOT administers a comprehensive education and information program. The DOT modal administrations, the Transportation Safety Institute (TSI), other Federal agencies, state and local officials, and industry representatives provide technical assistance. TSI conducts classroom instruction in Oklahoma City, Oklahoma, and at field locations around the country. TSI, through resident and "Train-the-Trainer" (TTT) courses, trained 3,774 students in 1996 and 1997.

In addition to classroom training, the Department offers a variety of printed and multimedia training aids to the HM community. In 1997, TSI developed an Internet on-line interactive training program specifically to support HM training efforts. It incorporates TSI's Phase I Hazmat Compliance and Enforcement Course for air and highway and links applicable HMR references. Also during 1997, RSPA updated and revised the Hazardous Materials Training Modules on CD-ROM and began developing a new module to specifically address the transportation of HM by air. The new CD-ROM includes an interactive individual presentation, as well as files for customized group instruction. This modular training series is scheduled for distribution on CD-ROM at a nominal cost of $25, and FREE downloadable group instruction files from the HMS website. Both distribution avenues are cost-effective ways for small businesses to meet the regulatory requirements that all hazmat employers train all their hazmat employees.

The U.S. DOT, Transport Canada, and the Secretariat of Communications and Transportation of Mexico jointly developed the 1996 North American Emergency Response Guidebook (NAERG). The NAERG is used by firefighters, police, and other emergency services personnel who may be the first to arrive at the scene of a transportation incident involving a hazardous material. It is primarily a guide to aid first responders in (1) quickly identifying the specific or generic classification of the material(s) involved in the incident, and (2) protecting themselves and the general public during the initial response phase of the incident. DOT updates the NAERG every three years to accommodate new products and technology. RSPA distributed over 1.5 million copies in French, English and Spanish, during 1996 and 1997. DOT's goal is to place one NAERG in each emergency service vehicle, nationwide, through distribution to state and local public safety authorities. Since its inception in 1980, DOT has distributed more than five million copies of the Guidebook without charge to the emergency responder community. The next edition will be the NAERG2000.

Chapter 1

Government Reinvention Accomplishments

In 1993, President Bill Clinton announced a governmentwide initiative to reinvent government called the National Performance Review. He also signed into law the Government Performance and Results Act of 1993, which requires Federal agencies to develop strategic plans for how they will deliver high quality products and services to the American people. It was also in 1993 that President Clinton issued an Executive Order requiring Federal agencies to determine from their customers the kind and quality of services they want.

As a result, DOT is aiming to put "customers" first and to focus more clearly on its safety mandate: protecting the Nation from the risks inherent in the transportation of HM by all modes. In 1996 and 1997, DOT created greater customer awareness through a series of outreach programs and meetings, and delivery of brochures and publications.

Customer Outreach

Regulatory Reinvention and Public Meetings

During 1996, RSPA held two public meetings, one in St. Louis, Missouri, and the other in Atlanta, Georgia, to seek information from the public on regulatory reform and improved customer service for RSPA's HM safety program. These meetings were successors to the 12 public meetings held between April 1995 and January 1996.

President Clinton issued a memorandum to heads of departments and agencies calling for a review of all agency regulations. Based on its review of the HMR and on receipt of over 50 written comments, RSPA initiated eight separate rulemakings (HM-200, HM-207C, HM-207E, HM-216, HM-220A, HM-220B, HM-222A, and HM-222B) to eliminate or revise those regulations that had been identified as being outdated or in need of reform.

These rulemakings addressed areas of the HMR dealing with materials of trade, training frequency, 24-hour emergency response telephone numbers, incident reporting, shipping papers, marking, labeling, and placarding. They also eliminated over 100 sections of the HMR, restructured the Hazardous Materials and Hazardous Substance Tables, restructured the cylinder specifications and cylinder requalification requirements, and updated rail and highway modal requirements. In addition, RSPA initiated a two-year pilot ticketing program to streamline and simplify enforcement of certain violations which do not have a direct impact on the safe transportation of HM, and adopted requirements for the transportation of radioactive materials that are compatible with the regulations of the IAEA. RSPA also established a toll-free number for obtaining assistance on the HMR, reporting potential violations of the regulations, and obtaining copies of training materials.

Information Dissemination

By utilizing new technologies that are cost effective and up-to-date, RSPA has been achieving its safety goals, in part, by making HM publications and other safety-related information readily available to emergency responders and workers in the business of transporting HM.

Internet on-line HM Transportation Training Course for Air and Highway

To aid in HM training efforts, during 1997, TSI developed an Internet on-line interactive training program (http://hazmat.dot.gov/training.htm). It incorporates TSI's Phase I Hazmat Compliance and Enforcement Course for air and highway and links to applicable HMR provisions.

NAERG

The U.S. DOT, Transport Canada, and the Secretariat of Communications and Transportation of Mexico jointly developed the 1996 North American Emergency Response Guidebook (NAERG). The NAERG is used by firefighters, police, and other emergency services personnel who may be the first to arrive at the scene of a transportation incident involving a hazardous material. It is primarily a guide to aid first responders in (1) quickly identifying the specific or generic classification of the material(s) involved in the incident, and (2) protecting themselves and the general public during the initial response phase of the incident. DOT updates the NAERG every three years to accommodate new products and technology. RSPA distributed over 1.5 million copies in French, English and Spanish, during 1996 and 1997. DOT's goal is to place one NAERG in each emergency service vehicle, nationwide, through distribution to state and local public safety authorities. Since its inception in 1980, DOT has distributed more than five million copies of the Guidebook without charge to the emergency responder community. The next edition will be the NAERG2000.

"These Fly...These May Not" brochures

As part of DOT's effort to enhance Air Transportation Safety, RSPA, in cooperation with the FAA, created the brochure "These Fly...These May Not". The brochure is designed to educate the traveling public regarding HM that are not permitted in checked and carry-on luggage. During 1996 and 1997, RSPA distributed over 6 million copies of the brochures through major airlines for placement at their ticket counters, curb-side check-in, and aircraft boarding areas. A corresponding poster was developed in November 1997 and distribution initiated.

Chapter 2

Hazardous Materials Regulations

The Secretary of Transportation is responsible, under the Federal hazmat law, for protecting the public against dangers inherent in the transportation of HM. Under authority delegated by the Secretary, RSPA is responsible for formulating, issuing and revising HM regulations and exemptions, to carry out this responsibility.

Historic Overview of the HM Regulations

The regulations that govern the transportation of HM have evolved over a period of more than 100 years. In response to turmoil within the railroad industry, in 1886 the Supreme Court of the U.S. ruled that the states could not regulate interstate railroads, effectively shifting the burden of regulation to the Federal Government. In 1887, Congress created the Interstate Commerce Commission (ICC), an independent agency that regulated commercial activity crossing state lines. The ICC derived its authority from Article 1, Section 8 of the Constitution of the U.S., the "Commerce Clause," which gives Congress the power to regulate commerce between states. The commission initially possessed limited regulatory powers.

The Explosives and Combustibles Act of 1908 gave the ICC responsibility for regulating the transportation of certain HM. The ICC authority extended to carriers involved in interstate commerce and, in limited circumstances, to carriers operating in intrastate commerce. In addition, several states regulated HM in commerce and formulated their own unique regulations, which in many cases extended to interstate carriers merely passing through those states. By the early 1950s, ICC's jurisdiction extended to all types of surface transportation vehicles. During the 1950s and 1960s, new regulatory powers granted to the ICC failed to halt the decline of railroads, and the ICC was criticized for regulatory excess and artificially high transportation rates.

In 1967, DOT was created to regulate and monitor the vast transportation network that had emerged in this country. Highway, rail, water, and air carriers fell within the jurisdiction of DOT. DOT created separate modal agencies and developed standards for each mode. RSPA works with the modal administrations in regulating the transportation of HM.

By the early 1980s, deregulation of transportation industries had stripped the ICC of most of its authority to set rates. In 1995, Congress abolished the ICC and created a Surface Transportation Board within DOT to perform the small number of regulatory tasks that remained with the ICC.

On January 3, 1975, the Hazardous Materials Transportation Act (HMTA), Title I of Public Law 93-633, was signed into law. The Act provided authority for the Secretary of Transportation to draw together previously fragmented regulatory and enforcement authority over the movement of HM in commerce into one consolidated and coordinated effort. The HMTA was significantly amended by

the Hazardous Materials Transportation Uniform Safety Act of 1990 (HMTUSA), Public Law 101-615, signed on November 16, 1990, and was codified in 1994 in 49 U.S.C. §§ 5101-5127.

While 49 U.S.C. §§ 5101-5127 provides the primary legislative authority for DOT's HM programs, other relevant statutes are, for the most part, mode-specific. Among these are 49 U.S.C.§ 20101 et seq., formerly the Federal Railroad Safety Act of 1970, 45 U.S.C. § 421 et seq.; 49 U.S.C.§ 40101 et seq., formerly the Federal Aviation Act of 1958, 49 U.S.C. § 1301 et seq.; and marine transportation laws at 33 U.S.C. § 1221 et seq. and 46 U.S.C. § 3701 et seq. DOT's modal administrations retain responsibility for enforcement actions relating to transportation by water, air, highway, and rail, respectively.

A number of other authorities underlie DOT's regulation of HM transportation: the Federal Water Pollution Control Act Amendments of 1972; the Resource Conservation and Recovery Act of 1976; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980; and the Sanitary Food Transportation Act of 1990. Both HMTUSA and the Hazardous Materials Transportation Authorization Act of 1994 imposed on DOT additional responsibilities not codified in the Federal hazmat law. These laws have influenced and will continue to greatly influence the HM programs of all the modal administrations.

Current Regulations

The HM regulations, codified in 49 CFR Parts 100-185, set forth standards applicable to HM transportation, which include: classification, packaging, hazard communication, emergency response information, training of hazmat employees, handling, and incident reporting.

In assessing the need for changes to the regulations, RSPA continuously monitors domestic transportation practices and experience and international regulatory developments. It evaluates requests for new or amended regulations received from the general public, the regulated industry, other Government agencies, and DOT's modal administrations. It also issues amendments to address specific safety problems, to incorporate new technology, and to respond to congressional mandates or executive orders.

In 1996, RSPA published 43 *Federal Register* documents related to its HM rulemaking program: 2 Advance Notices of Proposed Rulemaking (ANPRMs); 2 Notices of Proposed Rulemaking (NPRMs); 2 Supplemental Advance Notices of Proposed Rulemaking (SANPRMs); 20 Final Rules (FRs); 1 Interim Final Rule; 3 Safety Advisory Notices; 3 Notices of Request for Comment; 5 Notices of Public Meeting; 1 Notice Announcing Information Collection Requests forwarded for OMB approval; 1 Notice of Document Availability; 2 Notices of Temporary Closing of Dockets Unit; and 1 Notice of Filing Requirement.

In 1997, RSPA published 44 *Federal Register* documents: 1 ANPRM; 2 NPRMs; 1 SNPRM; 13 FRs; 1 Emergency Interim Final Rule; 2 Direct Final Rules; 1 Confirmation of Date of Direct Final Rule; 7 Safety Advisory Notices; 6 Notices of Public Meeting; 1 Notice of Document Availability; 1 Notice of Temporary Closing of Dockets Unit; 1 Notice of Deferral of Decision on Interim Final Rule; 2 Notices and Requests for Comments of Information Collection Activities,

1 Notice Announcing Information Collections forwarded for OMB approval; 3 Notices of Information

Collection Approval; and 1 Notice of Filing Requirement.

The following FRs, enhancing HM transportation safety, are of particular interest:

Temporary Prohibition of Oxygen Generators as Cargo in Passenger Aircraft (HM-224)

In an Interim FR published on May 24, 1996, RSPA temporarily prohibited, until January 1, 1997, the offering for transportation and transportation of oxygen generators as cargo in passenger-carrying aircraft, in order to preclude the possibility that any oxygen generator carried as cargo might cause or contribute to a future incident in air commerce. The rule applied to both foreign and domestic passenger-carrying aircraft entering, leaving or operating in the U.S. and to any person offering any oxygen generator for transportation on any passenger-carrying aircraft. This action was taken as a result of a National Transportation Safety Board (NTSB) and FAA investigation of a May 11, 1996, accident involving a passenger-carrying aircraft which indicated that oxygen generators (chemical) carried as cargo on board the aircraft may have caused or contributed to the severity of the accident.

Direct Final Rule Procedure; Petitions for Rulemaking (RSP-1)

A FR issued on June 14, 1996, implemented a new and more efficient procedure for adopting noncontroversial rules. The "direct final rule" procedure involves issuing a final rule providing notice and an opportunity to comment and stating that the rule will become effective on a specified date without further publication of the text of the rule if there is no adverse comment or notice of intent to file an adverse comment. If there is no adverse comment or notice of intent to file an adverse comment, a subsequent notice would be issued to confirm that fact and reiterate the effective date. If an adverse comment or notice of intent to file an adverse comment were received, a subsequent notice would be issued in the *Federal Register* to confirm that fact and the direct final rule would be withdrawn before it went into effect. This procedure responds to the goals of Executive Order 12866 and recommendations of the National Performance Review and the former Administrative Conference of the U.S.

Oil Spill Prevention and Response Plans (HM-214)

This final rule, issued on June 17, 1996, implemented two separate mandates under the Federal Water Pollution Control Act (FWPCA), as amended by the Oil Pollution Act of 1990, and amended requirements issued in an interim final rule published in the *Federal Register* on June 16, 1993. The rule adopts requirements for packaging, communication, spill response planning and response plan implementation intended to prevent and contain oil spills during transportation. It requires comprehensive response plans for oil shipments in bulk packagings, (i.e., cargo tank motor vehicles, railroad tank cars, and portable tanks) in a quantity greater than 42,000 gallons and less detailed basic response plans for oil shipments in bulk packagings of 3,500 gallons or more.

Crashworthiness Protection Requirements for Tank Cars; Detection and Repair of Defects of Tank Car Tanks (HM-175A/201)

A final rule issued on June 26, 1996, revised certain requirements in the HMR to improve the crashworthiness of tank cars and to increase the probability of detecting critical tank car defects. Under this rule, RSPA is allowing an analysis using independent mathematical or computer modeling procedures to verify compliance with the thermal protection standard for certain tank cars. RSPA clarified the head-puncture resistance requirements and thermal protection requirements and made other minor editorial and technical changes for clarity. The changes made in this rule eased regulatory requirements without adversely effecting safety.

Performance-Oriented Packaging Standards (HM-181H)

A final rule issued on September 26, 1996, incorporated into the HMR a number of changes, based on agency initiative, petitions for rulemaking and comments received at public meetings. Changes were made in the requirements for classifying certain HM which are poisonous by inhalation and for manufacturing, using and reusing HM packagings. These regulatory changes were intended to improve safety, reduce compliance costs for offerors and transporters of HM, make the regulations easier to use, and correct errors.

HM in Intrastate Commerce (HM-200)

On January 8, 1997, RSPA issued a final rule requiring, with certain exceptions, all intrastate shippers and carriers to comply with the HMR. This action was necessary to comply with amendments to the Federal hazmat law mandating DOT regulate the transportation of HM in intrastate commerce. This rule raised the level of safety in the transportation of HM by applying a uniform system of safety regulations to all HM transported in commerce throughout the U.S.

Improvements to HM Identification Systems (HM-206)

A final rule issued on January 8, 1997, amended the HMR to better identify HM in transportation. Changes included adding a new POISON INHALATION HAZARD (PIH) label and placard; lowering the maximum quantity allowable weight of a mixed load of certain classes of HM loaded on a transport vehicle for which the alternative DANGEROUS placard may be used; expanding requirements to apply to all modes of transportation for transport vehicles and freight containers that have been fumigated; requiring display of identification numbers for large quantity shipments of HM and for certain quantities of materials poisonous by inhalation in non-bulk packagings; and marking the transport vehicle with the carrier's telephone number, or have shipping paper and emergency response information on the transport vehicle, when the vehicle is separated from its motive power and parked at a location other than a consignee's, consignor's, or carrier's facility.

Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service (HM-225)

On February 19, 1997, RSPA issued an emergency interim final rule that amended the HMR to specify the conditions under which certain cargo tank motor vehicles could continue to be used even if equipped with emergency discharge control systems which may not function as required by the HMR. This rule addresses specification MC 330, MC 331, and certain non-specification cargo tank motor

vehicles which are used to deliver propane and other liquefied compressed gases. The rule responded to a safety deficiency which may affect many of these cargo tanks to ensure an acceptable level of safety for delivery of liquefied compressed gases while a permanent solution to the problem is developed and implemented.

Harmonization With the UN Recommendations, IMDG, and ICAO (HM-215B)

A final rule issued on May 6, 1997, amended the HMR to maintain alignment with recently changed provisions of international standards. These standards are the International Maritime Dangerous Goods Code (IMDG), the International Civil Aviation Organization's Technical Instructions (ICAO) and the United Nations Recommendations on the Transport of Dangerous Goods (UN Recommendations). These revisions were necessary to facilitate the transportation of HM in international commerce.

HM Shipping Description and Packaging of Oxygen Generators (HM-224A)

On June 3, 1997, RSPA issued a final rule that amended the HMR to add a specific shipping description to the Hazardous Materials Table for chemical oxygen generators. The final rule requires approval of a chemical oxygen generator, and its packaging, when the chemical oxygen generator is to be transported with its means of initiation attached. Oxygen generators previously had been transported under several different shipping descriptions that identified chemical constituents but did not identify the packaged articles as oxygen generators. These changes will facilitate the identification of oxygen generators in transportation, making it easier to comply with and enforce existing prohibitions against the carriage of chemical oxygen generators on passenger aircraft and in inaccessible locations on cargo aircraft, and enhance packaging requirements. RSPA held a public meeting on July 23, 1997, with representatives of the Boeing Company and other interested parties to discuss their concerns on this issue. The rule became effective August 7, 1997.

The following ongoing regulatory activities are of particular interest:

Applicability of the HMR to Loading, Unloading and Storage (HM-223)

In recent years, RSPA has issued a number of interpretations, inconsistency rulings and preemption determinations in response to public requests for clarification regarding the meaning of the term "transportation in commerce" and whether particular activities fall under that term and therefore are subject to the HMR. On July 29, 1996, RSPA announced three public meetings to seek ideas, proposals and recommendations regarding the applicability of the HMR to particular HM transportation activities. This information will help the agency to consolidate, clarify, revise and update existing agency interpretations, rulings and decisions regarding the applicability of the HMR and determine whether there is a need to amend the HMR. Clarifying the applicability of the HMR will facilitate compliance and clarify the applicability of other Federal, State, and local and Indian tribe requirements.

HM Regulations Penalty Guidelines (HM-207F)

Effective January 21, 1997, RSPA increased the maximum civil penalty, from $25,000 to $27,500, for a knowing violation of Federal hazmat law or the HMR. RSPA also published revised baseline assessments for frequently cited violations of the HMR, in order to provide the regulated community and the general public with more current information on the hazardous material penalty assessment process. This rule responded to Section 4 of the Federal Civil Penalties Inflation Act of 1990 (the Act), 28 U.S.C. 2461 note, as amended by the Debt Collection Improvement Act of 1996 (Pub. L. 104-134), requiring Federal agencies to adjust civil penalties for inflation.

HM Safety Standards for Unloading Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service (HM-225A)

Since September 8, 1996, renewed attention was focused on the dangers of propane when more than 35,000 gallons were released during delivery to a bulk storage facility in Sanford, North Carolina. This incident led to the issuance of a safety advisory notice in December 1996 and an interim final rule in February 1997 (HM-225). On June 9, 1997, RSPA deferred action on a decision with respect to two petitions for reconsideration of the interim final rule issued in RSPA Docket HM-225, regarding cargo tank motor vehicles in liquefied compressed gas service, until the agency issues a final rule in that docket. Specifically the petitions for reconsideration raise issues identical to those raised by commenters to the interim final rule. RSPA deferred action on the petitions in order to avoid prejudging issues that are more appropriate for resolution in the final rule. RSPA held a public meeting on June 23, 1997, in Washington, DC at the request of several interested parties to discuss the interim final rule requirements and long-term solutions to the cargo tank emergency discharge control system issue. On August 18, 1997, RSPA revised operator and attendance requirements and extended requirements issued in the interim final rule. The interim operational controls will improve safety while the industry and government continue to work to develop a system that effectively stops the discharge of HM from a cargo tank if there is a failure of a transfer hose or piping. RSPA also published an ANPRM soliciting data to serve as a basis for future rulemaking.

International Standards on the Transport of Dangerous Goods; Public Meeting

On June 12, 1997, RSPA issued a notice to advise interested persons that it would conduct a public meeting in preparation for the thirteenth session of the United Nations' Sub-Committee of Experts on the Transport of Dangerous Goods (UNSCOE) July 7-17, 1997, in Geneva, Switzerland. Topics discussed during the public meeting included: restructuring the UN Recommendations on the Transport of Dangerous Goods into a mode rule, requirements for inhalation toxicity materials, international harmonization of classification criteria and labeling, review of intermodal portable tank requirements, review of the requirements applicable to small quantities of HM transport (limited quantities), classification of individual substances, requirements for bulk and non-bulk packagings used to transport materials and criteria for environmentally hazardous substances.

Prohibition of Oxidizers Aboard Aircraft (HM-224A)

On August 20, 1997, RSPA issued an SNPRM relative to a proposal published in the *Federal Register* on December 30, 1996 to amend the HMR to prohibit the carriage of oxidizers, including compressed oxygen, aboard all passenger-carrying aircraft. The effect of this prohibition would be to limit oxidizers to accessible locations on cargo aircraft. The December notice analyzed Class D cargo compartments and indicated that a supplemental notice would be published to analyze Class B and C compartments. This SNPRM specifically analyzes the prohibition of oxidizers in other than Class D cargo compartments, and would apply to foreign and domestic aircraft entering, leaving, or operating within the U.S.. On November 28, 1997, RSPA invited additional comments and reopened the comment period concerning proposals to prohibit the transportation of oxidizers in passenger-carrying aircraft and in inaccessible locations on cargo aircraft.

Use of Non-Specification Open-Head Fiber Drum Packagings (HM-221B)

On June 2, 1997, RSPA amended the HMR to allow the transportation of certain liquid HM in non-specification open-head fiber drums until September 30, 1999, if the fiber drums have been filled before, and are not emptied and refilled after, the expiration of the current authority for the use of these packagings. RSPA stated that this direct final rule would become effective on October 1, 1997, unless an adverse comment or notice of intent to file an adverse comment was received by August 1, 1997. On August 25, 1997, RSPA confirmed the October 1, 1997 effective date of the direct final rule.

Basic Requirements for Fully Wrapped Carbon-Fiber Reinforced Aluminum Lined Cylinders (DOT-CFFC)

The purpose of this project was to develop a new DOT basic requirements document for carbon-fiber composite cylinders. This type of composite cylinder has a higher strength to weight ratio than fiberglass composite cylinders, making the carbon type attractive in markets such a firefighting. The DOT-CFFC document provides requirements for the design, manufacturing, and performance of these cylinders. This document, along with the five related exemptions granted so far, provides the regulatory authorization being actively sought by a quickly emerging industry. The DOT-CFFC document was finalized in 1997 and made available in the public docket office and on RSPA's Internet home page.

Cylinder Consolidation (HM-220)

The purpose of this project, active during 1996 and 1997, is to amend requirements in the HMR to establish four new metric-marked cylinder specifications and to revise requirements for maintenance, requalification, and repair of all DOT specification cylinders. The end result will be cylinder regulations that are more flexible, easier to follow, and more in line with technological advances. This project is expected to be completed in 1998.

Chapter 3

Research and Technology

Research and development are necessary to provide the technical and analytical foundation necessary to support DOT's regulatory, international standards development, compliance, and emergency response activities in the area of HM transportation safety.

Federal Railroad Administration

Ensuring Tank Car Safety Project

The Ensuring Tank Car Safety Project was established in support of the Transportation Research Board's recommendations for improved tank car safety. The Board recommended that FRA and RSPA: define long-term safety goals, and develop a long-range research plan to define major research needs and programs to meet them; to improve tank car safety data; to ensure prompt establishment of requirements to verify the structural integrity of in-service tank cars by continuing to work with industry to establish new test and inspection methods.

FRA's Hazardous Materials Division sponsored the project and represents the interests of FRA, the Association of American Railroads (AAR), Chemical Manufacturers Association (CMA), Railway Progress Institute (RPI), and Transport Canada. The project is devoted to an ongoing dialogue among government, industry, state and local emergency responders, and the general public to improve transportation safety. FRA held the first Ensuring Tank Car Safety Public Information Meeting on February 13 and 14, 1996 in Houston, Texas. At the May 1997 AAR Hazardous Materials Seminar in Dallas, Texas, FRA presented the results of the meeting. In August and October of 1997, FRA met with RPI, CMA, and AAR representatives to share research projects and research goals.

1997 Ongoing Research and Projects Completed in 1996 or 1997:

Nondestructive Evaluation (NDE) for Insulated Tank Cars

Under the Small Business Innovation Research (SBIR) Program, FRA initiated this project in 1994. This project studies the use of acoustic emission testing for the identification of internal cracks and flaws for insulated tank cars. FRA submitted a final report the first quarter of 1996.

Over-the-Road Test (FEEST II Test)

FRA initiated this project to gather data to validate/replace Freight Environmental Sampling Test (FEEST) data. FRA refined the test to fit the Damage Tolerance Analysis project. FRA submitted the final report in 1996. As a result of the project data, FRA developed a load spectrum which was used in an industry and FRA Damage Tolerance Analysis joint project.

Neutron Beam Weld Inspection Method

This project analyzed the Neutron beam method for determining weld quality/shape for possible use in determining the quality and strength of welds on sub-surface of tank car plate steels. FRA initiated the project in July 1994 and submitted the final report in 1996. The results indicated that there was no need for neutron beam sub-surface inspection of welds in production of tank cars.

Safety/Risk Analysis of HAZMAT Transportation - Phase 2

Phase I effort evaluated risk-based criteria in determining the proper packaging for transporting specific HM. Phase 2 effort examined additional HM. FRA completed the project in 1996.

Tank Car Stub Sill Fatigue Crack Growth, Phase 1

This project investigated the cause of stub sill fatigue cracks and the effectiveness of certain retrofit design modifications. Results characterize the stress distribution in the stub sill.

AE Inspection, Analysis And Validation (Of Twist Test) Environment

This project focused upon validation of the use of Acoustic Emission (AE) Inspection on tank car stub sills with a comparison of existing AE techniques in the Twist Test Environment.

Spent Nuclear Cask Analysis (Dedicated Train Study)

This project, initiated in accordance with the requirements of Section 116 of HMTUSA, compares the safety of using trains operated exclusively for the transportation of high level radioactive waste and spent nuclear fuel (dedicated trains) with the safety of using other methods of rail transportation.

DTA for Tank Car Stub Sill Designs

This project for the Railway Progress Institute/Association of American Railroads (RPI/AAR) Tank Car Safety Program, transfers state-of-the-art damage tolerance analysis (DTA) technologies, customarily used in the aircraft industry, to the railroad industry. In addition, it provides a procedure for analyzing the integrity of various stub sill designs as ordered by FRA Emergency Order (EO) 17. Project engineers are instructing RPI/AAR personnel in the use of DTA to establish periodic inspection intervals to detect fatigue cracking prior to failure and to assess the structural integrity of tank car stub sills, which accommodate the coupler and draft gear and transfer coupler forces to the

tank car body. The Southwest Research Institute and the tank car builders in this project are utilizing data gathered from the Over-the-Road Tests .

NDT for Tank Car Inspection and Requalification

This project reviews, analyzes and proposes at least 5 nondestructive test (NDT) methods for use in the prescribed periodic inspection replacing the hydrostatic test, and it establishes the AAR Transportation Technology Center (TTC) at Pueblo as a test repository inspection center. FRA initiated the project in late 1995. The final report for the evaluation of test methods portion is scheduled for 1998.

Surge Pressure Suppression Devices

This project will determine the adequacy of surge pressure suppression devices by actual testing of several types of surge pressure suppression devices. This project provides co-funding to the AAR for an industry sponsored project.

Damage Assessment of Tank Cars in Accidents

This project, initiated in 1995, will evaluate the validity of the tank car damage assessment guidelines currently in use. It will also develop improved guidelines where necessary. A companion handbook to the Emergency (Response) Procedures for Field Removal/Transfer of product describing critical flaw size and damage assessment of tank cars will be developed. The Final Report for a Phase I literature search was completed in 1996. Phase II theoretical and actual test validation are ongoing. This will be an on-going task where the test results are included in the Tank Car Safety Program course handbook as available.

Tank Car Safety Valves and Vents

This project will study/verify/validate the parameters for use of pressure relief valves, i.e., relief of tank internal pressure to prevent tank rupture, for HM lading that are liquid, and/or that thermally decompose or polymerize. Test results are intended to be used in developing guidance in the selection, sizing and use of pressure relief devices in tank cars.

Stub Sill Tank Car Fatigue Crack Growth Testing, Phase 2

This project investigates the cause of stub sill fatigue cracks and the effectiveness of certain retrofit designs. In addition, it continues earlier efforts to characterize the stress distribution environment in the stub sill tank car. This project uses the load spectrum developed from the FEEST I and FEEST II data in Simuloader and squeeze validation testing.

Use of Thin Plate Steel Manufacturing Process for Tank Car Steel Production

This project looks at the feasibility of producing tank car steels produced by thin steel (Automobile) method. This is ongoing project and expected report is due to FRA by 1998.

Research and Special Programs Administration

RSPA's research and development efforts are organized into three program areas:

Information Systems - The HMIS is a computerized information management system containing data related to the Federal HM safety program to ensure the safe transportation of HM by air, highway, rail, and water, is the primary source of national data for the Federal, state and local governmental agencies responsible for the safety of HM transportation. Data from the system are also used by the HMS program, industry, news media, and general public. An expanded description of the HMIS is located in Chapter 10.

Research and Analysis - This area provides the technical and analytical foundation necessary to support risk management, program assessment, assessment and implementation of new technologies, and the development of domestic and international HM transportation safety regulations and programs.

Regulation Compliance - Packagings are critical to the safe transportation of HM. This program performs the testing necessary to determine the extent of manufacturer compliance with the HM regulations to protect the public and the environment from unintentional release of HM.

Research completed in 1996 and 1997:

Analysis of Risk Associated with Transportation of HM in Aircraft Cargo Compartments

The objective of this research is to develop quantitative estimates of the probabilities that life-threatening incidents could occur due to the transportation of HM in aircraft cargo compartments, and to determine how these probabilities are modified by current regulations and other safety activities. A panel of experts used fault and event tree models to evaluate and assess risks. The goal is to identify possible new countermeasures to reduce risk and to identify experiments to validate study results. This study was nearing completion at the end of 1997. Circulation of the report for comment is expected in 1998. The final report is scheduled for 1999.

National Assessment of Transportation Risk Posed by Toxic Inhalation Hazard (TIH) Materials, Explosives, Flammable Liquids, and Gases

This is a general risk assessment of HM transportation by hazard class, quantity, and packaging. This work is aimed at identifying activity areas of high, moderate, and low risk. These areas are candidates for more intensive study to identify risk management strategies that may provide significant risk reduction or economic savings. Work on the initial phase of this project was nearing completion at the end of 1997, and a report was expected to be circulated for public comment in 1998. Follow-on efforts are planned to identify in more detail areas where the greatest potential pay-off in risk or cost reduction exist.

Feasibility Determination for a Regulatory System Based on Risk Management

This study evaluates the feasibility of developing a more risk management based regulatory system. The study reviews the Hazardous Materials Safety program and identifies risk management benchmarks, systems, and tools that may improve program risk management. This study was initiated in 1997, and a final report was planned for late 1998.

Technical Support for the National Advisory Committee for AEGLs for Selected Chemicals

This multi-year effort supports a Federal advisory committee under the sponsorship of the Environmental Protection Agency and is supported by many Federal agencies. The advisory committee develops uniform toxicological measures, Acute Exposure Guideline Levels (AEGLs), for use in emergency response planning and guidance. AEGLs, once reviewed by the National Academy of Science, are used by all Federal agencies and industry for emergency response planning and response.

Impact Resistance of Specification MC-330 and 331 Cargo Tank Heads In Accidents

RSPA conducted this study in response to a series of severe accidents involving MC-330 and 331 cargo tanks and a NTSB Recommendation. Background information was gathered on accidents involving failure in the vicinity of the front heads of MC-331 tanks; preliminary information on methods used by the railway tank car industry to protect heads was investigated; information on materials, design, and construction used by a leading manufacturer of MC-331s was assembled; and work was started on parametric evaluation of the effects of head shape and thickness on the crash worthiness of these vessels. The results of this study will aid RSPA in determining the need for rulemaking to reduce the risk associated with severe accidents involving MC-330 and 331 Cargo Tanks. A feasibility report on enhanced protection for MC 331 cargo tanks in frontal collisions was issued in June 1997. Follow-on efforts are planned to look at the effects of separation distance on head shield protection and the use of energy-absorbing materials between the shield and the tank. This work will include further evaluation of design methods developed by the railway tank car industry in their studies of impact and penetration accidents.

Risk Assessment Analysis and Evaluation of Alternatives to Reduce the Risk of Incidents for DOT-3AL Cylinders (6351-6 alloy)

RSPA has performed evaluations of failures of DOT 3AL cylinders constructed of 6351-6 type aluminum alloy. The purpose of this project is to perform risk assessment to calculate the annual cost to cylinder users and manufacturers as a result of these cylinder failures, which may cause fatality, or injury. Several alternatives and their economical impacts have been analyzed for reducing the risk of cylinder failures. The analysis started in January 1997 and a report is expected to be completed in 1998.

Use of DOT Exemptions for Recycled Materials and Waste Discovered to be Radioactive

In 1997, RSPA sponsored research by the Conference of Radiation Control Program Directors to review and evaluate the use of DOT-E 10656 and DOT-E 11406. This project assessed potential changes to improve the exemptions, or to regulations that might eliminate the need for the exemptions. The final report is expected in early 1998.

Evaluation of U.S. DOT Specification Packages Used to Transport Radioactive Materials

Specification packages are a broad family of package designs authorized by DOT and the U.S. Nuclear Regulatory Commission (NRC) for the transport of Type B and fissile quantities of radioactive materials. Specification packages have provided safe transportation of radioactive materials for years. This series of studies will compile all available test and performance data and documentation for each type of specification package and identify the strengths and weaknesses of the specification packages. Follow-on projects will address any design changes required to bring DOT Specification packages into compliance with changes made to current IAEA's Basic Safety Series, developing the most effective and cost efficient course of action, and drafting the regulatory analysis required to justify the chosen course of action.

Evaluation of the Regulations Governing the Safe Transport of Uranium Hexafluoride

The 1996 edition of the IAEA's Regulations for the Safe Transport of Radioactive Material, ST-1, highlights the need for increased performance testing and analysis of cylinders containing uranium hexafluoride. In particular, the IAEA instituted thermal test requirements for large, 48-inch diameter cylinders containing uranium hexafluoride in its depleted form. This study, conducted with the assistance of the Department of Energy (DOE), is intended to quantify the number and condition of such cylinders in the U.S. and identify possible transport systems which could be utilized if the DOE were to transport these cylinders. A final report will be issued in 1998.

Effects of Temperature and Aging On Emulsified Liquid Oxidizing Solutions Containing More Than 70 Percent Ammonium Nitrate Solutions With More Than 0.4 Percent Combustible Substances

This research project, initiated in 1997, surveys all North American explosives manufacturers currently transporting these types of products in bulk under a DOT exemption. It summarizes nominal weight percent ranges of ammonium nitrate and combustible substance and water typically shipped and the maximum elevated temperatures during transport. UN Series 1 and 2 testing on freshly prepared samples, both at ambient and maximum elevated temperatures at which shipped, are then performed. Tests are then repeated after the samples are aged 30 and 60 days.

Classification Analysis and Testing of Materials

The objective of this research project is providing quick turn-around testing and analysis results for determining the most appropriate classification of selected materials. In 1997, the project focused on issues related to revision of the UN6C test (particularly in the area of projection thermal hazard

measurements) and to the resolution of problems arising from using the deflagration-to-detonation

transition (DDT) test for classifying blasting agents. Results obtained from these particular tasks will enable RSPA to respond quickly to the needs for evaluating or revising classification of certain explosive materials. Once completed, results of this project will be documented in a report.

Test Methods and Criteria For Ammonium Nitrate Fertilizers and Materials

The objective of research undertaken was to survey the chemical industry for various types of prilled ammonium nitrate. UN Test Series 1 and 2 were then conducted on these materials to determine if they should be in Class 1. All tested ammonium nitrates failed UN Test Series 1 and 2. This research project confirmed these ammonium nitrates are properly classified in Division 5.1. The final report is dated April, 1997.

Evaluating DDT Hazards of Energetic Materials

The objective of this project, completed in 1997, was to develop a suitable test method for the evaluation of the DDT potential of energetic materials. DDT sensitivity measures the behavior of a blasting agent involved in a fire. Alternative small scale-tests, baseline data, and criteria were developed for evaluation of the DDT potential of energetic materials. A final report will be issued in 1998. Results obtained will enable RSPA to review the adequacy of current safety standards used in the authorization of the transport of energetic materials. It also will enable RSPA to incorporate alternative small-scale tests and new criteria into the HM regulations.

Evaluation of Small Explosive Devices

The objective of this project, a continuation of efforts begun in previous years, is to identify and establish criteria and procedures for identifying small explosive devices with a low explosive hazard so RSPA can minimize the regulation of such devices and focus its resources on explosives with higher risk. Evaluations, including testing, will be carried out on a variety of devices generally classed as Division 1.4 and containing a small quantity of explosives. The project is expected to be completed by the end of 1998.

Evaluating Methods for Determining the SADT of Thermally Unstable Substances

The purpose of this project was to evaluate the equivalency of the four Self-Accelerating Decomposition Temperature (SADT) test methods which are prescribed in Title 49 CFR and based on UN recommendations. RSPA evaluated the equivalency of these four methods to ensure safe bulk transportation of thermally unstable substances such as organic peroxides. The study indicated each of the test methods is able to adequately determine the SADT. Differences in difficulties of conducting tests and complexities and accuracies of the tests were noted. The final report on the project is dated December 1996.

Definition and Evaluation Criteria for Dry Cell Batteries

As a follow-on to earlier research, safety testing was conducted on dry cell batteries to help determine safety hazards they might pose in transportation. Thirty-three types of cells and batteries were subjected to environmental testing (random vibration and drop shock) and to electrical short-circuit testing. The final report on the test program is dated June 1997. Results will help RSPA evaluate requests by manufacturers and shippers to revise hazardous material transportation classification of dry cell batteries.

Evaluation of U.S. and UN Test Procedures for Determining Shipping Hazards of Solid Oxidizers

RSPA sponsored research to evaluate equivalency of the United Nations' newly adopted solid oxidizer test with the existing U.S. test. The study data provided a basis for adopting a refined version of the UN protocol, using potassium chlorate instead of bromium chlorate for the reference standard. With the proposed changes in place, there would be only minor differences between the U.S. and UN protocols. RSPA circulated a draft report in November 1997.

Risk Assessment of Lithium-Ion Batteries

The purpose of this research, begun in 1996, was to determine the safety of lithium-ion technology pertaining to shipping. A literature survey and interview with industry and government experts on the safety of lithium-ion batteries were conducted. Types and sources of lithium-ion batteries being manufactured or developed were determined. The study concluded that Underwriters Laboratory (UL) or United Nations (UN) standards afford sufficient protection for safe transportation from the manufacturer to the first consumer. A test program was recommended to determine whether batteries subject to prolonged cycling, excessive temperatures, and deterioration from use present subsequent transportation hazards. Documentation to date has been in the form of progress reports.

Technical Documentation in Support of the NAERG96

Significant analysis and research into health criteria, source characterization, and meteorological and dispersion modeling went into updating initial isolation and protective action distances in the 1996 revision to the North American Emergency Response Guidebook. The report documenting the technical basis for these derivations is dated May 1996. Related research on toxic gases produced from reactions of HM spilled into natural waters is documented in a September 1996 report.

RSPA/ASME Efforts to Develop Consensus Standards for Transportation Pressure Vessels

RSPA approached the American Society of Mechanical Engineers (ASME) in late 1996 and sought its assistance in the development of a transportation pressure vessel code. In response, the ASME established a new Subcommittee of the ASME Boiler and Pressure Vessel Code Committee, entitled Subcommittee XII, Transport Tanks.

The new committee on Transport Tanks is responsible for the development of codes and standards covering the construction and continued service of transport tanks used for the carriage of dangerous

goods by all means of transport (road, rail, air, and sea). The committee will also develop criteria for accreditation of manufacturers of these tanks. The intent of the committee and its subgroups, including representatives from users, manufacturers, designers, insurers/inspection agencies, jurisdictions, and regulatory agencies, is to produce consensus codes and standards through agreement of affected parties. ASME codes and standards conform to the procedures set by the American National Standards Institute. It is anticipated that the codes and standards developed by the committee will be suitable for reference by regulatory authorities and safety organizations worldwide.

The committee's goal is for Section XII to be easily usable for construction and in-service inspection in any country so that transport tanks built anywhere can be used anywhere. The U.S., Canada, France, Great Britain, and Switzerland are already represented on the subcommittee. Immediate attention is being focused on requirements for multi-unit tank car tanks and intermodal portable tanks for compressed gases and cryogenic liquids. It is anticipated that Section XII of the ASME Code will be drafted by the end of 1999.

Chapter 4

Discretionary Actions

Because many unusual shipping situations and technological advances are not addressed in existing regulations, RSPA grants exemptions and approvals on a case-by-case basis.

Exemptions

The Federal hazmat law grants DOT authority to relieve a person from a regulatory requirement by issuing exemptions based on equivalent levels of safety or levels of safety consistent with the public interest. The need for exemptions from the regulations arises from the changing nature of HM and the methods by which they are transported. Exemptions are vital to industry, allowing it to quickly implement new technology and to evaluate new operational techniques that often increase productivity and enhance safety.

Within RSPA, the Associate Administrator for HMS directs DOT's exemption program. The program permits HM shippers, carriers, and packaging manufacturers to apply for exemptions that allow them to utilize packaging methods or shipping practices other than those prescribed in the regulations. The exemption process includes the evaluation of new applications, requested modifications and renewals of exemptions, and requests to become "parties to" existing exemptions. In addition, RSPA issues emergency exemptions to accommodate special circumstances.

After evaluation and public comment, RSPA issues an exemption if the proposed practices achieve a level of safety at least equal to the level of safety that would be required by the HMR. If the HMR does not set a level of safety, the exemption must be consistent with the public interest and the Federal hazmat law. In the latter case, substantiation is required in the form of an analysis that identifies each hazard, potential failure modes and their probability of occurrence, and control of risks associated with each hazard and failure mode.

Exemptions cover a broad set of circumstances. For example, in 1996 and 1997, the following significant or precedent-setting exemptions were issued or renewed:

Exemption DOT-E 11215 authorized Orbital Sciences Corporation to transport certain hazardous material contained in a Pegasus solid fuel rocket in a captive-carry launch configuration secured beneath an L-1011 aircraft. This exemption was modified in 1996, based on an accident risk assessment report, to permit captive-carry transportation of the Pegasus along identified flight paths in addition to captive-carry launch operations.

Exemption DOT-E 11375 authorized the manufacture of a non-DOT specification pressure vessel with a molded plastic inner vessel for use as a breathing apparatus containing air, refrigerated liquid.

Exemptions DOT-E 10922 and DOT-E 11526 authorized the retest of DOT Specification 3A and

3AA cylinders using 100% ultrasonic test in lieu of hydrostatic testing with internal visual inspection.

Exemption DOT-E 11621 authorized the manufacture of fiberglass and carbon-fiber reinforced aluminum-lined fully wrapped bulk cylinders (tube trailers).

Exemption DOT-E 11667 authorized the retest of DOT Specification 3AAX and 3T cylinders using acoustic emission testing in lieu of hydrostatic testing with internal visual inspection.

Exemption DOT-E 11850 authorized members of the Air Transportation Association to perform an alternative inspection program utilizing acoustic emission testing in lieu of hydrostatic testing and internal visual inspection for cylinders used as components in aircraft fire suppressant systems.

Exemption DOT-E 6922 modified an exemption to provide for solid plugs as replacements for relief devices for specified multi-tank car tanks for certain compressed gases.

Exemption DOT-E 11335 reissued an exemption, originally issued on an emergency basis, allowing nondestructive testing techniques in lieu of hydrostatic testing to qualify repairs of DOT specification tank car tanks.

Exemption DOT-E 11565 authorized non-DOT specification cargo tanks of fiberglass construction for use in transporting Class 8 materials.

Exemptions DOT-E 11570, DOT-E 11793, DOT-E 11897, and DOT-E 11988 authorized the transportation of certain shock absorbers, struts, and shock absorber cartridges as accumulators and allowed shipment without labels, markings, or shipping papers.

Exemption DOT-E 11588 reissued an exemption originally issued on an emergency basis authorizing transportation of certain substances and stocks of infectious substances as medical wastes.

Exemption DOT-E 11675 authorized the emergency transportation of the specially modified Olympic Torch Relay Cauldron Car (Torch Car) containing a Division 2.1 material.

Exemption DOT-E 9743 authorized the shipment of uranium hexafluoride classed as radioactive material in cylinders not manufactured in accordance with ANSI N14.1-1982 standard.

Exemption DOT-E 10945 authorized non-DOT specification fully wrapped carbon-fiber reinforced aluminum lined cylinders for the transportation of various flammable and non-flammable gases.

Exemption DOT-E 11055 modified an exemption to provide for Class 3 and 8 and Division 4.2 and 5.1 as additional classes of HM permitted in certain combination packages with relief from labeling and segregation requirements.

Exemption DOT-E 11171 modified an exemption to provide for unlimited reuse of flexible bulk bags, increase testing to minimum 1,000 lots, and authorized reuse of intermediate bulk containers in transporting polystyrene beads, expandable, Class 9.

Exemption DOT-E 11711 authorized local transportation of pesticides, in solid and liquid form, to designated pesticide collection sites during a government-sponsored collection and disposal program. The exemption was issued to the North Carolina Department of Agriculture (NCDA), as program manager acting for and on behalf of any persons who had notified the NCDA that they planned to participate in the program during a scheduled event.

Exemptions DOT-E 11747, DOT-E 11749, and DOT-E 11824 authorized the use of acoustic emission non-destructive testing in place of five regulatory non-destructive methods for the purpose of performing structural integrity inspections and tests of tank cars.

Exemption DOT-E 11836 authorized the transportation of UN1H1 and UN6HA1 drums containing ammonia solutions that do not meet certain requirements which are offset by specified operational controls.

Exemptions DOT-E 11874 and DOT-E 11875 authorized the emergency transportation of HM in order to facilitate expedited removal of HM from flood-affected areas or based on a determination that it is necessary to sustain life and property.

Exemption DOT-E 11888 authorized the transportation of a Division 1.1A explosive in a solution of ethanol and water, which is not authorized by regulations, contained in a specially designed packaging configuration.

Exemption DOT-E 11745 authorized the classification of steam generators removed from nuclear power plants as surface-contaminated objects and defined the transport system safety requirements needed to transport these items.

Exemptions DOT-E 11931, DOT-E 11937, DOT-E 11949, ***DOT-E 11955***, ***DOT-E 11956*** authorized the transportation of Protective Breathing Equipment (PBE), containing chemical oxygen generators, which utilize special integral packaging as a secondary means of preventing actuation.

Exemption DOT-E 11932 authorized the transportation in commerce of oxygen generators in non-DOT specification bulk packaging when installed in deployment modules and personal service units.

RSPA periodically converts provisions contained in certain exemptions to regulations of general applicability after their safety has been verified through experience. This is accomplished through the rulemaking process. These conversions authorize the entire regulated industry to use containers or practices previously authorized as exemptions.

Modal Review

In 1996, FAA evaluated 30 routine and 6 emergency exemption requests that affected the transportation of HM by air. In 1997, FAA evaluated 33 routine and 6 emergency exemption requests. These exemptions were requested by both air shippers and carriers and concerned several classes of HM.

Appendix B contains a brief summary of each exemption issued, renewed, or amended in 1996 and 1997, and the reason for granting or maintaining the exemption.

Routine Exemptions Processed

1996 Applications

Mode	*New*	*Renewal*	*PTE**	*Mods***	*Total*	*Granted*
Motor Vehicle	**62**	**456**	**347**	**23**	**888**	**784**
Rail Freight	**23**	**74**	**37**	**7**	**141**	**123**
Cargo Vessel	**6**	**31**	**10**	**0**	**47**	**42**
Cargo Aircraft	**6**	**26**	**18**	**2**	**52**	**48**
Passenger Aircraft	**1**	**4**	**0**	**0**	**5**	**4**
Intermodal	**44**	**847**	**371**	**52**	**1314**	**1210**
Totals	**142**	**1438**	**783**	**84**	**2447**	**2211**

1997 Applications

Mode	*New*	*Renewal*	*PTE**	*Mods***	*Total*	*Granted*
Motor Vehicle	**40**	**309**	**221**	**28**	**598**	**512**
Rail Freight	**18**	**82**	**69**	**4**	**173**	**136**
Cargo Vessel	**5**	**14**	**30**	**3**	**25**	**20**
Cargo Aircraft	**2**	**37**	**98**	**2**	**50**	**39**
Passenger Aircraft	**1**	**0**	**1**	**0**	**2**	**0**
Intermodal	**45**	**842**	**285**	**51**	**1223**	**1070**
Totals	**111**	**1284**	**588**	**88**	**2071**	**1777**

***** The figures reflect applications for status as "party-to-an-exemption" (PTE). Party means a person, other than a holder, authorized to act under the terms of an exemption.

** The figures reflect applications for modifications to an exemption.

Emergency Exemptions-1996

Mode	*Applications*	*Granted*
Motor Vehicle	62	61
Rail Freight	22	22
Cargo Vessel	2	2
Cargo Aircraft	4	4
Passenger Aircraft	0	0
Intermodal	30	30
Totals	**120**	**119**

Emergency Exemptions-1997

Mode	*Applications*	*Granted*
Motor Vehicle	34	32
Rail Freight	8	8
Cargo Vessel	3	3
Cargo Aircraft	4	4
Passenger Aircraft	0	0
Intermodal	20	20
Totals	**69**	**67**

Approvals

RSPA performs discretionary review of classification, packaging, and handling of certain HM and of the manufacturing, inspection, retesting, and requalification of specification containers. An approval is an authorization that permits a person to ship certain materials or to perform inspections or testing activities if that person has met the standards in the regulations. By issuing an approval, RSPA ensures that a proper level of safety will be maintained. Requests are denied when an approval is not justified or adequate information is not provided.

RSPA issues approvals for items such as new explosives and cigarette lighters and their packaging. Approvals are also issued to foreign cylinder manufacturers, third party certification packaging agencies, and independent domestic and foreign inspection agencies. The terms and conditions of these authorizations are too detailed to be included in the regulations due to the variety of packaging and handling practices used by the industry. For example, the regulations require that new explosives be examined and approved before being transported. The class of the explosive, which is based upon the criteria stated in the definition of explosives in the HMR, dictates how the item should be shipped.

Approvals are also issued for UN Third-Party Certification Agencies for the purpose of certifying conformance of packaging designs with current regulations. There are currently 46 approved agencies. Each agency must complete a written application and demonstrate the capabilities of its personnel and equipment during an on-site inspection.

To ensure that safety standards are maintained regardless of product origin, RSPA conducts inspections at cylinder manufacturers, independent inspection agencies (IIAs), and cylinder requalification (retester) facilities in foreign countries. This program gives foreign manufacturers access to the U.S. market while maintaining the same safety standards required of U.S. manufacturers.

In 1996, inspections were completed at foreign cylinder manufacturers and independent inspection agencies in: Sydney, Australia; Aldridge, UK; Guadalajara, Mexico, and Singapore. In 1997, inspections were completed at foreign cylinder manufacturers and independent inspection agencies in: Shanghai and Beijing, China; Guimaraes, Portugal; Torrejon and Mexico City, Mexico, and Selangor, Malaysia.

In 1996, cylinder retest facilities were inspected and registered in: Jeddah, Saudi Arabia; Marseille, France; St. Niklaas, Belgium; Great Yarmouth, UK , and Yokohama, Japan. In 1997, cylinder retest facilities were inspected and registered in: Taipei, Taiwan; Iwatsuki, Japan; Cadiz, Spain; Safat, Kuwait; Dubai, United Arab Emirates, and Great Yarmouth and Colnbrook, UK.

FRA 174.50 One-Time Movement Approvals

On June 5, 1996, RSPA revised 49 CFR 174.50 by consolidating the requirements of 49 CFR 174.47, 174.48, and 174.50 and by removing obsolete provisions. The revised section stipulates that railroads may not forward damaged packages, leaking tank cars (except for necessary short moves),

or any tank car found in non-compliance with the HMR, except under the terms of an approval issued by the FRA's Associate Administrator for Safety. Packages other than tank cars must be repaired, reconditioned, or overpacked prior to subsequent movement. During 1996 and 1997, FRA issued over

200 one-time movement approvals under this regulation. It allows, for example, the movement of a tank car with an emergency valve repair or capping kit under approved conditions. Individuals seeking FRA approval to move a tank car containing a hazardous material, that is no longer in conformance with the HMR, must provide to the FRA the following information:

< Name, address, telephone number of the applicant;

< Railroads(s) that the movement will be made on, including total mileage of the movement;

< Tank car specification, reporting mark and number;

< Proper shipping name, technical name, hazard classification, identification number, and packing group of the hazardous material in the tank car;

< Regulation from which the approval is sought;

< Planned duration or schedule of events for which the approval is sought;

< Statement, with supporting documentation if necessary, that the movement approval will provide a level of safety that
- is at least equal to that specified in the regulation from which the approval is sought; or
- will adequately protect against the risks to life, property, and the environment, which are inherent in the transportation of HM in commerce.

Registrations

RSPA issues registrations to packaging manufacturers and requalifiers as a means of identification. The registration program provides an inventory of persons performing critical safety functions under the regulations. Among those entities registered are packaging manufacturers, cargo tank manufacturers and inspectors, drum reconditioners, and cylinder retest facilities.

APPROVAL ACTIVITIES

*Number of Applications**				
Type	**Received**		**Granted****	
	1996	**1997**	**1996**	**1997**
Explosives Classification	2188	1985	1849	1830
Cylinder Retesters	514	515	440	385
Cigarette Lighter/Packaging	81	64	78	61
Repair/Rebuilders	0	1	0	3
Foreign Cylinder Manufacturers	14	14	8	5
Independent Inspection Agencies	13	8	8	5
Special Approvals	169	216	146	167
UN Third-Party Certification Agencies	3	2	3	0
Totals	**2982**	**2805**	**2532**	**2456**

REGISTRATION ACTIVITIES

*Number of Applications**				
Type	**Received**		****Granted**	
	1996	**1997**	**1996**	**1997**
Drum Reconditioners	**2**	**0**	**0**	**0**
Symbol Registration	**117**	**94**	**113**	**98**
Cargo Tanks	**756**	**890**	**875**	**1128**
Totals	**875**	**984**	**988**	**1226**

* Applications that are terminated by the applicant or returned for further clarification are not included. The figures reflect those applications completed, pending minor technical corrections, or awaiting processing due to a workload backlog.

** Figures may include applications which were received in previous years, but processed in the year indicated.

TOTAL CYLINDER REQUALIFICATION FACILITIES REGISTERED AS OF 1997

DOMESTIC

Alabama	51	New Hampshire	16
Alaska	16	New Jersey	94
Arizona	26	New Mexico	25
Arkansas	26	New York	143
California	225	North Carolina	78
Colorado	48	North Dakota	14
Connecticut	43	Ohio	151
Delaware.	8	Oklahoma	32
Florida	226	Oregon	32
Georgia	63	Pennsylvania	159
Hawaii	20	Rhode Island	19
Idaho	13	South Carolina	32
Illinois	95	South Dakota	9
Indiana	62	Tennessee	49
Iowa	29	Texas	219
Kansas	25	Utah	18
Kentucky	41	Vermont	10
Louisiana	78	Virginia	72
Maine	19	Washington	51
Maryland	42	West Virginia	20
Massachusetts	75	Wisconsin	47
Michigan	82	Wyoming	9
Minnesota	37		
Mississippi	16	Guam	3
Missouri	44	Puerto Rico	19
Montana	18	Virgin Islands	4
Nebraska	16		
Nevada	15	**Total**	**2,784**

FOREIGN

Argentina	3	Netherlands	3
Australia	2	New Zealand	2
Austria	2	Phillippines	2
Belgium	1	Portugal	1
Canada	9	Saudi Arabia	1
China	2	South Africa	1
Cuba	1	Scotland	1
Denmark	1	Singapore	8
England	9	South Korea	4
Finland	1	Spain	1
France	5	Taiwan	4
Germany	2	Trinidad	1
Greenland	1	Tunisia	1
Hong Kong	1	Turkey	1
Iceland	1	United Arab Emirates	3
Indonesia	1	United Kingdom	2
Ireland	2		
Israel	2	**Total**	**78**
Italy	1		
Japan	12	**Total for Domestic and Foreign**	**2,862**
Kuwait	1		
Mexico	1		

Competent Authority Approvals

In some instances, the regulations of international organizations provide governments with some discretion in the manner in which HM are transported. A competent authority approval is a document issued by the appropriate government authority which specifies how HM must be shipped internationally. For example, when the international regulations state "as provided by the competent authority," the Associate Administrator for HMS, as the appropriate competent authority for the U.S., specifies the conditions under which HM may be shipped.

The IMO, ICAO, and IAEA all require such approvals or certifications by the country in which the shipment originates. A further explanation of these organizations and their working groups is found in Chapter 7 of this report. These approvals and certifications usually address materials and packaging requirements. A summary of the activities relating to the issuance of such approvals for radioactive materials (RAM) is presented below. A breakdown of the international competent authority approvals and certificates issued in 1996 and 1997 is shown.

IAEA COMPETENT AUTHORITY ACTIVITIES 1996-1997

Type	**1996**		**1997**	
	Issued	*Registered Users*	*Issued*	*Registered Users*
Competent Authority Certificates	39	340	23	200
Endorsement of Foreign Certificates	42	118	47	132
Special Form Certificates	39	147	24	90
Special Arrangement Certificates	6	67	4	45
Requests for Registration	23	23	33	33
Totals	**149**	**695**	**131**	**500**

Chapter 5

Compliance and Enforcement

DOT conducts an extensive compliance and enforcement program to ensure that shipments of HM move safely among the various modes of transportation. Within DOT, RSPA is the coordinator of policy on HM transportation and, in addition to conducting its own enforcement program, cooperates with the enforcement programs directed by FAA, FHWA, FRA, and USCG. To increase effectiveness, DOT utilizes both headquarters and regional staffs in each administration for compliance and enforcement activities.

Federal Aviation Administration

Office of Civil Aviation Security

Dangerous Goods and Cargo Security Program

Each day, thousands of shipments of dangerous goods/hazardous materials are made by air, many of them placed on passenger aircraft. Furthermore, because of the wide range of cargo transported by many different cargo services, air cargo carried on passenger aircraft presents unique challenges in developing and enforcing cargo security procedures to ensure that air cargo facilities are applying proper security measures to prevent terrorism. It is the responsibility of the Dangerous Goods and Cargo Security (DG/CS) Program under the Associate Administrator for Civil Aviation Security to ensure that such shipments are made safely and in accordance with regulations.

Prompted by a growing number of HM incidents involving air transportation, including the loss of ValuJet Flight 592 on May 11, 1996, Congress authorized the FAA in September 1996 to hire an additional 118 inspectors and 12 attorneys to increase compliance and enforcement efforts. These specialized inspectors are trained dangerous goods and cargo security specialists who have exclusive responsibility for the enforcement of HM and cargo security regulations. In addition to DG/CS staff in the Washington, DC headquarters, these inspectors are located in nine domestic regional offices and one European regional office. Many of these new employees come from the private sector or from other government agencies, and they have strong backgrounds in dangerous goods or enforcement.

FAA inspects air carriers, aircraft repair stations, air freight forwarder facilities, and air shippers of dangerous goods. Pairing up dangerous goods and cargo security enforcement responsibilities optimizes the inspectors' time at air carrier cargo facilities and air freight forwarder facilities. In addition, inspections and other program activities are on the increase at foreign locations for air carriers and others involved in the air transportation of dangerous goods and cargo to the U.S.

A greater number of well-trained inspectors also enables the FAA to concentrate on undeclared or

"hidden" shipments of dangerous goods. Data systems have been developed to allow limited resources to focus on the hidden shipment problem by targeting shippers or carriers who are repeat offenders or who handle materials which present a higher degree of danger.

During 1996, HM compliance and enforcement activities included and resulted in the following actions:

2,664 air carrier inspections;

888 investigations involving improper and/or undeclared dangerous goods shipments;

490 incidents recorded pertaining to damaged packages, or accidental release of regulated materials;

125 Notices of Civil Penalties issued; and

$1.8 million collected in civil penalties.

During 1997, HM compliance and enforcement activities included and resulted in the following actions:

1,441 air carrier inspections;

1,231 investigations involving improper and/or undeclared dangerous goods shipments;

1,133 incidents recorded pertaining to damaged packages, or accidental release of regulated materials, and includes reports of discrepancies under 49 CFR 175.31;

244 Notices of Civil Penalties issued; and

$2.3 million collected in civil penalties.

In addition to routine air carrier inspections, focused dangerous goods and cargo security inspections were conducted in four major cities in 1997. The inspections, or HazStrikes, were located in Miami, New York, Los Angeles, and Chicago. These focused inspections were conducted by a work force of approximately 20 FAA DG/CS inspectors who targeted air carriers, repair stations, indirect air carriers and shippers. These inspections directed efforts at a specific area, providing greater outreach and awareness to members of industry. In addition, FAA conducted an "All Cargo Week" that consisted of a nationwide inspection of one major cargo carrier per night for five nights.

FAA has developed a more efficient and effective data collection system to record information on inspections. Information collected from this system is used to conduct trend analysis that serves as the basis to prioritize focused outreach activities.
Information entered into this database system identifies trends and potential problems. As more information is obtained from the database system and other databases, trend analysis will offer a

greater capability to pinpoint potential problems. Accordingly, FAA will develop information to be distributed to regulated parties to increase recognition of potential dangers associated with specific dangerous goods.

Enforcement Partnerships

As part of its focused inspections, FAA has conducted joint activities with RSPA, the U.S. Postal Service, the U.S. Customs Service, and the DOT Office of the Inspector General. The first HazStrike in Miami in mid-June involved a team of inspectors from FAA and RSPA who inspected 101 air carrier repair stations. Their aim was to find companies that handle dangerous goods and to ascertain whether they had a DG training program in place for their employees. Subsequent HazStrikes have included inspectors from Customs and the Postal Service, in addition to RSPA inspectors.

Federal Highway Administration

Office of Motor Carriers

The Office of Motor Carriers (OMC) field operations are responsible, among many other initiatives, for enforcement of the HMR and the Federal Motor Carrier Safety Regulations. There are 9 regional offices and 69 field offices throughout the country.

There are 9 HM program managers located in the regional offices. In addition to the full-time HM specialists, OMC has approximately 300 safety investigators. The HM program managers and specialists devote their time to HM enforcement and other HM activities as well as to the safety education of the motor carrier industry. This staff conducts compliance reviews and provides educational and technical assistance to carriers, shippers, cargo tank manufacturing operations, and other regulated entities.

Motor Carrier Safety Ratings

The Motor Carrier Safety Act of 1984 directed DOT to establish a procedure for determining the safety fitness of motor carriers operating in interstate or foreign commerce. The purpose of the safety fitness procedure is to determine a motor carrier's adherence to the 49 CFR Safety Fitness Standard and vehicle roadside hours-of-service rating. Based on the review, FHWA assigns the carrier a safety fitness rating of satisfactory, conditional, or unsatisfactory.

Beginning in October 1994, FHWA and State enforcement officials devoted increased attention in the review to acute and critical regulations shown to have the greatest impact on safety improvement. Acute regulations are those for which noncompliance is so severe as to require immediate corrective actions. Critical regulations are identified as those where noncompliance indicates a lack of management or operational controls.

This changed focus simplifies the process because only noncompliance with acute regulations or patterns of noncompliance with critical regulations are used for evaluating the regulatory factors. And, because driver error is a significant factor in the majority of accidents and fatigue is a major

component of driver error, greater emphasis is placed on compliance with the hours-of-service rules. It should be noted that a satisfactory rating is only a “passing” grade and that only full compliance with all the safety regulations will assure that carriers meet the safety fitness standards.

During 1996, there were 2,828 ratings assigned to interstate HM carriers. These reviews were conducted by FHWA and the states. Of these, 59 percent were rated satisfactory, 32 percent conditional, and 10 percent unsatisfactory. During 1997, there were 1,404 ratings assigned to interstate HM carriers. These reviews were conducted by FHWA and the states. Of these 61 percent were rated satisfactory, 31 percent conditional and 9 percent unsatisfactory.

Out-of-Service Orders

The Motor Carrier Acts of 1984 and 1990 provided FHWA with authority to terminate all or part of a motor carrier's operation if the carrier is found to present an "imminent hazard" to the public or considered "unfit" for certain operations. This authority is implemented through Operations Out-of-Service (OOS) Procedures.

Once a carrier has been issued an unsatisfactory safety rating, the carrier must receive a rating upgrade within 45 days in order to continue to transport passengers or placardable quantities of HM. OMC ***may*** provide temporary relief to the carrier based on evidence of improved compliance, if a new rating cannot be issued during the 45-day period. A compliance review is conducted to confirm improvement. In cases where improvement is insufficient, immediate enforcement action is initiated for documentable violations ***and*** for OOS Order violations, and the carrier must immediately cease the portion of its operation specified in the OOS Order.

During 1996 and 1997, FHWA issued 90 HM OOS Orders.

HM Highway Routing

The FHWA's Office of Highway Safety is responsible for highway routing of HM. HMTUSA provided standards and procedures for states, local governments, and Native American tribes to follow if they establish, maintain and enforce highway routing of placarded, nonradioactive HM.

In 1996, the HM Routing and Special Studies Branch revised the "Guidelines for Applying Criteria to Designated Routes for Transporting Hazardous Materials." In addition, a "Resource Field Manual" was developed which will assist regional and division office routing coordinators with their responsibilities.

Special FHWA Enforcement Efforts

For the past two years OMC and the Commercial Vehicle Safety Alliance (CVSA) coordinated "International Highway Transportation Safety Week," with participants from 50 States, the District of Columbia, the Canadian provinces and territories, Puerto Rico, American Samoa, Guam, and the Republic of Mexico. During 1997, 67,455 commercial motor vehicle inspections were conducted. Of these, 5.7 percent (3,851) involved vehicles transporting HM. The out-of-service rate for trucks was 20 percent; driver out-of-service rate was 5 percent.

General HM Technical Assistance Group

The concept of the Technical Assistance Groups (TAGs) has been used by OMC since 1988 to help manage motor carrier issues. The basic concept of a TAG is to develop a core of individuals that are considered experts in a particular subject matter. During 1997, a number of TAG's, i.e., RAM, Hazardous Waste/Substances, Cylinder, and Explosives, were merged to form the General HM TAG. This structure will better utilize limited resources and foster expertise in the field. The General HM TAG has met once and developed a national strategic plan and are in the process of implementation.

The HM TAG has developed a HM ETA Package/Booklet on the OMC Homepage on the Internet (http://www.fhwa.dot.gov/omc/omchome.html). The HM TAG will address issues that affect program implementation. The TAG also serves as the repository for technical resource materials and develops specialized operational text and manuals. Finally, it provides technology transfer to the OMC field staff, State enforcement personnel, and the regulated industry.

Cargo Tank Technical Assistance Group

The cargo tank TAG has formalized the tools and procedures which have been under development for several years. They have written a chapter for the Motor Carrier Training Manual on Cargo Tank Inspection, Test, Repair, and Manufacturer Facility Reviews which sets forth policies and procedures to be followed during these reviews and developed training for OMC and State inspectors on conducting cargo tank facility reviews (CTFR). This CTFR training also been presented to industry representatives in workshops throughout the country. The TAG has also worked with the Field Systems Group to develop specialized laptop computer software to be used while conducting these facility reviews. This software will be part of the next release of OMC's CAPRI software program.

The TAG has developed a list of acute and critical cargo tank violations--the list has been incorporated with the latest release of the OMC laptop Compliance Review Software. These changes and modifications have also been included in the OMC Training Manual.

The cargo tank TAG has taken the lead in drafting a NPRM addressing cargo tank issues. The purpose of the Rulemaking is to improve the clarity of the cargo tank requirements and address issues affecting uniformity and safety. The Rulemaking, to be published under docket HM-213,

also addresses several NTSB safety recommendations. The TAG is also working on an ANPRM

which would address larger issues involving revisions to the cargo tank specifications.

A FHWA National Cargo Tank Strike Force took place during International Highway Transportation Safety Weeks, June 3-7, 1996, and June 2-7, 1997. During these events each year, more than 65 States, territories, Canadian Provincial agencies, Transport Canada, and Mexico participated, as well as motor carriers and bus operators, in activities such as conducting truck and bus roadside safety inspections and coordinating safe driving educational events at rest areas and malls as well as providing safety articles, interviews, and public service announcements to the media.

Cargo Tank Program

In July 1996, OMC hosted a second Cargo Tank Round Table meeting in Tysons Corner, VA. The Round Table meeting was convened to bring together all parties involved in cargo tank transportation and continue the work begun during the first Round Table meeting, July 17-18, 1995. The meeting included presentations by OMC and other participants regarding the safety record of the cargo tank industry as well as ideas to further improve cargo tank safety. During smaller breakout sessions, the Round Table participants identified the safety issues with the greatest impact on the cargo tank industry and agreed to work together on action items to address those issues.

In June 1996, FHWA completed the "Guidelines for Structural Evaluation of Cargo Tanks" which is being used by FHWA engineers to evaluate the designs and construction of DOT specification cargo tanks. OMC uses the publication during manufacturer reviews in evaluating the adequacy of cargo tank designs. Using these "Guidelines," OMC has, for the first time, determined that a manufacturer was certifying cargo tanks as meeting the DOT specifications when the rollover or rear-end accident damage protection was inadequate to withstand the required loads. OMC has taken steps to require that these tanks are corrected or removed from HM service by using Consent Orders or *Federal Register* Notices.

The OMC is continuing its research and technology endeavors. Work is almost complete on developing analytical methods to determine the stresses in non-circular cargo tanks and stresses in continuous rollover protection rails. Upon completion, these methods will be included in the "Guidelines for Structural Evaluation of Cargo Tanks." OMC also has under development a computer program which will use finite element analysis to evaluate the adequacy of cargo tank designs. In addition, FHWA is doing research into the forces that act upon rollover protection devices during rollover accidents. This research is being done in response to an NTSB recommendation, and the results of the research will be used to evaluate the adequacy of the current rollover protection requirements.

On May 20 and 21, 1997, OMC conducted its first National Cargo Tank Performance Check. During the two-day project, 2,145 cargo tanks were inspected by 465 State and Federal inspectors. The project which discovered leaking cargo tanks, unauthorized cargo tanks, and

problems with cargo tank inspection/testing facilities, had special focus on MC 330 and MC 331 cargo tanks operating under an Emergency Interim Final Rule due to a discovered safety defect. Of

the total, over 600 MC 330 and MC 331 cargo tanks were inspected during the project.

Shipper Program

As part of a national HM shipper program, OMC will pursue the development of a prioritization scheme (similar to the Selective Compliance and Enforcement Program for non-HM carriers) for HM shippers. This will provide OMC with a means to review the most "***at risk***" HM shippers with the limited resources available.

Federal Railroad Administration

Within FRA, the Office of Safety is responsible for establishing a safe rail environment. The Hazardous Materials Division of the Office of Safety Assurance and Compliance, in consultation with the Office of Safety Analysis and FRA Chief Counsel, establishes enforcement policy and strategy. The Office of Safety has eight regions that carry out these policies.

Each region is staffed with hazardous material safety inspectors who focus inspection activities on shipping facilities, rail carriers, and bulk package manufacturing, repair and alteration facilities. The Office of Safety has 45 inspectors, 14 of whom are full-time HM specialists. In addition to these inspectors, personnel from the Track, Signal, Operating Practices and Motive Power and Equipment disciplines assist in ensuring a safe environment for HM transportation.

Tank Car Committee

FRA continues to be an active member of the AAR Tank Car Committee. Participating with this important industry group, FRA is able to get the tank car industry to adopt standards, such as a quality assurance program. The Committee meets four times a year to discuss various tank car-related issues. The Tank Car Committee reviews and approves drawings and applications for alterations, conversions, manufacture and repair of tank cars and approves valves and fittings. In addition, the Committee establishes minimum welder qualifications and determines personnel and equipment standards for shop certification. These procedures are reviewed by FRA to ensure that DOT objectives are met.

FRA is active on several chemical, rail industry, and AAR Tank Car Committee Task Groups, Working Groups, and User Groups, including the following:

The Safety Relief Device Task Group- This group came together in response to a need identified by FRA and Transport Canada to validate current safety relief device sizing methods.

The NDT Task Group- This group evaluates the use of new NDT technologies to improve tank car safety. Presently, FRA is working closely with this group on a performance standard for NDT methods.

The Stub Sill Working Group- This group evaluates the use of fracture mechanics to understand fatigue in tank car stub sills.

The Stub Sill Inspection Planning Task Force- This subset of the Stub Sill Working Group is addressing challenges to the implementation of a damage tolerance analysis based inspection program for tank car stub sills.

The Tank Car Operating Environment Task Group- This group's objective is to better understand the effects of the rail environment on tank cars. Within this Task Group, FRA is working with the AAR and CMA to quantify risks due to the limited monitoring of the tank car operating environment.

The Maintenance Program Development Task Group- This is a group of major tank car manufacturers developing guidelines for maintenance and quality assurance plans.

The NDE Drawing Task Group- This RPI group came together to prepare documentation of structurally significant welds that require inspection under HM-201 rather than under other tank car inspection programs--such as the Emergency Order 17 Stub Sill Inspection Program or the AAR Rule 88 inspections.

The AAR Acoustic Emission User Group- This group works on updates for Appendix Z, the AAR Procedure for Acoustic Emission Testing.

Non Accident Release Working Group- This group consists of members of FRA, AAR and CMA to reduce the number of HM releases during transportation.

Intermodal Portable Tanks Standards

FRA has worked with the AAR to establish operating standards for the transportation of IMO Type 5 and 7 containers loaded with compressed gases. Presently this transportation is not permitted under the HMR without formal pre-approval. Established standards will enhance safety of compressed gases transportation by allowing the use of the rail mode.

Electronic Data Interchange

FRA, through the Hazardous Materials Division, participates as an active partner with railroads, shippers, and steamship lines, on the American National Standards Institute X12/TG5 committee. This committee develops standards for transmission of information via electronic data interchange. The committee has also been instrumental in significantly reducing the number of problems concerning hazard communications information. By its participation on the

committee, FRA has fostered mutual solutions that improve information accuracy for railroad

personnel and emergency responders and railroads' position in a highly competitive market. The role of FRA on the committee has been instrumental in prompting the Environmental Protection Agency (EPA) to use the rail mode of transportation for a pilot project for hazardous waste manifests. This selection was due to the partnership between the FRA and the regulated community and the advanced state of rail information transfer technology.

Emergency Order 17

Beginning in 1990, FRA learned of 10 noncontinuous center sill tank cars ("stub sill tank cars") that had experienced complete failure in the draft sill areas. The failures did not cause any injuries or deaths and no HM were released. In response to these incidents, FRA initiated four separate inspection programs relating to tank cars equipped with stub sill assemblies. These programs were developed to determine if tank car stub sill assemblies are prone to weld and parent metal cracking and pose a risk in transportation. These inspections indicated that a potential problem existed among the entire fleet and inspections of the entire stub sill tank car fleet were necessary.

FRA issued Emergency Order 17 requiring owners of stub sill tank cars to perform inspections of the stub sills. Over 85,000 stub sill tank cars have been inspected. Notice No. 3 of Emergency Order 17 was published in the *Federal Register* on March 27, 1995 to require that tank car owners provide tank car repair facilities and the FRA with the owner's inspection procedures to identify structurally significant components and welds, access means, inspection techniques, and identification and measurement of cracks located. FRA now monitors these inspection procedures in addition to yearly reporting requirements.

FRA continues to monitor inspection procedures in addition to yearly reporting requirements of Emergency Order 17. FRA has been active in 1996 and 1997 with the AAR Stub Sill Working Group and the government and industry Stub Sill Inspection Planning Task Force which is focused upon the use of Damage Tolerance Analysis-based fatigue assessments to plan inspection locations and intervals for tank car stub sills.

Research and Special Programs Administration

Office of Hazardous Materials Enforcement

The primary focus of the RSPA inspector is compliance with packaging specifications, testing requirements, and exemption and approval authorities. RSPA inspectors examine HM shipments for proper packaging, classification, marking, labeling, and necessary documentation. Inspections are conducted at packaging manufacturing facilities; facilities involved in retesting, reconditioning, rebuilding, and repairing packages; shipper facilities; and transportation interchange points such as ports. In addition, RSPA purchases packaging and hazardous materials on the open market and arranges testing to determine compliance with the regulations.

RSPA utilizes the HMIS to track enforcement activities and to identify potential compliance problems. HMIS data on incidents, exemptions, approvals, and inspection history are used to identify trends and to assist in developing the direction of the enforcement program. RSPA

inspections are scheduled based on the following priorities: complaints received, manufacturers of specific types of packagings, companies that offer certain high-risk HM, follow-up inspections of companies involved in past enforcement actions, and companies identified through the incident reporting system as having a large number of HM incidents.

Intermodal Activities - Emphasis on Air Transportation

RSPA continued its policy of coordination and cooperation with the modal administrations and other Federal enforcement agencies. In 1996 and 1997, RSPA participated in numerous joint compliance inspections and investigations with FAA, FHWA, FRA, USCG, and the DOT Office of Inspector General, as well as the FBI and U.S. Customs Service. Of particular note was RSPA's participation with the FAA in May-June 1996 inspections of five maintenance and repair facilities used by ValuJet Airlines. On May 11, 1996, a ValuJet DC-9 crashed in the Florida Everglades, killing all 110 persons on board. HM tendered to the airline by a maintenance facility was later determined to be a direct cause of the accident. During 1997, RSPA and FAA participated in four week-long joint inspections at Miami International Airport, JFK International Airport, Los Angeles International Airport, and Chicago-O'Hare International Airport.

Following the ValuJet crash, Congress authorized RSPA to hire 15 new inspectors and 2 attorneys to place inspection emphasis on persons offering HM for transportation by air. In 1996 and 1997, RSPA conducted 288 air-related inspections.

Also in 1997, RSPA opened a fifth regional office in Atlanta, Georgia.

Ticketing Program

In May 1996, RSPA instituted a two-year pilot ticketing program to streamline and simplify enforcement of certain violations which do not have a direct impact on safe HM transportation. Those violations include failure to register, failure to renew exemption authority in a timely manner, failure to retain training records, failure to file a HM incident report, manufacture of DOT specification packaging after October 1, 1994 (if the packaging complied with the old specification), and use of DOT specification packaging after October 1, 1996 (if the packaging complied with the old specification). Through the end of 1997, RSPA had issued 255 tickets and closed 207 of them in an average of 43 days. The average penalty per ticket was $1,200.

Package and Materials Testing

RSPA revived its package testing program in 1996. After negotiating an interagency agreement with the U.S. Army Materiel Command Logistics Support Activity, Packaging, Storage, and Containerization Center at Tobyhanna, Pennsylvania, RSPA began in earnest to purchase packaging for analysis and testing. Rather than purchase random packages, RSPA decided at the

outset to focus on packages designed and marked for HM in Packing Group I, with high specific gravities, and high internal pressures. Before any testing is performed, design qualification test reports are obtained for all packages to be tested, as are manufacturer's closing instructions. RSPA notifies the manufacturer of any package which fails. RSPA is initiating enforcement

actions based on test failures. The package testing program has generated much interest from the new and reconditioned drum industry and RSPA has met with representatives and has presented information at an industry meeting on the testing program.

In addition to package testing, RSPA has initiated a materials testing program in its regional offices. RSPA purchases small packaged samples of HM and sends them to a laboratory facility generally located near a RSPA regional enforcement office. The purpose of this program is to respond to complaints about misclassification and to verify the classification of selected HM.

Special Inspection and Enforcement Activities

In 1996-1997, RSPA conducted the following significant investigations:

RSPA worked with the DOT Office of the Inspector General investigating allegations of willful violation of the HMR with regard to the requalification, retesting, and sale of compressed gas cylinders in California, Louisiana, New Mexico, and Tennessee. Criminal prosecutions were developed in California, New Mexico and Tennessee.

RSPA worked with the State Fire Marshall of Florida in investigating a cylinder retester who was stamping cylinders as retested without having done so, and helped the State prepare a criminal case against the retester.

RSPA obtained information and evidence from the California State Fire Marshall about an explosion at a fireworks manufacturer which resulted in a fatality. The Fire Marshall asked RSPA to investigate. The explosives apparently involved had not been approved by RSPA. RSPA conducted inspections in California and Florida in attempting to identify all of the responsible parties.

The Department of Justice and the DOT IG referred a matter to RSPA involving possible violations of the HMR concerning the offering and transportation of aerosol cans containing flammable compressed gas. RSPA arranged for testing of cans, which revealed that they were filled at pressures greatly exceeding that allowed by the regulations.

RSPA has investigated a number of cylinder failures over the years, and it conducted four such investigations in 1996-1997, three involving self-contained breathing apparatus (SCBA) cylinders in New Jersey and Michigan , and one involving a medical oxygen cylinder in Georgia. RSPA had testing conducted on two of the SCBA cylinders and the medical oxygen cylinder, and testing is being conducted on the other SCBA cylinder. Preliminary results indicate sustained load cracking in the two SCBA cylinders and damage to the sidewall of the medical oxygen cylinder.

Based on a referral from the FAA in Houston, RSPA investigated the importation by air of unapproved explosives from the Peoples Republic of China into the U.S. Enforcement actions were initiated against two companies.

U.S. Coast Guard

Office of Compliance

The USCG operates a comprehensive maritime HM transportation compliance program as part of broader strategic efforts to manage maritime safety, protect the maritime environment, encourage mobility, and provide maritime security. Vessel carrier inspection and examination of both U.S. and foreign flag cargo vessels, waterfront facility examination at the port interface, and cargo inspection are the USCG's primary tools for ensuring compliance with applicable standards by over 52,000 HM shippers and 400 vessel carrier companies.

Vessel Carrier Inspections

The U.S. economy is primarily dependent on waterborne transportation for trade. Ships and barges calling at over 350 U.S. coastal and river ports move over 95% of the Nation's imports/exports, as well as a substantial share of domestic freight – altogether over 2 billion tons of commodities per year. Oil and chemicals make up almost half of that tonnage, meeting much of the country's basic needs for energy and raw materials.

U.S. Flag vessel inspections. The USCG routinely inspects the material condition of over 1,100 U.S. flag commercial ships and barges capable of transporting HM cargoes. Vessel material and operating standards include 46 CFR Parts 30-40 for tank vessels, 46 CFR Parts 90-106 for freight ships, and 46 CFR Parts 150-155 for maritime carriage of certain bulk dangerous cargoes. Beginning in December 1997, upon completion of a pilot program ending in July 1997, the Alternate Compliance Program was initiated to reduce redundant inspection efforts by USCG and authorized classification societies without jeopardizing safety.

Foreign Flag vessel examinations. In May 1994, the USCG implemented the Port State Control Program (PSC) for examining an average of 7,714 oceangoing foreign flag vessels operating within U.S. waters each year. Inspectors examine these vessels for compliance with the International Convention for the Safety of Life at Sea 74/78, the International Convention for the Prevention of Pollution from Ships 73/78, and other international standards. The PSC program remains a major initiative for the elimination of substandard foreign shipping from U.S. waters.

Facility Inspections at the Port Interface

The port interface, the junction between the maritime and surface (rail and highway) modes of transportation, is a key element in providing an efficient and flexible response to changing marketing and distribution requirements of international maritime HM commerce. There are

about 5,000 coastal and riverine waterfront facilities for which routine safety inspections occur, based upon an assessment of local port risk. Federal standards for port facilities are categorized by the types of cargo that are handled: 33 CFR Part 126 for dry and liquid bulk cargoes, 33 CFR Part 127 for bulk liquefied gases, and 33 CFR Part 154 for bulk liquids.

Maritime HM Cargo Inspections

Cargo inspection precludes the chain of events caused by improperly prepared or stowed cargoes aboard ships, which may lead to reportable maritime transportation incidents at U.S. ports, aboard foreign freight vessels and deck barges operating in U.S. waters, or U.S. vessels operating anywhere in the world. Cargo examiners ensure compliance with 49 CFR Parts 171-173 and 176 HM transportation requirements or applicable recommendations contained in the IMDG Code.

Bulk and break-bulk cargo examination. Maritime transportation compliance examinations of HM bulk and break-bulk packaged cargoes are routinely included as part of vessel and facility inspections.

Intermodal container inspections. Approximately 2.3 million Twenty-Foot Equivalent Units of containerized HM are handled at the port interface each year. Examinations of both intermodal HM maritime cargoes and the structural adequacy of containers in international trade under 49 CFR Parts 450 - 453 standards occur through the national Container Inspection Program (CIP). By the end of 1997, the CIP had become a discretionary field compliance activity whose operational tempo is based upon local risk assessments.

Hazardous Materials Inspectors

Administration	*Full-Time Inspectors*		*Part-Time Inspectors*	
	1996	**1997**	**1996**	**1997**
FAA	14	127	10	0
FHWA	24	24	301	301
FRA*	58	64	0	0
RSPA	20	35	0	0
USCG**	146	95	933	984
TOTALS	**262**	**345**	**1244**	**1285**

* Includes 43 Federal Inspectors and 15 State Inspectors for CY 1996 and 47 Federal Inspectors and 17 State Inspectors for CY 1997.

** In CY 1996 full-time figures include 51 CIP and 95 Port State Control Inspectors assigned at marine safety units. Part-time figures include 449 vessel inspectors and 484 port safety Inspectors. During CY 1997, the 51 CIP Inspectors became part-time resources when marine safety strategic planning documents defined container inspections as a discretionary activity whose tempo was to be based upon local risk assessments.

Calendar Year Hazardous Materials Enforcement Actions

Enforcement Actions (CY)	FAA		FHWA		FRA		RSPA		USCG**	
	1996	1997	1996	1997	1996	1997	1996	1997	1996	1997
Civil Penalty Actions Initiated	125	244	284	202	531	341	239	192	836	499
Civil Penalty Actions Completed	136	225	244	140	433	387	189	201	593	317
Ticket Actions Initiated	-	-	-	-	-	-	84	169	-	-
Ticket Actions Completed	-	-	-	-	-	-	62	145	-	-
Letters of Warning Issued	245	361	*53	*37	-	-	166	249	#16	#36
Ticket Penalties Collected ($)	-	-	-	-	-	-	70,725	177,175	-	-
Average Ticket Penalty ($)	-	-	-	-	-	-	1,141	1,222	-	-
Total Civil Penalties Collected ($)	1,803,570	2,308,278	804,611	444,317	1,923,245	1,514,394	903,418	1,167,154	1,932,225	1,618,925
Average Civil Penalty ($)	13,261	10,259	3,297	3,174	4,442	3,913	4,780	5,807	3,258	5,107
Total Penalties Collected ($)	1,803,570	2,308,278	804,611	444,317	1,923,245	1,514,394	974,143	1,344,329	1,932,225	1,618,925

* Number of FHWA 45-day OOS orders issued.
** USCG data summarizes HM transportation by water of break-bulk, packaged, or containerized cargoes.
# Number issued by hearing officers for probable HM transportation minor violations.

Hazardous Materials Inspections and Investigations

Inspections & Investigations	FAA		FHWA		FRA		RSPA		USCG	
	1996	1997	1996	1997	1996	1997	1996	1997	1996	1997
General Carriers	2,664	1,441	2,801	1,404	5,234	5,290	-	-	3,254	3,372
General Shippers	*	*	173	111	3,724	3,143	583	631	9,575	8,290
Bulk Packaging (IM Tanks, Railcar, Trailer/Containers)	-	-	139,150	146,111	86,788	86,137	-	-	0	0
Waterfront Facilities	-	-	-	-	766	1521	-	-	6,603	6,070
Shipment Observations/ Documents	0	0	-	-	8,615	8,274	136	181	787	640
Container Manufacturers	-	-	9	7	220	162	95	171	-	-
Repair/Retest/ Recondition Facility	0	0	118	96	60	35	258	149	-	-
Accidents & Incidents	490	**1,133	-	-	-	-	-	-	614	468
Other	#222	#419	-	-	1852	1956	146	224	-	-

* Inspection conducted but data not tracked.
** 1997 total includes reports of discrepancies under 49 CFR 175.31.
# 1996: Indirect Air Carriers = 222 + FAA Repair Stations = 0.
1997: Indirect Air Carriers = 127 + FAA Repair Stations = 292.

Chapter 6

Partnerships and Outreach

Federal Coordination Activities

National Response Team

The National Response Team (NRT) consists of 16 Federal agencies with interests and expertise in various aspects of emergency response to incidents. The NRT is primarily a national planning, policy and coordinating body and does not respond directly to incidents. EPA serves as chair and USCG serves as vice-chair. RSPA's Associate Administrator for HMS serves as the NRT representative for DOT.

NRT Prevention Committee

The primary objectives of the NRT Prevention Committee are to provide a forum for basic HM information exchange, prevent duplication of effort and decrease costs in Federal agencies. The general objectives of the committee are as follows:

Provide and facilitate communication and information exchange among the NRT member agencies regarding prevention activities,

Maintain awareness of interagency Federal HM and oil spill prevention activities, and

Promote coordination of prevention activities among Federal agencies.

Nuclear Regulatory Commission

The Secretary of Transportation and the NRC work together to ensure the safe movement of RAM within the U.S. and to destinations outside the U.S. RSPA and the NRC transportation staff conduct monthly meetings to coordinate regulatory activities involving the safe transport of both fissile and non-fissile RAM. To ensure that decisions arising from these meetings reflect the needs of the nuclear industry, DOE, nuclear trade associations and representatives from the nuclear industry are invited to attend these monthly coordination meetings. Some of the important issues discussed during the meetings held in 1996 and 1997 included:

Review of the 1996 draft of the international regulations governing the safe transport of RAM;

The safe transport of uranium hexafluoride;

Classification and shipment of low specific activity material and surface contaminated objects;

Radiation protection program standards for transportation; and

Implementation, compliance and enforcement of the domestic transportation regulations.

National Transportation Safety Board

RSPA, FHWA, FRA, FAA, and the USCG continue to work closely with the NTSB in matters relating to the safe transportation of HM. NTSB investigates transportation accidents, conducts special studies and makes recommendations to Government agencies, the transportation industry and others on safety measures and practices. In response to a variety of NTSB safety recommendations, a number of research projects, test programs, rulemaking actions, and other activities are in various stages of development. These recommendations address the following: remote cut-off valves for cargo tanks, evacuation distances for munitions accidents, and rollover protection for cargo tanks involved in HM accidents. Other recommendations address the transportation of HM in passenger and cargo carrying aircraft, a wide range of safety issues concerning cylinders, safety improvements for new and future rail tank cars, and regulations regarding periodic testing and inspection of rail tank cars.

State Coordination Activities

HM Specialist Intern Program

RSPA encourages state and local government agencies to take an active role in HM transportation safety. Since 1989, 25 law enforcement officers have participated in RSPA's HM Specialist Intern Program, authorized under the Intergovernmental Personnel Act. The purpose of this program is to achieve uniformity among local, state, and Federal HM regulations; enforcement methodologies, and penalty actions.

This internship program allows a state or local government HM program manager to attend a six-week residency program at DOT Headquarters. While at DOT headquarters, the intern participates in enforcement and training activities with RSPA, FAA, FRA, FHWA and USCG. RSPA's goal is for the interns to use the knowledge gained to establish and administer HM transportation safety programs within their state or local jurisdictions. The intern gains valuable insight into program development while actively participating with departmental staff, as well as visiting the National Response Center, Federal Emergency Management Agency (FEMA), and EPA, and other agencies.

Cooperative Hazardous Materials Enforcement Development Program (COHMED)

Federal efforts are complemented by state enforcement programs. To support state efforts, RSPA sponsors an outreach program, COHMED , for persons involved in HM transportation, enforcement, or emergency management. In 1996-1997, COHMED continued its vital role in facilitating coordination, cooperation, and communication among Federal and state agencies, local government, and the tribal community. The COHMED program promotes the uniform enforcement of regulations. Non-uniform regulations undercut safety and create an unnecessary and inequitable burden on industry, both carriers and shippers, and may result in preemption of state laws as being inconsistent with the Federal requirements. COHMED encourages states to adopt the HMR as state law and to regularly update state law as the HMR change.

RSPA, sponsor of the COHMED program, encourages private sector involvement and works closely with industry and associations to assist them in emergency response and emergency preparedness programs. In addition, COHMED participants play an integral role in the

development of a uniform national HM program by providing feedback on proposed amendments to the regulations and by suggesting problem areas for further study. A major facet of each COHMED conference is a free training component available to all attendees.

In 1996, semiannual conferences were held in Raleigh, North Carolina and Nashua, New Hampshire; in 1997 conferences were held in Seattle, Washington and Detroit, Michigan. More than 150 state and local government and industry representatives attended each of these conferences. The conference agendas focused on training and educational programs, regulatory updates, and information exchange through numerous general, break-out, and working sessions.

FRA State Participation

The FRA/State Rail Safety Program currently has 17 State HM inspectors from 12 states. State participants are provided the same comprehensive training as that provided to FRA inspectors. FRA continued an outreach effort primarily through meetings with the FRA/State Rail Safety Working Group to expand the States' involvement in the rail safety hazardous materials inspection program.

FRA and Department of Energy

In 1996 and 1997, DOE continued to ship 90% of the high-level spent nuclear fuel in the U.S. by rail to a temporary or permanent repository. As a result of this decision, the FRA Hazardous Materials Division has been an active member of the Transportation Coordination Group (TCG) and the Transportation External Coordination Working Group (TEC/WG). As a rule, both groups meet bi-annually.

FRA has maintained an active and productive role in the dissemination of information and the resolution of problems associated with aspects of rail transportation of radioactive materials.

The TCG's focus is to provide a forum for the exchange of information and to update members and attendees on progress made in regard to the various issues surrounding the packaging, transportation and storage of high-level spent nuclear waste. The TEC\WG focus is problem resolution. This group's purpose is to identify, discuss and ultimately resolve questions and issues dealing with the packaging, transportation and storage of high-level spent nuclear waste. The TEC\WG is a forum that enables all parties concerned--industry, state and Federal government, tribal nations and the general public--to take an active role in the identification and resolution of the many issues, both actual and perceived, that exist with the packaging, transportation and storage of nuclear material.

RSPA State Participation

In addition to the primary mission of conducting compliance inspections, the five regional offices and Headquarters unit of RSPA's Office of Hazardous Materials Enforcement actively pursued its secondary mission--to coordinate with and provide assistance to state agencies. In 1996 and 1997, RSPA coordinated with, had contact with, or worked with, representatives from the following States and territories: California, Florida, Georgia, Guam, Hawaii, Illinois, Louisiana, Michigan, New Jersey, New York, Pennsylvania, Puerto Rico, Tennessee, and Texas. RSPA and State enforcement personnel participated in a number of joint Federal/State inspection activities in Florida, Georgia, Illinois, Michigan, Louisiana, New Jersey, Tennessee, and Texas.

Public Outreach

Presentations by FAA

FAA believes educational outreach will inform the regulated industry and the public of dangerous goods regulations, regulatory changes and areas of discrepancies or concerns found during an assessment. In addition, focused outreach efforts target particular groups that demonstrate a lax attitude or simply an ignorance or misunderstanding of the dangerous goods regulations.

In 1997, FAA gave presentations on the new DG/CS program to the Conference on the Safe Transportation of Hazardous Articles, the Hazardous Materials Advisory Council, the Cargo Airline Association, the International Air Transport Association, and the Regional Airline Association. FAA DG/CS personnel also participated in several RSPA Intermodal seminars.

Presentations by FRA

To promote the safe transportation of HM by rail, FRA prepares and presents information on this topic to the public around the country. FRA participated in numerous transportation industry seminars, trade association meetings, and conferences. FRA 1996-1997 presentations were made at:

< CMA biannual meetings;

< The Hazardous Materials Advisory Council's annual meeting;

< AAR Hazardous Materials Seminars;

< Multiple symposiums for the American Society of Nondestructive Testing;

< American Welding Society Seminar;

< Conference of Radiation Control Program Directors Radioactive Materials Transportation;

< Council of State Governments Northeast High Level Radioactive Waste Transportation Task Force;

- Southern States Energy Boards Advisory Committee on Radioactive Materials Transportation;
- Council of State Governments Midwestern High Level Radioactive Waste Committee;
- Iron and Steel Society's International Symposium on Railroad Tank Cars; and
- The HazWaste Pilot Project Meeting.

FRA also provided technical expertise to the National Conference of State Legislatures and the League of Women Voters Education Fund regarding the safe transportation of radioactive materials by rail.

During 1996 and 1997, FRA worked with American Trucking Association (ATA), RSPA, FHWA, and Union Pacific Railroad to consolidate repetitious portions of the HMR. FRA is active on the Hazardous Materials Industry 5800.1 Redesign Team. FRA partnered with RSPA to present information at RSPA's Multimodal Hazardous Materials Seminars in 1997, COHMED meetings, the Transportation Safety Institute's Intermodal Courses, and USCG CITAT courses.

Presentations by RSPA

In 1997, RSPA's enforcement program initiated an enhanced outreach program in its five regional offices. A senior inspector position was created in four of the five offices, with primary responsibility for planning and carrying out the regions' outreach activities. In addition to the traditional type of outreach, where RSPA responds to requests, the enforcement program is also planning to plan, announce, and hold programs in which it invites selected groups to attend. RSPA plans to discuss issues such as current violation trends and how to comply with the regulations. RSPA has spoken to a number of organizations, including the Association of Container Reconditioners, the Flavoring Manufacturers Association, Labelmaster, the National Welders Association, the DOT Region Three Safety Task Force, and the National Defense Transportation Association.

Chapter 7

International Activities

DOT continues to support a uniform, global approach to the safe transportation of HM through participation in the work of five international organizations. DOT represents the U.S. at working sessions, providing leadership and support in the development of international HM transportation standards. The U.S. objective is to promote a worldwide system that affords the necessary consistency between modal and regional regulations that will guarantee the free movement of shipments. Participation is essential to assure that U.S. policy and practices are considered in the development of any international standard and to safeguard economic interests of the domestic industry. Adoption of inequitable or incompatible international requirements could have a serious impact on domestic industries which have consistently generated a balance of trade surplus.

Representatives from the U.S. domestic market have a considerable interest in DOT's involvement in these international organizations. RSPA and the USCG host periodic public meetings to keep the public informed of work underway in the various international bodies and of U.S. positions. The meetings provide an opportunity for government, industry, and public interest groups to exchange information and to present their views on significant issues and proposed changes to international requirements that may have a potential impact on the domestic market. A description of each organization and DOT's participation in its activities follows.

ECOSOC

The UN Committee of Experts on the Transport of Dangerous Goods of the United Economic and Social Council (ECOSOC) is the focal point of international activity regarding all transportation of packaged HM (except RAM). It meets biennially to consider the work of its subsidiary body, the Subcommittee of Experts on the Transport of Dangerous Goods. The Committee is responsible for the UN Recommendations that form the basis for international modal dangerous goods regulations prepared by the IMO, ICAO, and the European rail and highway regulatory organizations. RSPA is charged by the Department of State to represent the U.S. at meetings of the Committee and the Subcommittee.

In 1996, the Subcommittee of Experts on the Transport of Dangerous Goods met once. The results of its work were considered by the Committee of Experts at its 19th Session in December of 1996. Items adopted by the Committee were reported to and approved by ECOSOC. The decisions were reflected in the tenth revision of the UN Recommendations and will provide the basis for proposed amendments to the HM regulations in future rulemaking initiatives.

The Committee's work program covered a wide variety of topics, including many of great interest to the U.S. These included:

Model Regulation

Acting on a U.S. proposal, the Committee revised the UN Recommendations into the form of model regulations which could be adopted by international modal organizations such as IMO and ICAO and national governments. This effort has the potential for significantly simplifying compliance with HM transportation regulations worldwide. As a result of this effort, IMO has agreed to reformat the IMDG Code consistent with the format being adopted for the UN model regulations. The Model Regulation will also provide the basis for European regulations for transporting dangerous goods by highway and rail. The Model Regulation will also provide developing countries adopting HM regulations for the first time a basis for domestic regulations.

Requirements for Multimodal Tanks

Multimodal tank containers intended for world-wide use are subject to at least four different sets of construction standards. As a result of a U.S. initiative to facilitate multimodal portable tank transport on an international level, the Committee initiated a four-year effort to harmonize these requirements into one common set of regulations. Tanks that are certified as being constructed in accordance with these internationally harmonized requirements should be accepted for transport by any mode. These internationally harmonized portable tank requirements were adopted by the Committee at its 19th Session in December of 1996.

Harmonization of Classification Criteria

On the basis of objectives set out by the 1992 UN Conference on the Environment and Development and agreements among international organizations with responsibilities for chemical safety, the Committee is playing a leading role in harmonizing criteria for the physical hazards of chemicals (e.g., flammability, explosivity and reactivity) among the various regulatory bodies. Working group meetings were convened to reach agreement among national and international organizations with an interest in chemical safety. In addition, the Committee continues to provide its input into ongoing discussions at meetings organized by the Organization for Economic Cooperation and Development with the objective of harmonizing criteria for acute oral, dermal and inhalation toxicity as well as hazard to the environment. The decisions taken with respect to these criteria will ultimately result in some adjustment of the internationally harmonized classification criteria contained in the UN Recommendations.

The Committee is currently in the midst of its 1997-1998 biennium. In 1997, its Sub-Committee considered a number of new issues of interest to the U.S., including:

Model Regulation

The Sub-Committee is continuing to refine the Model Regulation issued during the previous biennium to make it a more comprehensive document. While earlier editions of the UN Recommendations specified performance standards for packagings used to transport dangerous

goods, they have not generally prescribed the range of packaging types that are suitable for each individual substance. This has historically been dealt with in international modal requirements such as the IMO IMDG Code and domestic regulations. To improve harmonization among all HM transport regulations, the Sub-Committee is currently developing more specific packaging requirements for individual substances. In addition, requirements for radioactive materials on the basis of IAEA requirements are also being included in the UN Model Regulation.

Harmonization of Classification Criteria

In the continuing effort to establish internationally harmonized classification criteria among all international and national organizations responsible for chemical safety, the Committee continued to play a leading role in harmonizing criteria for the physical hazards of chemicals (e.g., flammability, explosivity and reactivity) among the various regulatory bodies. Two working group meetings were convened to reach agreement among national and international organizations with an interest in chemical safety. In December 1997, internationally harmonized physical hazard criteria were adopted by the working group. These will now be reviewed by other international organizations. Some further discussions may be anticipated in future meetings based on comments from these other organizations.

Explosives test requirements

On the basis of concerns raised by several foreign explosives testing laboratories, the Sub-Committee is refining test prescriptions for a key explosives test. When completed, this effort will improve the consistency of explosives classification among explosives testing laboratories worldwide.

Working Party on the Transport of Dangerous Goods of the UN Economic Commission for Europe

The Working Party on the Transport of Dangerous Goods is responsible for updating and revising the European Agreement Concerning the Carriage of Dangerous Goods by Road (ADR). Although the ADR is a European Convention, it is administered through a committee of the UN and, for this reason, the U.S. (represented by RSPA) has full voting rights with respect to the ADR. At least twice each year, the ADR meets jointly with the organization responsible for updating the International Regulations Concerning the Carriage of Dangerous Goods by Rail (RID) to ensure consistency between the two sets of regulations. Although these are European conventions, they are of interest to the U.S. because of the direct impact of their requirements on shipments of HM from the U.S.; Furthermore, many members of ADR and RID, who are also members of the ECOSOC Committee of Experts on the Transport of Dangerous Goods, have demonstrated a tendency to favor close alignment of the international standards with those previously adopted by RID/ADR. The following matters of particular interest to the U.S. were discussed at the four joint RID/ADR meetings held in 1996 and 1997:

< Reformatting of the RID/ADR consistent with the UN Model Regulation;
< Harmonization of the RID/ADR provisions with those of the UN Recommendations;

< Adoption of CEN and ISO gas cylinder standards in the RID/ADR;

- Requirements for dangerous goods transported in small packagings;

- Exceptions for materials that are transported as part of a trade, consumer goods and materials that are not offered for transport for purposes of commerce;

- Provisions for allowing imports transported in accordance with the IMDG Code and the ICAO Technical Instructions to be transported by rail and highway; and

- Requirements for portable tanks.

Minor differences between the UN and European requirements could have significant impacts on non-European transporters. The U.S. has followed these efforts closely to ensure that such differences do not develop.

Dangerous Goods Panel of ICAO

The Dangerous Goods Panel of ICAO is responsible for periodic updating of Annex 18 to the Convention on International Civil Aviation. Annex 18 prescribes basic requirements for the safe transport of dangerous goods by air. The supporting ICAO Technical Instructions provide the detailed requirements necessary to implement Annex 18. The ICAO Technical Instructions that are incorporated by reference in the HM regulations, serve as the internationally recognized requirements for transporting dangerous goods by air and are also used extensively for U.S. domestic air transport of dangerous goods. RSPA provides the panel member for the U.S.

RSPA and FAA participated in two working group meetings of the panel and one meeting of the panel itself during 1996 and 1997. The primary purpose of these meetings was to update the ICAO Technical Instructions in order to incorporate provisions consistent with the amendments to the UN Recommendations reflected in the tenth revised edition. Major amendments to the ICAO Technical Instructions included revisions to the packaging requirements for oxygen generators, the requirement for infectious substances, and the classification of numerous dangerous goods subject to the ICAO Technical Instructions. The amendments to the ICAO Technical Instructions will become effective on January 1, 1999.

International Maritime Organization

The Subcommittee on Dangerous Goods, Solid Cargoes and Containers (DSC) publishes and maintains the IMDG Code. This code is recognized as the worldwide standard for the transportation of packaged HM by vessel. The HM regulations incorporate substantial portions of the IMDG Code by reference in order to promote harmony in transport requirements for import and export shipments.

In 1996-1997, the USCG and RSPA represented the U.S. at the 1st and 2nd sessions of the DSC Subcommittee and at four sessions of the Subcommittee's Editorial and Technical (E&T) Group. The DSC Subcommittee was formed at the beginning of 1996 by combining two other longstanding subcommittees: the Subcommittee on the Carriage of Dangerous Goods and the Subcommittee on

Containers and Cargoes and now carries out all responsibilities formerly assigned to those subcommittees.

The major accomplishment of DSC 1 was the completion of Amendment 28 to the IMDG Code. This amendment, which became effective on January 1, 1997, contained numerous important revisions and improvements. It included changes to update the Code with respect to the latest classification of materials as marine pollutants under Annex III to the International Convention for the Prevention of Pollution from Ships, 1973/1978 (MARPOL 73/78). Most importantly, it updated the IMDG Code consistent with the ninth Revised Edition of the UN Recommendations on the Transport of Dangerous Goods. This action assured that the IMDG Code remained current with the latest version of other modal recommendations, which is important for both safety and facilitation of HM transportation. Following completion of amendment 28, the Subcommittee, at DSC 2 began development of the first part of amendment 29 to the IMDG Code laying the groundwork for that effort to be concluded on time in 1998.

In addition to amendments to the IMDG Code, the subcommittee addressed a number of other important topics directly related to HM transportation during DSC 1 and DSC 2. Technical work was concluded on a complete rewrite of the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG). The MFAG, which is contained in the supplement to the IMDG Code, is the key publication of its kind for use on vessels transporting HM. The new MFAG will be formally approved and issued in 1998. The subcommittee also completed a circular on Guidelines for Preparation of the Cargo Securing Manual. The guidelines facilitate preparation and approval of Cargo Securing Manuals which are being made mandatory for ships under amendments to the International Convention for the Safety of Life at Sea (1974, as amended). This action improves the integrity of both HM and non-HM cargo stowage and securing on board vessels.

At both DSC 1 and DSC 2, and the four E&T group meetings, significant progress was made on the major effort to reformat the IMDG Code. The U.S. initiated and is leading this project. The intent is to completely revise the entire layout and approach of the IMDG Code in a manner that will make it more user-friendly for both shippers and mariners, harmonize it with the format of other modal regulations and the U.N. Model Recommendations, make it easier to update, and reduce its cost thereby making it more readily available to users. This work is on schedule for drafting of the reformatted IMDG Code to be completed in 1999 with subsequent adoption by subcommittee's parent committee, the Maritime Safety Committee, for introduction as amendment 30 in the year 2000.

Revision of the International Regulations for Transport of RAM

The IAEA Technical Committee on the Revision of the International Regulations for the Safe Transport of Radioactive Material is responsible for researching, developing and drafting the changes to be included in the 1996 edition of the regulations governing the international transport of RAM. These regulations serve as the foundation of U.S. domestic regulations and serve as domestic regulations for many IAEA member states. As a full member of the IAEA, the U.S., represented by RSPA, has full voting rights on this Technical Committee. The committee meets annually, along with representatives of major international modal organizations, to review and

approve changes proposed by other IAEA departments, technical committees, and research programs.

The following were discussed at the IAEA Technical Committee meetings:

- Development of performance oriented-packaging standards for large quantities or high activity air shipments of RAM;

- Review of the radiation protection standards for transportation, particularly the development of radionuclide specific exclusion and exemption values. These values would replace the currently used exemption concentration value and would be based on the individual characteristics of each radionuclide;

- Review of the performance oriented packaging standards used for shipment of uranium hexafluoride; and

- Review of the criticality evaluation standards used for the transportation of fissile materials.

NAFTA

The North American Free Trade Agreement (NAFTA) provides for the establishment of the Land Transportation Standards Subcommittee (LTSS) and requires the LTSS to implement a work program for making the HM transportation standards of Canada, the U.S. and Mexico compatible by January 1, 2000. Since the U.S. and Canadian standards are substantially compatible, the effort within the LTSS working group is focused primarily on ensuring that regulations being developed by Mexico are consistent with existing U.S. and Canadian regulations. A key principle in this effort is to maintain the level of safety provided by the U.S. HM regulations. Harmonizing HM regulations and practices of the three countries will facilitate trade and improve compliance and transport safety.

Accomplishments of this effort in the 1996-1997 period include:

- Mexico, which prior to NAFTA had no substantial HM regulations, issued 3 final rules covering standards for tank trucks, portable tanks and infectious substances. Regulations are compatible with U.S. regulations and are in addition to 22 other final rules issued previously.

- Building on the issuance of the first NAERG in 1996 by Canada, Mexico and the U.S., the LTSS began discussions for preparation of the next edition of the NAERG to be published in 1999.

- Agreed to prepare a North American Hazardous Materials Transportation Code which would be used by the three countries as a guidance document to ensure harmonization of the regulations of the three countries. The UN Model Regulation will be used as the basis for the Code.

To facilitate evaluation of the Mexican standards being developed and to inform the U.S. public of their content, RSPA translates the Mexican HM standards into English and makes them available through its dockets unit. RSPA also translates materials aiding in compliance with U.S. regulations into Spanish to improve compliance with U.S. regulations by Mexican shippers and carriers responsible for transporting HM into the U.S.

Chemicals Group and Management Committee of the Organization for Economic Cooperation and Development (OECD)

Consistent with the United Nations Conference on the Environment and Development objective of developing internationally harmonized criteria for the classification of chemicals, the OECD Chemicals Group and Management Committee hosted international workshops on the development of criteria for substances that are hazardous to the environment. The U.S. delegation was led by the Environmental Protection Agency. RSPA participated as a member of the U.S. delegation to the workshops in order to ensure that transport concerns were taken into account in the development of these criteria. Currently, internationally harmonized criteria on what is hazardous to the environment do not appear in the UN Model Regulation. It is anticipated that the criteria under development by OECD will eventually be incorporated into the UN Model Regulation.

Transport Canada

The FRA Hazardous Materials Division continues to maintain a close relationship with counterparts in Canada and Mexico on critical HM issues. The Division also continues to support joint inspections with, and provide investigation assistance to, Transport Canada. In 1997, FRA began working with Transport Canada to develop a parametric tank car model to be used by both government and industry to determine stress fields for the use of acoustic emission testing, impact loading investigation, and the application of damage tolerance analysis to tank car tanks.

FRA coordinates enforcement efforts with Transport Canada and Mexico for the HM enforcement program, including the enforcement of Emergency Order 17.

FRA participated in the Sulfur Institute's North American Working Group on Transportation and Regulatory Activities that consists of representatives from Canada, the United Kingdom and France. This group discusses future rulemaking activities and resolves problems related to tank cars.

Chapter 8

Training and Information Dissemination

Training

Training and education are an integral part of both the HM regulatory program and DOT's responsibility to ensure the safe handling of HM in transportation. DOT has developed a comprehensive educational program to assist industry, Federal inspectors, state/local law enforcement officers, and emergency management personnel. The program has three purposes:

To promote HM compliance by informing public and private sector personnel of the principles and application of DOT's regulatory program;

To encourage uniform enforcement of the HM regulations by Federal, state, and local enforcement personnel; and

To enhance emergency preparedness and response by state and local personnel through training information and programs on the risks, implications, and or consequences of emergencies involving the transportation of HM.

RSPA develops and disseminates HM training programs.

Transportation Safety Institute

Classroom HM instruction is provided at RSPA's TSI and at field locations around the country. TSI offers a variety of HM training programs for a diverse audience. The principal audience for TSI training is Federal and state personnel; the secondary audience is industry and the HM response community. Technical assistance is provided by the modal administrations, other Federal agencies, state and local officials, and industry representatives.

In 1996, TSI offered the following HM training classes:

< Awareness for Initial Response to Hazardous Materials Incidents

< Awareness for Initial Response to Hazardous Materials Incidents, "Train the Trainer"

< Cargo Tank Regulatory Compliance Course for Industry

< Cargo Tank Regulatory Enforcement Course

< DOT Refresher for Distribution Personnel

< Hazardous Materials Compliance and Enforcement Course

< Hazardous Materials Seminar

< Hazardous Materials Shipment Release for Distribution Personnel

< Hazardous Materials Training for FAA Field Personnel

< Intermodal Transportation of Hazardous Materials-Recurrency Seminar

< Intermodal Transportation of Hazardous Materials-Training for Industry

< Instructor Training: Hazardous Materials Transportation Modules

< Radioactive Materials

< Transportation of Hazardous Materials Shippers Course

In addition to the above training classes, TSI offered the following in 1997:

< 1997 Multimodal Hazardous Materials Transportation Seminars

< Associate Staff, "Train the Trainer"

< DOT Hazardous Materials & Waste Transportation Regulations

< DOT/DOE Hazardous Materials Transportation Modules (Recurrency)

< Hazardous Materials Regulations Resident Course (FAA)

< Hazardous Waste

< Intermodal Transportation of Hazardous Materials-Recurrency Seminar for Industry

Multimodal Seminars

TSI assisted in training over 300 participants at the RSPA-sponsored Multimodal Seminars, which provided for the exchange of information among States, local governments, and industry on compliance and enforcement issues. A rulemaking session at each conference provided the participants with the most recent developments in this rapidly changing field. During these sessions, specific emphasis was placed on the intrastate regulations that will take effect on October 1, 1998.

< February 13-15, 1996; North Charleston, South Carolina

May 14-16, 1996; Kansas City, Missouri
September 24-26, 1996; Hartford, Connecticut

< February 25-27, 1997; Long Beach, California
May 28-30, 1997; Dallas, Texas
August 5-7, 1997; Chicago, Illinois

Through resident and Train-the-Trainer courses, 2,287 students were trained in 1996. These students included 507 Federal, 162 state, 13 local government, 1,597 industry, and 8 international personnel. In 1997, the 1,487 students trained included 390 Federal, 127 state, 222 local government, 738 industry, and 10 international personnel.

Internet on-line Hazardous Materials Transportation Training Course for Air and Highway

During 1997, an Internet on-line interactive training program (http://hazmat.dot.gov/training.htm) was developed by the TSI specifically to aid in HM training efforts. It incorporates TSI's Phase I Hazmat Compliance and Enforcement Course for Air and Highway and links to applicable HMR references.

Research and Special Programs Administration

In 1996 and 1997, RSPA continued to expand its educational programs in order to increase the public's awareness of the risks involved in the transportation of HM. Increased emphasis was placed on the development of outreach programs and on the prevention and preparedness training materials for the special needs of technical audiences and management. RSPA uses the latest technology to deliver new training programs and to reach broader audiences.

Hazardous Materials Transportation Training Modules

In September 1995, RSPA completed revision and production of the HM compliance and enforcement training modules on CD-ROM, and began distribution of them. This training program is a cooperative effort by DOT, industry representatives, and state enforcement and emergency management personnel of the COHMED program.

The modules are designed to provide "off-the-shelf" training on the safe transportation of HM. The modules teach the basics for transporting HM. Topics covered are:

< Hazardous Materials Table,

< Shipping Papers,

< Packaging,

< Marking and Labeling,

< Placarding, and

< Carrier Requirements (Highway).

Each module includes a self-paced visual presentation and files for printing the following: an instructor manual, student manual, pre- and post-module evaluation tests, masters for making transparencies, and a media package. The training modules are designed for self-study. They also can be used to train large or small groups.

During 1996 and 1997, over 3,500 training modules on CD-ROM were distributed at a nominal charge. Training modules were distributed at no charge to DOT headquarters and regional offices (FAA, FHWA, FRA, USCG), and HM specialists within other Federal agencies.

Seminars and Conference Support

Federal Aviation Administration

In 1996, 60 inspectors received recurrent training through 5 separate satellite downlink facilities from a television studio located at the FAA's Mike Monroney Aeronautical Training Center in Oklahoma City, Oklahoma. This prototype recurrent training course, termed Interactive Video Training (IVT), represents FAA's first use of the interactive distance learning concept in the area of dangerous goods training.

In 1997, basic training at the FAA training center was provided to 65 new agents. In addition, 86 agents received recurrent training through IVT sessions and a DG/Cargo Coordinators' Seminar.

One headquarters DG specialist participated as an advisor to RSPA's International Standards Coordinator at Vienna, Deerfield Park and Montreal meetings of the ICAO Dangerous Goods Panel. The primary purpose of the meetings was to update the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air by incorporating provisions consistent with recommendations developed by the Un Committee of Experts on the Transport of Dangerous goods. The resulting changes will appear in the 1999-2000 edition of the ICAO Technical Instructions.

Federal Highway Administration

The Motor Carrier Safety Assistance Program (MCSAP), administered by OMC, received new funding for HM training of MCSAP officers as a result of the Intermodal Surface Transportation Efficiency Act of 1991. For each of the fiscal years 1993 through 1997, $1.5 million was authorized. Funds were distributed by formula to the states each year for the purpose of providing HM training to their enforcement officers.

TAG Training

The HW/S TAG conducted a short course for all its members on the new requirements pertaining to Infectious Substances (Etiologic Agent) regulations listed in 42 CFR 72.3, Division 6.2. The TAG members in each Region assisted in the training of state enforcement personnel conducting activities involving hazardous waste and substances.

The HW/S TAG participated in upgrading the Specialized HW/S Training Course as well as presenting the course to State and Federal personnel. Tag members in each region took the lead in conducting reviews on hazardous waste transporters. Some members conducted specialized reviews at DOE RAM waste facilities.

Federal Railroad Administration

In 1996 and 1997, FRA conducted HM training for 72 Federal and state HM employees. In 1997, FRA began partnering with RSPA for the preliminary development of a new Hazardous Materials Transportation Training Module specifically for carrier requirements (rail). Delivery of this new module on CD-ROM is scheduled for October 1, 1999. In 1997, FRA presented a course on the IMDG Code and its use for transportation of HM in the U.S. for both FRA and railroad personnel.

Research and Special Programs Administration

The modal administrations conducted additional training seminars in industry-sponsored training programs and conferences. At numerous meetings and conferences, the RSPA staff provided information in the following areas:

< the NAERG96;

< implementation of the HM-200 “Intrastate Transportation” rule;

< implementation of the cargo tank rule;

< performance-oriented packaging standards;

< the modular enforcement and compliance training series;

< emergency response communications;

< hazmat employee training requirements; and

< the HMEP grant program.

U.S. Coast Guard

In 1996 and 1997, the USCG headquarters and field staff continued to provide HM training to Non Vessel-Owning/Operating Common Carriers (NVOCC) and to various industry and government groups nationwide. Training included USCG-sponsored training seminars as well as participation at industry conferences. The USCG assisted in providing modal transportation training for business, industry, and government at TSI as well as at the Multimodal Hazardous Materials Transportation Seminars sponsored by RSPA and TSI around the country.

The USCG instructors participated in most of TSI's compliance courses, including "Intermodal Transportation of Hazardous Materials Industry Seminar", "Intermodal Transportation of Hazardous Materials for Industry", and the pilot convening of "International Maritime Dangerous

Goods Code Training Course." These seminars, designed for commercial shippers and carriers, provide effective training for private sector personnel.

In addition to TSI, the USCG's Reserve Training Center (RESTRACEN) in Yorktown, Virginia, is the primary source of resident training for the USCG's HM inspection program and the backbone of USCG training worldwide. Formal resident training courses provide emphasis on HM transportation safety. Such courses include: Port Operations Department Course, Marine Safety Petty Officer's Course, Explosive Handling Supervisor's Course, and Port Security "A" Course. Although most students at RESTRACEN are USCG active duty and reserve members, training is also provided to other U.S. Government and foreign government agencies upon request.

Information Dissemination

An important goal of DOT is to ensure that individuals in the transportation community receive the information they need to manage their HM and emergency response programs. To maximize outreach efforts, DOT uses many resourceful methods to disseminate information. The agency encourages reproduction and wide distribution of the numerous non-copyrighted publications, guides, and charts it publishes. DOT also produces and distributes videotapes on a variety of HM awareness, enforcement, and response subjects. Recipients are encouraged to reproduce and maximize the use of these visual training aids. In addition, through RSPA's Hazmat Safety Homepage on the Internet, DOT provides HM information that includes copies of the latest rulemakings, exemptions, clarifications of the regulations, downloadable hazmat publication files and training schedules.

Safety Advisories

In February 1997, through its distribution network and partnerships, RSPA distributed over 300,000 copies of a *"Safety Alert"* which highlighted 5 *Federal Register* publications providing guidance to persons involved in the transportation of HM.

Publication Development

DOT publishes a variety of training and educational materials to foster compliance with the HMR. The publications inform the regulated, public, and enforcement communities of newly issued regulations or changes to existing regulations. In addition, various technical guides are developed and published for use by emergency management and enforcement personnel.

RSPA publishes approximately 50 different pamphlets, charts, fact sheets, and technical guides. These non-copyrighted publications are widely reproduced and used by industry and public sector personnel (fire, police, sheriffs' departments; civil defense/emergency management agencies; universities and colleges; and other Federal, state and local government agencies) in training programs across the Nation. During 1996, RSPA distributed other brochures which included the Spanish versions of the "Hazardous Materials Safety" and "Guide for Brokers, Forwarding Agents, Freight Forwarders, and Warehousers."

In FY 1996, RSPA developed and distributed to passengers through airlines and ticket agencies a brochure, “These Fly...These May Not,” on awareness of HM that are not allowed to be in luggage or carried aboard an aircraft. Over six million copies of the brochure were distributed during the biennium.

North American Emergency Response Guidebook

The 1996 NAERG was developed jointly by the DOT, Transport Canada, and the Secretariat of Communications and Transportation of Mexico for use by firefighters, police, and other emergency services personnel who may be the first to arrive at the scene of a transportation incident involving a hazardous material. It is primarily a guide to aid first responders in (1) quickly identifying the specific or generic classification of the material(s) involved in the incident, and (2) protecting themselves and the general public during this initial response phase of the incident. The ERG is updated every three years to accommodate new products and technology. The DOT's goal is to place one ERG in each emergency service vehicle, nationwide, through distribution to state and local public safety authorities. Since its inception in 1980, more than five million copies of the ERG have been distributed without charge to the emergency responder community. RSPA directed this distribution process by coordinating local delivery through a network of key state agencies.

Videotape Series

During 1996, RSPA developed, produced and distributed a 15-minute videotape describing key elements of a cylinder retester inspection. The target audience for this information consists of Federal, state, local HM enforcement and industry personnel conducting cylinder retesting. Over 2,000 videos were distributed at no charge to those cylinder retest facilities with approvals from DOT.

In 1997, RSPA developed, produced and distributed an 18-minute awareness videotape that highlights the proper precautions that must be taken when transporting hazmat on passenger and/or cargo aircraft to ensure compliance with the Hazardous Materials/Dangerous Goods Regulations. The tape was made available to air carriers and shippers throughout the country -- to anyone involved in offering, accepting or transporting HM for shipment by air.

HM Safety Newsletter

To meet the public's need for information, clarification, or interpretation of various aspects of the regulations, RSPA publishes the *Hazmat Safety News*. This newsletter contains informative articles, updates on regulatory actions, special notices, training schedules, and responses to frequently asked questions from the public. In addition, stories addressing casualties are presented to promulgate lessons learned. The newsletter is distributed to shippers, carriers, freight forwarders, and to Federal, state, and local government agencies. RSPA maintains a current mailing list of individuals and associations involved with HM transportation safety and emergency response.

The Summer 1996 newsletter edition headlined, “OXYGEN GENERATORS BANNED” as a result of an amendment to the HMR. Over 100,000 copies were distributed.

Internet Website

RSPA continues to disseminate HM information through its Hazmat Safety Homepage on the Internet. The web site includes copies of rulemaking proposals and final regulations; the HM registration form and guidance; the HM incident report form and guidance; the North American Emergency Response Guidebook; upcoming training classes provided by the TSI; seminars and conferences; and general information on the program including information on contacting persons within the organization. Eventually, the web site will include searchable HMR, interpretations, and active exemptions. **http://hazmat.dot.gov**

Information Center

Since 1993, the HMS-operated Hazardous Materials Information Center offers a single nationwide toll-free telephone service, weekdays from 9:00 a.m. to 5:00 p.m. (Eastern Time). The Center has assisted shippers, carriers, packaging manufacturers, enforcement personnel, and others in their understanding of requirements in the HMR for the purpose of maximizing voluntary compliance. In addition, the Center staffs the statutory mandated toll-free number for transporters of HM, and others, to report possible violations of the HMR or any order or regulation issued under Federal hazmat law. Until 1997, the work of the Center was performed on a part-time basis by the permanent staff of the Office of Hazardous Materials Standards as part of its routine customer service functions. In FY 1997, RSPA entered into a contract to augment the Center's ability to more effectively and expeditiously disseminate compliance information. The Center responds to over 22,000 telephonic inquiries per year, an average of
91 daily.

HAZMAT INFO-LINE (800) 467-4922

Public Meetings and Hearings

RSPA continually monitors domestic transportation practices and international regulatory developments. The agency evaluates requests received from the general public, regulated industry, other government agencies, and DOT's modal administrations to determine the need for new or amended regulations. Amendments are also issued to address specific safety problems and to incorporate new technology.

There are times during the rulemaking process when a number of comments and exemption applications will raise issues for which additional input is needed. A public meeting or hearing is then scheduled to gain more detailed information on the regulatory action. RSPA also schedules hearings when it is aware of extensive public interest in its proposed rulemakings.

Chapter 9

Registration and Grant Programs

RSPA has operational responsibility for both the HM Registration and HMEP grants programs. Certain shippers and carriers are required to pay an annual fee which funds HMEP grants to states, territories and Native American tribes to train and prepare to respond to HM emergencies.

Registration Program

The HM Registration Program was established in 1992, as mandated by the Federal hazmat law. A FR establishing this program was published in the *Federal Register* on July 9, 1992. After September 16, 1992, persons who transport or offer for transportation, any of the following types or quantities of HM, must file an annual registration statement and pay a fee of $300 to DOT:

- any highway route-controlled quantity of a Class 7 (radioactive) materials;
- more than 25 kilograms (55 pounds) of a Division 1.1, 1.2, or 1.3 (explosive) material in a motor vehicle, rail car, or freight container;
- more than 1 liter (1.06 quarts) per package of a material extremely toxic by inhalation (a material poisonous by inhalation that meets the criteria for hazard zone A);
- a HM in a bulk packaging having a capacity equal to or greater than 13,248 liters (3,500 gallons) for liquids or gases, or more than 13.24 cubic meters (468 cubic feet) for solids; or
- a shipment, in other than a bulk packaging, of 2,268 kilograms (5,000 pounds) gross weight or more of a class of HM for which placarding (of a vehicle, rail car, or freight container) is required for that class.

Federal, state or local governmental agencies, employees of those agencies with respect to their official duties, HM employees, including owner-operators of motor vehicles under a 30-day or longer lease to a registered motor carrier, and persons whose only U.S.-related activity is offering HM from locations outside the U.S. are specifically excepted from registration requirements.

An extensive public information program was continued through 1997. This included direct mailing of an informational brochure and registration statement to all parties that had registered within the last three years. Brochures were sent to others who may have been required to register. Other governmental agencies, trade associations, and cooperating parties assisted RSPA in making the program more widely known and understood by providing mailing lists, distributing brochures, publishing articles in newsletters, and carrying out other educational efforts.

During 1996, persons involved in the transportation of the specified HM submitted 27,550 registration statements and paid fees amounting to $8,351,000. Of this amount, $6,888,000 was set

aside to support a grant program that provides funding to states, territories, and Native American tribes for emergency response planning and training and to support other activities related to emergency response. The remaining amount is collected to defray DOT's costs of administering the registration program. During 1997, 28,000 registration statements were submitted and the fees collected amounted to $8,496,000. Of this amount, $7,005,000 was set aside for the grant program.

Grants Program

The Federal hazmat law requires RSPA, through delegated authority from the Secretary, to: (1) develop and implement a reimbursable HMEP grant program; (2) monitor public sector emergency response training and planning and provide technical assistance to states, territories and Native American tribes; and (3) develop and update periodically a national training curriculum for emergency responders. The program evolved from a proposal developed by DOT, FEMA, EPA, the Occupational Safety and Health Administration, and DOE and was presented to Congress during the legislative process to reauthorize the HMTA. The grant program and associated activities are financed by receipts from the registration program.

Grants are made to states, territories and Native American tribes for developing, improving, and implementing emergency plans under the Emergency Planning and Community Right-To-Know Act of 1986. Grant funds are also used to determine the need for regional HM emergency response based on flow patterns of HM within a state and between states. In addition, grants are made to states and Native American tribes for training public sector employees to respond to accidents and incidents involving HM.

Grants are awarded based on the needs for HM emergency response planning and training. The award amount is determined by factors such as population, HM truck miles within the state or territory, number of HM facilities, and other factors. Governors in each state, or their counterparts within territories or Native American tribes designate a state agency to receive the grant. That agency distributes funds within the state in accordance with grant rules and required certifications. The system promotes representation of all interests, such as paid and volunteer firefighters, within a state.

RSPA awarded $8.4 million in grants in May 1993, $5.9 million in grants in July 1994, $5.2 million in grants in September 1995, $6.4 million in grants in September 1996, and $6.4 million in grants in September 1997. All States and Territories and 32 Indian tribes have received grants. Over 575,000 emergency responders and others have been trained, in part, using the grant funds. A telephone survey of grantees indicates 3.2 million responders need training nationally.

In the first grant budget period, May 1993-1994, survey results indicate that HMEP grantees completed over 500 commodity flow and hazard analyses, created or updated over 1,000 emergency plans, assisted over 1,200 Local Emergency Planning Committees (LEPCs) and conducted over 600 exercises using grant funds which supplement State and other Federal resources. In the second grant budget period, July 1994-1995, HMEP grantees completed over 300 commodity flow and hazard analyses, created or updated over 1,200 emergency plans,

assisted over 2,223 LEPCs and conducted over 800 exercises. In the third grant period, September 1995-1996, HMEP grantees completed 551 commodity flow and hazard analyses, completed or updated 4477 emergency plans, assisted over 2,162 LEPCs and conducted over 770 emergency response exercises. In the fourth grant budget period, September 1996-1997, HMEP grantees completed 520 commodity flow and hazard analyses, completed or updated 5746 emergency plans, assisted 1,840 LEPCs and conducted over 770 exercises. Similar accomplishments are expected for the fifth grant budget period, September 1997-1998.

Chapter 10

Safety Performance Data

RSPA's Office of Hazardous Materials Safety maintains the HMIS. This system is the principal source of safety data related to HM transportation. It contains comprehensive information on HM incidents, exemptions and approvals, enforcement actions, and other elements that support the regulatory program.

The HMIS is used by DOT, other Federal agencies, state and local governments, industry, researchers, the media, and the public. In 1996, RSPA responded to 504 requests for HMIS data, and in 1997 RSPA responded to 533 requests. HMIS data support regulatory evaluation and policy making, training programs, the better understanding of HM transportation incidents, and identification of possible safety problems.

To enhance the HMIS, menu-driven programs used by state and local governmental agencies continued to be improved. These improvements permit generation of additional summary statistical reports, expand the search criteria, and give the ability to sort records before printing. Other system and database modifications improved HMIS information storage and retrieval capabilities. The six improved subsystems are:

- Incidents generally involving the interstate transport of HM by one or more modes;
- Exemptions issued under the HMR;
- Interpretations of regulations issued by RSPA;
- Approvals of specialized container manufacturers, reconditioners, retesters, shippers, and explosives manufacturers;
- Compliance activities, inspection data, and completed enforcement proceedings; and
- Registrants to the Hazardous Materials Registration Program.

In addition, RSPA used emerging technologies to improve the responsiveness of the HMIS. Alternative methods of archiving incident source documents are ongoing to improve the HMIS storage capability and the ease of retrieving reports. Also, software improvements for the HMIS data entry program migration to a Windows environment were initiated in 1996 and completed in 1997. Personal computer upgrades were implemented and a full system conversion to an enhanced VAX computer was completed. Work began on moving the HMIS from its existing database management system implementation into a more robust environment to improve system performance, maintenance, and accessibility.

1996 Safety Statistics

In 1996, 13,937 HM incidents were reported, continuing the downward trend started in 1995. The total number of incidents dropped by 806 this year. Combined with the drop of the previous year, this represents a total decrease of 13 percent from the 1994 level. Lower levels of reporting by small-package highway carriers continue to account for most of this reduction. Overall, highway incidents decreased by 855 to 11,911. Rail incidents declined slightly, dropping by 45 to 1,108. Although there were few non-bulk water incidents in 1995, their numbers were cut in half in 1996. Reported air incidents increased by 100 to 912, reflecting efforts by both RSPA and FAA to improve carriers' awareness of the reporting criteria. Examining the incidents by hazard class, flammable-combustible liquids and corrosive materials were involved in the most incidents, accounting for 79 percent of all 1996 incidents.

RSPA defines a serious incident as an incident that involves a fatality, major injury, closure of a major transportation artery or facility, evacuation of six or more persons, or a vehicle accident or derailment. Serious incidents increased 13 percent in 1996 with 464 serious incidents equaling 3.3 percent of all 1996 incidents. Further, in 1996, bulk incidents, while only 22.3 percent of all incidents, accounted for 76.5 percent of all serious incidents.

Four incidents dramatically affect the 1996 numbers of injuries and fatalities. An air shipment of undeclared chemical oxygen generators ignited in flight over Florida, resulting in 110 fatalities. A rail derailment in Alberton, Montana, resulted in the evacuation of the town, 1 fatality, and 787 minor injuries from inhalation of chlorine gas. Another derailment in Cajon, California, involving 4 cars of flammable liquids, resulted in 1 fatality and 50 minor injuries. A rail unloading incident in Stratford, Texas, caused a release of anhydrous ammonia leading to 2 major and 24 minor injuries. These incidents increased the urgency of DOT's continuous work to improve safety in transporting HM.

1997 Safety Statistics

In 1997, 13,853 HM incidents were reported, a slight decrease from 1996. Overall, highway incidents decreased from 1996 by 161 to 11,750. Rail incidents declined slightly, dropping by 12 to 1,096, while non-bulk water incidents remained at a low level. Reported air incidents increased by 91 to 1,003, continuing to reflect efforts by both RSPA and FAA to improve carriers' awareness of the reporting criteria. Examining the incidents by hazard class, flammable-combustible liquids and corrosive materials were involved in the most incidents, accounting for 79 percent of all 1997 incidents.

Serious incidents declined 10 percent in 1997 with 417 serious incidents equaling 3.0 percent of all 1997 incidents. Further, in 1997, bulk incidents, while only 21.9 percent of all incidents, accounted for 71.2 percent of all serious incidents.

Unlike 1996, there was only one incident in 1997 that resulted in a large number of injuries or fatalities. This incident, in Industry, California, involved a spill of hydrochloric acid during unloading of a highway cargo tank that resulted in 22 major injuries. However, there were two incidents resulting in the evacuation of a large number of people. One of these incidents involved

a spill of chloroprene, a flammable-combustible liquid, in Ragin, Mississippi, from two rail cars following a derailment. This incident caused the evacuation of 6,000 people. The other incident caused the evacuation of 5,000 people and occurred in Appleton, Wisconsin. It involved a release of propane from two rail cars following a derailment.

Description of Charts and Graphs

Exhibits 1.1 and 1.2 summarize HM transportation incidents over the past 8 years. During this time, the number of incidents increased every year to a peak in 1994 and then declined through 1997. Highway, clearly the most prevalent mode for incidents, accounted for the majority of incidents (85 percent) in that period and for all fatalities except in 1996 when an air incident and two rail incidents resulted in fatalities. Serious incidents have remained relatively steady throughout the 1990s, but declined 10 percent in 1997 from a high reached in 1996.

Exhibit 1.3 summarizes vehicular accident and derailment incidents over the past 8 years. The average number of incidents per year has been just under 300. The only rail fatalities from these incidents during this period occurred in 1996. All injuries involved highway and rail modes of transport.

Exhibit 1.4 summarizes hazardous waste incidents over the past eight years. The total number of hazardous waste incidents dropped in 1996 and again in 1997. The number of hazardous waste incidents in 1997 is more than 39 percent lower than the peak value, which occurred in 1995. For the first time in more than 10 years, however, there was 1 fatality, occurring in 1996. All injuries involved highway and rail modes of transport.

Exhibits 2.1 and 2.2 display HM transportation incidents and fatalities over the past 8 years and correspond to data from Exhibit 1.1.

Exhibits 2.3 - 2.6 display the number of incidents by mode over the past 8 years. The number of incidents that are bulk and non-bulk is also shown for highway and rail. The number of bulk incidents has remained fairly steady since 1990.

Exhibit 3.1 displays the HM incidents reported since 1983 and regulatory changes affecting reporting requirements. The graph is segmented into highway and all other incidents, and shows the impact highway incidents have on the trend of incidents. The peak in incident reporting in 1994 is also particularly evident.

Exhibit 3.2 displays the serious and other HM incidents since 1990. Serious incidents have remained relatively steady throughout the 1990s, but have declined slightly from a peak in 1996.

Exhibit 3.3 illustrates the number of all incidents since 1990 that involved commodities shipped in bulk packagings. The number of bulk incidents has remained fairly constant during this period; most of the variability in the number of incident reports is due to changes in the number of non-bulk incidents.

Exhibits 4.1.1 - 4.1.4 show reported incidents and damages by hazard class. The first four columns of Exhibits 4.1.1 and 4.1.2 present and rank incidents by hazard class, and the last 5 columns present the number of incidents involving dollar damages, damages by dollar amount, percent, and rank. The majority of incidents and damages involved flammable-combustible liquids and corrosive materials. Exhibits 4.1.3 and 4.1.4 graphically depict the distribution of incidents among the top 5 hazard classes.

Exhibits 4.2.1 and 4.2.2 display injuries by hazard class. Also included is a breakdown between major and minor injuries. Poisonous gas moved to the top in 1996 due to a Montana rail incident where a chlorine gas release resulted in the evacuation of 1,000 people and 787 minor injuries. Excluding this incident in 1996, and for all of 1997, flammable-combustible liquids, corrosive materials, and poisonous materials accounted for more than 68 percent of the remaining injuries.

Exhibit 4.3 lists the HM involved in incidents resulting in fatalities. One air incident in 1996 involving oxidizers resulted in 110 fatalities. Of the remaining materials, gasoline accounted for the most fatalities in 1996. Gasoline was also the material involved in most fatalities during 1997.

Exhibits 4.4.1 and 4.4.2 rank the 50 top HM involved in incidents. These 50 materials, out of approximately 3,000 HM identified in the Hazardous Materials Table, 49 CFR §172.101, make up 72 percent of all incidents in both 1996 and 1997. The Exhibits list the commodity, corresponding hazard class, number of incidents reported for that commodity, and corresponding percentages.

Exhibits 4.5.1 and 4.5.2 rank the HM involved in serious incidents. These materials make up 3 percent of all incidents in both 1996 and 1997. The Exhibits list the commodity, corresponding hazard class, number of incidents reported for that commodity, and corresponding percentages.

Exhibit 5 characterizes incident damages into the five categories that appear on the report form. Product loss, carrier damage, and decontamination/cleanup costs make up most of the costs associated with incidents involving damages in 1996. In 1997, however, product loss decreased dramatically. Most other damage categories saw slight decreases in 1997.

Exhibits 6.1 and 6.2 show the breakdown of incident causes by mode of transportation. Human error was the main cause of incidents in both 1996 and 1997. Combined with package failure, these 2 causes are responsible for more than 96 percent of all incidents.

Exhibits 7.1 and 7.2 display information on incidents involving an evacuation. The incidents are broken down by mode, cause, and consequence. Although the total number of evacuation incidents decreased from 1996 to 1997, the number of people evacuated increased 26 percent.

Exhibits 8.1.1 and 8.1.2 show the consequences of HM incidents by transportation phase. As can be expected, most incidents resulting in high damages were due to en route accidents. En route accidents also result in a higher average number of minor injuries per incident than the other incident types. After en route accidents, unloading incidents result in the most serious consequences.

Exhibits 8.2.1 and 8.2.2 display the consequences of bulk and non-bulk HM incidents. Although an equal number of minor injuries result from bulk and non-bulk incidents, bulk incidents lead to significantly more fatalities, major injuries, damages greater than $50,000, and evacuations.

Exhibits 8.3.1 and 8.3.2 illustrate the consequences of HM incidents by time of day. Most injuries occur between 9 a.m. and noon. Fatalities are distributed throughout the day, except for the three hours before midnight, in which none occurred.

Exhibits 9.1 and 9.2 show the number of serious bulk and non-bulk HM incidents by time of day. Most serious incidents occur between 6 a.m. and noon.

Exhibits 10.1 and 10.2 display the breakdown of HM incidents, injuries, fatalities, and property damages by state. States with large population centers and industrial cities had the most HM incidents.

Exhibits 11.1.1 - 11.6.2 display 1996 and 1997 incident data by county. The areas with the greatest concentration of HM incidents either were industrial centers or included numerous terminal facilities. Exhibits 11.1.1 and 11.1.2 display the location of all incidents reported to RSPA. Exhibits 11.2.1 and 11.2.2 show the origin of shipments that resulted in an incident. Exhibits 11.3.1 and 11.3.2 show the location of highway incidents and Exhibits 11.4.1 and 11.4.2 display the location of rail incidents. Exhibits 11.5.1 and 11.5.2 show the location of loading and unloading incidents and Exhibits 11.6.1 and 11.6.2 show the location of incidents that occurred en route. Note that the exhibits for rail and en route incidents use a different classification scheme from the other exhibits.

Exhibit 1.1
Incident Statistics by Mode and Reporting Year

Mode	1990	1991	1992	1993	1994	1995	1996	1997	Total
Incidents by Mode									
Air	297	299	420	622	929	812	912	1,003	5,294
Highway	7,297	7,644	7,754	11,080	13,993	12,766	11,911	11,750	84,195
Railway	1,279	1,155	1,129	1,120	1,157	1,153	1,108	1,096	9,197
Water	7	12	8	8	6	12	6	4	63
Other	0	0	0	0	0	0	0	0	0
TOTALS	8,880	9,110	9,311	12,830	16,085	14,743	13,937	13,853	98,749
Deaths by Mode									
Air	0	0	0	0	0	0	110	0	110
Highway	8	10	15	15	11	7	8	11	85
Railway	0	0	0	0	0	0	2	0	2
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	8	10	15	15	11	7	120	11	197
Injuries by Mode									
Air	39	31	23	50	57	32	32	24	288
Highway	311	333	461	511	425	296	215	157	2,709
Railway	73	75	116	66	95	71	926	45	1,467
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	423	439	600	627	577	399	1,173	226	4,464
Damages by Mode (in Dollars)									
Air	142,038	77,090	99,529	88,480	177,695	97,053	87,113	331,588	1,100,586
Highway	20,189,768	29,649,627	23,996,128	19,849,049	25,247,038	22,152,429	29,006,670	24,582,618	194,673,327
Railway	11,951,572	8,469,499	10,999,297	2,651,291	18,673,002	8,485,159	17,371,928	8,347,929	86,949,677
Water	69,898	154,395	143,115	213,091	92,003	173,511	120,146	25,145	991,304
Other	0	0	0	0	0	0	0	0	0
TOTALS	32,353,276	38,350,611	35,238,069	22,801,911	44,189,738	30,908,152	46,585,857	33,287,280	283,714,894

Exhibit 1.2
Incident Statistics by Mode and Reporting Year
Serious Incidents

Mode	1990	1991	1992	1993	1994	1995	1996	1997	Total
Incidents by Mode									
Air	7	4	9	9	15	11	13	12	80
Highway	334	323	309	283	337	329	374	340	2,629
Railway	60	74	56	65	76	68	77	65	541
Water	1	2	1	0	1	1	0	0	6
Other	0	0	0	0	0	0	0	0	0
TOTALS	402	403	375	357	429	409	464	417	3,256
Deaths by Mode									
Air	0	0	0	0	0	0	110	0	110
Highway	8	10	15	15	11	7	8	11	85
Railway	0	0	0	0	0	0	2	0	2
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	8	10	15	15	11	7	120	11	197
Injuries by Mode									
Air	11	5	7	7	33	22	21	4	110
Highway	116	107	186	242	188	88	85	68	1,080
Railway	39	29	78	11	45	20	892	6	1,120
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	166	141	271	260	266	130	998	78	2,310
Damages by Mode (in Dollars)									
Air	4,785	26,270	1,400	23,175	69,871	6,041	11,410	6,209	149,161
Highway	15,043,595	25,774,210	19,476,428	13,169,100	14,446,521	16,732,987	23,594,402	18,232,444	146,469,687
Railway	10,893,331	6,280,277	9,501,261	1,935,467	12,385,233	7,492,260	16,619,721	7,399,115	72,506,665
Water	7,412	30	125,000	0	0	71,141	0	0	203,583
Other	0	0	0	0	0	0	0	0	0
TOTALS	25,949,123	32,080,787	29,104,089	15,127,742	26,901,625	24,302,429	40,225,533	25,637,768	219,329,096

Note: Serious incidents are defined as those which involve a fatality, major injury, closure of a major transportation artery or facility, evacuation of six or more persons, or a vehicle accident or derailment.

Exhibit 1.3
Incident Statistics by Mode and Reporting Year
Accident / Derailment Incidents

Mode	1990	1991	1992	1993	1994	1995	1996	1997	Total
Incidents by Mode									
Air	0	0	1	0	0	0	0	1	2
Highway	249	249	247	216	246	245	287	253	1,992
Railway	48	54	36	48	52	50	43	52	383
Water	0	0	1	0	0	0	0	0	1
Other	0	0	0	0	0	0	0	0	0
TOTALS	297	303	285	264	298	295	330	306	2,378
Deaths by Mode									
Air	0	0	0	0	0	0	0	0	0
Highway	7	10	15	14	11	6	5	9	77
Railway	0	0	0	0	0	0	2	0	2
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	7	10	15	14	11	6	7	9	79
Injuries by Mode									
Air	0	0	0	0	0	0	0	0	0
Highway	9	27	34	61	95	14	22	11	273
Railway	9	13	64	1	16	4	842	5	954
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	18	40	98	62	111	18	864	16	1,227
Damages by Mode (in Dollars)									
Air	0	0	0	0	0	0	0	0	0
Highway	14,131,962	23,952,503	18,217,299	11,200,448	13,528,150	16,256,116	22,044,176	17,241,084	136,571,738
Railway	10,659,969	6,231,038	9,378,024	1,916,070	12,013,577	7,260,124	15,460,065	7,338,960	70,257,827
Water	0	0	125,000	0	0	0	0	0	125,000
Other	0	0	0	0	0	0	0	0	0
TOTALS	24,791,931	30,183,541	27,720,323	13,116,518	25,541,727	23,516,240	37,504,241	24,580,044	206,954,565

Exhibit 1.4
Incident Statistics by Mode and Reporting Year
Hazardous Waste Incidents

Mode	1990	1991	1992	1993	1994	1995	1996	1997	Total
Incidents by Mode									
Air	0	0	1	1	1	0	0	2	5
Highway	168	175	377	549	519	652	423	374	3,237
Railway	26	27	33	23	27	24	34	38	232
Water	0	0	0	1	0	0	0	0	1
Other	0	0	0	0	0	0	0	0	0
TOTALS	194	202	411	574	547	676	457	414	3,475
Deaths by Mode									
Air	0	0	0	0	0	0	0	0	0
Highway	0	0	0	0	0	0	1	0	1
Railway	0	0	0	0	0	0	0	0	0
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	0	0	0	0	0	0	1	0	1
Injuries by Mode									
Air	0	0	0	0	0	0	0	0	0
Highway	4	25	50	5	4	23	10	9	130
Railway	4	5	1	0	1	1	3	1	16
Water	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	8	30	51	5	5	24	13	10	146
Damages by Mode (in Dollars)									
Air	0	0	0	1	0	0	0	75	76
Highway	1,342,868	1,132,749	1,132,085	832,944	1,153,436	1,612,542	1,832,748	4,015,176	13,054,548
Railway	4,516	633,549	67,487	63,789	1,296,204	466,580	43,960	35,520	2,611,605
Water	0	0	0	17,630	0	0	0	0	17,630
Other	0	0	0	0	0	0	0	0	0
TOTALS	1,347,384	1,766,298	1,199,572	914,364	2,449,640	2,079,122	1,876,708	4,050,771	15,683,859

Exhibit 2.1

Hazardous Materials Incidents, 1990 - 1997

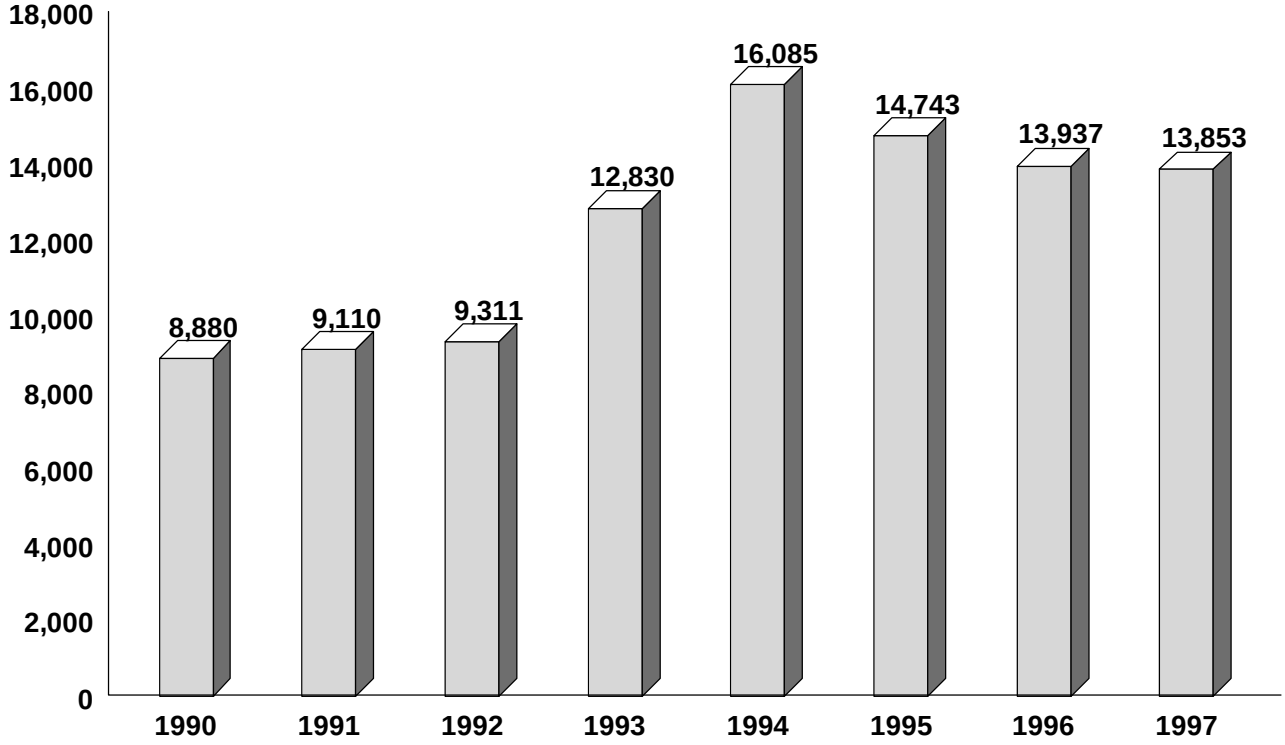


Exhibit 2.2

Fatalities due to Hazardous Materials, 1990 - 1997

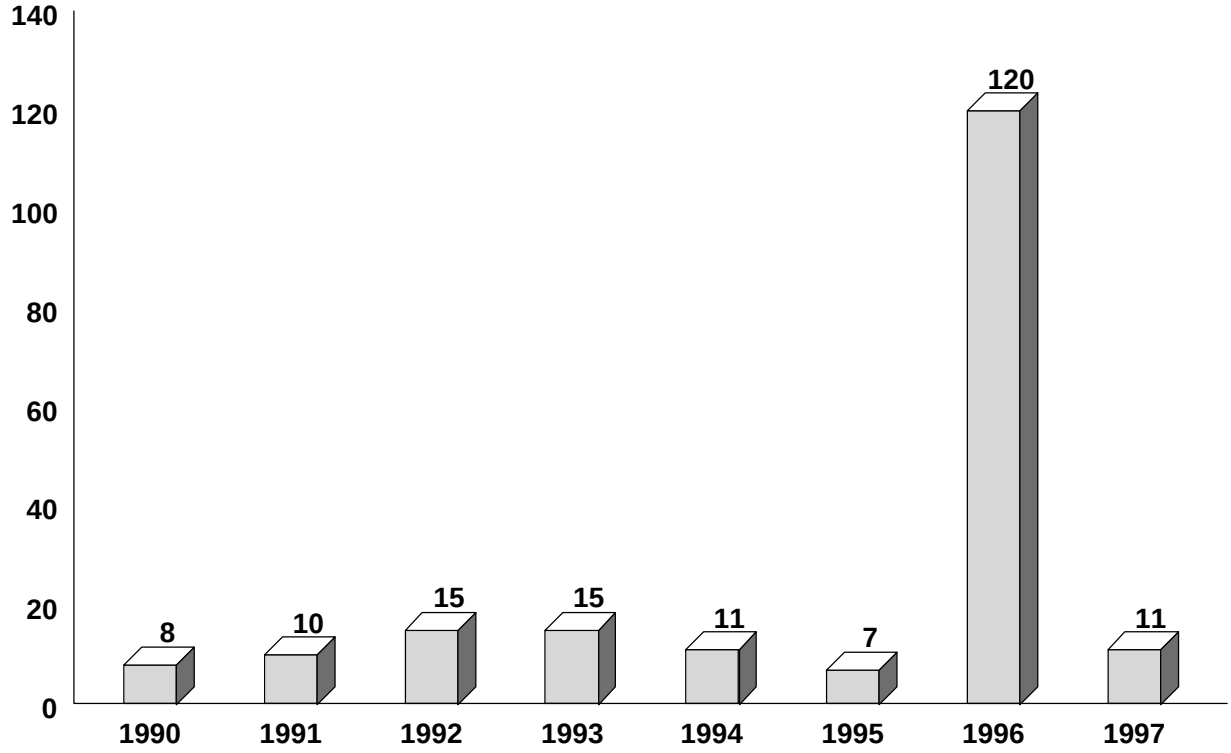


Exhibit 2.3
Hazardous Material Incidents, 1990 - 1997
Highway by Bulk and Non-Bulk

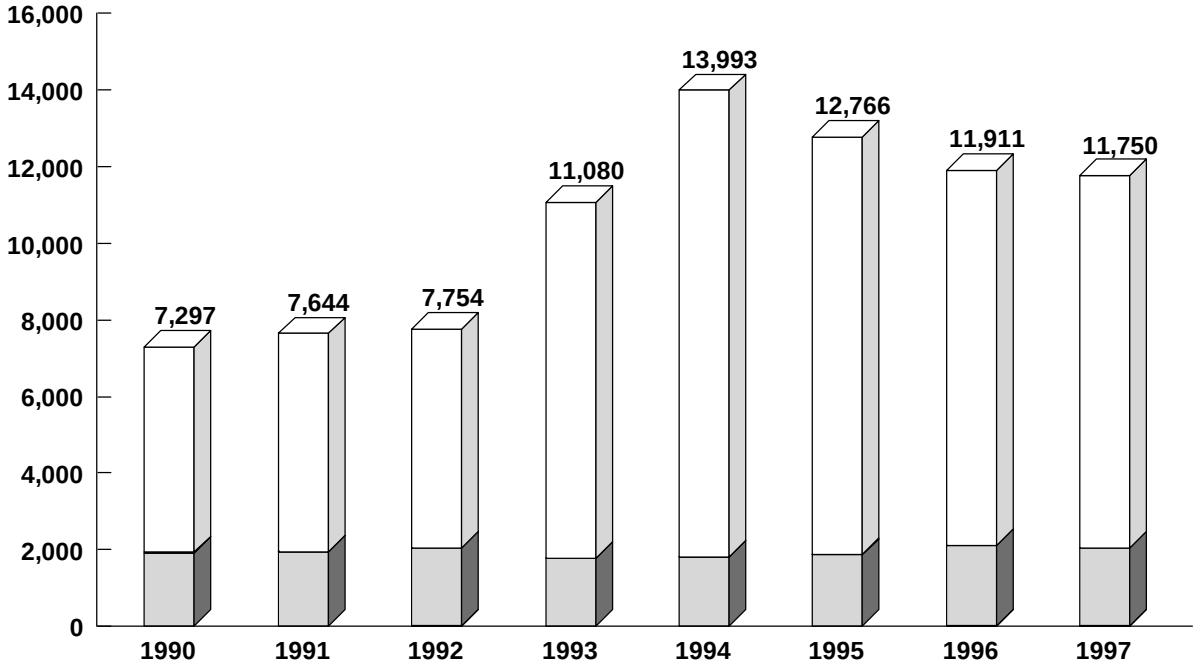
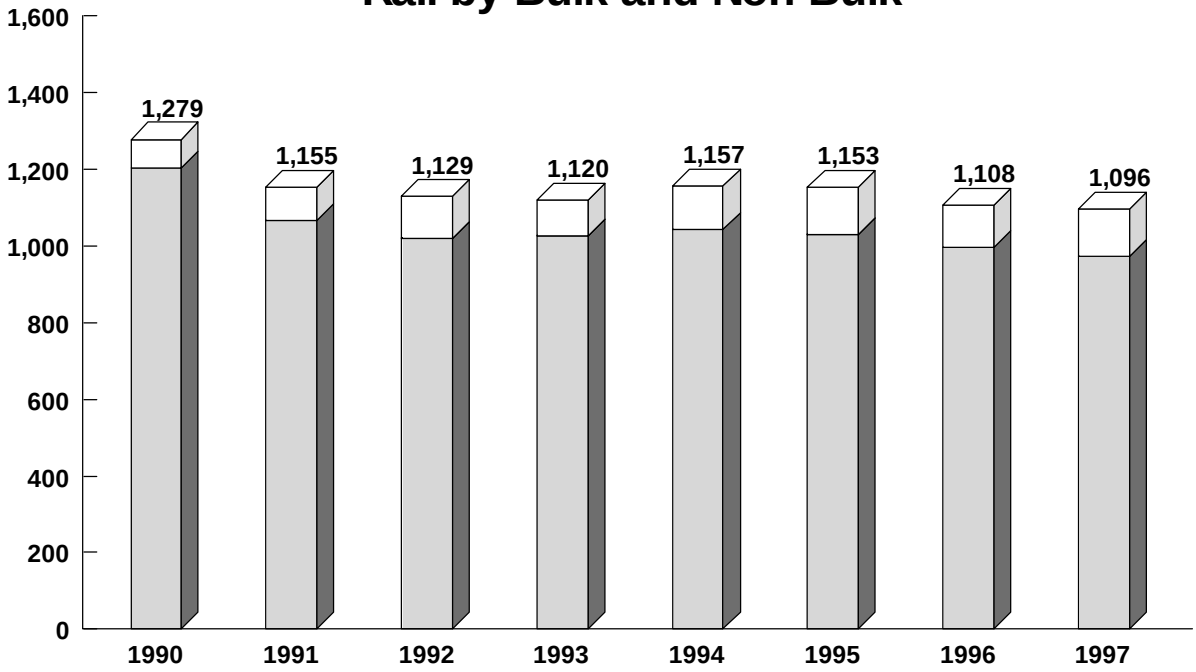


Exhibit 2.4
Hazardous Material Incidents, 1990 - 1997
Rail by Bulk and Non-Bulk



Note: Bulk packages are defined as those with a maximum capacity greater than 450 L (119 gallons).

Exhibit 2.5
Hazardous Material Incidents, 1990 - 1997
Air

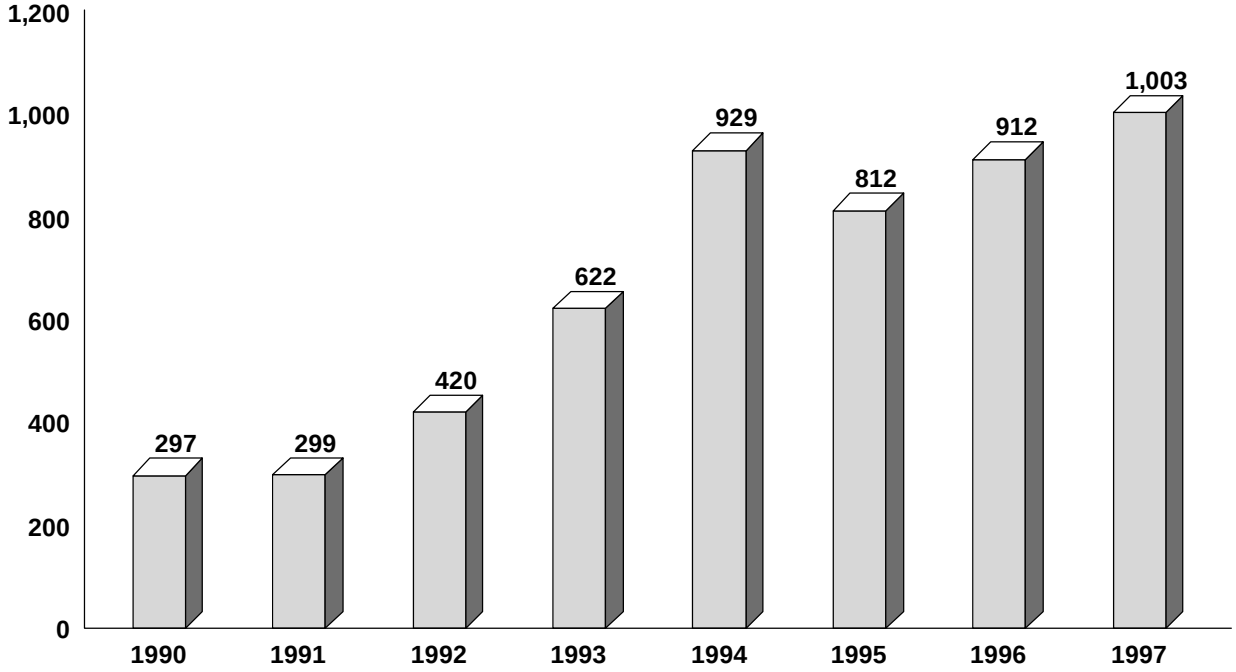


Exhibit 2.6
Hazardous Material Incidents, 1990 - 1997
Water

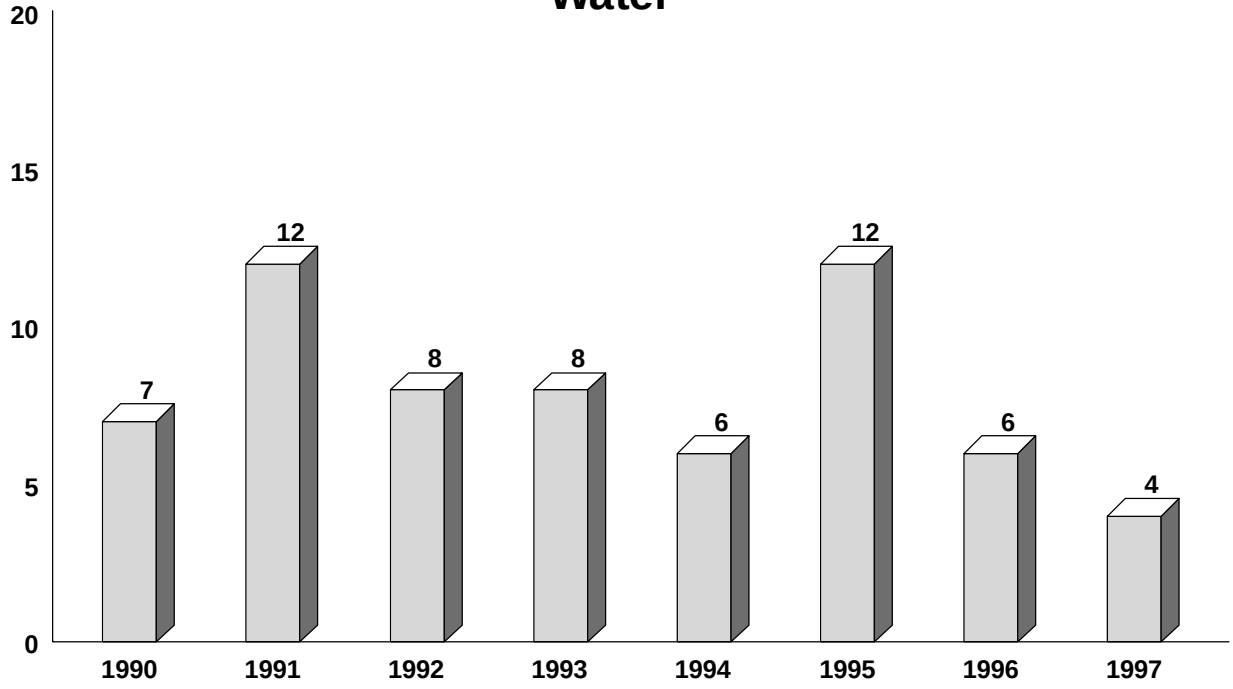


Exhibit 3.1

Hazardous Materials Incidents, 1983-1997

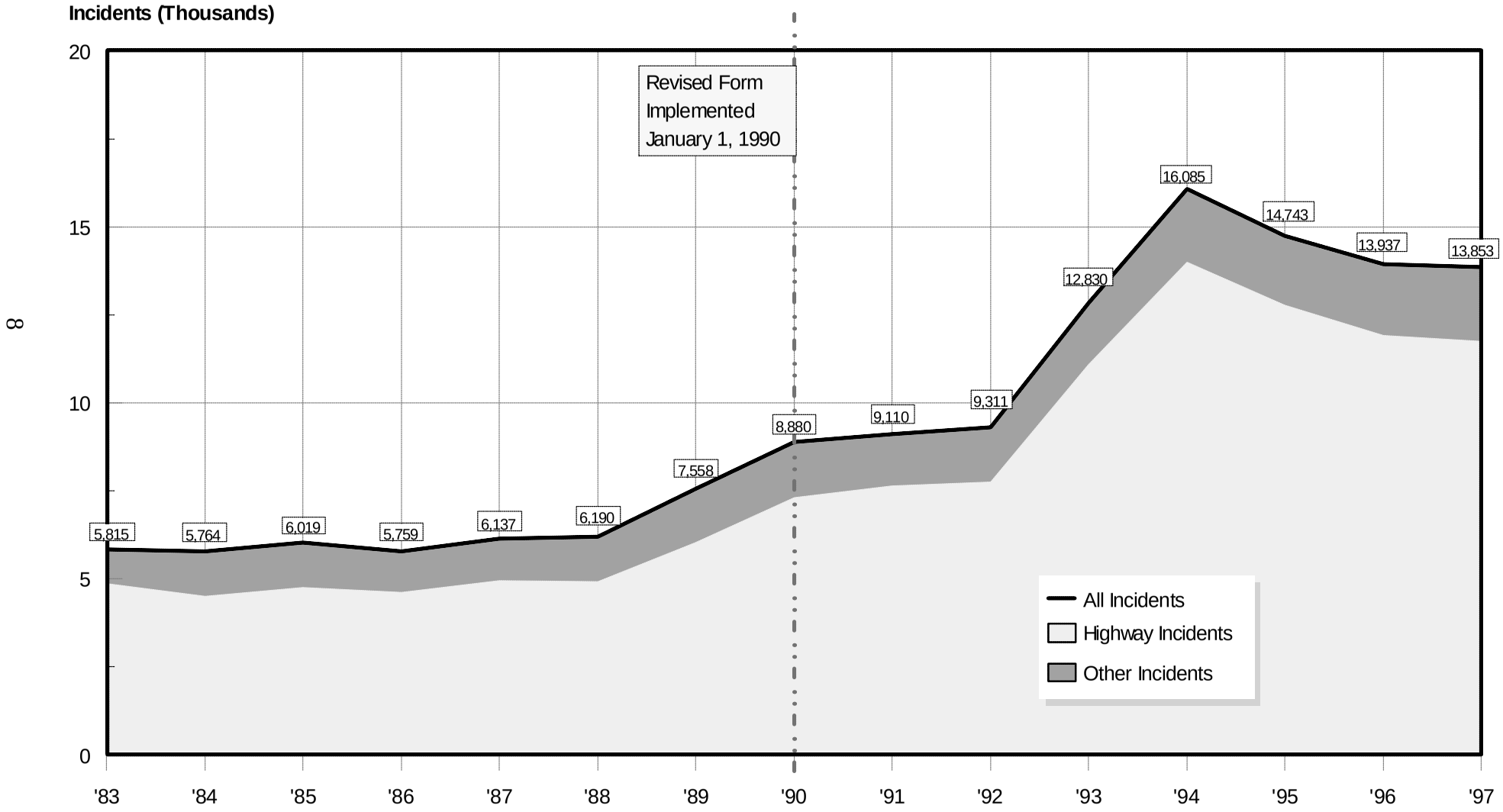
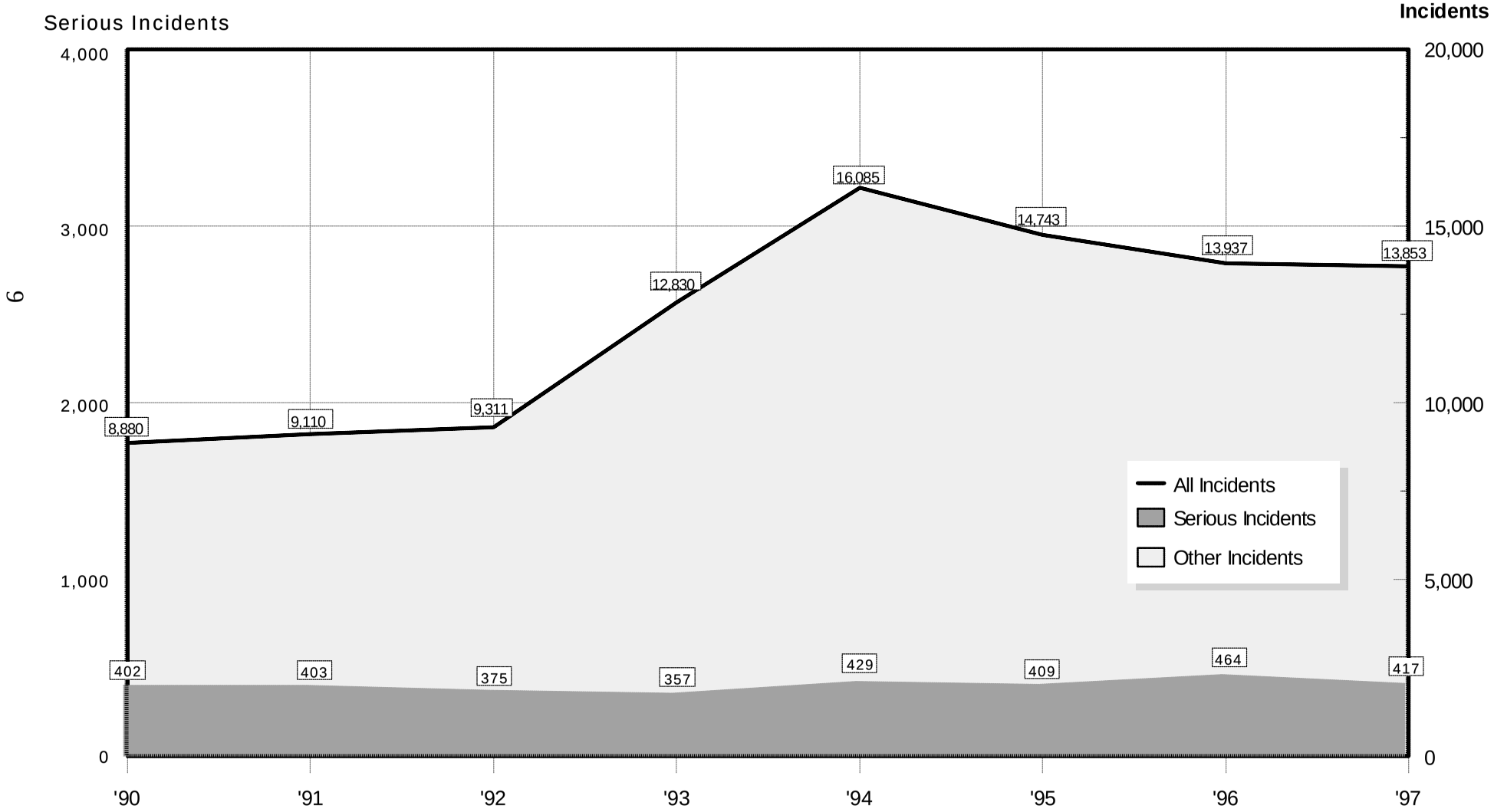


Exhibit 3.2

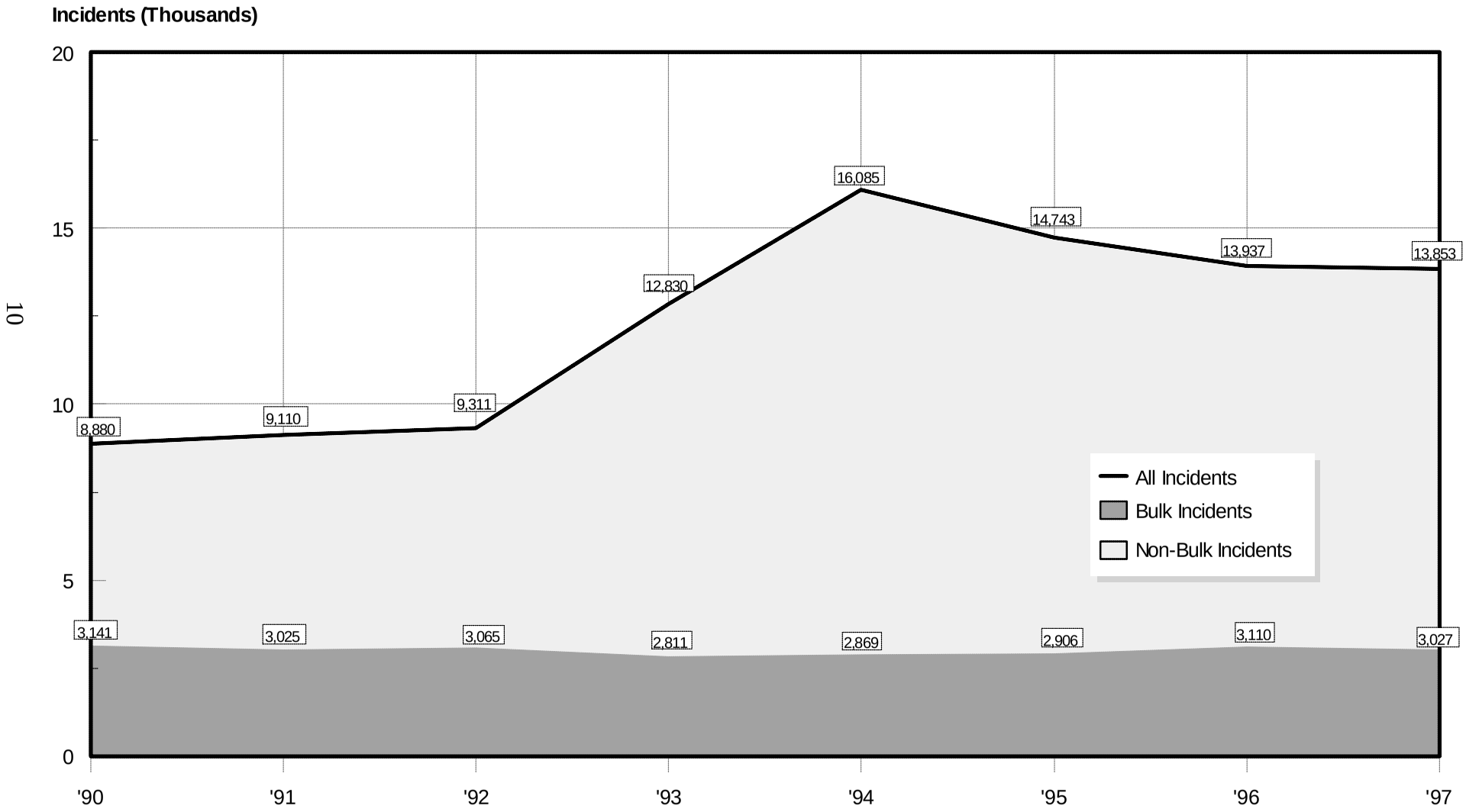
Hazardous Materials Incidents, 1990-1997
Serious Incidents



Note: Serious incidents are defined as those which involve a fatality, major injury, closure of a major transportation artery or facility, evacuation of six or more persons, or a vehicle accident or derailment.

Exhibit 3.3

Hazardous Materials Incidents, 1990-1997
Bulk and Non-Bulk Incidents



Note: Bulk packages are defined as those with a maximum capacity greater than 450 L (119 gallons).

Exhibit 4.1.1
Incidents and Damages by Hazard Class - 1996

Hazard Class **	Number of Reported Incidents	Percent of Reported Incidents *	Rank by Incidents	Number of Incidents Involving Damages	Amount of Damages ($)	Percent of Total Damages *	Rank by $ Damages
Flammable - Combustible Liquid	5,826	41.5	1	4,133	20,128,406	43.3	1
Corrosive Material	5,201	37.1	2	3,656	9,470,303	20.4	2
Poisonous Materials	1,063	7.6	3	750	1,544,898	3.3	7
Miscellaneous Hazardous Material	497	3.5	4	279	1,829,391	3.9	6
Combustible Liquid	371	2.6	5	240	3,234,872	7.0	4
Oxidizer	269	1.9	6	195	1,292,168	2.8	8
Nonflammable Compressed Gas	233	1.7	7	143	1,119,666	2.4	9
Flammable Gas	202	1.4	8	144	2,558,273	5.5	5
Organic Peroxide	103	0.7	9	76	36,765	0.1	13
Flammable Solid	81	0.6	10	60	70,745	0.2	12
Other Regulated Material,Class D	57	0.4	11	42	3,852	<.1	16
Poisonous Gas	51	0.4	12	26	4,816,212	10.4	3
Dangerous When Wet Material	24	0.2	13	17	115,366	0.2	11
Spontaneously Combustible	21	0.1	14	18	35,380	0.1	14
Radioactive Material	17	0.1	15	2	1,550	<.1	17
Explosive No Blast Hazard	4	<.1	16	1	350	<.1	18
Very Insensitive Explosive	4	<.1	17	3	24,941	0.1	15
Infectious Substance (Etiologic)	3	<.1	18	0	0	0.0	19
Explosive Mass Explosion Hazard	2	<.1	19	1	200,000	0.4	10
Explosive Fire Hazard	1	<.1	20	0	0	0.0	19
TOTALS		**100.0**			**$46,483,138**	**100.0**	

Note: Since some incidents involve multiple hazard classes, double counting occurs in the "Number of Reported Incidents" and "Number of Incidents Involving Damages" columns. Therefore, no totals are shown for these columns.

The "Percent of Reported Incidents" is based on the sum of the "Reported Number of Incidents" column.

* All percent figures are rounded to the nearest tenth.

** No reports were received for other hazard classes.

Exhibit 4.1.2
Incidents and Damages by Hazard Class - 1997

Hazard Class **	Number of Reported Incidents	Percent of Reported Incidents *	Rank by Incidents	Number of Incidents Involving Damages	Amount of Damages ($)	Percent of Total Damages *	Rank by $ Damages
Flammable - Combustible Liquid	5,614	40.3	1	3,877	14,276,074	42.9	1
Corrosive Material	5,304	38.1	2	3,690	6,939,052	20.8	2
Poisonous Materials	985	7.1	3	658	1,084,489	3.3	7
Miscellaneous Hazardous Material	480	3.4	4	297	3,056,357	9.2	3
Oxidizer	409	2.9	5	319	1,295,320	3.9	6
Combustible Liquid	323	2.3	6	229	799,974	2.4	9
Nonflammable Compressed Gas	275	2.0	7	168	2,423,649	7.3	4
Flammable Gas	196	1.4	8	122	1,447,587	4.3	5
Organic Peroxide	100	0.7	9	76	89,954	0.3	15
Flammable Solid	94	0.7	10	70	168,057	0.5	12
Other Regulated Material,Class D	41	0.3	11	27	13,310	<.1	18
Poisonous Gas	39	0.3	12	20	121,601	0.4	13
Dangerous When Wet Material	19	0.1	13	10	268,001	0.8	11
Radioactive Material	18	0.1	14	4	99,853	0.3	14
Spontaneously Combustible	16	0.1	15	13	854,510	2.6	8
Infectious Substance (Etiologic)	8	0.1	16	0	0	0.0	19
Very Insensitive Explosive	4	<.1	17	2	55,840	0.2	16
Explosive Mass Explosion Hazard	3	<.1	18	1	14,866	<.1	17
Explosive No Blast Hazard	3	<.1	19	0	0	0.0	19
Explosive Projection Hazard	2	<.1	20	1	278,786	0.8	10
Explosive Fire Hazard	1	<.1	21	0	0	0.0	19
TOTALS		**100.0**			**$33,287,280**	**100.0**	

Note: Since some incidents involve multiple hazard classes, double counting occurs in the "Number of Reported Incidents" and "Number of Incidents Involving Damages" columns. Therefore, no totals are shown for these columns.

The "Percent of Reported Incidents" is based on the sum of the "Reported Number of Incidents" column.

* All percent figures are rounded to the nearest tenth.

** No reports were received for other hazard classes.

Exhibit 4.1.3
Incidents by Hazard Class - 1996

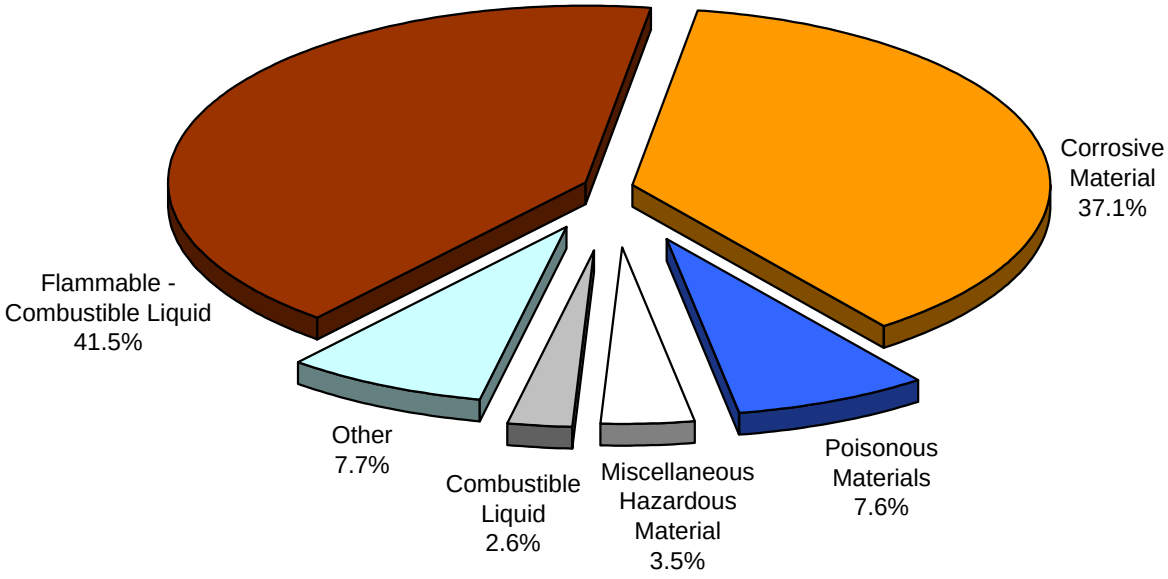


Exhibit 4.1.4
Incidents by Hazard Class - 1997

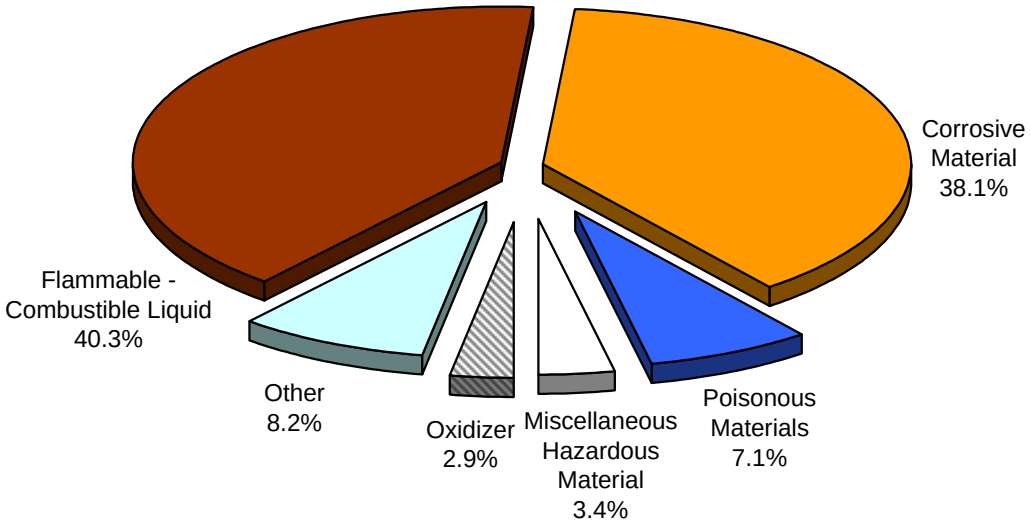


Exhibit 4.2.1

Hazardous Materials Incidents - 1996
Injuries by Hazard Class

Hazard Class *	Number of Injuries	Percent of Injuries	Major Injuries **	Minor Injuries	Number of Incidents with Injuries		
					Major	Minor	Total ***
Poisonous Gas	797	67.9	5	792	1	5	5
Corrosive Material	131	11.2	14	117	14	85	96
Flammable - Combustible Liquid	67	5.7	15	52	14	38	51
Combustible Liquid	55	4.7	2	53	1	4	4
Poisonous Materials	41	3.5	0	41	0	17	17
Nonflammable Compressed Gas	39	3.3	3	36	2	7	8
Miscellaneous Hazardous Material	20	1.7	2	18	2	8	10
Flammable Gas	11	0.9	5	6	4	4	7
Oxidizer	6	0.5	0	6	0	4	4
Flammable Solid	4	0.3	0	4	0	2	2
Other Regulated Material, Class D	1	0.1	0	1	0	1	1
Very Insensitive Explosive	1	0.1	1	0	1	0	1
TOTALS	**1,173**	**100.0**	**47**	**1,126**	**39**	**175**	**206**

Note: All percent figures are rounded to nearest tenth.

* No reports received for other hazard classes.

** Major injuries are those requiring hospitalization or resulting in loss of time at work.

*** Since some incidents involve both major and minor incidents, the "Number of Incidents with Injuries - Total" column may not equal the sum of the two preceding columns.

Exhibit 4.2.2

Hazardous Materials Incidents - 1997
Injuries by Hazard Class

Hazard Class *	Number of Injuries	Percent of Injuries	Major Injuries **	Minor Injuries	Number of Incidents with Injuries		
					Major	Minor	Total ***
Corrosive Material	120	53.1	32	88	11	69	78
Flammable - Combustible Liquid	35	15.5	3	32	3	22	24
Poisonous Materials	25	11.1	1	24	1	9	10
Miscellaneous Hazardous Material	12	5.3	1	11	1	7	8
Flammable Gas	9	4.0	6	3	3	3	5
Nonflammable Compressed Gas	6	2.7	0	6	0	5	5
Poisonous Gas	6	2.7	0	6	0	4	4
Oxidizer	5	2.2	0	5	0	4	4
Organic Peroxide	4	1.8	0	4	0	2	2
Combustible Liquid	3	1.3	0	3	0	1	1
Radioactive Material	1	0.4	0	1	0	1	1
TOTALS	**226**	**100.0**	**43**	**183**	**19**	**127**	**142**

Note: All percent figures are rounded to nearest tenth.

* No reports received for other hazard classes.

** Major injuries are those requiring hospitalization or resulting in loss of time at work.

*** Since some incidents involve both major and minor incidents, the "Number of Incidents with Injuries - Total" column may not equal the sum of the two preceding columns.

Exhibit 4.3

Hazardous Materials Incidents, 1990-1997
Fatalities by Hazard Class / Hazardous Material

Hazard Class / Hazardous Material	1990	1991	1992	1993	1994	1995	1996	1997	Total
	Number of Fatalities								
Combustible Liquid	**3**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**7**
Combustible Liquid n.o.s.	3	...	...	...	...	...	...	...	3
Fuel Oil No. 1,2,4,5,6	...	2	...	...	...	...	1	...	3
Petroleum Distillate	...	...	...	...	...	...	1	...	1
Flammable Gas	**0**	**0**	**3**	**0**	**1**	**2**	**0**	**3**	**9**
Acetylene Dissolved	...	...	...	...	1	...	...	...	1
Petroleum Gases Liquefied	...	...	3	...	...	2	...	3	8
Poisonous Gas	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**
Ammonia Anhydrous	...	...	...	...	...	...	1	...	1
Chlorine	...	...	...	...	...	...	1	...	1
Flammable - Combustible Liquid	**5**	**8**	**12**	**15**	**9**	**5**	**6**	**8**	**68**
Alcohols n.o.s.	...	...	...	...	...	...	...	1	1
Asphalt	...	...	...	1	...	...	...	...	1
Denatured Alcohol	...	...	...	1	...	...	...	...	1
Flammable Liquids n.o.s.	...	...	...	...	...	...	1	1	2
Fuel Aviation Turbine	...	...	1	1	...	...	...	...	2
Gasoline	4	8	10	12	9	4	4	6	57
Hydrocarbons Liquid n.o.s.	...	...	...	...	...	...	1	...	1
Paint	1	...	...	...	...	...	...	...	1
Paint Related Material	...	...	...	...	...	1	...	...	1
Petroleum Crude Oil	...	...	1	...	...	...	...	...	1
Oxidizer	**0**	**0**	**0**	**0**	**0**	**0**	**110**	**0**	**110**
Oxidizing Solid n.o.s.	...	...	...	...	...	...	110	...	110
Miscellaneous Hazardous	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
Elevated Temp Material Liquid	...	...	...	...	1	...	...	...	1
Total	**8**	**10**	**15**	**15**	**11**	**7**	**120**	**11**	**197**

Exhibit 4.1.1
Incidents and Damages by Hazard Class - 1996

Hazard Class **	Number of Reported Incidents	Percent of Reported Incidents *	Rank by Incidents	Number of Incidents Involving Damages	Amount of Damages ($)	Percent of Total Damages *	Rank by $ Damages
Flammable - Combustible Liquid	5,826	41.5	1	4,133	20,128,406	43.3	1
Corrosive Material	5,201	37.1	2	3,656	9,470,303	20.4	2
Poisonous Materials	1,063	7.6	3	750	1,544,898	3.3	7
Miscellaneous Hazardous Material	497	3.5	4	279	1,829,391	3.9	6
Combustible Liquid	371	2.6	5	240	3,234,872	7.0	4
Oxidizer	269	1.9	6	195	1,292,168	2.8	8
Nonflammable Compressed Gas	233	1.7	7	143	1,119,666	2.4	9
Flammable Gas	202	1.4	8	144	2,558,273	5.5	5
Organic Peroxide	103	0.7	9	76	36,765	0.1	13
Flammable Solid	81	0.6	10	60	70,745	0.2	12
Other Regulated Material,Class D	57	0.4	11	42	3,852	<.1	16
Poisonous Gas	51	0.4	12	26	4,816,212	10.4	3
Dangerous When Wet Material	24	0.2	13	17	115,366	0.2	11
Spontaneously Combustible	21	0.1	14	18	35,380	0.1	14
Radioactive Material	17	0.1	15	2	1,550	<.1	17
Explosive No Blast Hazard	4	<.1	16	1	350	<.1	18
Very Insensitive Explosive	4	<.1	17	3	24,941	0.1	15
Infectious Substance (Etiologic)	3	<.1	18	0	0	0.0	19
Explosive Mass Explosion Hazard	2	<.1	19	1	200,000	0.4	10
Explosive Fire Hazard	1	<.1	20	0	0	0.0	19
TOTALS		**100.0**			**$46,483,138**	**100.0**	

Note: Since some incidents involve multiple hazard classes, double counting occurs in the "Number of Reported Incidents" and "Number of Incidents Involving Damages" columns. Therefore, no totals are shown for these columns.

The "Percent of Reported Incidents" is based on the sum of the "Reported Number of Incidents" column.

* All percent figures are rounded to the nearest tenth.

** No reports were received for other hazard classes.

Exhibit 4.4.2

Incidents by Top 50 Hazardous Materials - 1997

Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents	Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents
1	Corrosive Liquids n.o.s.	Corrosive Material	1,055	7.6	26	Compound Cleaning Liquid	Corrosive Material	136	1.0
2	Flammable Liquids n.o.s.	Flammable - Combustible Liquid	917	6.6	27	Dichloromethane	Poisonous Materials	134	1.0
3	Resin Solution	Flammable - Combustible Liquid	515	3.7	28	Xylenes	Flammable - Combustible Liquid	132	1.0
4	Sodium Hydroxide Solution	Corrosive Material	461	3.3	29	Methanol	Flammable - Combustible Liquid	126	0.9
5	Hydrochloric Acid Solution	Corrosive Material	358	2.6	30	Extracts Flavoring Liquid	Flammable - Combustible Liquid	124	0.9
6	Adhesives	Flammable - Combustible Liquid	333	2.4	31	Ammonia Solutions 10-35%	Corrosive Material	110	0.8
7	Gasoline	Flammable - Combustible Liquid	301	2.2	32	Acetone	Flammable - Combustible Liquid	103	0.7
8	Isopropanol	Flammable - Combustible Liquid	289	2.1	32	Petroleum Crude Oil	Flammable - Combustible Liquid	103	0.7
9	Phosphoric Acid	Corrosive Material	277	2.0	34	Ammonia Anhydrous	Nonflammable Compressed Gas	97	0.7
10	Sulfuric Acid	Corrosive Material	261	1.9	35	Diesel Fuel	Flammable - Combustible Liquid	92	0.7
11	Paint or Paint Related	Flammable - Combustible Liquid	259	1.9	36	Paint Related Material	Flammable - Combustible Liquid	84	0.6
12	Corrosive Liq Acidic Inorganic	Corrosive Material	248	1.8	36	Toxic Liquid Organic n.o.s.	Poisonous Materials	84	0.6
13	Corrosive Liq Basic Inorganic	Corrosive Material	246	1.8	38	Petroleum Gases Liquefied	Flammable Gas	80	0.6
14	Petroleum Distillates n.o.s.	Flammable - Combustible Liquid	245	1.8	39	Trichloroethylene	Poisonous Materials	78	0.6
15	Potassium Hydroxide Solution	Corrosive Material	212	1.5	40	Flammable Liquid Corrosive	Flammable - Combustible Liquid	77	0.6
16	Caustic Alkali Liquid n.o.s.	Corrosive Material	209	1.5	40	Environmentally Haz Solid	Miscellaneous Hazardous Material	77	0.6
17	Fuel Oil (No. 1,2,4,5,6)	Flammable - Combustible Liquid	189	1.4	42	Alcohols n.o.s.	Flammable - Combustible Liquid	74	0.5
18	Printing Ink Flammable	Flammable - Combustible Liquid	184	1.3	42	Methyl Methacrylate Inhibited	Flammable - Combustible Liquid	74	0.5
19	Corrosive Liq Acidic Organic	Corrosive Material	182	1.3	44	Compound Cleaning Liquid	Flammable - Combustible Liquid	71	0.5
20	Hydrogen Perox-Peroxyacetic	Oxidizer	171	1.2	45	Fuel Oil No. 1,2,4,5,6	Combustible Liquid	69	0.5
21	Ethanol	Flammable - Combustible Liquid	169	1.2	46	Corrosive Liq Basic Organic	Corrosive Material	68	0.5
22	Compound Cleaning Liq Pho	Corrosive Material	156	1.1	47	Amines Liquid Corrosive n.o.s.	Corrosive Material	67	0.5
23	Hypochlorite Solution 5-16%	Corrosive Material	153	1.1	48	Fuel Oil	Combustible Liquid	66	0.5
24	Environmentally Haz Liquid	Miscellaneous Hazardous Material	143	1.0	48	Hazardous Waste Solid n.o.s.	Miscellaneous Hazardous Material	66	0.5
25	Combustible Liquid n.o.s.	Combustible Liquid	142	1.0	50	Acetic Acid Solution	Corrosive Material	61	0.4
							TOTALS	**9,928**	**71.7**

Note: Percentage figures are based on 13,853 incidents reported in 1997.

Exhibit 4.5.1

Serious Incidents by Hazardous Material - 1996

Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents
1	Gasoline	Flammable - Combustible Liquid	70	0.5
2	Petroleum Gases Liquefied	Flammable Gas	25	0.2
2	Fuel Oil (No. 1,2,4,5,6)	Flammable - Combustible Liquid	25	0.2
4	Hydrochloric Acid Solution	Corrosive Material	23	0.2
5	Diesel Fuel	Flammable - Combustible Liquid	20	0.1
6	Flammable Liquids n.o.s.	Flammable - Combustible Liquid	15	0.1
7	Sodium Hydroxide Solution	Corrosive Material	13	0.1
8	Corrosive Liquids n.o.s.	Corrosive Material	12	0.1
8	Sulfuric Acid	Corrosive Material	12	0.1
10	Fuel Oil No. 1,2,4,5,6	Combustible Liquid	10	0.1
11	Environmentally Hazardous Liquid	Miscellaneous Hazardous Material	9	0.1
12	Petroleum Crude Oil	Flammable - Combustible Liquid	8	0.1
13	Ammonia Anhydrous	Nonflammable Compressed Gas	7	0.1
13	Combustible Liquid n.o.s.	Combustible Liquid	7	0.1
13	Paint or Paint Related	Flammable - Combustible Liquid	7	0.1
16	Sodium Hydroxide Solid	Corrosive Material	6	<.1
16	Styrene Monomer Inhibited	Flammable - Combustible Liquid	6	<.1
16	Environmentally Hazardous Solid	Miscellaneous Hazardous Material	6	<.1
19	Propane	Flammable Gas	5	<.1
19	Paint Related Material	Flammable - Combustible Liquid	5	<.1
19	Hazardous Waste Solid n.o.s.	Miscellaneous Hazardous Material	5	<.1
22	Ammonium Nitrate <0.2%	Oxidizer	4	<.1
22	Chlorine	Poisonous Gas	4	<.1
22	Fuel Aviation Turbine	Flammable - Combustible Liquid	4	<.1
22	Petroleum Distillates n.o.s.	Flammable - Combustible Liquid	4	<.1
22	Resin Solution	Flammable - Combustible Liquid	4	<.1
22	Corrosive Liq Acidic Inorganic	Corrosive Material	4	<.1
22	Elevated Temp Material Liquid	Miscellaneous Hazardous Material	4	<.1
29	Acetylene Dissolved	Flammable Gas	3	<.1
29	Fuel Oil	Combustible Liquid	3	<.1
29	Oxygen Refrigerated Liquid	Nonflammable Compressed Gas	3	<.1
29	Petroleum Distillate	Combustible Liquid	3	<.1
29	Ammonia Anhydrous	Poisonous Gas	3	<.1
29	Gas Oil	Flammable - Combustible Liquid	3	<.1
29	Denatured Alcohol	Flammable - Combustible Liquid	3	<.1
36	*34 materials tied for this rank*	....	2 each	....
70	*92 materials tied for this rank*	....	1 each	....
			TOTAL	**3.3**

Note: Percentage figures are based on 13,937 incidents reported in 1996.

Serious incidents are defined as those which involve a fatality, major injury, closure of a major transportation artery or facility, evacuation of six or more persons, or a vehicle accident or derailment.

Since some incidents involve multiple hazard classes, double counting occurs in the "Incidents" column. Therefore, no total is shown for this column.

Exhibit 4.5.2

Serious Incidents by Hazardous Material - 1997

Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents
1	Gasoline	Flammable - Combustible Liquid	62	0.4
2	Petroleum Gases Liquefied	Flammable Gas	27	0.2
3	Hydrochloric Acid Solution	Corrosive Material	13	0.1
3	Fuel Oil (No. 1,2,4,5,6)	Flammable - Combustible Liquid	13	0.1
5	Sodium Hydroxide Solution	Corrosive Material	12	0.1
5	Sulfuric Acid	Corrosive Material	12	0.1
5	Diesel Fuel	Flammable - Combustible Liquid	12	0.1
5	Elevated Temp Material Liquid	Miscellaneous Hazardous Material	12	0.1
9	Flammable Liquids n.o.s.	Flammable - Combustible Liquid	11	0.1
10	Environmentally Hazardous Liquid	Miscellaneous Hazardous Material	10	0.1
11	Adhesives	Flammable - Combustible Liquid	7	0.1
11	Corrosive Liquids n.o.s.	Corrosive Material	7	0.1
11	Phosphoric Acid	Corrosive Material	7	0.1
11	Resin Solution	Flammable - Combustible Liquid	7	0.1
15	Ammonia Anhydrous	Nonflammable Compressed Gas	6	<.1
15	Hazardous Waste Solid n.o.s.	Miscellaneous Hazardous Material	6	<.1
17	Ammonia Solutions 10-35%	Corrosive Material	5	<.1
17	Combustible Liquid n.o.s.	Combustible Liquid	5	<.1
17	Fuel Oil No. 1,2,4,5,6	Combustible Liquid	5	<.1
20	Petroleum Crude Oil	Flammable - Combustible Liquid	4	<.1
20	Fuel Oil	Combustible Liquid	4	<.1
20	Nitric Acid <70%	Corrosive Material	4	<.1
20	Nitrogen Refrigerated Liquid	Nonflammable Compressed Gas	4	<.1
20	Environmentally Hazardous Solid	Miscellaneous Hazardous Material	4	<.1
20	Gasohol	Flammable - Combustible Liquid	4	<.1
20	Denatured Alcohol	Flammable - Combustible Liquid	4	<.1
27	Acetone	Flammable - Combustible Liquid	3	<.1
27	Alcohols n.o.s.	Flammable - Combustible Liquid	3	<.1
27	Ammonium Nitrate <0.2%	Oxidizer	3	<.1
27	Calcium Hypochlorite Hydrated	Oxidizer	3	<.1
27	Coating Solution	Flammable - Combustible Liquid	3	<.1
27	Fuel Aviation Turbine	Flammable - Combustible Liquid	3	<.1
27	Hypochlorite Solution 5-16%	Corrosive Material	3	<.1
27	Methyl Ethyl Ketone	Flammable - Combustible Liquid	3	<.1
27	Potassium Hydroxide Solution	Corrosive Material	3	<.1
27	Radioactive Material n.o.s.	Radioactive Material	3	<.1
27	Sodium Chlorate	Oxidizer	3	<.1
27	Styrene Monomer Inhibited	Flammable - Combustible Liquid	3	<.1
27	Toluene	Flammable - Combustible Liquid	3	<.1
27	Trichloroethylene	Poisonous Materials	3	<.1
27	Methanol	Flammable - Combustible Liquid	3	<.1
27	Corrosive Liq Acidic Organic	Corrosive Material	3	<.1
27	Aerosols Flammable	Flammable Gas	3	<.1
27	Kerosene	Flammable - Combustible Liquid	3	<.1
45	*33 materials tied for this rank*	....	2 each	....
79	*96 materials tied for this rank*	....	1 each	....
		TOTAL		**3.0**

Note: Percentage figures are based on 13,853 incidents reported in 1997.

Serious incidents are defined as those which involve a fatality, major injury, closure of a major transportation artery or facility, evacuation of six or more persons, or a vehicle accident or derailment.

Since some incidents involve multiple hazard classes, double counting occurs in the "Incidents" column. Therefore, no total is shown for this column.

Exhibit 5

Characterization of Hazardous Materials Incident Damages, 1996-1997

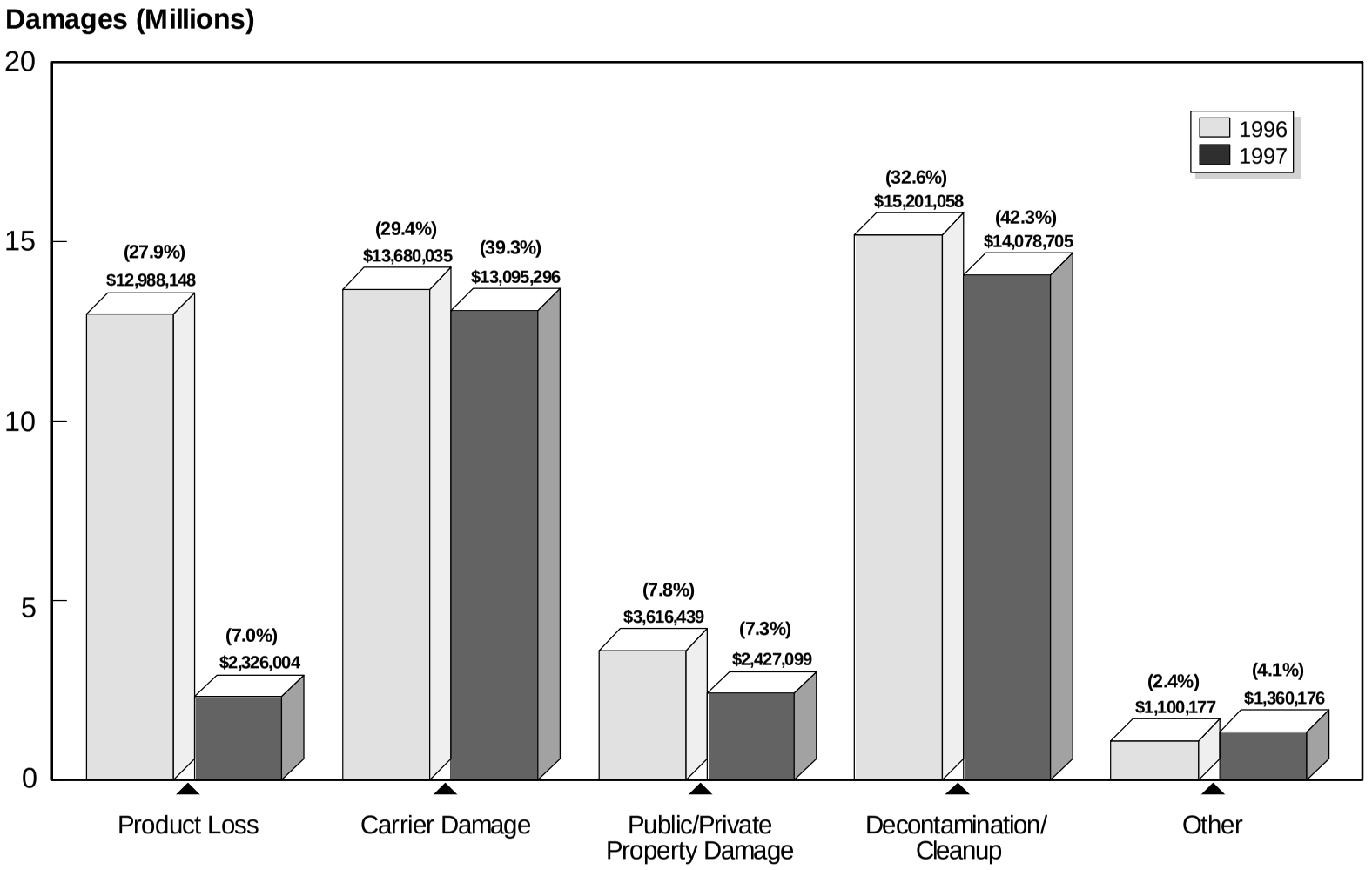


Exhibit 6.1
Hazardous Materials Incidents - 1996
Cause by Mode

Cause	Air	Highway	Rail	Water	Total	Percent of all Incidents*
Human Error	712	9,930	600	4	11,246	80.7
Package Failure	176	1,535	435	1	2,147	15.4
Vehicular Accident/Derailment	0	287	43	0	330	2.4
Other	24	159	30	1	214	1.5
TOTALS	**912**	**11,911**	**1,108**	**6**	**13,937**	...
Percent of Incidents by Mode	6.5	85.5	8.0	<.1	...	...

Exhibit 6.2
Hazardous Materials Incidents - 1997
Cause by Mode

Cause	Air	Highway	Rail	Water	Total	Percent of all Incidents*
Human Error	801	9,828	569	2	11,200	80.4
Package Failure	188	1,509	448	1	2,146	15.4
Vehicular Accident/Derailment	1	253	51	0	305	2.2
Other	13	160	28	1	202	1.4
TOTALS	**1,003**	**11,750**	**1,096**	**4**	**13,853**	...
Percent of Incidents by Mode	7.2	84.3	7.9	<.1	...	...

* All percent figures are rounded to the nearest tenth.

Exhibit 7.1

Hazardous Materials Incidents - 1996
Evacuations - Cause and Consequence by Mode

Mode	Incidents With Evacuations	CAUSE				CONSEQUENCE			
		Human Error	Package Failure	Accident/ Derailment	Other	People Evacuated	Deaths	Major Injuries *	Minor Injuries
Air	28	23	2	0	3	163	0	0	21
Highway	201	148	17	29	7	8,288	1	8	46
Railway	42	10	14	15	3	11,105	2	4	877
Water	0	0	0	0	0	0	0	0	0
TOTALS	**271**	**181**	**33**	**44**	**13**	**19,556**	**3**	**12**	**944**

Exhibit 7.2

Hazardous Materials Incidents - 1997
Evacuations - Cause and Consequence by Mode

Mode	Incidents With Evacuations	CAUSE				CONSEQUENCE			
		Human Error	Package Failure	Accident/ Derailment	Other	People Evacuated	Deaths	Major Injuries *	Minor Injuries
Air	52	47	3	0	2	476	0	0	7
Highway	154	108	20	25	1	6,652	2	26	25
Railway	35	5	7	21	2	17,454	0	0	0
Water	0	0	0	0	0	0	0	0	0
TOTALS	**241**	**160**	**30**	**46**	**5**	**24,582**	**2**	**26**	**32**

* Major injuries are those requiring hospitalization or resulting in loss of time at work.

Exhibit 8.1.1

Hazardous Materials Incidents - 1996
Consequences by Transportation Phase

TRANSPORTATION PHASE	DEATHS		MAJOR INJURIES		MINOR INJURIES		DAMAGES > $50,000		EVACUATIONS		TOTAL INCIDENTS
	Incidents	People	Incidents	People	Incidents	People	Incidents	$	Incidents	People	
En Route/Accident	7	7	12	14	11	850	135	33,011,057	35	9,891	314
En Route/Non-Accident	1	110	2	6	52	83	5	370,810	33	2,413	2,304
Loading	1	1	5	5	22	26	4	311,300	15	1,423	2,617
Unloading	2	2	15	16	79	153	12	1,690,249	37	3,909	7,800
Storage/Terminal	0	0	5	6	10	12	3	259,901	14	1,114	765
TOTALS	**11**	**120**	**39**	**47**	**174**	**1,124**	**159**	**35,643,317**	**134**	**18,750**	**13,800**

Exhibit 8.1.2

Hazardous Materials Incidents - 1997
Consequences by Transportation Phase

TRANSPORTATION PHASE	DEATHS		MAJOR INJURIES		MINOR INJURIES		DAMAGES > $50,000		EVACUATIONS		TOTAL INCIDENTS
	Incidents	People	Incidents	People	Incidents	People	Incidents	$	Incidents	People	
En Route/Accident	9	9	1	1	5	15	107	20,707,290	39	14,963	286
En Route/Non-Accident	0	0	3	3	36	58	8	1,429,626	31	2,913	2,300
Loading	0	0	2	2	16	21	2	166,837	15	754	2,565
Unloading	2	2	13	37	58	71	4	619,375	29	3,515	7,721
Storage/Terminal	0	0	0	0	11	17	2	322,872	12	2,158	790
TOTALS	**11**	**11**	**19**	**43**	**126**	**182**	**123**	**23,246,000**	**126**	**24,303**	**13,662**

* Major injuries are those requiring hospitalization or resulting in loss of time at work.

Exhibit 8.2.1
Hazardous Material Incidents - 1996
Consequences by Bulk and Non-Bulk

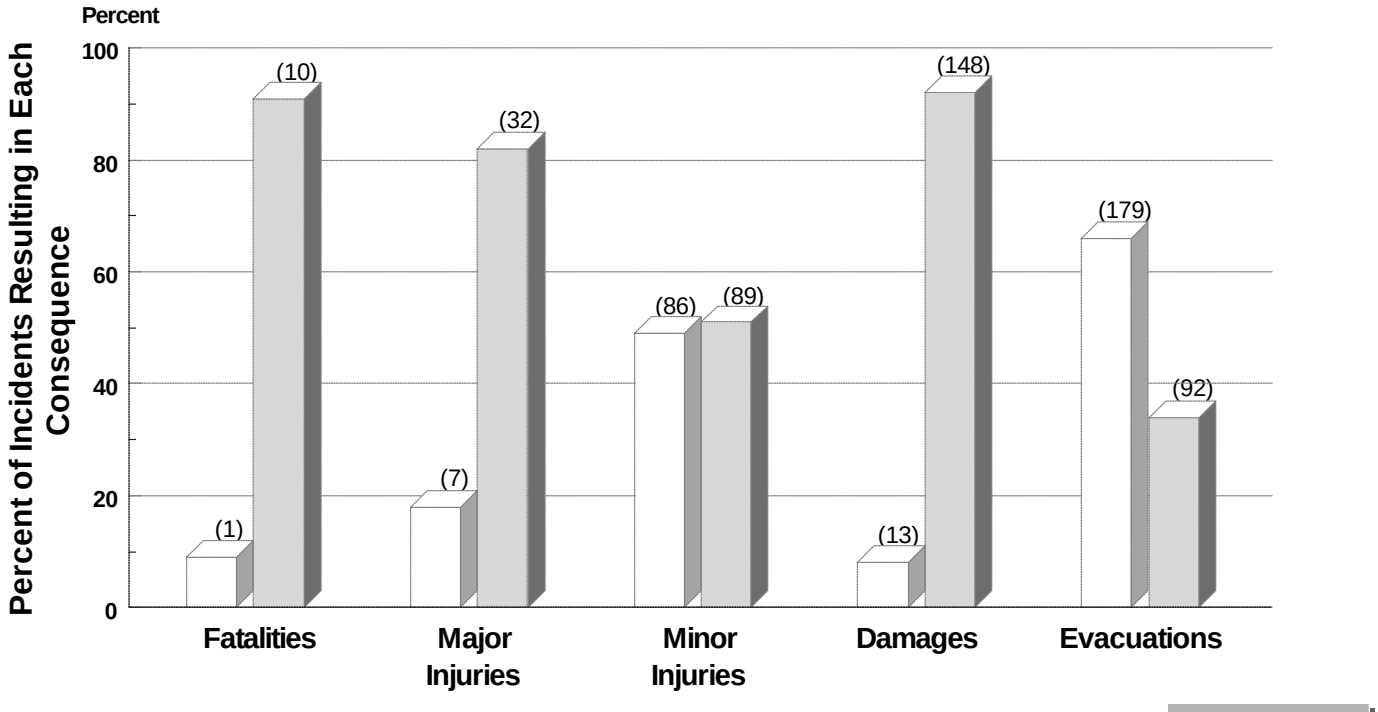
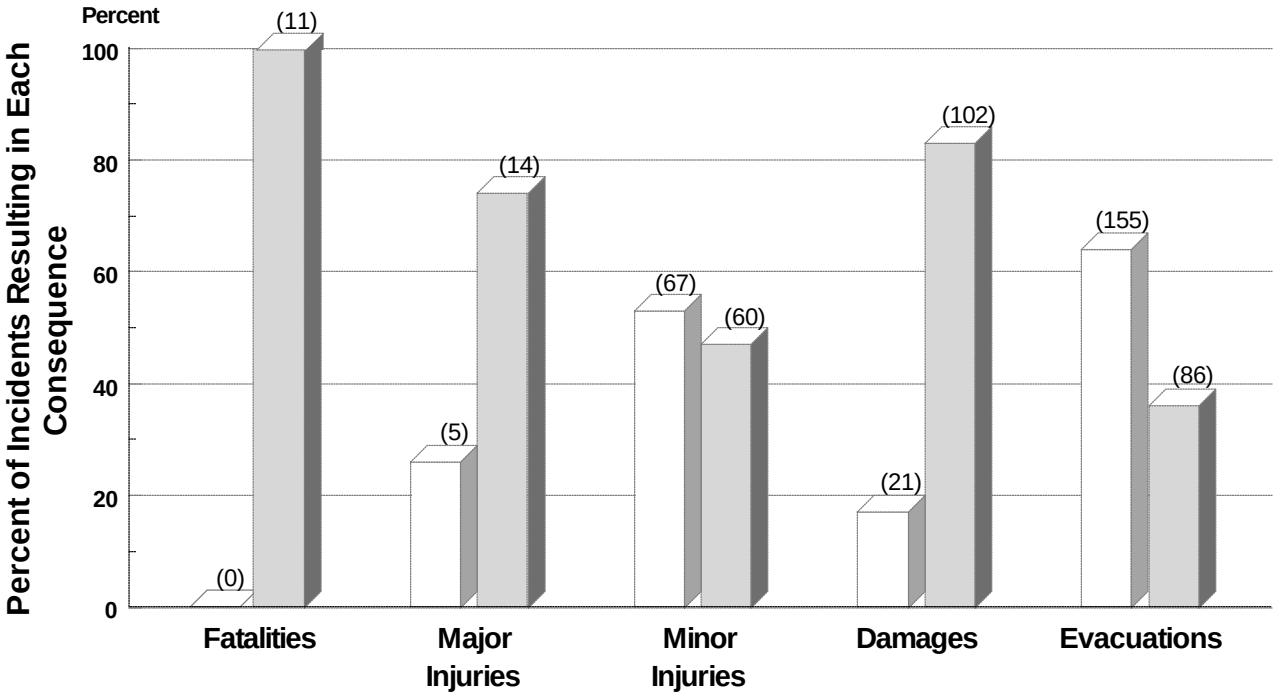


Exhibit 8.2.2
Hazardous Material Incidents - 1997
Consequences by Bulk and Non-Bulk



Note: Bulk packages are defined as those with a maximum capacity greater than 450 L (119 gallons).
Numbers in parentheses show the number of incidents resulting in each consequence.

Exhibit 8.3.1

Hazardous Materials Incidents - 1996
Consequences by Time of Day

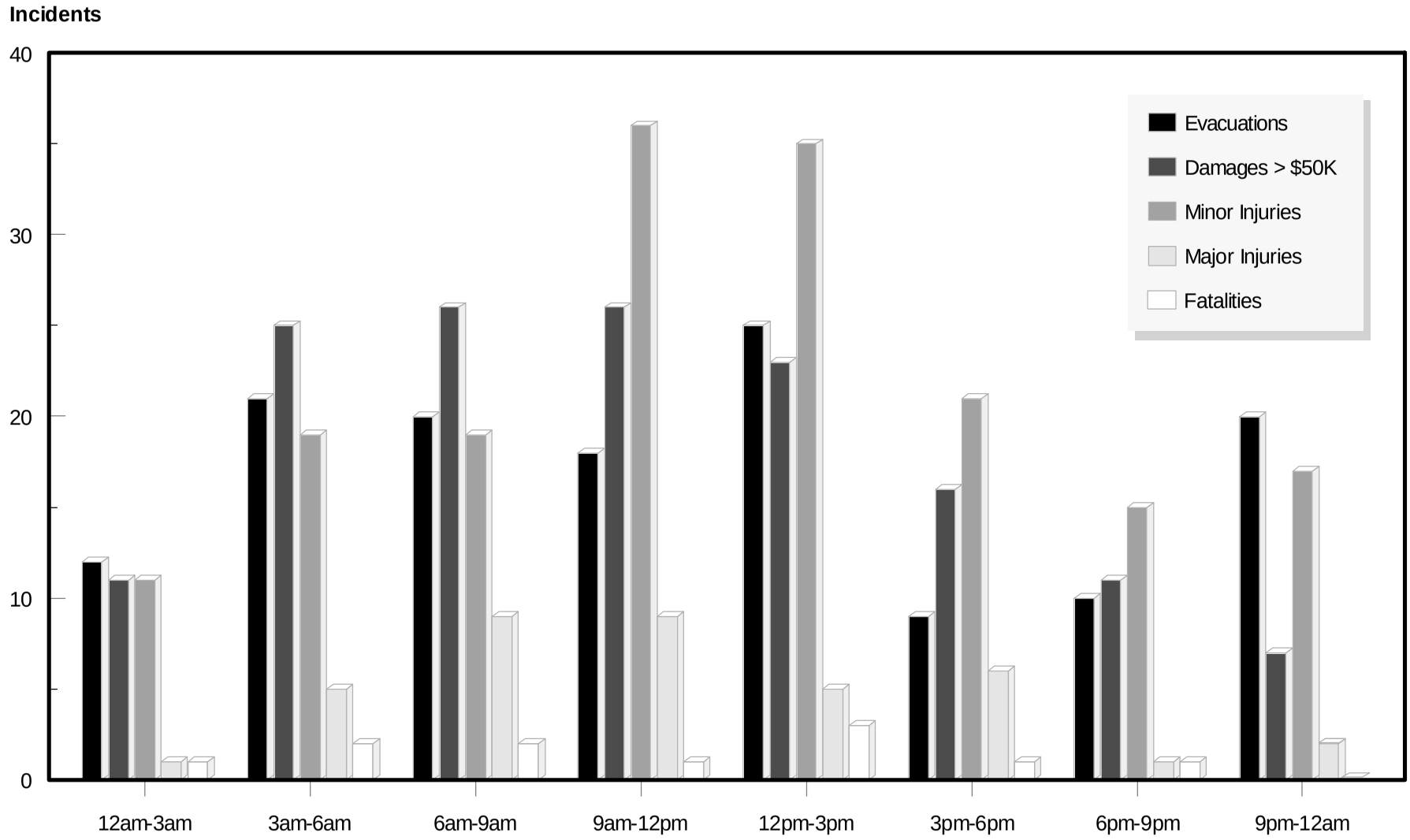


Exhibit 8.3.2

Hazardous Materials Incidents - 1997
Consequences by Time of Day

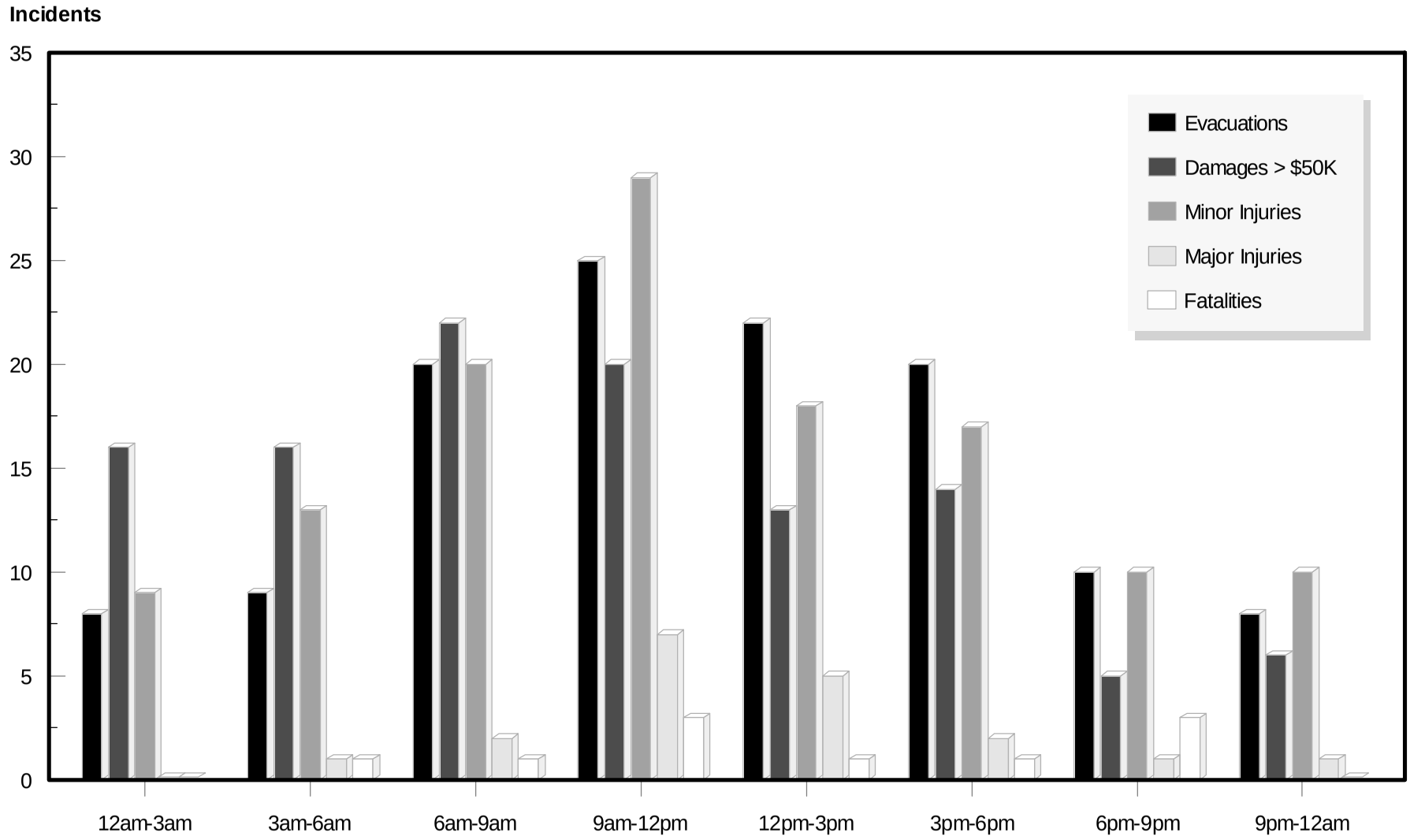
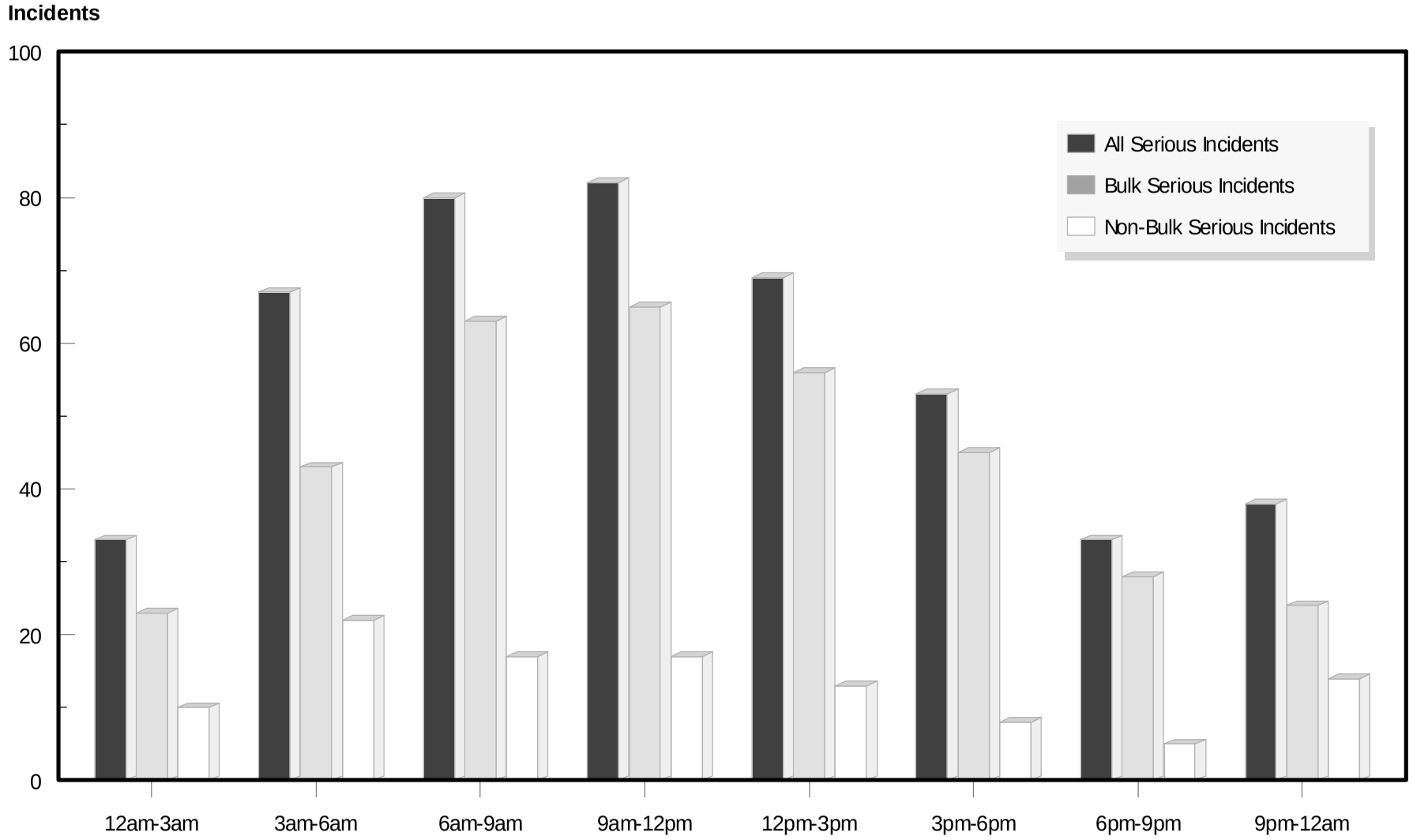


Exhibit 9.1

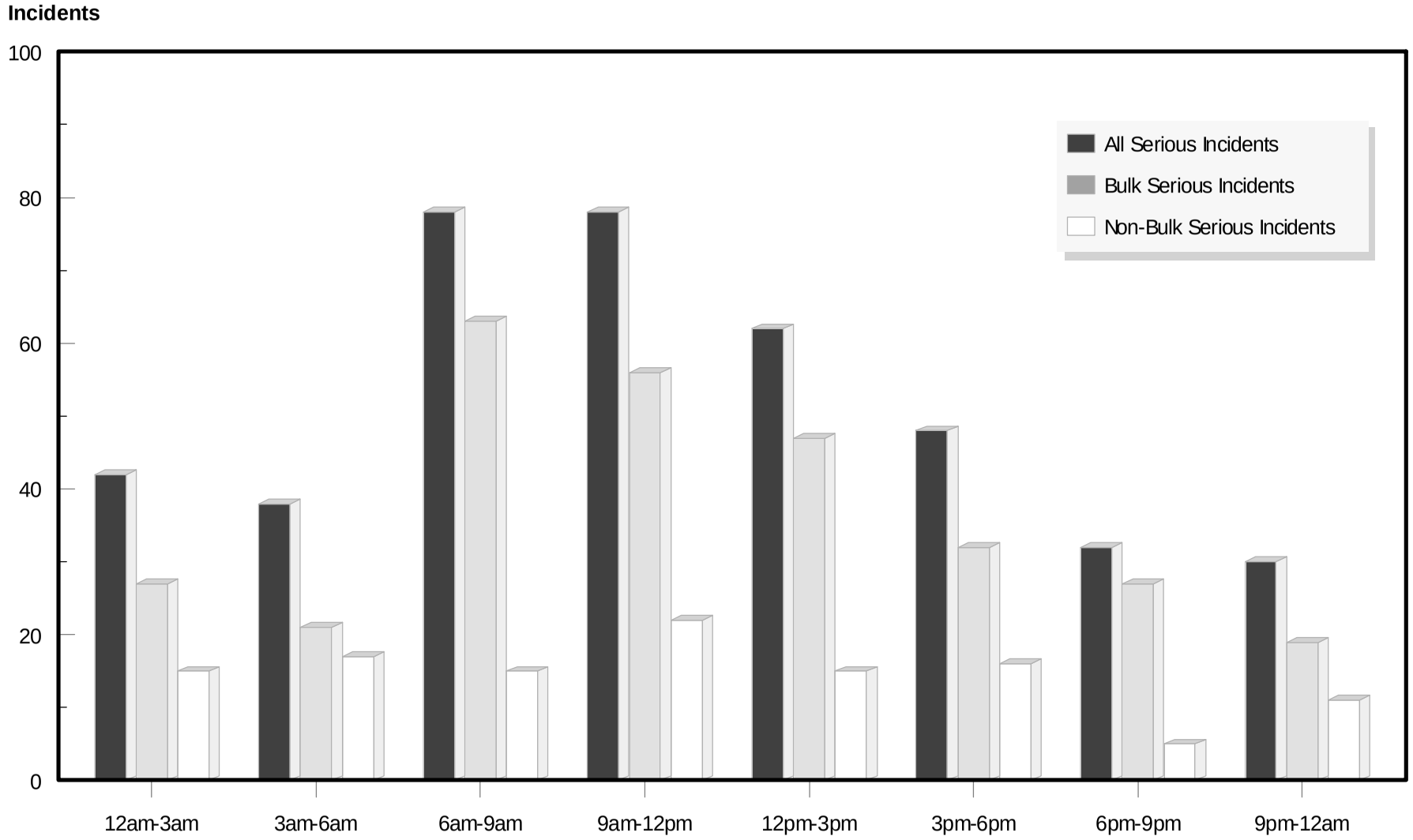
Hazardous Materials Incidents - 1996
Serious Incidents by Time of Day
Bulk and Non-Bulk



Note: Serious incidents are defined as those which involve a fatality, major injury, closure of a major transportation artery or facility, evacuation of six or more persons, or a vehicle accident or derailment.

Exhibit 9.2

Hazardous Materials Incidents - 1997
Serious Incidents by Time of Day
Bulk and Non-Bulk



Note: Serious incidents are defined as those which involve a fatality, major injury, closure of a major transportation artery or facility, evacuation of six or more persons, or a vehicle accident or derailment.

Exhibit 10.1

Hazardous Materials Incidents - 1996
By State

State	Incidents	Deaths	Injuries		$ Damages	State	Incidents	Deaths	Injuries		$ Damages
			Major	Minor					Major	Minor	
Alabama	173	1	1	2	1,039,780	Montana	36	1	2	790	10,564,935
Alaska	24	0	0	1	79,456	Nebraska	75	0	1	0	250,951
Arizona	224	0	0	10	378,715	Nevada	40	0	0	0	193,841
Arkansas	213	1	1	9	696,508	New Hampshire	31	0	1	0	5,864
California	925	1	4	69	2,285,683	New Jersey	323	0	1	2	298,508
Colorado	408	0	0	5	693,099	New Mexico	136	0	1	12	359,945
Connecticut	150	0	0	3	98,349	New York	742	0	2	4	645,256
Delaware	21	0	0	0	45,685	North Carolina	456	0	0	4	380,654
Dist. of Columbia	3	0	0	0	1,455	North Dakota	19	0	0	0	50,334
Florida	351	111	0	13	2,575,970	Ohio	1,199	0	0	10	2,245,314
Georgia	406	0	1	10	861,325	Oklahoma	113	0	0	0	429,088
Hawaii	9	0	0	0	483	Oregon	248	0	2	7	842,618
Idaho	48	0	0	1	292,440	Pennsylvania	816	1	7	12	1,803,887
Illinois	1,088	0	2	27	986,111	Rhode Island	7	0	0	0	73,974
Indiana	377	0	2	5	1,190,007	South Carolina	114	0	1	3	308,010
Iowa	157	1	0	13	1,873,848	South Dakota	19	0	0	0	1,645
Kansas	279	0	2	4	522,174	Tennessee	600	0	0	14	1,667,763
Kentucky	366	0	0	5	616,107	Texas	1,004	2	6	47	1,905,131
Louisiana	206	0	1	4	1,590,668	Utah	263	0	1	1	367,817
Maine	37	0	1	3	208,918	Vermont	22	0	0	0	1,984
Maryland	213	0	0	1	372,328	Virginia	188	0	0	2	1,244,858
Massachusetts	321	0	0	1	186,585	Washington	187	0	0	3	239,819
Michigan	258	0	0	2	125,370	West Virginia	48	0	0	1	211,576
Minnesota	255	0	3	4	1,325,313	Wisconsin	128	0	0	2	2,053,146
Mississippi	143	0	2	4	1,124,904	Wyoming	78	0	0	1	358,613
Missouri	375	1	2	9	859,626	Other *	15	0	0	6	49,419
						TOTAL	**13,937**	**120**	**47**	**1,126**	**$46,585,857**

* Incidents by U.S. carriers that occurred in territorial possessions or foreign countries.

Exhibit 10.2

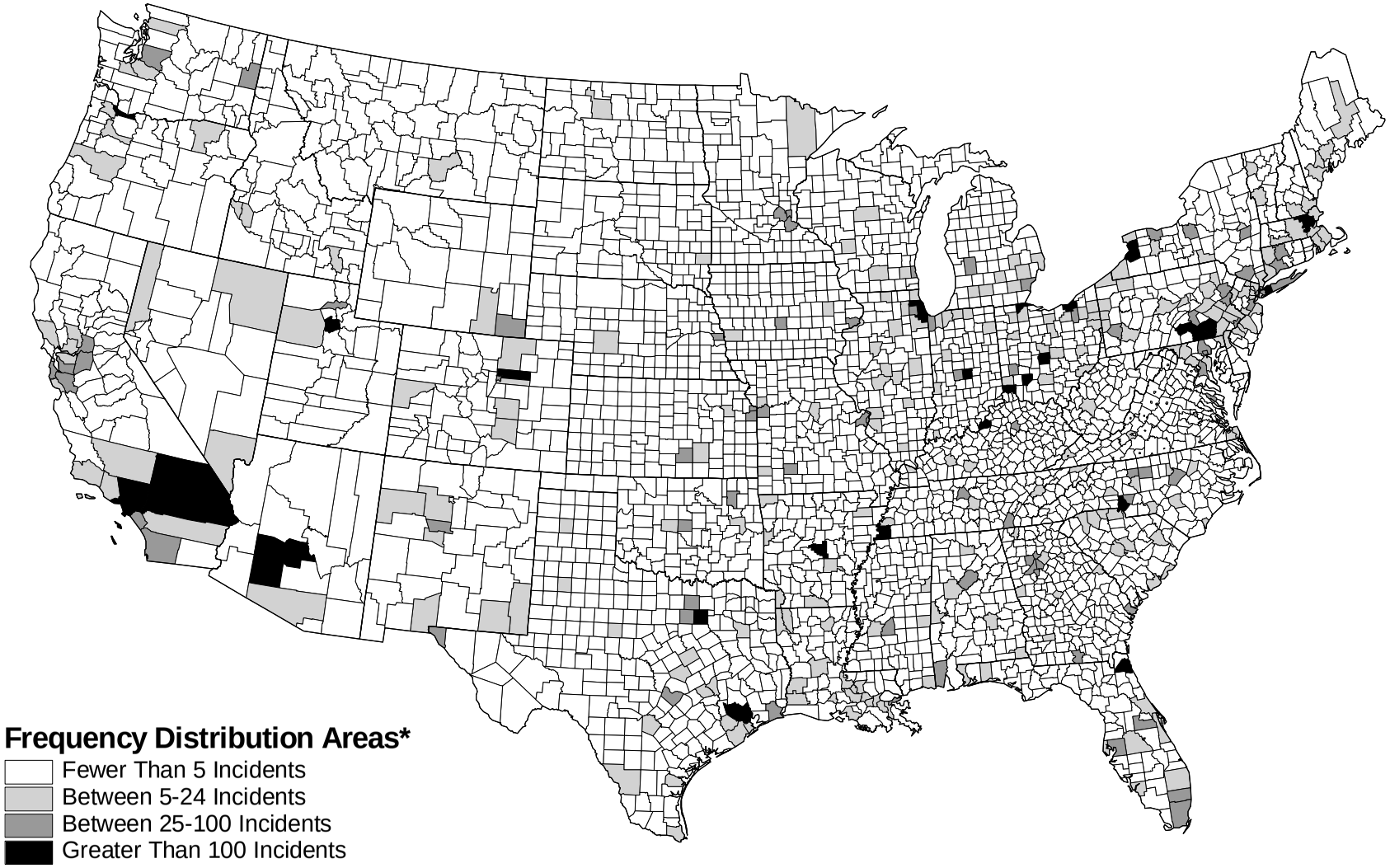
Hazardous Materials Incidents - 1997
By State

State	Incidents	Deaths	Injuries		$ Damages	State	Incidents	Deaths	Injuries		$ Damages
			Major	Minor					Major	Minor	
Alabama	182	0	0	1	616,461	Montana	32	0	0	1	156,024
Alaska	33	0	0	0	33,535	Nebraska	87	0	0	0	105,513
Arizona	327	0	0	4	508,321	Nevada	54	0	0	5	29,611
Arkansas	204	2	1	2	750,681	New Hampshire	29	0	0	0	35,040
California	986	1	27	16	1,734,841	New Jersey	320	0	1	6	1,641,278
Colorado	308	0	0	4	716,225	New Mexico	176	0	0	6	467,894
Connecticut	151	0	0	1	137,429	New York	556	1	0	7	324,286
Delaware	22	0	0	0	4,272	North Carolina	403	1	2	10	1,171,425
Dist. of Columbia	9	0	0	0	1,576	North Dakota	35	0	0	0	39,404
Florida	391	0	1	11	4,152,021	Ohio	1,074	0	1	7	1,138,529
Georgia	354	0	1	6	954,932	Oklahoma	130	0	0	1	774,876
Hawaii	8	0	0	0	2,242	Oregon	200	0	0	6	264,790
Idaho	28	0	0	1	433,483	Pennsylvania	852	0	1	7	1,468,803
Illinois	1,365	0	1	17	1,093,343	Rhode Island	12	0	0	1	247,228
Indiana	364	0	1	2	723,122	South Carolina	103	0	0	0	283,626
Iowa	130	0	1	2	1,060,694	South Dakota	31	0	0	1	226,156
Kansas	364	0	0	1	582,237	Tennessee	530	0	0	7	482,997
Kentucky	290	0	0	3	595,838	Texas	1,004	1	2	13	1,753,137
Louisiana	198	2	0	8	2,533,601	Utah	253	0	0	6	768,417
Maine	29	0	0	0	16,404	Vermont	22	0	0	0	238,554
Maryland	208	1	0	0	169,581	Virginia	179	1	1	3	290,946
Massachusetts	322	0	0	2	90,615	Washington	248	0	0	1	330,172
Michigan	226	0	2	5	462,758	West Virginia	57	0	0	1	1,515,214
Minnesota	221	1	0	1	685,628	Wisconsin	135	0	0	1	176,257
Mississippi	134	0	0	3	307,358	Wyoming	51	0	0	0	308,636
Missouri	404	0	0	1	319,558	Other *	22	0	0	2	361,711
						TOTAL	**13,853**	**11**	**43**	**183**	**$33,287,280**

* Incidents by U.S. carriers that occurred in territorial possessions or foreign countries.

Exhibit 11.1.1

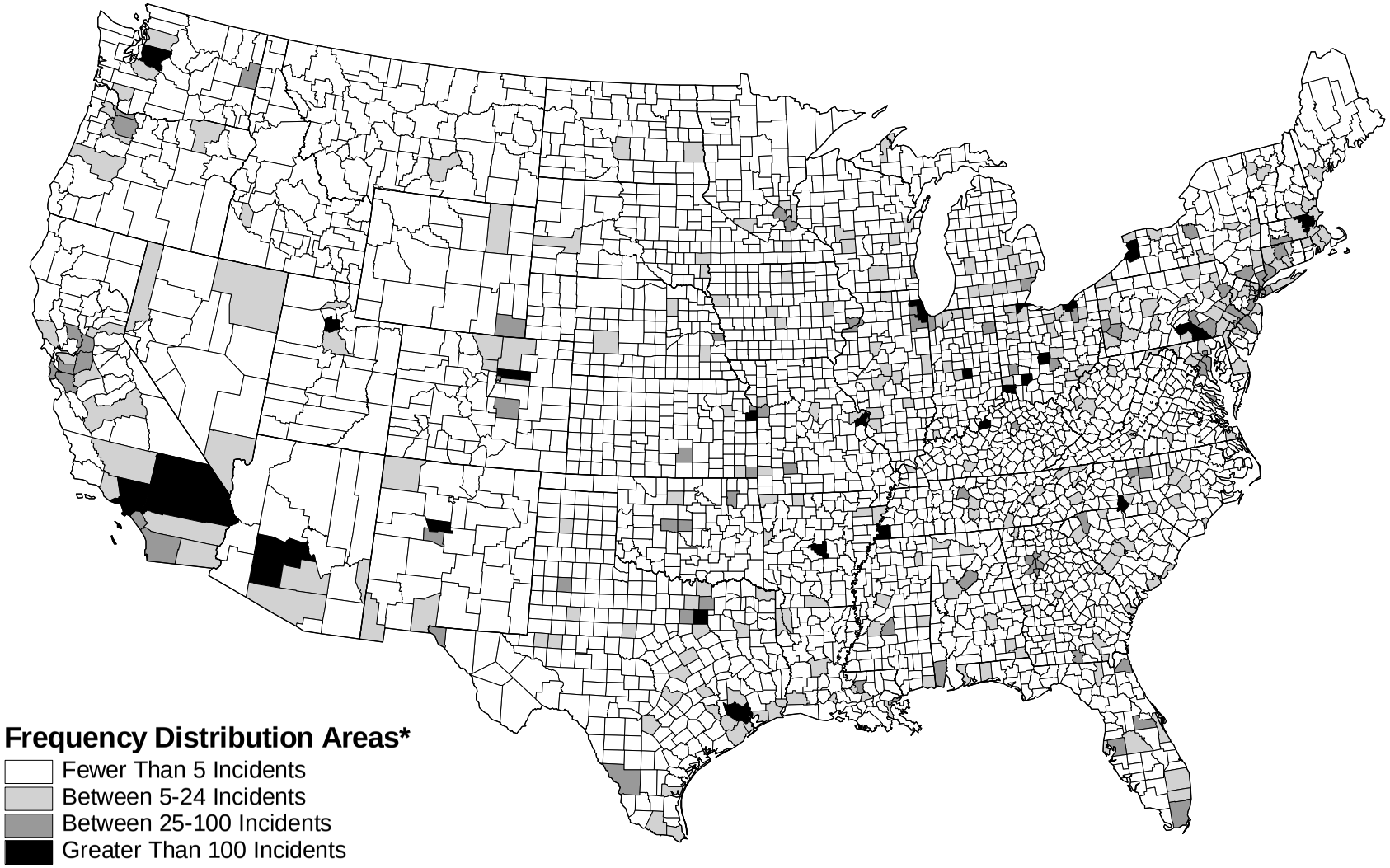
Hazardous Materials Incidents - 1996
By Incident Location



* Areas shown are U.S. Counties.

Exhibit 11.1.2

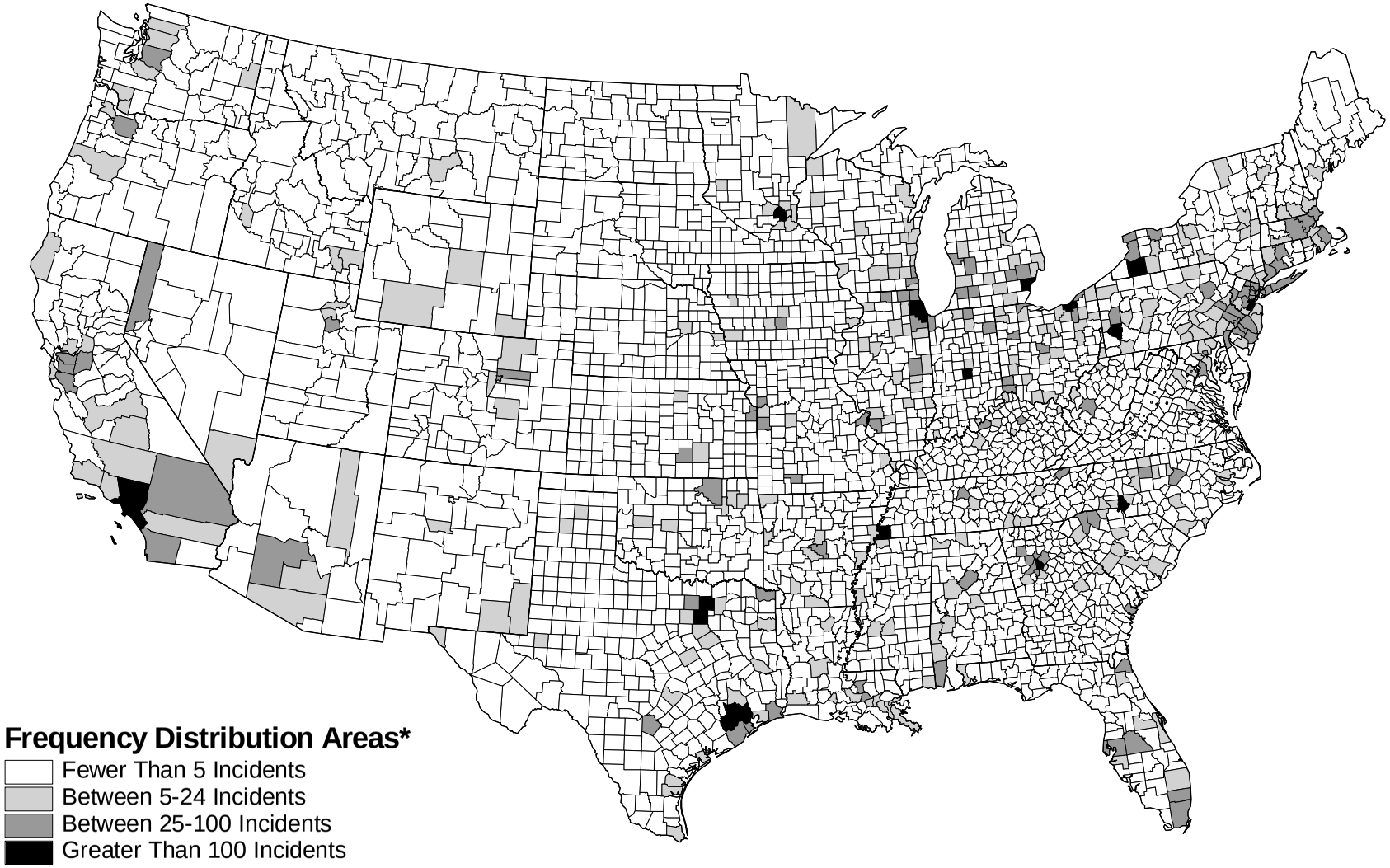
Hazardous Materials Incidents - 1997
By Incident Location



* Areas shown are U.S. Counties.

Exhibit 11.2.1

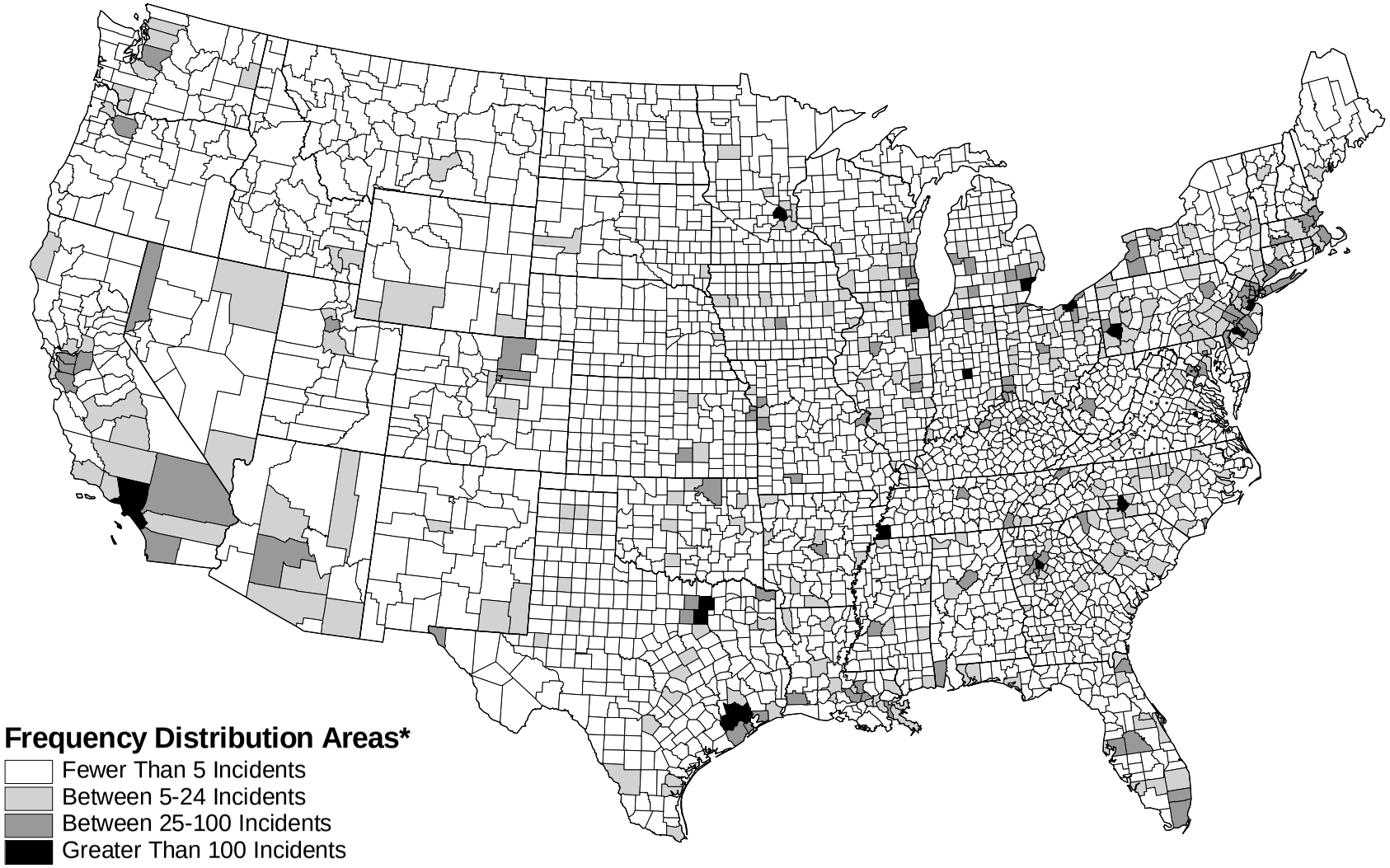
Hazardous Materials Incidents - 1996
By Shipment Origin



* Areas shown are U.S. Counties.

Exhibit 11.2.2

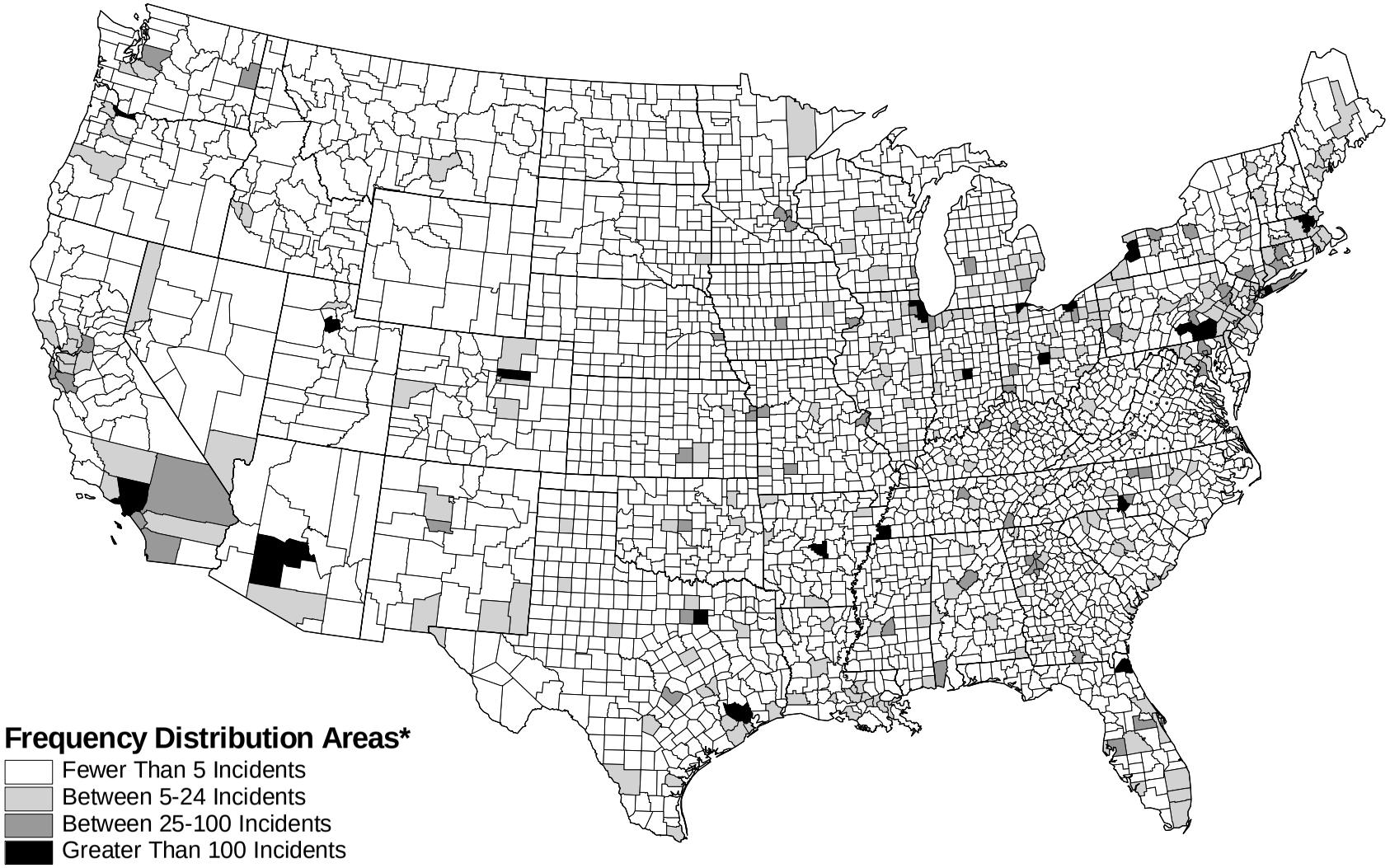
Hazardous Materials Incidents - 1997
By Shipment Origin



* Areas shown are U.S. Counties.

Exhibit 11.3.1

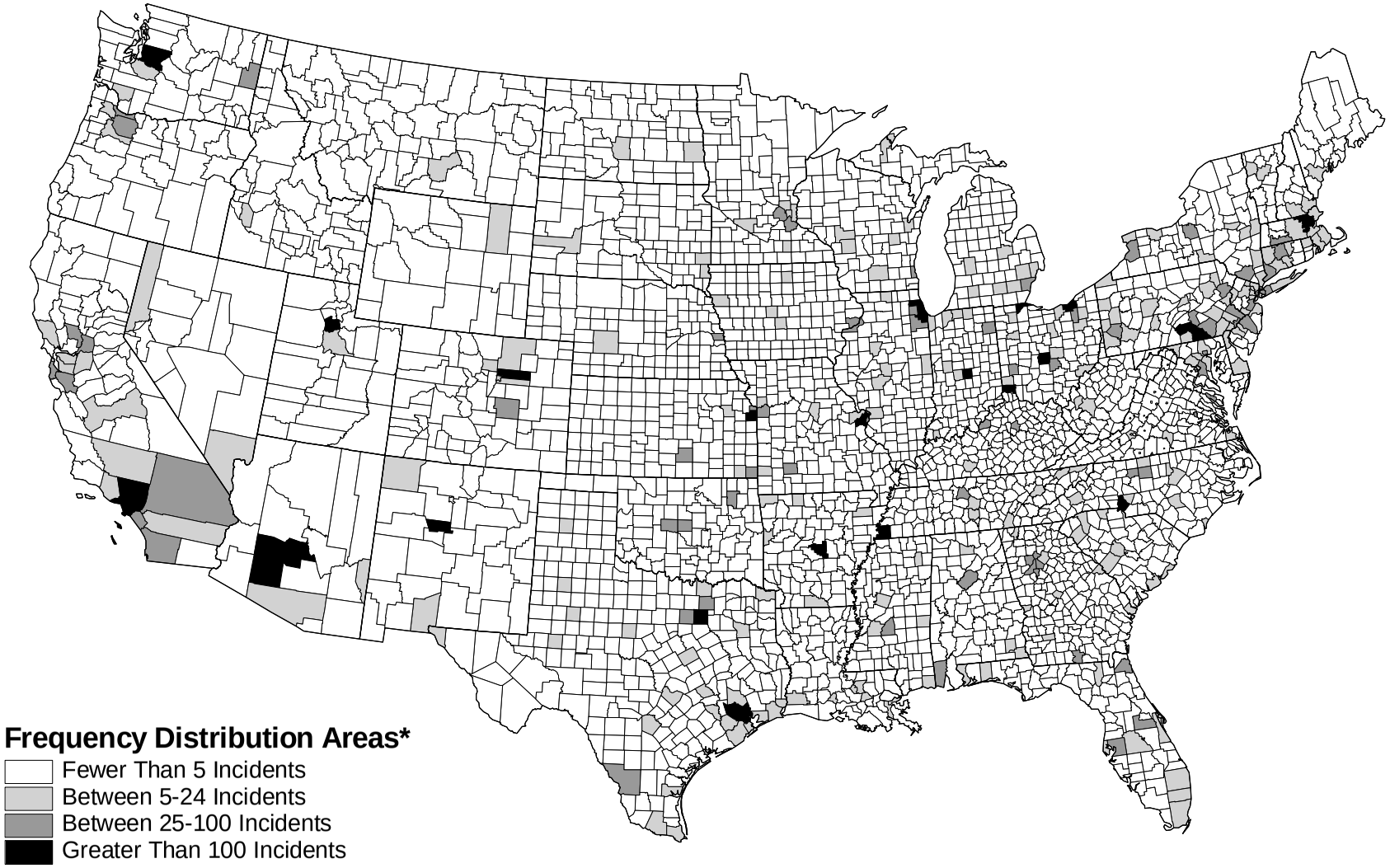
Hazardous Materials Incidents by Incident Location - 1996
Highway Incidents



* Areas shown are U.S. Counties.

Exhibit 11.3.2

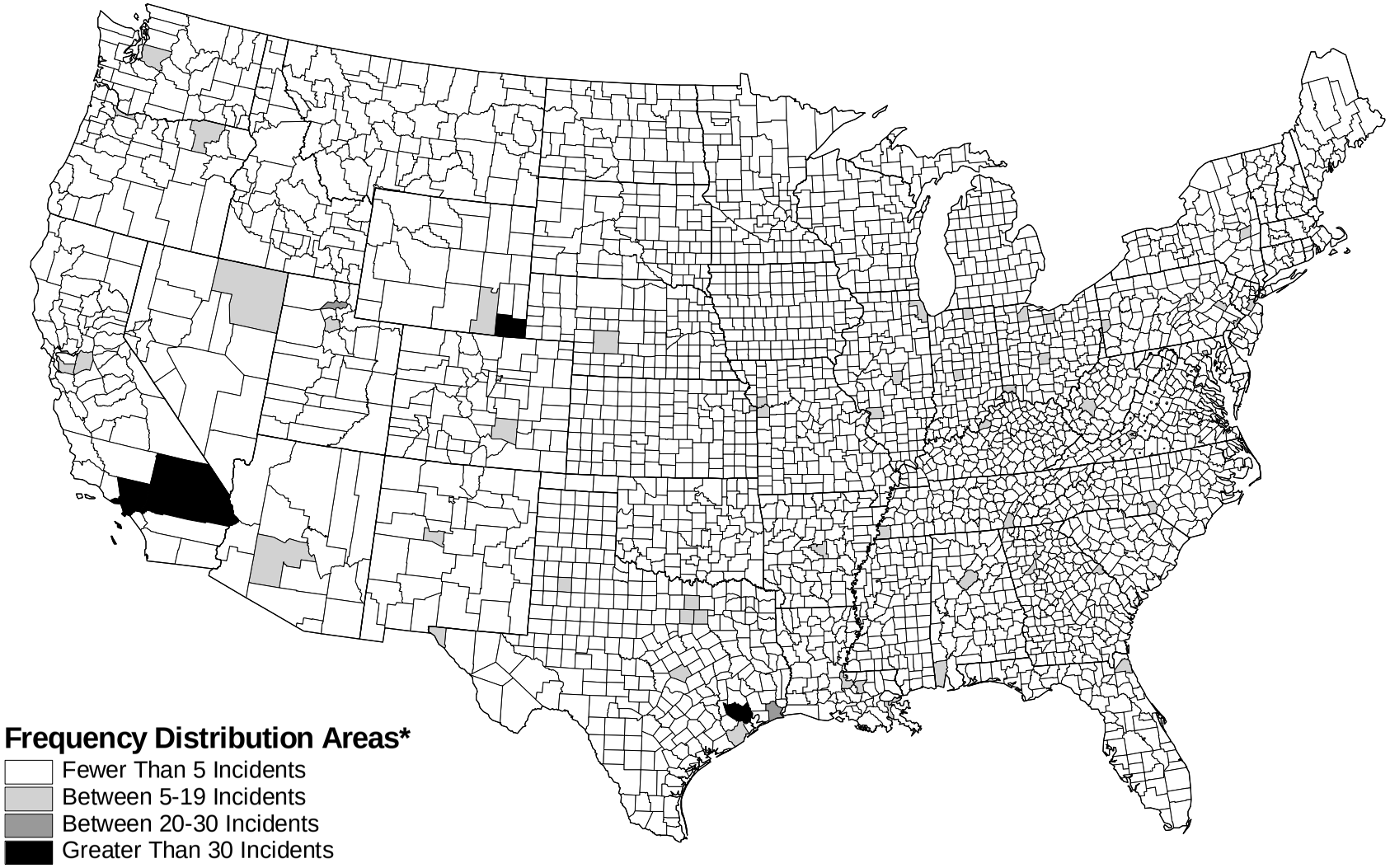
Hazardous Materials Incidents by Incident Location - 1997
Highway Incidents



* Areas shown are U.S. Counties.

Exhibit 11.4.1

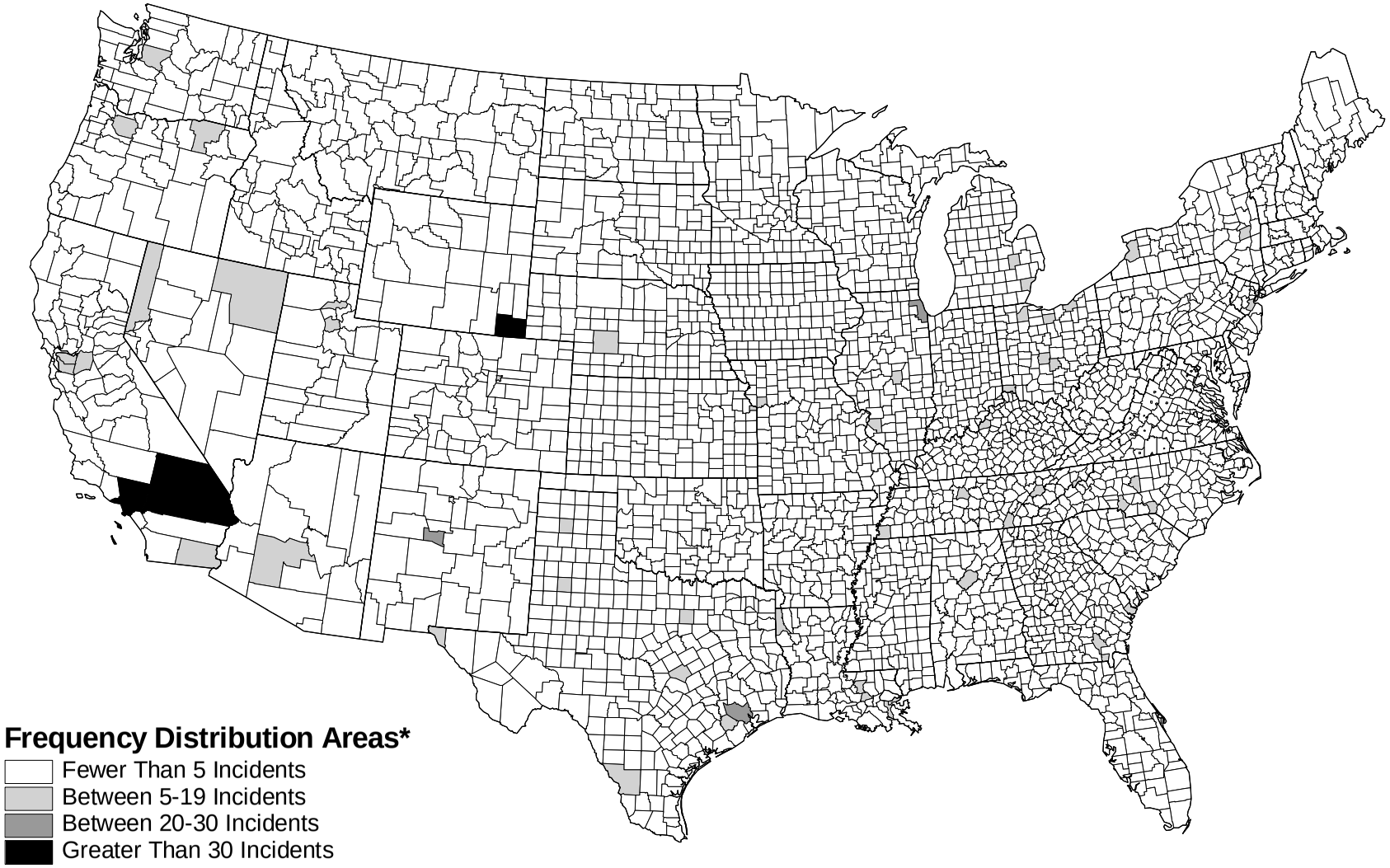
Hazardous Materials Incidents by Incident Location - 1996
Rail Incidents



* Areas shown are U.S. Counties.

Exhibit 11.4.2

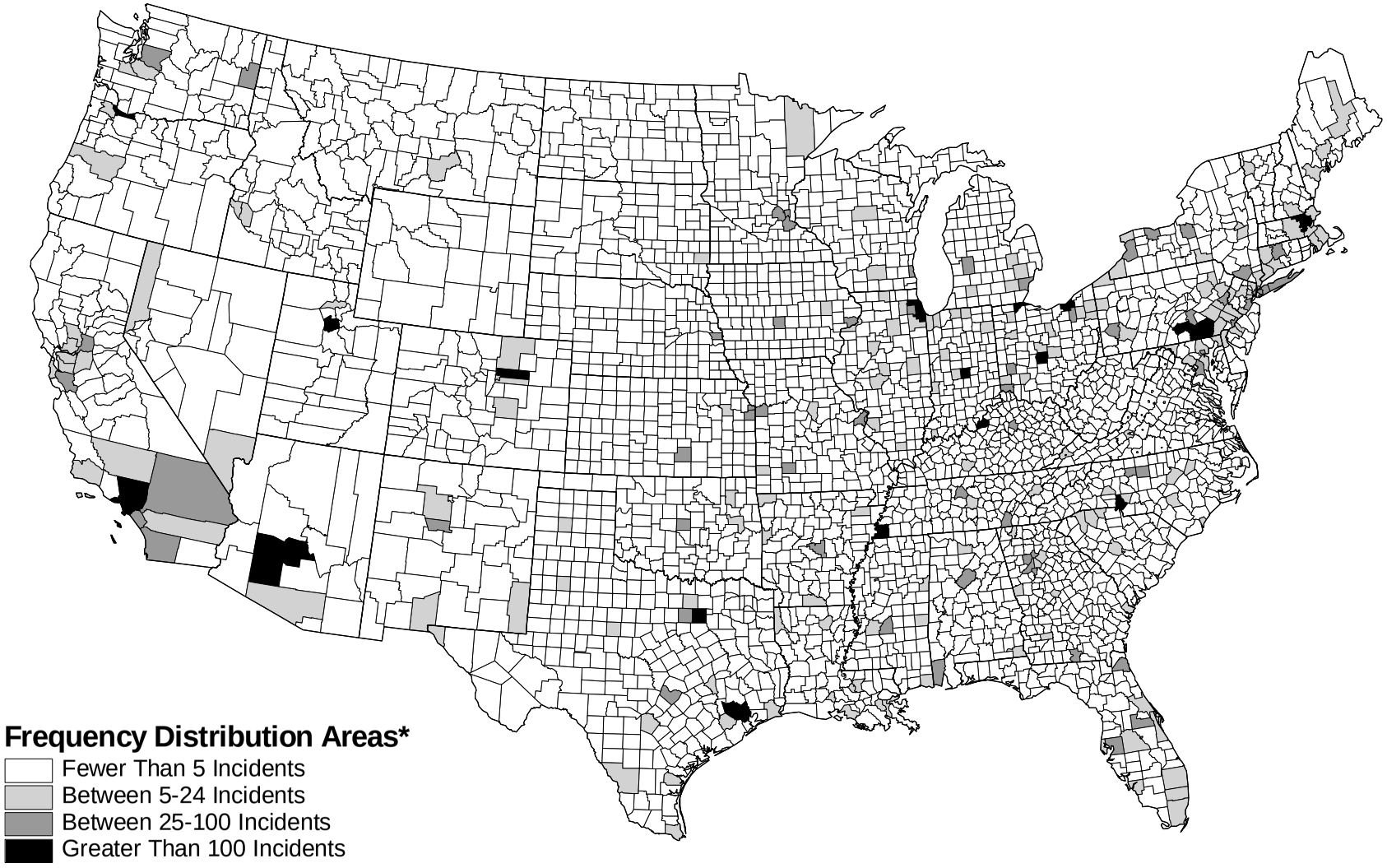
Hazardous Materials Incidents by Incident Location - 1997
Rail Incidents



* Areas shown are U.S. Counties.

Exhibit 11.5.1

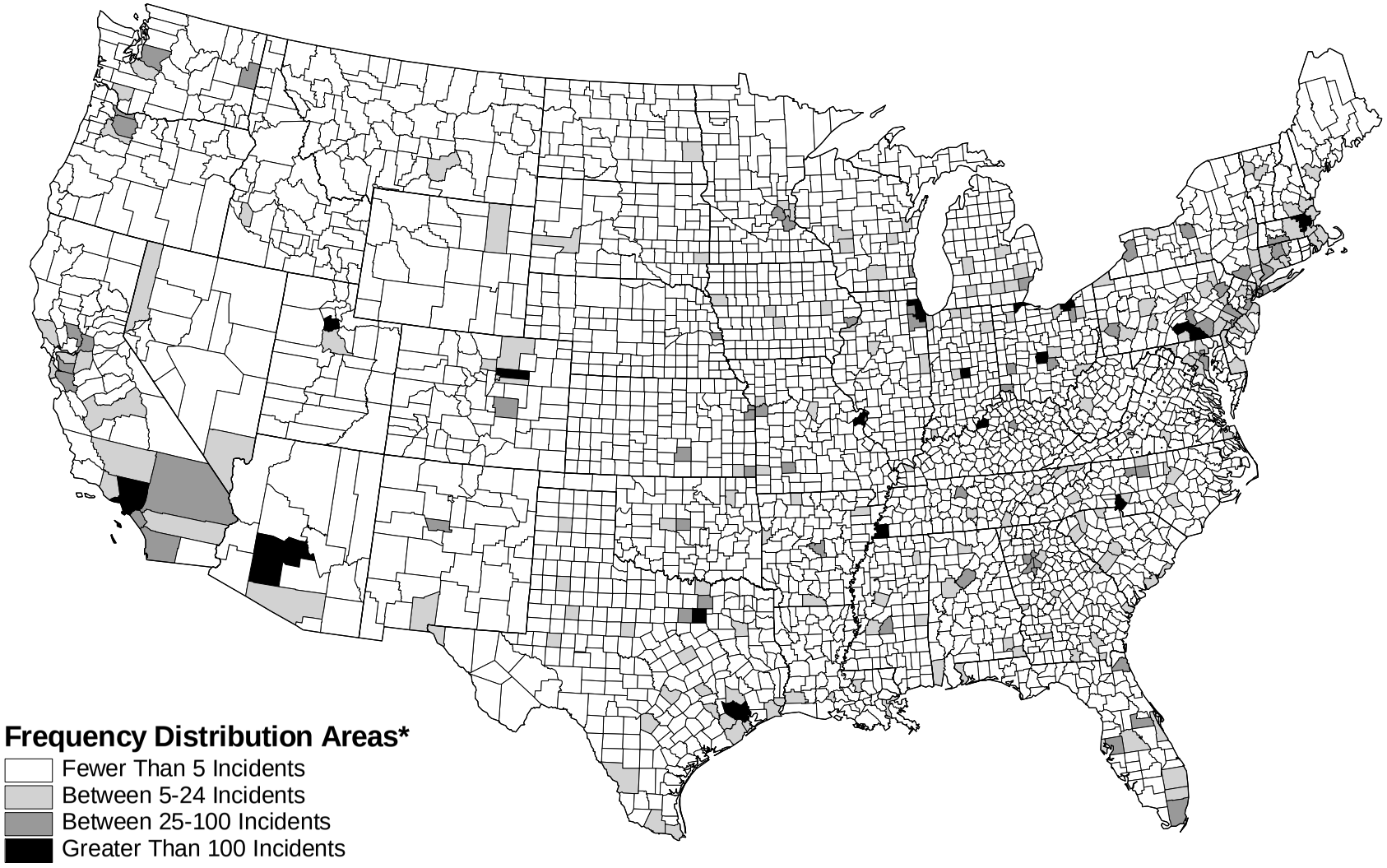
Hazardous Materials Incidents by Incident Location - 1996
Loading/Unloading Incidents



* Areas shown are U.S. Counties.

Exhibit 11.5.2

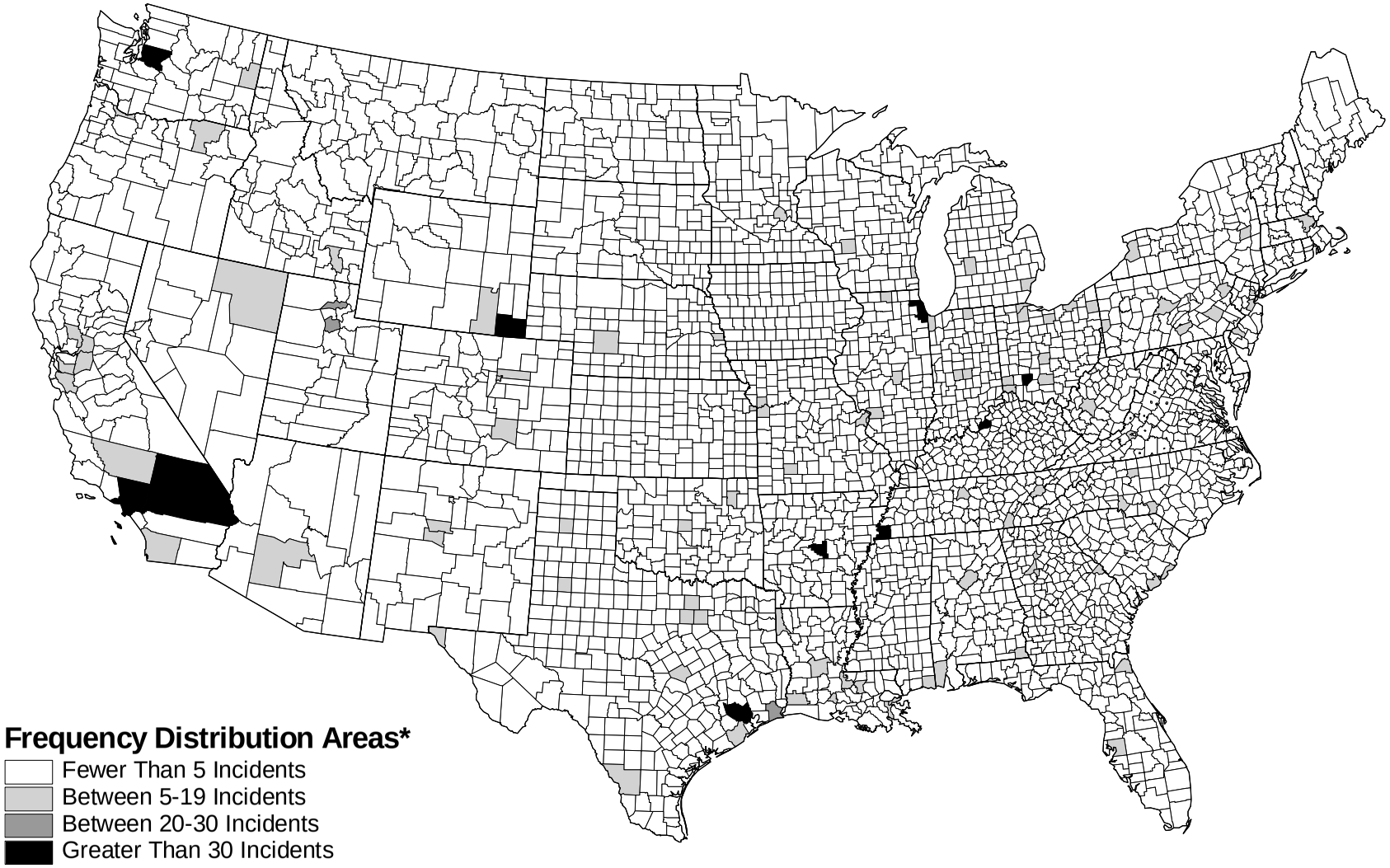
Hazardous Materials Incidents by Incident Location - 1997
Loading/Unloading Incidents



* Areas shown are U.S. Counties.

Exhibit 11.6.1

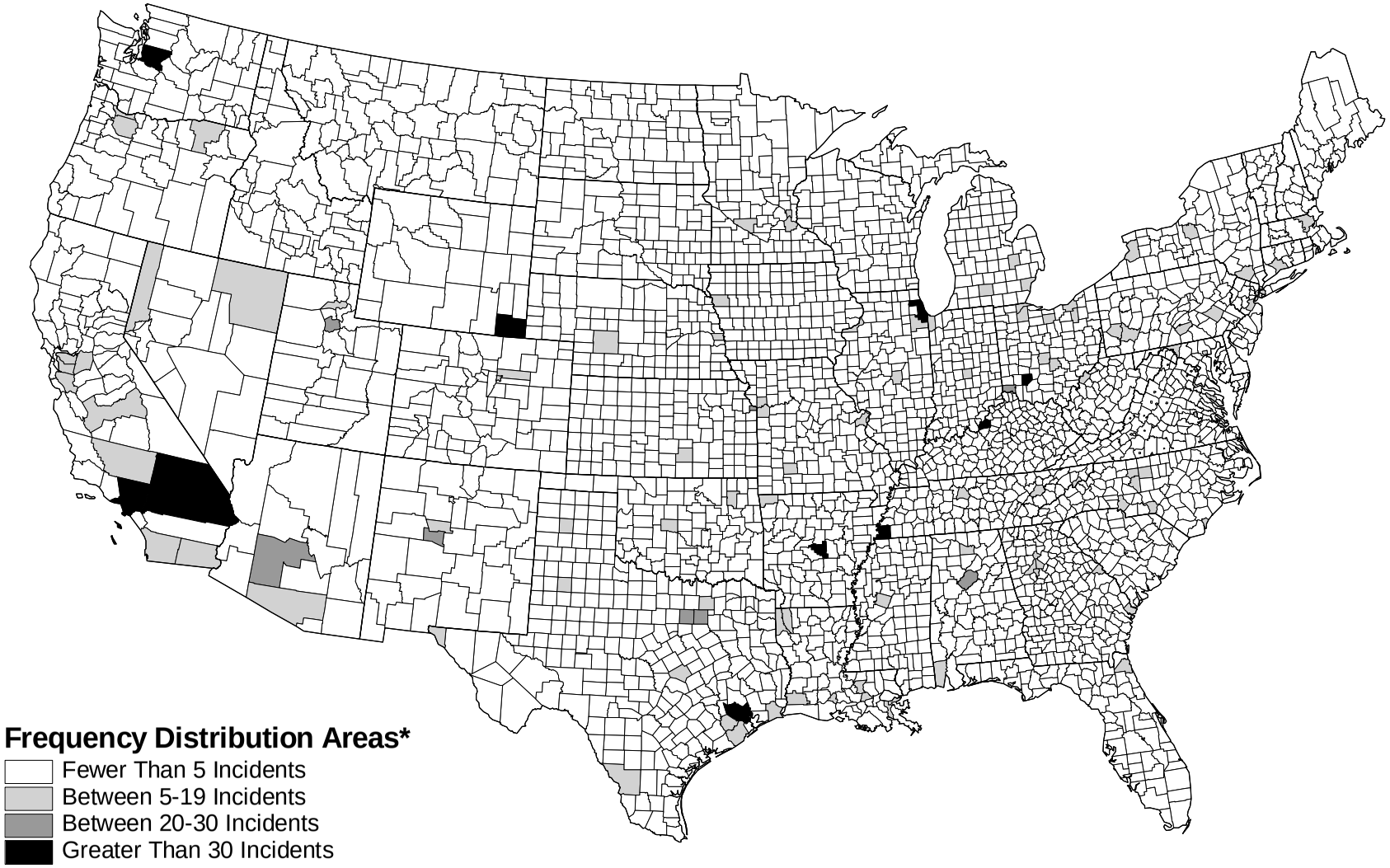
Hazardous Materials Incidents by Incident Location - 1996
En Route Incidents



* Areas shown are U.S. Counties.

Exhibit 11.6.2

Hazardous Materials Incidents by Incident Location - 1997
En Route Incidents



* Areas shown are U.S. Counties.

Chapter 11

Future Challenges

Significant statutory changes in the Federal hazmat law in recent years reflect an increased awareness and concern for the safe transportation of HM. A substantial portion of DOT's 1996 and 1997 workload involved implementation of those mandates. In addition, RSPA performed an extensive review of the HMR and associated procedural rules as a result of the President's directive to heads of departments and agencies calling for review of all agency regulations and elimination or revision of those regulations that were outdated or in need of reform. As a result of the National Performance Review, the DOT Strategic Plan, and modal Strategic Plans, DOT will continue to improve its efforts to maintain and enhance its national regulatory program to protect against risks to life and property inherent in the transportation of HM by water, air, highway, and railroad.

Extending the HMR to Intrastate Transportation in Commerce

Over 800,000 daily shipments (more than 3.2 billion tons per year) of HM are transported by commercial motor vehicle in the U.S. The Federal hazmat law requires DOT to issue regulations governing the intrastate transportation of HM. In a January 8, 1997 final rule, under Docket HM-200, RSPA amended the HMR, with certain exceptions, to require that all intrastate shippers and carriers comply with the HMR. This rule expanded applicability of the HMR to intrastate motor carriers of all HM. Mandatory compliance with the HMR by all intrastate motor carriers of HM is required beginning October 1, 1998. Intrastate motor carriers of hazardous waste, hazardous substances, marine pollutants, and flammable cryogenic liquids in portable tanks and cargo tanks were already subject to the HMR. To reduce regulatory burdens, RSPA adopted a number of exceptions for materials of trade, small cargo tanks, and certain operations of farmers.
The HMR now apply to HM transported in commerce by vessel, railroad, aircraft, and by motor carriers. This effort will raise the level of safety in the transportation of HM by applying a uniform system of safety regulations to all HM transported in commerce throughout the U.S.

The possibility of serious consequences resulting from accidents involving HM is a major concern. With the application of the HMR to intrastate transportation, DOT expects a sizeable increase in the affected community and specifically in the number of small business entities that previously were subject to little or no Federal regulation. With the intrastate expansion, DOT must prepare to reach the broadest spectrum of the regulated industry and maximize safety through information and enhanced outreach efforts to increase voluntary compliance.

Risk Management and Assessment

The HM transportation program has been from the beginning an exercise in risk management. Safety is of paramount importance, and DOT seeks to involve the public, industry, and other interested parties in determining levels of risk that are acceptable, affordable, and comparable with other risks inherent in modern society. Moreover, DOT is committed to leadership in refining and implementing risk-management methodologies as they relate to HM transportation. During 1996-1997, DOT worked to lay the groundwork for broader applications of risk management principles and to develop a more explicit risk management framework for the HM transportation program.

Risk management for HM transportation encompasses a wide range of possible events with varying probabilities and consequences. Ensuring that we are able to identify low probability, high consequence events and providing appropriate levels of protection are primary goals of our risk management program. A further challenge is to strike a proper balance between levels of safety and costs that result from regulations, exemptions, and approvals.

DOT is seeking to take greater advantage of risk assessment as a management tool, to foster research and development in the area, and to encourage commonality and cross-fertilization among the modal administrations. To this end, important progress was made in two research studies during this biennial period. The "National Transportation Risk Assessment" being performed by Argonne National Laboratory, and the "Risk Assessment of Hazardous Materials Transportation in Aircraft Cargo Compartments," underway by the RSPA Volpe National Transportation Center, are nearing completion and are described in the Research and Technology Chapter of this report. In addition, RSPA sponsored in-house training of technical staff in the concepts of risk management in 1997 through a seminar conducted by the University of Southern California and made organizational changes to provide a more explicit focus on risk management.

Information Technology and Outreach

Public information efforts are a necessary foundation for public involvement efforts. Future outreach plans will involve interested parties in a communication dialog using various methods (Internet public meetings, structured negotiated rulemaking panels, conferences and training seminars). These opportunities will allow interested parties to provide new outlets for comments and discussions and will be more far-reaching than current *Federal Register* notifications and comments received via the Docket office. Informal input from the public and affected industry will provide DOT's staff with ongoing and cumulative perspectives that will shape the overall future of the regulatory process.

Future developments in electronic media create both opportunities and challenges to training production and information delivery. DOT strives to keep current with new technologies in electronics, computer capabilities, audio/visual improvements and learning techniques, such as FAA's Interactive Video Training distance learning prototype.

The Future

DOT is charged to protect the Nation from the risks inherent in the transportation of HM in commerce by all modes, to provide transportation services during times of natural or man-made disasters to protect the public safety and national security; and, to manage and coordinate multimodal transportation research and technology to advance the overall effectiveness of the Nation's transportation system and infrastructure. Programs geared to DOT's goals for safety, mobility, economic growth and trade, human and natural environment, and national security will reduce the rate of serious reportable HM transportation incidents and their related economic costs, including fatalities and injuries.

APPENDIX A
RULEMAKING ACTIONS
1996-1997

APPENDIX A
RULEMAKING ACTIONS TAKEN IN 1996 and 1997

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Extension of Authority for open-Head Fiber Drum Packaging for Liquid HM; (HM-221A)	NPRM	01/09/96	Proposed to extend for one year, until September 30, 1997, the authority to ship certain liquid HM in open-head fiber drums that do not meet performance-oriented packaging standards for HM in Packing Group III.
Revision of Miscellaneous HMR; Regulatory Review (HM-222B)	NPRM	02/20/96	Proposed to revise the HMR based on review of the regulations and on written and oral comments received from the public concerning regulatory reform. The intent is to reduce unnecessary regulatory burdens on industry and make the HMR shorter and easier to use without compromising public safety.
HM Pilot Ticketing Program (HM-207E)	Final Rule	02/26/96	To streamline administrative procedures, cut costs, and reduce regulatory burdens on persons subject to Federal hazmat transportation law, a pilot program was implemented for ticketing of certain HM transportation violations that have little or no direct impacts on safety.
Extension of Authority for Open-Head Fiber Drum Packaging for Liquid HM (HM-221A)	Final Rule	02/29/96	Extended the authority to ship certain liquid HM in open-head fiber drums that do not meet performance-oriented packaging standards for HM in Packing Group III. In the transitional provisions, it was specified that this authority expired on September 30, 1997, or the date on which funds are authorized to be appropriated for the HM transportation program for fiscal years beginning after September 30, 1997.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Restructuring of Cylinder Specification Requirements (HM-220B)	NPRM	03/04/96	Proposed to revise the HMR by restructuring the cylinder specification requirements, in response to President Clinton's March 4, 1995 Regulatory Reinvention Initiative. This action would eliminate pages of regulations without substantially changing the regulatory requirements or affecting safety.
Information Collection Activities; Comment Request (Notice No. 96-4)	Notice and request for comments	03/08/96	RSPA invited comments on certain information collections, pertaining to HM transportation safety and oil spill prevention and response planning, for which RSPA intends to request approval from the OMB, in accordance with the Paperwork Reduction Act of 1995.
HM Transportation; Registration and Fee Assessment Program (Notice No. 96-5)	Notice of filing requirements	03/08/96	Notified persons who transport or offer certain HM for transportation that the 96-97 registration years begin July 1, 1996, and that they are required to annually file a registration statement and pay a fee to the Department.
HM in Intrastate Transportation (HM-200; Notice No. 96-6)	SNPRM and notice of public meeting	03/20/96	Based on the merits of comments received in response to a NPRM to apply the HMR to intrastate commerce by motor vehicle, additional proposals were made to provide exceptions for certain small quantities of HM transported and used by private carriers, for continued use of non-specification cargo tank motor vehicles, and certain requirements for registered inspections of small cargo tank motor vehicles used exclusively in intrastate transportation of flammable liquid petroleum fuels.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Guidance for Radiation Protection Programs; Request for Comments (Notice No. 96-7)	Notice of request for comments	04/19/96	RSPA requested public comments on the implementation of the radiation protection program that would be in effect on October 1, 1997. RSPA's intent is to develop guidance to facilitate compliance with the radiation protection program requirements of the HMR.
Elimination of Unnecessary and Duplicative HMR (HM-222A)	Final Rule	04/29/96	RSPA removed unnecessary, obsolete, and duplicative regulations in the HMR, and eliminated approximately 100 pages of the CFR by reformatting the Hazardous Materials Table and List of Hazardous Substances and Reportable Quantities. This action responds to President Clinton's March 4, 1995 memorandum for a review of all agency regulations.
HM Transportation Regulations; Compatibility with Regulations for the International Atomic Energy Agency (HM-169A)	Final Rule; editorial revisions and response to a petition for reconsider-ation	05/08/96	RSPA made editorial and technical corrections and responded to a petition for reconsideration of a final rule [60 FR 50292; 09/28/95], which amended the HMR pertaining to the transportation of radioactive materials to harmonize them with those of the IAEA and thus most major nuclear nations of the world.
Exemptions, Approval, Registration and Reporting Procedures; Miscellaneous Provisions (HM-207C)	Final Rule	05/09/96	RSPA revised procedures for applying for exemptions and established procedures for applying for approvals, and registering and filing reports with RSPA. This rule is intended to expedite processing of applications and promote clarity and program consistency, and is part of the President's Regulatory Reinvention Initiative.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Improving the HM Safety Program; Public Meetings Related to Regulatory Review and Customer Service (Notice No. 96-8)	Notice of public meeting	05/15/96	RSPA announced two public meetings, in St. Louis, Missouri and Atlanta Georgia, to seek information from the public on regulatory reform and improved customer service for the Department's HM safety program. The meetings were a continuation of the initial series of public outreach meetings held between April 1995 and January 1996.
HM in Intrastate Transportation; Extension of Comment Period (HM-200; Notice No. 96-9)	SNPRM; extension of comment period	05/17/96	RSPA proposed certain exceptions from requirements in the HMR that would otherwise apply to: 1) the transportation of small quantities of certain HM used by private carriers in the conduct of their businesses ("materials of trade"); 2) cargo tank motor vehicles having a capacity of 3,500 gallons used exclusively in intrastate transportation of flammable liquid petroleum products; and 3) registered inspections of these smaller cargo tanks used exclusively for transporting flammable liquid petroleum fuels. The comment period was extended for 60 days, until August 16, 1996, for the 03/20/96 SNPRM.
Restructuring of Cylinder Specifications Requirements (HM-220B)	Final Rule	05/23/96	RSPA amended the HMR, eliminating approximately 45 pages of regulations, by restructuring the cylinder specifications requirements by consolidation of repetitive requirements and other formatting changes. This action responded to the President's Regulatory Reinvention Initiative.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Temporary Prohibition of Oxygen Generators as Cargo in Passenger Aircraft (HM-224)	Interim Final Rule	05/24/96	RSPA issued a rule temporarily prohibiting the offering for transportation and transportation of oxygen generators as cargo in passenger-carrying aircraft, as a result of an accident involving a passenger-carrying aircraft. The rule applies to both foreign and domestic passenger-carrying aircraft entering, leaving or operating in the U.S. and to any person offering an oxygen generator on any passenger-carrying aircraft.
Periodic Inspection and Testing of Cylinders (HM-220A)	Final Rule	05/28/96	RSPA amended the requirements in the HMR pertaining to maintenance and requalification of DOT specification and exemption cylinders used for transportation of compressed gases in commerce. These changes enhance public safety by clarifying the regulations for those persons who perform periodic inspection and testing of cylinders.
Revision of Miscellaneous HMR; Regulatory Review (HM-222B)	Final Rule	05/30/96	RSPA amended the HMR based on its review of the HMR and on written and oral comments received from the public concerning regulatory reform. RSPA is reducing the requirements pertaining to training frequency, incident reporting, and emergency response telephone numbers. This action is in response to the President's memorandum for review of all agency regulations.
Reports, Forms and Recordkeeping Requirements; Agency Information Collection Activity Under OMB Review (Notice)	Notice	05/30/96	This notice announced that the Information Collection Requests (ICRs) abstracted in this document have been forwarded to OMB for review and comment. The ICR describes the nature of the information collection and its expected cost and burden.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Transportation of HM; Miscellaneous Amendments (HM-216)	Final Rule	06/05/96	RSPA amended the HMR to incorporate a number of changes to rail requirements based on petitions for rulemaking from industry and RSPA initiatives. The intended effect is to improve safety and reduce costs of offerors and transporters of HM.
Direct Final Rule Procedure; Petitions for Rulemaking (RSP-1)	Final Rule	06/14/96	RSPA implemented a new and more efficient procedure for adopting noncontroversial rules. This "direct final rule" procedure involves issuing a final rule providing notice and an opportunity to comment. If RSPA does not receive an adverse comment, it would issue a subsequent notice to confirm that fact and reiterate the effective date. This action responds to the goals of Executive Order 12866 on Regulatory Planning and Review, recommendations of the National Performance Review, and the former Administrative Conference of the U.S.
Advisory Guidance; Offering, Accepting, and Transporting HM (Notice No. 96-10)	Advisory Guidance	06/14/96	RSPA issued advisory guidance, as a result of preliminary findings in the investigation of a recent passenger-carrying aircraft accident in Florida, to remind persons involved in the transportation of HM of their responsibilities to ensure that the materials are properly identified, packaged, authorized for transportation, handled, loaded, and transported in conformance with the HMR.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Oil Spill Prevention and Response Plans (HM-214 and PC-1)	Final Rule	06/17/96	Implemented the Federal Water Pollution Control Act, as amended by the Oil Pollution Act of 1990, and amended requirements that RSPA issued as an interim final rule on June 16, 1993. Comprehensive response plans are required for oil shipments in cargo tanks, railroad tank cars, and portable tanks in a quantity greater than 42,000 gallons, and less detailed basic response plans are required for petroleum oil in bulk packagings of 3,500 gallons or more.
Crashworthiness Protection Requirements for Tank Cars; Detection and Repair or Cracks, Pits, Corrosion, and Lining Flaws, Thermal Protection Flaws and Other Defects of Tank Car Tanks; Corrections and Response to Petitions for Reconsideration (HM-175A/201)	Final Rule; correcting and response to petitions for reconsider-ation	06/26/96	RSPA revised certain requirements clarifying the head-puncture resistance and thermal protection requirements in the HMR to improve the crashworthiness of tank cars and to increase the probability of detecting critical tank car defects. RSPA is allowing an analysis using independent mathematical or computer modeling procedures to verify compliance with thermal protection for certain tank cars.
Performance-Oriented Packagings Standards; Final Transitional Provisions (HM-181H; Notice No. 96-11)	NPRM	06/26/96	RSPA proposed to incorporate in the HMR a number of changes, based on agency initiative, petitions for rulemaking and comments received at public meetings, to the classification of certain materials poisonous by inhalation and the manufacture, use and reuse of HM packagings.
Transportation of HM by Rail; Miscellaneous Amendments; Response to Petitions for Reconsideration (HM-216)	Final Rule; Response to petitions for reconsider-ation	07/25/96	RSPA published a June 28, 1996 letter in which it denied petitions for reconsideration of a provision in the June 5, 1996 final rule [HM-216; 61 FR 28666], which allowed rail shippers and carriers to discontinue use of the RESIDUE placard on June 30, 1996, three months in advance of the effective date of the June 5, 1996 rule.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
HM in Intrastate Transportation; Access to Docket During Temporary Closure of Dockets Unit (HM-200; Notice No. 96-14)	Access to docket during temporary closure of Dockets Unit	07/25/96	In an effort to improve the indoor air quality in the U.S. Department of Transportation's Headquarters building, DOT and the building's owner initiated a major cleaning project, and thus announced an alternate location for information contained in Docket HM-200.
Improving HM Safety Program; Public Meeting Related to Regulatory Review and Customer Service (Notice No. 96-12)	Notice of public meeting	07/25/96	Announced a public meeting in Sacramento, California to seek information from the public on regulatory reform and improved customer service for RSPA's HM safety program. The meeting is a continuation of the initial series of public outreach meetings held between April 19, 1995 and June 6, 1996.
Temporary Closure of the Dockets Unit (Notice No. 96-13)	Notice	07/25/96	Announced the temporary closure of RSPA's Dockets Unit, which contains HM and pipeline safety rulemaking and other dockets. Provision was made for public access to dockets in which comment periods were opened or were recently closed and other dockets of current interest to the public. This closure was due to a cleaning project of the entire Nassif Building, which was closed for approximately three weeks starting August 12, 1996.
Applicability of the HMR to Loading, Unloading and Storage (HM-223; Notice No. 96-15)	ANPRM; notice of meeting	07/29/96	Announced three public meetings to seek ideas, proposals and recommendations on applicability of the HMR, which helped the agency to consolidate, clarify, revise and update existing interpretations, rulings and decisions, and to determine whether there was a need to amend the HMR to facilitate compliance for Federal, State, local and Indian tribe HM requirements.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Receipt of Petition for Rulemaking--Filling of Propane Cylinders (HM-220C; Notice No. 96-16)	ANPRM	08/23/96	Solicited comments on the merits of a petition for rulemaking filed by the Barbecue Industry Association (BIA), who petitioned to revise § 173.304(d) that would require registration and training of persons who fill propane cylinders, certification of filling equipment operators, and proof of financial responsibility.
Draft Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material (Notice No. 96-17)	Notice of document availability and request for comments	09/20/96	RSPA provided comments on the final draft of the 1996 edition of the Advisory and Explanatory Material for the International Atomic Energy Agency (IAEA) Regulations for the Safe Transport of Radioactive Material, Safety Series No.7, and considered input from the public and industry. This draft document supplements the IAEA 1996 edition, Safety Series No. 6.
Applicability of the HMR to Loading, Unloading and Storage (HM-223; Notice No. 96-18)	Notice of public meeting; issues to be discussed in Sacramento	09/23/96	On July 29, 1996, RSPA announced three public meetings at which it would seek ideas, proposals and recommendations on the applicability of the HMR to particular HM transportation activities. In this notice, RSPA announced the topics to be discussed at the 09/25/96 Sacramento, California meeting by two working groups comprised of interested members of the public groups. The areas of interest were unloading and storage of HM, and several other factors identified by commenters.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Transportation of HM by Rail; Miscellaneous Amendments; Response to Petitions for Reconsideration (HM-216)	Final Rule; editorial revisions and response to petitions for reconsider-ation	09/25/96	RSPA relaxed certain provisions of the final rule [61 FR 28666; 06/05//96], which amended the HMR to incorporate a number of changes to rail requirements based on rulemaking petitions from industry and RSPA initiatives. This document incorporates editorial and technical revisions RSPA determined were necessary to correct or clarify the final rule.
Performance-Oriented Packaging Standards; Final Transitional Provisions (HM-181H)	Final Rule	09/26/96	RSPA incorporated in the HMR a number of changes, based on rulemaking petitions, comments received at public meetings, and agency initiative, which included certain remaining issues associated with the final rules in Dockets HM-181 and HM-215A. These regulatory changes are intended to improve safety, reduce compliance costs and correct errors.
Exemption, Approval, Registration and Reporting Procedures; Miscellaneous Provisions (HM-207C)	Final Rule; revision made in response to petition for reconsider-ation	10/01/96	RSPA responded to a petition for reconsideration of a final rule [61FR 21084; 05/09/96] and deleted a requirement that, when the provisions of an exemption required that a copy be in a carrier's possession during transportation, the carrier must maintain a copy of the exemption in the same manner as required for shipping papers. This change allow the carrier to use any appropriate method for making the exemption available, unless otherwise specified by the exemption.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Periodic Inspection and Testing of Cylinders; Response to Petitions for Reconsideration, Clarification and Editorial Correction (HM-220A)	Final Rule; response to petitions for reconsider-ation, clarification and editorial correction	10/01/96	RSPA issued a final rule [61 FR 26750; 05/28/96] which amended the HMR on the maintenance and requalification of DOT specification and exemption cylinders used to transport compressed gases. These changes respond to petitions for reconsideration and are intended to further clarify the regulations for persons who perform periodic inspection and testing of these cylinders.
Revision of Miscellaneous HMR; Regulatory Review; Response to Petitions for Reconsideration (HM-222B)	Final Rule; responses to petitions for reconsider-ation	10/01/96	RSPA published two letters in this final rule in which it denied petitions for reconsideration of provisions contained in a final rule [61 FR 27166; 05/30/96] dealing with reducing the requirements for training frequency and emergency response telephone numbers.
Information Collection Activities (Notice No. 96-19)	Notice and request for comments	10/01/96	RSPA invited comments on certain information collections pertaining to HM safety for which it intends to request approval from the OMB, in accordance with the Paperwork Reduction Act of 1995.
HMR; Editorial Corrections and Clarifications (HM-189M)	Final Rule	10/01/96	RSPA made editorial corrections, minor regulatory changes, and in response to requests for clarification, improved the clarity of certain provisions of the HMR. These amendments were minor editorial changes and did not impose any new requirements.
Applicability of the HMR to Loading, Unloading and Storage (HM-223; Notice No. 96-21)	Notice of public meeting; issues to be discussed in Philadelphia	10/11/96	Based on information gathered at the two public meetings, in Atlanta and Sacramento, RSPA announced the topics to be discussed at the 10/30/96 meeting in Philadelphia, PA. Those topics were: 1) the loading of HM at shipper and consignee facilities; 2) the loading, unloading and storage of HM at transfer and other mid-transportation facilities; and 3) factors which could provide a framework for possible regulation in these areas.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Harmonization With the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Organization's Technical Instructions (HM-215B)	NPRM	10/25/96	RSPA proposed to amend the HMR to maintain alignment with corresponding provisions of the international standards because of recent changes to the International Maritime Dangerous Goods Code, the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air and the United Nations Recommendations on the Transport of Dangerous Goods. The proposed revisions were necessary to facilitate the transport of HM in international commerce.
International Standards on the Transport of Dangerous Goods; Public Meeting (Notice No. 96-23)	Notice of public meeting	11/20/96	RSPA published a notice advising interested persons that RSPA will conduct a public meeting to report on the results of the nineteenth session of the United Nation's Committee of Experts on the Transport of Dangerous Goods (UNCOE) and to discuss the work program for U.S. participation in meetings of the UN Committee of Experts and its Sub-Committees during the 1997-1998 biennium.
Advisory Guidance; Transportation of HM in MC 330 and MC 331 Cargo Tanks (Notice No. 96-24)	Advisory guidance	12/13/96	Preliminary information suggested there was a problem in the unloading configuration of a number of MC 330 and MC 331 cargo tank motor vehicles used to transport liquefied petroleum gas; the result being a failure of a cargo tank's excess flow feature with its emergency discharge control system to function when a transfer hose or piping fails. Persons involved in the design, manufacture, assembly, maintenance, or transportation were advised that such tanks must conform to the HMR

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Advisory Notice; Transportation of Air Carrier Company Materials (COMAT) by Aircraft (Notice No. 96-25)	Advisory guidance	12/13/96	This document provided advisory guidance as to the extent and application of exceptions in the HMR applicable to the transportation of an air carrier's company materials (COMAT). The advisory guidance was a result of an NTSB hearing and a position paper by the Air Line Pilots Association, and was issued to clarify misunderstanding of the application of certain exceptions in the HMR for acceptance and transportation of HM in any aircraft in the U.S.
Harmonization With the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Organizations' Technical Instructs (HM-215B)	Final Rule	12/16/96	RSPA updated references in the HMR to include the most recent amendments to international standards of the International Maritime Dangerous Goods Code and the International Civil Aviation Organizations Technical Instructions for the Safe Transport of Dangerous Goods by Air, in order to facilitate continued transport of HM in international commerce by vessel and aircraft.
Prohibition of Oxidizers Aboard Aircraft (HM-224A); Notice No. 96-26)	NPRM	12/30/96	RSPA proposed to amend the HMR to prohibit the carriage of oxidizers, including compressed oxygen, in passenger-carrying aircraft and in Class D compartments on cargo aircraft. The proposal specifically analyzes the prohibition of oxidizers in Class D cargo compartments. RSPA will issue a SNRPM further analyzing the prohibition of oxidizers in Class D cargo compartments, and a proposal to add a shipping description to the HMR for chemical oxygen generators and to require approval of a chemical oxygen generator transported with its means of initiation attached.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
HM in Intrastate Commerce (HM-200)	Final Rule	01/08/97	RSPA required that all intrastate shippers and carriers comply the HMR with certain exceptions. This action was necessary to comply with the amendments to the Federal HM transportation law [49 U.S.C. 5103(b)(1)] mandating that DOT regulate the transportation of HM in intrastate commerce. This action raises the level of safety by applying a uniform system of regulations to all HM transported in commerce in the U.S.
Improvements to HM Identification Systems (HM-206)	Final Rule	01/08/97	RSPA amended the HMR to better identify HM in transportation. Changes include adding a new POISON INHALATION HAZARD label and placard, lowering the quantity for specific hazard class placarding from 2,268 kg to 1,000 kg, expanding requirements for vehicles and containers that have been fumigated, adding requirements for identification number marking on vehicles or containers loaded with non-bulk packagings, and for carrier emergency information contact. The intended effect is to improve the safety of emergency responders, transportation workers and the public.
HMR; Penalty Guidelines (HM-207F)	Final Rule	01/21/97	RSPA increased the maximum civil penalty, from $25,000 to $27,500, for knowingly violating the Federal HM transportation law or the HMR. RSPA also published revised baseline assessments for frequently cited violations of the HMR, in order to provide the regulated community and the general public with more current information on RSPA's hazardous material penalty assessment process.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
HM; Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Interim Final Rule (RSPA-97-2133 (HM-225))	Emergency Interim Final Rule and announce-ment of a public meeting	02/19/97	RSPA amended the HMR to specify the conditions under which MC 330, MC 331 and certain non-specification cargo tank motor vehicles, used to ship propane and liquefied compressed gases, may continue to be used on an interim basis, even if they are equipped with emergency discharge control systems which may not function as required. This rule responds to a recently discovered safety deficiency which may affect many of these cargo tanks. A public meeting and two workshops were scheduled to receive comments and recommendations on measures adopted in the interim rule and to solicit recommendations for a permanent solution.
Information Collection Activity (Notice No. 97	Notice of information collection approval	03/04/97	Announced the emergency approval by the OMB of an information collection request (ICR), in accordance with the Paperwork Reduction Act of 1995. The ICR describes the nature of the information collection and its expected cost and burden. The ICR was contained in the rule, Docket No. RSPA-97-2133 (HM-225); FR 7638; 02/19/97, with a 60-day comment period].
Performance-Oriented Packaging Standards; Final Transitional Provisions; Revisions and Response to petitions for Reconsideration (HM-181H)	Final Rule; editorial revisions and response to petitions for reconsider-ation	03/26/97	RSPA amended the HMR to incorporate a number of changes to classification of certain HM which are poisonous by inhalation and provisions for the manufacture, use and reuse of packagings. The rule corrects errors in a final rule [61 FR 50616; 09/26/96], responds to petitions for reconsideration, and publishes two letters denying two petitions for reconsideration to authorize certain discarded cultures and stocks of infectious substances to be described and packaged as regulated medical waste, rather than infectious substances.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
HM Transportation; Registration and Fee Assessment Program (Notice No. 97-1)	Notice of filing requirements	03/26/97	Notification that the HM Registration Program will enter registration year 97-98, on 07/01/97, was provided to persons who transport or offer for transportation certain HM and are required to annually file a registration statement and pay a fee to the Department. Persons who registered for the 96-97 registration year were mailed a registration statement form and informational brochure in May 1997.
Safety Advisory; Unauthorized Marking and Modification of Compressed Gas Cylinders (Notice No. 97-2)	Safety advisory notice	04/22/97	RSPA notified the public that it is investigating certain unauthorized marking and modification of high-pressure compressed gas cylinders marked with an expired Retester Identification Number (RIN) or unauthorized RIN at a welding supply company located in California. Cylinders which have not been retested in accordance with the HMR may not be charged or filled with hazardous material.
Safety Advisory; Unauthorized Marking of Compressed Gas Cylinders (Notice 97-3)	Safety advisory notice	05/05/97	Notified to the public that RSPA is investigating the unauthorized marking of high-pressure compressed gas cylinders as a result of a 05/21/96 investigation of a company in Roswell, New Mexico which distributes oxygen. Numerous compressed gas cylinders were observed, and discovered to have been marked with an expired RIN; thus RSPA believed these cylinders may not have been retested in accordance with the HMR.
			RSPA amended the HMR to maintain

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
HM: Harmonization With the United Nations Recommendations, International Maritime Dangerous Goods Code, and International Civil Aviation Organization's Technical Instructions (HM-215B)	Final Rule	05/06/97	alignment with corresponding provisions of international standards because of recent changes to the IMDG Code, the ICAO Technical Instructions and the UN Recommendations. These revisions were necessary to facilitate the transport of HM in international commerce.
HM: Use of Non-Specification Open-Head Fiber Drum Packagings (RSPA-97-2501 (HM-221B))	Direct Final Rule	06/02/97	RSPA allowed the transportation of certain liquid HM in non-specification open-head fiber drums until September 30, 1999, if the fiber drums have been filled before, and are not emptied and refilled after, the expiration of the current authority for the use of these packagings. This action completed the rulemakings mandated by Section 406 of the Interstate Commerce Commission Termination Act concerning alternate standards for open-head fiber drums.
HM; Shipping Description and Packaging of Oxygen Generators (HM-224A)	Final Rule	06/05/97	RSPA amended the HMR to add a specific shipping description to the Hazardous Materials Table for chemical oxygen generators and to require approval of a chemical oxygen generator, and its packaging, when the chemical oxygen generator is transported with its means of initiation attached. The changes facilitate the identification of oxygen generators, making it easier to enforce existing prohibitions.
Petitions for Reconsideration of Interim Final Rule; Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service (RSPA-97-2133 (HM-225))	Deferral of decision on petitions for reconsider-ation of interim final rule; notice of meeting	06/09/97	RSPA deferred action on a decision with respect to two petitions for reconsideration of the interim final rule [HM-225; 02/19/97] on cargo tank motor vehicles in liquefied compressed gas service, until RSPA issues a final rule in that docket. RSPA intends to issue a rule prior to 08/15/97, the expiration date of the interim final rule.
			Advised interested persons that RSPA

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
International Standards on the Transport of Dangerous Goods; Public Meeting	Notice of public meeting	06/12/97	will conduct a public meeting in preparation for the thirteenth session of the United Nation's Sub-Committee of Experts on the Transportation of Dangerous Goods (UNSCOE) from July 7-17, 1997 in Geneva, Switzerland.
HM; Shipping Description and Packaging of Oxygen Generators; Delay of Effective Date, Technical Amendments and Corrections (HM-224A)	Final Rule; delay of effective date, technical amendments and corrections	06/27/97	RSPA amended the HMR by adding a specific shipping description to the Hazardous Materials Table for chemical oxygen generators. The effective date for the final rule [62 FR 30767; 06/05/97] was delayed one month, from 07/07/97 to 08/07/97. The technical amendments and corrections were effective August 7, 1997.
HM; Shipping Description and Packaging of Oxygen Generators; Notice of Public Meeting (HM-224A; Notice No. 97-5)	Notice of public meeting	07/11/97	This notice advised interested that RSPA will meet with representatives of the Boeing Company and other interested parties to discuss requirements on the transportation of chemical oxygen generators, including the shipping description, and packaging of these generators, as issued in final rules in HM-224A [62 FR 30767; 06/05/97 and 62 FR 34667; 06/27/97].
Safety Advisory; Certified IM 101 and IM 102 Steel Portable Tanks With Bottom Outlets Without Internal Discharge Valves or Shear Sections (Notice 97-6)	Safety advisory notice	07/14/97	Notification was made to owners and users of DOT specification IM 101 and IM 102 portable tanks with filling or discharge connections below the normal liquid level that these tanks may be used only for shipping HM if they have internal discharge valves and shear sections, which are safety features. Without those safety features, damage to a bottom outlet is more likely to result in loss of a tank's entire lading.
			Notification was made to interested

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
International Standards on the Transport of Dangerous Goods; Public Meeting (Notice 97-7)	Notice of public meeting	07/18/97	persons that RSPA will conduct a public meeting on 07/23/97 to report on the results of the thirteenth session of the UNSCOE and to discuss the work program for U.S. participation in future meetings.
Improvements to HM Identification Systems; Corrections and Responses to Petitions for Reconsideration (HM-206)	Final Rule; editorial revisions and responses to petitions for reconsider-ation	07/22/97	RSPA corrected errors in, and responded to petitions for reconsideration of a final rule [62 FR 1217; 01/98/97], which amended the HMR to better identify and communicate the hazards associated with HM in transportation in commerce. The rule is intended to assist emergency responders in mitigating the effects of HM incidents and accidents, and to improve safety to transportation workers and the public.
Safety Advisory: Certified IM 101 and IM 102 Steel Portable Tanks With Bottom Outlets Without Internal Discharge Valves or Shear Sections (Notice No. 97-6)	Safety advisory notice; correction	08/01/97	Corrected an error in an advisory notice in the **Federal Register** [62 FR 38739; 07/14/97]. The words "capable of being closed from a location" were inadvertently omitted for material quoted from 49 CFR 173.32c(g)(2). For convenience of readers, the text of the 07/14/97 notice was reprinted in its entirety in this notice.
HM Safety Standards for Unloading Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Advanced Notice of Proposed Rulemaking (RSPA-97-2718 (HM-225A))	ANPRM and notice of public meeting	08/18/97	RSPA requested comments on the need, if any, for amending the HMR with regard to: 1) emergency discharge control features required on cargo tank motor vehicles in liquefied compressed gas service; 2) the ability of industry to meet a possible 1,2, or 3 year retrofit schedule; 3) standards for qualifying, testing and use of hoses in unloading; 4) safety procedures for persons performing unloading operations; and 5) whether the Federal government should continue to regulate in this area.
			Adopted temporary requirements for

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
HM: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Revisions and Response to Petitions for Reconsideration (RSPA-97-2133 (HM-225A))	Final Rule; response to petitions for reconsider-ation	08/18/97	cargo tank motor vehicles in certain liquefied compressed gas service. It required a specific marking on affected cargo tanks and required motor carriers to comply with additional operational controls intended to compensate for the inability of passive emergency discharge control systems to function as required by the HMR. The operational controls are needed because a substantial portion of industry failed to comply with an excess flow valve requirement which had been in place since 1941.
Information Collection Activities (Notice No. 97-4)	Notice and request for comments	08/19/97	RSPA invited comments on emergency information collection approval, OMB No. 2137-0595, Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service, expiration date, 08/31/97, for which it intended to request renewal and extension of approval from the OMB. This action was taken in accordance with the Paperwork Reduction Act of 1995.
Prohibition of Oxidizers Aboard Aircraft (HM-224A; Notice No. 97-8)	SNPRM	08/20/97	RSPA issued a NPRM [61 FR 68955; 12/30/96] which amended the HMR to prohibit the carriage of oxidizers, including compressed oxygen, aboard all passenger-carrying aircraft, and the requirements for Class D cargo compartments were analyzed. This SNPRM specifically analyzed the prohibition of oxidizers in other than Class D cargo compartments.
HM; Use of Non-Specification Open-Head Fiber Drum Packagings (RSPA-97-2501 (HM-221B))	Confirma-tion of effective date of direct final rule	08/25/97	Confirmed the 10/01/97 effective date of the direct final rule [62 FR 29673; 06/02/97], which amended the HMR to allow the transportation of certain liquid HM in non-specification open-head fiber drums until September 30, 1999, if the fiber drums have been filled before and not emptied and refilled after, the expiration of the current authority for use of these packagings.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
HM: Withdrawal of Radiation Protection Program Requirements (RSPA-97-2850 (HM-169B))	Direct Final Rule	09/02/97	Removed the Radiation Protection Program regulations and related modal provisions that required the development and maintenance of a written radiation protection program for persons who offer, accept for transportation or transport radioactive materials. This action was needed to address difficulties and complexities on implementation of and compliance with the requirements for a radiation protection program.
Notice of Information Collection Approval (Notice No. 97-9)	Notice of information collection approval	09/09/97	This notice announced OMB approval of a request for extension of approval of an information collection, OMB No. 2137-0595, Hazardous Materials: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service. The information collection was extended until February 28, 1998.
HM: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Advisory Guidance for Leak Testing Discharge Systems (RSPA-97-2133 (HM-225))	Advisory guidance	09/19/97	RSPA published a final rule [62 FR 44038; 08/18/97] adopting certain safety standards applicable to cargo tanks used in liquefied compressed gas service. This advisory guidance identified a potential safety problem when leak testing a cargo tank's discharge system and clarified a pressure test requirement for new or repaired transfer hoses. This notice was responsive to a petition for reconsideration and a request for clarification.
International Standards on the Transport of Dangerous Goods by Air; Public Meeting	Notice of public meeting	09/19/97	The notice advised persons that RSPA would conduct a public meeting to exchange views on proposals submitted to the sixteenth session of the International Civil Aviation Organizations' (ICAO) Dangerous Goods Panel (DGP) in Montreal Canada on October 20, 1997.

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HM in Intrastate Commerce; Delay of Compliance Date, Technical Amendments, Corrections and Response to Petitions for Reconsideration (HM-200)	Final Rule; delay of compliance date, technical amendments, correction and response to petitions for reconsid-eration	09/22/97	RSPA issued a final rule [62 FR 1208; 01/08/97] which amended the HMR to expand the scope of the regulations to intrastate transportation of HM. In response to petitions for reconsideration, RSPA provided one additional year, until 10/01/98, for compliance, and corrected errors in the 01/08/97 rule.
Transportation of HM; Miscellaneous Amendments (RSPA-97-2905 (HM-166Y))	NPRM	09/24/97	RSPA proposed to make miscellaneous amendments to the HMR based on petitions for rulemaking and RSPA initiative. The amendments would update, clarify, or provide relief from certain regulatory requirements.
Notice of Information Collection Approval (Notice No. 97-10)	Notice of information collection approval	09/25/97	Announced OMB approval of information collection requests (ICRs) for OMB No.2137-0014, Cargo Tank Specification Requirements, OMB No. 2137-0051, Exemption and Preemption Requirements, and OMB No.2137-0059, Requirements for Hazardous Materials by Rail. The information collections have been extended until September 30, 2000.
HMR; Editorial Corrections and Clarifications (RSPA-97-2910 (HM-189N))	Final Rule	10/01/97	Corrected editorial errors, made minor regulatory changes, and in response to requests for clarification, improved the clarity of certain provisions in the HMR. The rule enhanced the accuracy and reduced misunderstandings of the HMR. These minor editorial changes did not impose new requirements.
Safety Advisory: Unauthorized Marking of Compressed Gas Cylinders (Notice No. 97-11)	Safety advisory notice	10/16/97	Notified the public that RSPA is investigating, as a result of an inspection at a fire protection company in Memphis,Tennessee, the unauthorized marking of high-pressure compressed gas cylinders. Failure to properly

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			conduct a hydrostatic retest can result in cylinders that should be condemned and removed from service. Cylinders that have not been retested in accordance with the HMR may not be charged or filled with a hazardous material.
Safety Advisory: Unauthorized Cans Used to Package and Transport HM-12a®, a Liquefied Petroleum Gas (Notice 97-13)	Safety advisory notice	11/12/97	RSPA notified the public that cans labeled as DOT-2Q containing HC-12a®, a liquefied petroleum gas, packaged and distributed by a company in Rathdrum, Idaho, are unauthorized for the packaging and transportation of HC-12a®, and that tests on these cans show that they may fail at ambient temperatures normally encountered in transportation.
International Standards on the Transport of Dangerous Goods; Public Meeting	Notice of public meeting	11/14/97	RSPA notified interested persons that a public meeting would be held to report on the results of the fourteenth session of the United Nation's Sub-Committee of Experts on the Transport of Dangerous Goods, and that the work program for U.S. participation in future meetings would be discussed at the 1997-1998 biennium.
Information Collection Activities (Notice No. 97-12)	Notice and request for comments	11/19/97	RSPA notified interested parties and invited comments on certain information collections pertaining to HM transportation for which RSPA intends to request renewal from OMB, in accordance with the Paperwork Reduction Act of 1995.
Notice of Information Collection Approval (Notice No. 97-14)	Notice of Information Collection Approval	11/25/97	RSPA announced OMB approval of information collection request for OMB No. 2137-0595, Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service. This information collection has been extended until March 31, 1999.

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
HM; Prohibition of Oxidizers Aboard Aircraft; Notice of Public Meeting and Reopening of Comment Period (HM-224A; Notice No. 97-15)	Proposed rules; public meeting and reopening of comment period	11/28/97	RSPA invited additional comments on proposals to prohibit the transportation of oxidizers in passenger-carrying aircraft and in inaccessible locations on cargo aircraft, as issued in a NPRM [61 FR 68955; 12/30/96] and a SNPRM [62 FR 44374; 11/20/97]. A public meeting was held on 01/14/98 in Washington D.C., and the comment period was reopened until February 13, 1998.
HM: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Response to Petitions for Reconsideration; Editorial Revisions; and Rules Clarification (RSPA-97-2133 (HM-225)	Final Rule; response to petitions for reconsider-ation; editorial revisions; and rules clarification	12/10/97	RSPA issued a final rule [62 FR 44038; 11/18/97], adopting safety standards for cargo tanks in liquefied compressed gas service. This action responds to petitions for reconsideration concerning daily pressure testing of transfer hoses of these cargo tanks, practical and effective standards to assure integrity of transfer hoses used in unloading, clarification of the attendance requirements, and extended the expiration of the rule requirements, four months, to July 1, 1999.
HM: Radiation Protection Program Requirement (RSPA-97-2850 (HM-169B))	Final Rule; extension of compliance date	12/22/97	RSPA extended, until October 1, 1999, the date for mandatory compliance with the Radiation Protection Program (RPP) requirements adopted in the final rule issued September 28, 1995 [HM-169A; 60 FR 50292]. During this period, RSPA intends to consider in a separate rulemaking whether the RPP required should be withdrawn or revised because of the difficulties and complexities concerning implementation and compliance with the RPP requirements.
HM: Withdrawal of Radiation Protection Program Requirement (RSPA-97-2850 (HM-169B))	NPRM	12/22/97	RSPA proposed to amend the HMR to remove Subpart I of 49 CFR Part 172, Radiation Protection Program, and related modal provisions that require persons who offer, accept for transportation, or transport radioactive materials to develop and maintain a written radiation protection program.

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			This action is necessary to address difficulties with implementation, as evidenced by comments from the radioactive materials transportation industry.

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APPENDIX B
ACTIVE EXEMPTIONS
1996-1997

ACTIVE EXEMPTIONS FOR 1996 - 1997

Listed below in numerical sequence are the exemptions that were issued, renewed, or amended during the years 1996 and 1997. The reason for each issuance is given by a number in the right-hand column which is coded to the reasons shown below.

1. to develop information and gain experience concerning shipping conditions, or carrier operations;

2. to authorize packaging of similar nature and integrity equivalent to DOT specification containers;

3. to permit one of a limited number of shipments of a material for which an amendment of the regulations would be impractical;

4. to permit emergency movement of materials in order to prevent risk to life or property; or

5. to permit emergency movement of a material in order to prevent serious economic loss.

NUMBER	PURPOSE	REASON
868	Authorized the exceptions to requirements for carrier inspection of manufacture, vehicle, loading, etc. for transportation of Division 1.1, 1.2 and 1.3 explosives loaded by DOD shippers in DOT Specification containers.	2
970	Authorized the transportation of diboran classed as a Division 2.3 material in DOT Specification 3AA cylinders overpacked in certain insulated drums or wooden boxes.	1
1479	Authorized the transportation of a poisonous cryogenic liquid and a nonflammable cryogenic liquid classed as Division 2.3 material, in non-DOT specification cargo tanks.	1
1862	Authorized the shipment of nitrogen, compressed, Division 2.2 in non-DOT specification hydraulic accumulators.	1
2000	Authorized the use of a non-DOT specification portable tank or a DOT Specification 4L cylinder for shipment of flammable liquefied compressed gases.	2
2136	Authorized the shipment of radioactive materials with explosives in DOD containers packaged and loaded by the DOD without carrier inspection.	2
2582	Authorized the transportation of Division 2.3 and Division 5.1 materials in non-DOT specification cylinders made in compliance with DOT specification 3E1800 with exceptions.	1
2709	Authorized the transportation of certain 1.1G, 1.1D and 1.3G liquid explosives in DOT specification packagings.	1
2787	Authorized the shipment of certain Division 2.2 materials in non-DOT specification pressure vessels equipped with w regulating valve.	2
3004	Authorized the use of a non-DOT specification cylinder for transportation of certain Division 2.1 or 2.2 materials.	2
3121	Authorized the transportation of certain poisonous material classed as Division 2.3, in DOT Specification MC 338 cargo tanks.	2
3126	Authorized the transport of Division 1.1 explosives in DOT Specification 5 metal drums, or in DOT Specification 42B aluminum drums.	2
3128	Authorized the use of a non-DOT specification cylinder for transportation of a Division 1.4 explosive and Division 2.2 gas.	2
3142	Authorized the shipment of Division 2.2 gases in a DOT Specification 3A1800 or 3A2000 cylinder, from which a controlled flow of gas is released to a leak calibration apparatus.	3
3187	Authorized the shipment of Class 3 or Division 5.2 in various non-DOT and DOT specification containers.	2
3216	Authorized the transportation of certain Division 2.1 and Division 2.2 gases in non-DOT specification multi-unit tank car tanks.	1
3302	Authorized the use of non-DOT specification sampling bottles (cylinders) for transportation of certain Division 2.2 gases.	2
3330	Authorized the use of non-DOT specification insulated containers overpacked in DOT Specification 17C, 17H, or 37A metal drums for transportation of certain Division 4. materials.	2
3415	Authorized the transport of rocket motors, containing certain Division 1.1, 1.2 or 1.3 explosives, without overpacking.	3
3549	Authorized the shipment of Division 1 explosives in a special non-DOT specification inside packaging.	2
3569	Authorized the use of non-DOT specification nonrefillable cylinders for transportation of a Division 5.1 material.	2
3600	Authorized the shipment of Lance rocket engines in specific configurations which contain Division 1.3 or 1.4 explosives.	3

NUMBER	PURPOSE	REASON
3630	Authorized the use of a DOT Specification 33A polystyrene case to contain four 5-pint glass bottles of nitric acid.	2
3768	Authorized the use of DOT Specification MC-304, MC-307 and MC-312 cargo tanks for transportation of certain Class 3 and 8 liquids.	2
3941	Authorized the transport of ammonium perchlorate in non-DOT specification aluminum portable tanks.	1
4039	Authorized the shipment of liquefied hydrogen in a non-DOT specification vacuum insulated portable tank.	2
4052	Authorized the shipment of an aerosol formulation pressurized with nitrogen in a DOT Specification 39 seamless aluminum cylinder.	2
4242	Authorized the use of a non-DOT specification aluminum pressure vessel for transportation of a pyroforic mixture.	2
4262	Authorized the shipment of charged oil well jet perforating guns with initiators attached.	2
4291	Authorized the use of a non-DOT specification aluminum portable tank for transportation of a Division 5.1 material.	2
4453	Authorized the use of a non-DOT specification bulk, hopper-type tank for transportation of Division 1.5 or ammonium nitrate-fuel oil mixtures.	2
4575	Authorized the use of DOT specification cargo tanks and tank car tanks not presently authorized and AAR approved non-DOT specification tank car tanks, for transportation of certain compressed or liquified gases.	2
4588	Authorized the use of a packaging not presently prescribed for certain Division explosives.	2
4612	Authorized the shipment of small quantities of certain hazardous materials in inside glass bottles overpacked in metal cans further overpacked in DOT Specification 12B fiberboard boxes.	2
4661	Authorized the transport of butyl lithium in petroleum solvent in DOT Specification 4BA240 cylinders with alternative retest procedures.	2
4719	Authorized the shipment of certain compressed gases not listed in 49 CFR 173.314 and 173.315, in DOT Specification MC-330 and MC-331 cargo tanks or DOT Specification 105A300W, 112A340W, 114A340, 106A500, 106A500X, 110A500W and 120A300W tank car tanks.	2
4726	Authorized the transport of certain liquid metal fluorides in non-DOT specification monel cylinders, overpacked in a strong wooden box with cushioning material.	2
4844	Authorized the use of non-DOT specification foreign made steel cylinders use only in aircraft of foreign manufacture for shipment of certain Division 2.2 gases.	2
4850	Authorized the shipment of flexible linear shaped charges, metal clad, in 100' lengths, containing not more than 50 grams per linear foot of a high explosive.	1
4884	Authorized the shipment of liquefied and nonliquified compressed gases and a Class 3 material in stainless steel cylinders complying with DOT Specification 4BS with certain exceptions.	2
5022	Authorized the shipment of certain Division 1.1, 1.2 and 1.3 explosives in temperature controlled equipment.	1
5038	Authorized the shipment of dimethyldichlorosilane, trichlorosilane, other specifically identified Class 3 materials and silicon tetrachloride in non-DOT specification type 304 stainless steel cylinders.	2
5112	Authorized the use of a specially designed kettle drum type aluminum containers for transportation of a Division 1 explosive.	1
5206	Authorized the use of privately operated bulk, hopper-type units for transportation of a Division 1.5 material.	1

NUMBER	PURPOSE	REASON
5243	Authorized the modification of DOT specification packaging for transportation of Division 1.1, 1.2 or 1.4 explosives.	1
5493	Authorized the shipment of hydrogen sulfide in DOT-105A600W tank cars.	2
5600	Authorized the transport of Division 2.1 or2.2 gases, Class 3 or 8 materials or Division 5.1 materials presently authorized to be shipped in a non-DOT specification cylinder made to DOT Specification 3A except monel metal may be used rather than steel.	1
5604	Authorized the use of insulated non-DOT specification portable tanks for a Division 2.2 gas.	1
5643	Authorized the shipment of a Division 2.2 gas in vacuum insulated non-DOT specification portable tanks.	1
5704	Authorized the transport of certain Division 1.1, 1.2 and 1.3 explosives in non-DOT specification steel drums.	2
5749	Authorized the use of an insulated nickel steel DOT Specification MC-331 cargo for transportation of a certain Division 2.1e gas.	2
5820	Authorized the shipment of Division 2.2 gases in non-DOT specification IMO Type 5 portable tanks.	2
5861	Authorized the use of a stainless steel cylinder patterned after the DOT-4DS cylinder for transportation of a Division 2.2 gas.	2
5876	Authorized the transport of a Division 6.1 poison in DOT-44D multiwall paper bags or non-DOT specification pinch bottom, heat-sealed multiwall bags.	2
5895	Authorized the use of non-DOT specification inner container overpacked in a DOT-12H fiberboard box or a non-DOT specification wooden box for shipment of a Division explosive.	1
5923	Authorized the transport of certain Division 2.1 and 2.2 gases in DOT-106A500X and 110A500W multi-unit tank cars.	1
5945	Authorized the use of a small capacity DOT-51 portable tank for shipment of a Division 2.2 gas.	1
5948	Authorized the shipment of radioactive waste materials in ATMX 500 or 600 rail cars.	2
5951	Authorized the transport of Division 2.2 gases in DOT Specification 106 type tanks.	2
5967	Authorized the use of a non-DOT specification cylinder for transportation of nonflammable gases.	1
6016	Authorized the shipment of oxygen, refrigerated liquid, nitrogen, refrigerated liquid, and argon, refrigerated liquid in non-DOT specification portable tanks.	1
6071	Authorized the use of non-DOT specification pressure vessels, for transportation of Division 2.2 gases.	2
6117	Authorized the transport of hydrogen sulfide in DOT Specification 105A600W tank car tanks or proposed DOT Specification 120A600W tank car tanks.	1
6232	Authorized the shipment of Division 1.1and 1.2 gases and a Division 4.1 solid in the same outside package.	2
6250	Authorized the transport of partially disassembled aircraft with Division 1 materials components (ejection seat and canopy related devices) remaining installed.	1
6263	Authorized the transport of certain Division 2.2 gases, in non-DOT specification welded, cylindrical or spherical, steel tanks.	2
6267	Authorized the use of DOT and non-DOT specification fiberboard boxes, for shipment of certain Division 5.1 materials.	2

NUMBER	PURPOSE	REASON
6293	Authorized the shipment of specific Class 8 materials, in DOT Specification MC-311 or MC-312 tank motor vehicles.	2
6299	Authorized the manufacture, marking and sale of non-DOT specification portable tanks, for transportation of Division 2.2 materials.	2
6309	Authorized the use of non-DOT specification steel portable tanks for transportation of certain Division 2.2 gases.	2
6325	Authorized the transport of Division 5.1 materials in non-DOT specification cargo tanks or DOT Specification MC-306, MC-307, or MC-312 cargo tanks.	2
6369	Authorized the use of DOT Specification 105A400W, 112A400W, 114A400W, 120A300W, and proposed 120A400W tank car tanks for shipment of certain Division 61. materials.	2
6418	Authorized the use of DOT Specification MC-303, MC-304, MC-306, MC-307, MC-310, or MC-312 steel cargo tanks for transportation of Class B poisonous liquids.	1
6442	Authorized the transport of a 155 mm high explosive projectile containing either a Class 8 or Class 3 material, in a metal cannister with an inner polyethylene container.	2
6443	Authorized the use of DOT Specification MC-331 insulated cargo tanks not presently authorized, for transportation of a Division 2.1 material.	1
6484	Authorized the transport of mixtures of nitromethane and various solvents in DOT Specification MC-307 or MC-312 tank motor vehicles.	2
6497	Authorized the use of a modified DOT Specification 56 portable tank for transportation of Division 6.1 solids material.	2
6517	Authorized the use of a non-DOT specification steel cylinder comparable to DOT Specification 4BW cylinder for shipment of acetylene.	2
6518	Authorized the shipment of specified pyrophoric liquids and solids, water reactive solids and certain other Class 3 materials in non-DOT specification steel portable tanks or cylinders.	2
6530	Authorized the shipment of hydrogen and mixtures of hydrogen with helium, argon or nitrogen in DOT Specification 3A, 3AA, 3AX or 3AAX steel cylinders.	2
6531	Authorized the use of a non-DOT specification pressure vessel for shipment of a Division 2.2 material.	2
6538	Authorized the use of a non-DOT specification inside nonrefillable metal container, for transportation of a certain Division 2.1 material.	2
6543	Authorized the shipment of certain Class 8 and Class 3 materials in non-DOT specification 16 gauge, Type 304 stainless steel cylinders and/or 14 gauge Type 316 stainless steel cylinders.	2
6557	Authorized deviation from the requirements of the inspector's report for DOT Specification 3A, 3AA, and 4B cylinders for shipment of certain Division 2.2 materials.	1
6563	Authorized the shipment of certain Division 2.2 materials in non-DOT specification steel cylinders made in compliance with DOT Specification 3E with certain exceptions.	2
6583	Authorized the shipment of a Class 8 material in a DOT Specification 51 portable tank.	1
6589	Authorized the manufacture, marking and sale of non-DOT specification stainless steel cylinders for transportation of Division 2.2 materials.	1
6610	Authorized the shipment of a Division 5.2 Type F, liquid in DOT Specification MC-307 or MC-312 cargo tanks, or DOT Specification 412 cargo tank motor vehicles.	1

NUMBER	PURPOSE	REASON
6611	Authorized the use of a non-DOT specification vacuum insulated portable tank for transportation of a nonflammable cryogenic liquid.	1
6614	Authorized the use of non-DOT specification polyethylene bottles, packed inside a high density polyethylene box for transportation of certain Class 8 materials.	1
6626	Authorized the use of DOT Specification 3A or 3AA cylinders and cylinders marked ICC-3, 3A or 3AA for shipment of certain compressed gases.	1
6651	Authorized the one-time reuse of the single-trip containers for transportation of certain Division 6.1 solids.	2
6657	Authorized the use of DOT Specification 3A or 3AA cylinders having an age over 35 years for transportation of certain nonliquefied compressed gases.	1
6658	Authorized the use of a non-DOT specification open-head steel drum for transportation of a certain Division 1.1, or 1.2 material.	4
6670	Authorized the shipment of tetrafluoromethane, in DOT Specification 3A2400, 3AA2400, 3AX2400 and 3AAX2400 cylinders.	1
6686	Authorized the use of a modified DOT Specification 39 steel cylinder for transportation of a Division 2.1 material.	1
6691	Authorized the use of DOT Specification 3A or 3AA cylinders over 35 years old, which can be retested every 10 years, for transportation of certain Division 2.1 and 2.2 materials.	1
6694	Authorized the use of non-DOT specification IMO Type 5 portable tanks for transportation of Division 2.2 materials.	2
6704	Authorized the use of non-DOT specification cargo tanks for shipment of certain Class 8 materials.	2
6712	Authorized the shipment of certain Division 2.1 and 2.2 materials in DOT Specification 3A or 3AA cylinders or ICC-3, 3A or 3AA cylinders.	2
6735	Authorized the transport of bromine in a non-DOT specification cylinder constructed in accordance with all requirements of DOT Specification 4B, 4BA or 4BW cylinders except that each cylinder shall be marked	1
6743	Authorized shipment of a Division 5.1 material and a Division 5. 1 material in DOT Specification 56 or 57 portable tanks.	1
6746	Authorized the shipment of anhydrous ammonia in portable tanks built, marked and maintained in compliance with the DOT Specification MC-331 cargo tank.	1
6765	Authorized the use of non-DOT specification portable tanks for transportation of a Division 2.1 and a Division 2.2 material.	1
6769	Authorized the transport of trifluoromethane in DOT specification tank cars and cargo tanks.	2
6774	Authorized use of non-DOT specification cylinders complying with DOT Specification 3HT, with certain exceptions, for shipment of a nonflammable gas.	2
6805	Authorized the use of DOT Specification 3AAX steel cylinders for transportation of a Division 2.1 mixture.	1
6810	Authorized the shipment of a nonliquefied, Division 2.2 material in seamless steel tanks (tubes) made in compliance with DOT Specification 107A except they are not mounted on a rail car.	1
6816	Authorized the shipment of completely assembled liquid and solid fueled missiles in packagings prescribed in 49 CFR 173.57(a).	1
6874	Authorized the transport of sodium and potassium cyanides in non-DOT specification wooden boxes.	1

NUMBER	PURPOSE	REASON
6890	Authorized the transport of an explosive severance system consisting of linear segments which may contain up to 79 grams of hexanitrostilbene.	2
6908	Authorized certain variances from the specifications for DOT Specification 39 cylinders for shipment of certain Division 2.2 materials.	2
6922	Authorized the use of a DOT Specification 106A500-X multi-unit tank car tank, for shipment of certain compressed gases.	1
6929	Authorized the shipment of a Division 1.2 or 1.3 material in rocket motors in a propulsive state.	1
6932	Authorized the use of non-DOT specification IMO Type 5 portable tanks for transportation of anhydrous hydrofluoric acid.	1
6944	Authorized the transport of a liquid Division 1.1 or 1.2 material in a specially designed stainless steel desiccator.	1
6946	Authorized use of DOT Specification 3A or 3AA cylinders and ICC-3, 3A, or 3AA cylinders for shipment of certain compressed gases.	1
6962	Authorized the shipment of argon or helium in DOT Specification 3AAl800 or 3AA2000 cylinders.	1
6971	Authorized the transport of small quantities of reagent chemicals in inside glass bottles packed in metal boxes overpacked in a strong wooden or fiberboard box.	1
6974	Authorized the use of non-DOT specification cylinders for transportation of certain nonliquefied compressed gases.	2
6985	Authorized the shipment of diallyl phtalate-pyrotechnic materials in an aluminum case packed in a DOT Specification 15A wooden box.	1
6999	Authorized cargo loading hatches of vessels being loaded with military explosives to remain open overnight under certain conditions.	1
7007	Authorized the shipment of chlorine in non-DOT specification multi-unit tank car tanks patterned after DOT Specification 110A500W.	1
7023	Authorized the use of non-DOT specification steel portable tanks for shipment of a Division 5.1 material or Class 8 material.	2
7024	Authorized the transport of an alkaline corrosive liquid in non-DOT specification collapsible rubber containers.	1
7026	Authorized the manufacture, marking and sale of a non-DOT specification welded steel pressure vessel, for transportation of a compressed gas.	2
7032	Authorized outside packages exceeding the 100 pounds limitation to be carried aboard cargo aircraft only for shipment of a certain Class 8 solid material.	2
7041	Authorized the shipment of pyrophoric waste materials in non-DOT specification cargo tanks of the MC-331 type..	2
7046	Authorized the use of modified DOT Specification MC-312 glass lined cargo tanks, for transportation of Class 8 materials and a certain Division 5.1 material.	2
7051	Authorized the use of non-DOT specification Teflon bottles overpacked with either a DOT Specification l2A or l2B fiberboard box for transportation of a Class 8 material.	1
7060	Authorized the carriage of radioactive materials aboard cargo aircraft only when the combined transport index exceeds 50.0 and/or the separation criteria cannot be met.	1
7073	Authorized the use of non-DOT specification portable tanks for transportation of a Division 6.1 liquid.	2

NUMBER	PURPOSE	REASON
7205	Authorized certain stowage deviations in the transportation of military explosives by vessel.	1
7218	Authorized the manufacture, marking and sale of non-DOT specification fiber reinforced plastic full composite cylinders, for shipment of certain Division 2.2 materials.	2
7227	Authorized the use of a vacuum insulated, non-DOT specification portable tank for the shipment of a certain Division 2.2 material.	1
7235	Authorized the manufacture, marking and sale of non-DOT specification fiber reinforced plastic hoop wrapped cylinders, for transportation of certain nonflammable compressed gases.	2
7255	Authorized simultaneous loading of two holds within the same hatch when handling military explosives.	1
7259	Authorized the use of DOT Specification 56 and non-DOT specification portable tanks constructed of aluminum for shipment of phosphorous pentasulfide.	2
7268	Authorized the use of a DOT Specification 39 nonrefillable cylinder for shipment of a Division 2.2 material.	2
7269	Authorized the use of sift-proof paper or plastic bags overpacked in DOT Specification 21C fiber drums for transportation of certain Division 1.1 or 1.2 materials.	2
7274	Authorized the use of non-DOT specification portable tanks for shipment of certain Division 2.2 materials.	1
7275	Authorized the carriage of certain Division 1.1, 1.2, 1.3 and 1.4 material that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
7277	Authorized the manufacture, marking and sale of non-DOT specification fiber reinforced plastic full composite cylinder, for transportation of certain Division 2.2 materials.	2
7280	Authorized fuel tanks to be 3/4 full instead of 1/4 full and vehicles to be transported with battery cables connected if the holds or compartments of a vessel in which vehicles are loaded are mechanically ventilated.	1
7285	Authorized the use of non-DOT specification IMO Type 5 portable tanks, for transportation of certain Division 2.2 materials.	1
7286	Authorized the shipment of certain nonliquefied compressed gases in DOT Specification 3A or 3AA cylinders and cylinders marked ICC-3, 3A or 3AA.	2
7413	Authorized the transport of carbon dioxide or nitrogen, in a non-DOT specification brazed steel cylinder.	2
7446	Authorized the manufacture, marking and sale of dry powder-fire extinguishant charge with compressed air or nitrogen in non-DOT specification seamless aluminum cylinders.	2
7451	Authorized the use of non-DOT specification pressure vessels for transportation of a Division 2.2 material.	1
7455	Authorized the handling and stowage of explosive material in an anchored and unmanned barge, used as a magazine vessel.	3
7458	Authorized the manufacture, marking and sale of non-DOT specification seamless cylinders, for transportation of Division 2.2 materials.	2
7465	Authorized the stowage of transport motor vehicles and liquefied petroleum gases aboard passenger vessels.	1
7477	Authorized the use of non-DOT specification seamless aluminum cylinders, for transportation of certain Division 2.2 materials.	2
7517	Authorized the manufacture, marking, and sale of non-DOT specification fusion welded tank car tanks, for transportation of a Division 2.2 material.	1
7526	Authorized the shipment of a pyrophoric liquid in non-DOT specification portable tanks.	2

NUMBER	PURPOSE	REASON
7536	Authorized an increase to the maximum allowable draft weights for five and ten ton rated booms for shipment of military explosives.	1
7541	Authorized the use of non-DOT specification portable tanks for transportation of certain Division 2.1 and 2.2 materials.	2
7542	Authorized the manufacture, marking and sale of non-DOT specification steel cylinders for transportation of certain Division 2.1 material.	2
7546	Authorized the use of a heat pipe radiator assembly for shipment of certain Class 3 materials and Division 2.1 and 2.2 materials.	3
7548	Authorized the stowage of explosives on deck of vessel, over the square of the hatch.	1
7555	Authorized the use of a cargo tank made from non-metallic materials for transportation of certain Class 8 materials.	1
7573	Authorized the transport of certain hazardous materials presently forbidden or in quantities greater than allowed for cargo-only aircraft.	1
7594	Authorized the transport of certain Division 6.1 liquids in DOT Specification MC-312 cargo tanks.	2
7605	Authorized the transport of certain explosives contained in a partially disassembled aircraft or canopy assembly.	1
7607	Authorized the shipment of hydrogen in certain non-DOT specification, seamless stainless steel cylinders.	1
7616	Authorized the carrier to certify the shipping paper on behalf of the shipper when transporting hazardous materials by rail.	1
7625	Authorized the transport of certain Class 8 materials in DOT Specification 56 portable tanks.	2
7628	Authorized the use of DOT Specification 111A100W5 tank cars equipped with a safety relief valve instead of a vent for shipment of certain Class 8 materials.	5
7648	Authorized the carriage of aerial illuminating flares for testing purposes in cargo aircraft only.	3
7650	Authorized the use of non-DOT specification vacuum insulated steel portable tanks for shipment of certain Division 2.2 materials.	2
7654	Authorized the use of a glass bottle not exceeding 500 millimeter capacity inside a metal container overpacked in a DOT Specification 12B fiberboard box for transportation of a Class 3 material.	2
7657	Authorized the manufacture, marking and sale of non-DOT specification cylinders, for transportation of certain compressed gases.	2
7694	Authorized the use of non-DOT specification welded, or seamless, nonrefillable cylinders containing nonliquefied compressed gases.	2
7708	Authorized the use of non-DOT specification girth welded cylinders for shipment of a Division 2.2 material.	2
7716	Authorized the transport of ammonium nitrate in inside polyethylene bottles or foil pouches, each containing less than 3 pounds or less, overpacked in DOT Specification 12H65 fiberboard boxes with a plastic liner bag containing not more than 36 pounds net weight.	2
7719	Authorized the use of brazed DOT Specification 39 cylinders, for transportation of methylacetylene propadiene stabilized.	2
7721	Authorized the manufacture, marking, and sale of non-DOT specification steel cylinders, for transportation of certain Division 2.2 material.	1

NUMBER	PURPOSE	REASON
7730	Authorized the use of a DOT Specification MC-312 cargo tank for transportation of certain Class 8 materials.	3
7731	Authorized the manufacture, marking, and sale of non-DOT specification super-insulated portable tanks for shipment of pressurized liquid helium.	2
7737	Authorized the manufacture, marking, and sale of non-DOT specification seamless aluminum cylinders for shipment of compressed gases.	2
7765	Authorized the use of nonrefillable, non-DOT specification cylinders, for transportation of a Division 2.2 material.	2
7768	Authorized the manufacture, marking and sale of non-DOT specification blow-molded, high molecular weight polyethylene drums, with removable head, for shipment of oxidizers, corrosive materials, flammable liquids or solids and poison B solids.	2
7769	Authorized the manufacture, marking and sale of a non-DOT specification fiber reinforced plastic full composite cylinder for transportation of certain Division materials.	1
7770	Authorized the transport of anhydrous hydrogen fluoride or anhydrous methylchloromethyl ether in certain non-DOT specification portable tanks.	2
7774	Authorized the shipment of bromine trifluoride in non-DOT specification cylinders.	2
7811	Authorized the use of DOT Specification 12A corrugated fiberboard boxes, with handholes, for shipment of certain Class 8 and Class 3 materials.	2
7823	Authorized the transport of iodine pentafluoride in non-DOT specification welded stainless steel cylinders complying with DOT Specification 4BW with certain exceptions.	2
7834	Authorized the transport of nonliquefied sulfur hexafluoride in certain X-ray machines overpacked in strong wooden or fiberboard boxes.	1
7835	Authorized the transport of compressed gas cylinders bearing the flammable gas label, the oxidizer label, or the poison gas label and tank car tanks bearing the poison gas label on the same vehicle.	1
7840	Authorized the transport of a Division 1.4 material and a Division 2.2 material in the same non-DOT specification fiberboard shipping container.	1
7846	Authorized frame mounting and manifolding of DOT specification seamless steel tank car tanks, for shipment of Division 2.2 materials.	1
7862	Authorized the use of non-DOT specification aluminum, single trip, inside container, for transportation of a Division 2.2 material.	2
7873	Authorized the use of non-DOT specification intermodal portable tanks, for transportation of a Class B poison liquid.	2
7879	Authorized the shipment of bromine trifluoride in non-DOT specification seamless cylinders.	2
7887	Authorized the shipment of packages of toy propellant devices as an ORM-D material and excepted from labeling requirements.	1
7891	Authorized the transport of packages bearing the DANGEROUS WHEN WET label, in motor vehicles which are not placarded FLAMMABLE SOLID W.	1
7909	Authorized the transport of limited quantities of Division 6.1 liquids and solids in non-DOT specification plastic, metal or plastic-coated glass containers.	1
7915	Authorized the transport of certain propellant explosives in water in DOT Specification MC 307 or MC 312 cargo tanks.	1

NUMBER	PURPOSE	REASON
7928	Authorized the stowage of certain hazardous materials on the vehicle deck of passenger vessels.	1
7929	Authorized the transport of flaked or pelletized TNT in woven polyethylene or polypropylene cloth outer bags, with plastic film liners.	1
7943	Authorized the shipment of Class 8 materials in fiberboard boxes complying with DOT Specification 12B except for handholes in top flaps.	2
7945	Authorized the use of a non-DOT stainless steel cylinder similar to the DOT Specification 4DS cylinder.	2
7946	Authorized the transport of various Division 2.2 materials in non-DOT specification steel or aluminum pressure vessels contained in a radiation detector.	2
7951	Authorized the transport of an aerosol foodstuff in a nonrefillable metal container, complying with DOT Specification 2P with certain exceptions.	2
7954	Authorized the shipment of Division 2.2 materials in manifolded DOT Specification 3A2400, 3AA2400 or 3AAX2400 cylinders.	1
7971	Authorized the manufacture, marking and sale of non-DOT specification cylinders, for transportation of Division 2.2 materials.	1
7972	Authorized the transport of limited quantities of explosives in a special shipping container without placarding the vehicle.	1
7985	Authorized the manufacture, marking and sale of non-DOT specification vacuum insulatd portable tanks for shipment of Division 2.2 materials.	1
7991	Authorized the transport of railway track torpedoes and fusees in flagging kits of specified construction.	1
8006	Authorized certain Articles, explosives, n.o.s., Division 1.4 explosives to be offered for transportation in commerce without labels.	2
8008	Authorized the manufacture, marking and sale of non-DOT specification aerosol container consisting of a glass bottle externally coated with plastic for shipment of compressed gases.	1
8009	Authorized the use of DOT Specification 3AAX cylinders made of 4130X steel for transportation of a compressed natural gas.	1
8013	Authorized the use of a DOT specification cylinder not presently authorized for certain Division 2.1 and 2.2 materials.	2
8023	Authorized the use of non-DOT specification hooped wrapped FRP cylinders, for shipment of certain compressed gases.	1
8035	Authorized the transport of limited quantities of certain propellant explosives in a plastic tube packed in a DOT Specification 12B fiberboard box.	1
8059	Authorized the manufacture, marking and sale of non-DOT specification fiber reinforced plastic full composite cylinders, for transportation of certain Division 2.1 and 2.2 materials.	1
8060	Authorized the use of non-DOT specification IMO Type 5 portable tanks, for transportation of certain Division 2.2 materials.	2
8074	Authorized the use of a DOT Specification 3E cylinder without safety devices for transportation of certain Division 2.1 and 2.2 materials.	1
8077	Authorized the use of non-DOT specification steel drums, for shipment of a Class 3 and Class 8 materials.	4
8086	Authorized the transport of a cruise missile containing hazardous materials.	2

NUMBER	PURPOSE	REASON
8091	Authorized the transport of certain mercury relays containing metallic mercury, classed as ORM-B, exempted from 49 CFR Parts 100-177.	1
8096	Authorized the manufacture, marking and sale of non-DOT specification steel cylinders for shipment of certain nonflammable gases.	1
8125	Authorized the use of non-DOT specification IMO Type 5 portable tanks for transportation of certain flammable and nonflammable gases and flammable liquids.	2
8126	Authorized the use of non-DOT specification portable tanks, for transportation of certain liquefied petroleum gases and other gases Division 2.1 and a Class 3 material..	2
8131	Authorized the use of a non-DOT specification container made of inconel 718 metal for shipment of a Division 2.2 material.	2
8151	Authorized the shipment of certain liquid hazardous materials in five-gallon capacity, removable head polyethylene drums.	2
8156	Authorized the shipment of Division 2.1 materials in DOT Specification 39 cylinders up to 225 cubic inches in volume.	1
8162	Authorized the manufacture, marking and sale of a non-DOT specification cylinder for shipment of certain Division 2.2 material.	1
8178	Authorized the use of a non-DOT specification composite cylinder for a compressed nonliquefied gas.	1
8180	Authorized the use of a non-DOT specification steel drum for shipment of a specific Class 8 material and a Class 3 liquid.	1
8196	Authorized the use of a non-DOT specification portable tank for the transportation of certain compressed gases.	1
8214	Authorized the shipment of inflators and modules, containing a Division 1.4 material and a Division 4.1 solid for passive restraint systems use automobiles.	1
8215	Authorized the shipment of certain identified Division 1.1, 1.2, 1.3 and 1.4 materials non-DOT specification containers.	3
8220	Authorized the use of non-DOT specification small, high pressure cylinders of welded construction for aircraft use in the transportation of Division 2.2 materials.	1
8221	Authorized the use of non-DOT specification high pressure cylinders of welded construction for military missile systems use only.	3
8225	Authorized the use of a non-DOT specification rotationally molded, cross-linked polyethylene portable tank for the shipment of Class 8 materials and a Division 5.1 materials.	2
8228	Authorized the transport of packages containing not in excess of 35 grams of one type of explosive material or one explosive device, not exceeding 35 grams, in any one package.	4
8230	Authorized the shipment of certain Division 5.1 materials in non-DOT specification containers.	1
8232	Authorized the use of a non-DOT specification portable tank for the transportation of certain compressed gases.	2
8236	Authorized the shipment of a passive restraint system, with inflator containing a Division 1.3 material Classed as a Class 3 material.	1
8239	Authorized the use of non-DOT specification containers for the shipment of Division 2.2 materials.	1
8244	Authorized the shipment of Class 3 materials, and Class 8 materials in lined marine portable tanks.	1

NUMBER	PURPOSE	REASON
8248	Authorized the shipment of various Class8 materials in a modified DOT Specification l5C wooden box, compartmented to accommodate four (4) inner glass bottles, each secured in an aluminum canister.	2
8249	Authorized hazardous materials, which are required to bear the POISON label, to be transported without the label when shipped in prescribed packaging.	1
8255	Authorized the use of a non-DOT specification cylinder for shipment of certain Division 2.2 material.	2
8264	Authorized the shipment of certain solid propellant explosives Division 1.2 or 1.3 materials as appropriate , and smokeless powders for small arms Class 3 materials in non-DOT specification fiber cans or tubes packed in fiberboard boxes.	1
8265	Authorized the transport of certain solid propellant explosives in non-DOT specification fiber tubes packed in telescoping DOT Specification 12B fiberboard boxes, and certain smokeless powders for small arms, in DOT Specification 21C fiber drums packed in fiberboard boxes.	1
8273	Authorized the shipment of a passive restraint module with an inflator containing a Division 1.2 or 1.3 material as appropriate classed as Division 4.l solid.	1
8278	Authorized the use of a non-DOT specification container for specified Division 2.1 materials and Class 3 materials.	1
8299	Authorized the manufacture, marking and sale of non-DOT specification pressure vessels for shipment of a compressed gases.	2
8307	Authorized the shipment of a nonpyrotechnic mixture of certain Class 8 materials, gas and an explosive charge in a non-DOT specification container.	2
8308	Authorized the carriage of radioactive materials aboard highway vehicles when the combined transport index exceeds 50 and or the separation criteria cannot be met.	2
8329	Authorized the use of DOT Specification 57 portable tanks in less than truckload quantities with other hazardous materials subject to 49 CFR 177.848 for the transportation of Division 5.1 material.	2
8354	Authorized the use of a non-DOT specification portable tank for the transportation of certain Class 3 and Division 2.1 materials.	2
8386	Authorized the transport of a Division 6.1 material in special pressure sealed polyethylene capsules without the POISON label.	2
8390	Authorized the shipment of 95 percent - 98 percent sulfuric acid in DOT Specification 2E polyethylene bottles overpacked in DOT Specification l2A80 fiberboard boxes.	2
8391	Authorized the use of a non-DOT specification cylinder for shipment of various Division 2.2 materials.	2
8396	Authorized the transport of a Class 3 material which is also an Division 5.1 material in DOT Specification MC-307 and MC-312 cargo tanks.	2
8401	Authorized the carriage of fuel in Canadian 5B containers loaded in cargo compartments of passenger-carrying helicopters.	5
8414	Authorized the transport of certain Division 2.2 materials n non-DOT specification intermodal portable tanks.	2
8431	Authorized the shipment of monochloroacetic acid solution, Class 8 material, in DOT Specification 111A100W6 tank cars made of 316L stainless 1teel with bottom outlets and washout prohibited.	2
8432	Authorized the transport of plastic bottles containing an aqueous solution of sodium perchlorate and plastic bottles containing aluminum powder together in the same outside packaging.	2

NUMBER	PURPOSE	REASON
8439	Authorized the manufacture, marking and sale of non-DOT specification cylinders complying with DOT Specification 4DS, with certain exceptions, for shipment of various Division 2.2 materials.	2
8445	Authorized the shipment of various hazardous substances and wastes packed in inside plastic, glass, earthenware or metal containers, overpacked in a DOT specification removable head steel, fiber or polyethylene drum only for the purposes of disposal, repackaging or reprocessing.	5
8450	Authorized the transport of rocket motors, Division 1.3 materials in non-DOT specification polyethylene containers.	1
8451	Authorized the transport of not more than 25 grams of Division 1.1 materials and pyrotechnic materials in a special shipping container.	1
8453	Authorized the use of non-DOT specification cargo tanks and DOT Specification MC-306, MC-307, or MC-312 stainless steel cargo tanks for transport of a Division 1.5 material.	2
8458	Authorized the conversion of DOT Specification 105A500W or 112A400W tank cars to a DOT Specification 111A100W2 tank car.	2
8465	Authorized the manufacture, marking and sale of non-DOT specification plastic bag (comparable to a DOT Specification 44P) for shipment of ammonium nitrate fertilizer.	2
8470	Authorized the use of a non-DOT specification box for shipping rocket motors.	5
8472	Authorized the use of non-DOT specification, metal, single trip, inside container for shipment of a Division 2.2 materials.	1
8473	Authorized the use of non-DOT specification IMO Type 5 portable tanks for shipment of a Class 3 material.	2
8487	Authorized the manufacture, marking and sale of non-DOT specification, fiber reinforced plastic, aluminum lined, full composite cylinders for shipment of certain Division 2.2 materials.	2
8489	Authorized the shipment of certain Division 5.1 materials and Class 8 material in a non-DOT specification nonreusable, collapsible, flexible disposable bulk bag.	2
8495	Authorized the manufacture, marking and sale of non-DOT specification spherical containers similar to DOT Specification 4DS for shipment of bromotrifluoromethane pressurized with nitrogen.	2
8516	Authorized the shipment of ammonium nitrate-fertilizer, classed as an Division 5.1 and ammonium nitrate-fuel oil, classed Division 1.5 material, to be stowed in the same hold or compartment aboard ship.	2
8520	Authorized the use of an alternative test method in determining whether a substance meets the definition of a Class 1.5D Explosive, Blasting, Type E.	1
8522	Authorized the manufacture, marking and sale of nonreusable molded expanded polystyrene cases similar to DOT-33A except they will incorporate six cavities to contain a total of six 5-pint bottles.	2
8523	Authorized the shipment of various Division 2.1 and 2.2 materials in non-DOT specification IMO Type 5 portable tanks.	2
8526	Authorized the shipment of Class 3 and/or Division 2.1 materials in temperature controlled equipment.	2
8539	Authorized the carriage of certain Division 1.1, 1.2, 1.3 and 1.4 materials that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
8540	Authorized the shipment of oxygen candles packaged in specially designed metal containers.	5
8554	Authorized the transport of propellant explosives and blasting agents in DOT Specification MC-306, MC-307, and MC-312 cargo tanks.	1

NUMBER	PURPOSE	REASON
8555	Authorized the shipment of a large rocket motor segment on a special highway vehicle.	1
8556	Authorized the use of non-DOT specification portable tanks for shipment of liquefied hydrogen.	2
8561	Authorized the manufacture, marking and sale of non-DOT specification stainless steel cylinders similar to a DOT Specification 3HT, for shipment of oxygen.	2
8569	Authorized the shipment of 6.6 gallons of hydrazine, aqueous solution in non-DOT specification F-16 emergency fuel tanks.	1
8570	Authorized the manufacture, marking and sale of non-DOT specification rotationally molded, cross-linked polyethylene portable tank for shipment of Class 8 materials and a Division 5.1 material.	2
8571	Authorized the shipment of various Class 3 materials packaged in a DOT Specification 12A80 corrugated fiberboard box with two inside metal containers not over 10-liter capacity each.	2
8573	Authorized the manufacture, marking and sale of non-DOT specification polyethylene bottles for shipment of certain Division 5.1 materials overpacked in a DOT Specification 12B fiberboard box.	2
8579	Authorized the shipment of ammonium nitrate fertilizer in strapped or stretch-wrapped palletized loaded bags aboard cargo vessel exempt from spacing criteria for bags and location.	2
8582	Authorized the transport of railway track torpedoes and fusees packed in metal kits in motor vehicles by railroad maintenance crews as nonregulated rail carrier equipment.	1
8602	Authorized the manufacture, marking and sale of non-DOT specification vacuum insulated portable tanks for shipment of argon, nitrogen and oxygen.	2
8621	Authorized the loading of ammonium nitrate mixtures containing more than 60% ammonium nitrate with no organic coating contained in combustible packagings on a break-bulk basis at a non-isolated facility.	5
8627	Authorized the shipment of various Class8 or Class 3 materials (oil well treating compounds) contained in six separate 60-gallon steel tanks firmly mounted on the chassis of a truck.	2
8645	Authorized the shipment of a viscous Division 5.1 material in DOT Specification MC-307/311 insulated tank motor vehicles at ambient temperature.	2
8650	Authorized the use of a non-DOT specification steel portable tank for shipment of motor fuel antiknock compound.	2
8667	Authorized the transport of steel encapsulated sources containing Type B quantities of Cesium 137, contained in calibrated radiological instruments which do not meet all current testing requirements.	2
8678	Authorized the use of non-DOT specification IMCO Type V portable tank for shipment of Division 2.1 and 2.2 materials.	2
8679	Authorized the shipment of a water reactive material packaged in the same outside packaging with other hazardous materials.	5
8684	Authorized the manufacture, marking and sale of non-DOT specification cargo tanks constructed in accordance with DOT Specification MC 331 with certain exceptions for the shipment of Division 2.2 materials.	2
8689	Authorized the manufacture, marking and sale of a non-DOT specification oil well sampling device for the shipment of various compressed gases.	2
8692	Authorized the shipment of sodium persulfate in collapsible polyethylene-lined, woven polypropylene bags having a capacity of approximately 2,200 pounds each.	2
8697	Authorized the transport of propane in DOT Specification 4B240, 4BA240, 4BW240 cylinders via helicopter utilizing sling loads.	4

NUMBER	PURPOSE	REASON
8698	Authorized the manufacture, marking and sale of non-DOT specification portable tanks for shipment of non-pressurized nitrogen, refrigerated liquid.	2
8710	Authorized the shipment of an organic peroxide classed as a Class 3 material in a DOT Specification MC-307/312 cargo tank equipped with temperature and pressure sensing devices.	2
8718	Authorized the manufacture, marking, and sale of non-DOT specification, limited cycle life, fiberglass reinforced plastic cylinders for shipment of various Division 2.2 materials.	2
8720	Authorized the manufacture, marking and sale of non-DOT specification nonreusable welded steel cylinders similar to DOT Specification 39 for shipment of various nonflammable gases.	2
8723	Authorized the use of non-DOT specification motor vehicles for bulk shipment of certain blasting agents.	5
8725	Authorized the manufacture, marking, and sale of non-DOT specification fiber reinforced plastic hoop wrapped cylinders, for shipment of certain compressed gases.	2
8748	Authorized the shipment of boron trifluoride, classed as a nonflammable gas in non-DOT specification containers when shipped as a component of a radiation detector.	2
8750	Authorized the manufacture, marking and sale of non-DOT specification girth welded steel cylinders for shipment of certain Division 2.2 materials.	2
8757	Authorized the manufacture, marking, and sale of non-DOT specification stainless steel cylinders, for shipment of compressed gases.	2
8760	Authorized the display of FLAMMABLE placards, showing identification number 1993, on Barton Solvents, Inc. cargo tanks having six or more compartments when transporting one or more hazardous material.	5
8770	Authorized shipment of a Class 8 material and minute quantity of a Class 3 Division 6.1 solid in DOT Specification 2A, 12B or 15A fiberboard or wooden boxes with inside glass bottles.	2
8779	Authorized the shipment of phenol, classed as a poison B, in DOT Specification 57 portable tanks.	2
8786	Authorized the use of a non-DOT specification cylinder for shipment of limited quantities of compressed gases.	3
8795	Authorized the manufacture, marking, and sale of non-DOT specification cylinders made in compliance with DOT Specification 4B240ET, for transportation of Division 2.2 materials.	2
8802	Authorized the use of non-DOT specification IMO Type 5 portable tanks, for transportation of liquefied compressed gases.	2
8811	Authorized the use of modified DOT Specification MC-312 cargo tanks made of titanium for shipment of certain Class 8 materials.	2
8812	Authorized the manufacture, marking, and sale of non-DOT specification five-gallon metal containers comparable to DOT Specification 5L for shipment of gasoline, and gasohol, Class 3 materials.	2
8814	Authorized the manufacture, marking, and sale of non-DOT specification, fiber reinforced plastic full composite cylinders for transportation of certain Division 2.1 and 2.2 materials.	2
8815	Authorized the transport of certain blasting agents in a cement mixer motor vehicle.	2
8820	Authorized the use of a non-DOT specification IMCO Type 5 portable tank, for transportation of liquefied compressed gases.	2
8826	Authorized the carriage of certain Division 1.1, 1.2, 1.3 and 1.4 materials that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1

NUMBER	PURPOSE	REASON
8839	Authorized the manufacture, marking, and sale of non-DOT specification rationally molded, cross-linked polyethylene portable tanks, for shipment of Class 8 materials and a Division 5.1 material.	2
8840	Authorized the manufacture, marking and sale of non-DOT specification inside seamless aluminum containers for transportation of various compressed gases.	2
8842	Authorized the use of non-DOT specification small, high pressure cylinders of welded construction for aircraft use or military weapons system only.	2
8843	Authorized the manufacture, marking and sale of non-DOT specification cylinders for shipment of bromine trifluoride, classed as a Division 5.1 material, to be shipped without the poison label.	2
8845	Authorized the transportation of charged oil well jet perforating guns equipped with detonator and arrest device, classed as Division 1.1, 1.2 or 1.4 as appropriate.	2
8854	Authorized the manufacture, marking, and sale of non-DOT specification IMCO Type 5 portable tanks, for shipment of hydrogen fluoride, classed as a Classed 8 material.	2
8861	Authorized the manufacture, marking, and sale of DOT Specification 57 portable tanks, for shipment of various Class 3material which are also Class 8 or a Division 6.1 poison and certain Class B poison liquids.	2
8862	Authorized the shipment of propylene oxide, classed as a Class 3 material, in DOT Specification 5P lagged steel drums.	2
8864	Authorized the transport of a Class 8 material, in existing non-DOT specification cargo tanks comparable to DOT Specification MC-312 except for remote release valve and overturn protection.	2
8865	Authorized the shipment of helium, classed as a nonflammable gas in a manifolded pressure vessel system including a steel cylinder similar to DOT Specification 39.	2
8871	Authorized the manufacture, marking, and sale of large, collapsible polyethylene lined woven polypropylene bulk bags, having a capacity of approximately 2000 pounds each, and top and bottom outlets, for shipment of Class 8 material and nitrates.	2
8877	Authorized the shipment of certain materials described as flammable liquids, corrosive, n.o.s. (corrosive to skin only) and corrosive liquids, n.o.s., in DOT-12B65 fiberboard boxes with inside glass bottles having a capacity not to exceed one gallon.	2
8878	Authorized the shipment of germanium tetrachloride, corrosive liquid, n.o.s., in glass containers of less than 3-gallon capacity, surrounded by vermiculite placed in a cylindrical steel overpack packed six to a compartmented wooden box.	2
8891	Authorized the shipment of cigarette lighters containing flammable gas fuel and equipped with an ignition device packed to meet the test criteria for UN Specification 4GX.	1
8898	Authorized the use of a non-DOT specification ASME Code stamped portable tank, for transportation of liquefied compressed gases.	2
8906	Authorized the shipment of used, essentially empty containers with residual amounts of carbofuran, packed in a non-DOT specification double wall BC flute corrugated fiberboard box.	2
8910	Authorized the use of non-DOT specification rotationally molded, linear low density polyethylene portable tank enclosed in a steel cage, for shipment of corrosive liquids.	2
8911	Authorized the shipment of scrap, guillotined small arms ammunition loosely packed in non-DOT specification, nonreusable, closed-top wooden crates or fiberboard boxes, in truckload lots to an incinerator for disposal.	2
8913	Authorized the use of non-DOT specification IMO Type 5 portable tanks, for shipment of flammable liquids.	2

NUMBER	PURPOSE	REASON
8914	Authorized the shipment of certain Division 2.1 and 2.2 materials in DOT Specification 3AA, 3A, 3AX and 3T cylinders.	2
8915	Authorized the shipment of various Division 2.1 and 2.2 materials in DOT Specification 3A, 3AA, 3AX, 3AAX and 3T cylinders.	1
8921	Authorized the manufacture, marking, and sale of nonreusable non-DOT specification steel jacketed polyethylene portable tanks for transportation of Class 8 materials.	2
8927	Authorized the manufacture, marking, and sale of non-DOT specification girth, welded steel spheres, for transportation of Division 2.2 materials.	2
8932	Authorized the use of cargo tanks complying with DOT Specification MC-307 and MC-312, for transportation of organic peroxide solution.	2
8937	Authorized the shipment of coated magnesium granules in non-DOT specification collapsible flexible bag, disposable bulk container.	2
8939	Authorized the manufacture, marking, and sale of six non-DOT specification portable tanks manifolded together within a frame and securely mounted on a truck chassis, for transportation of Class 3 and Class 8 materials.	5
8942	Authorized the manufacture, marking, and sale of steel jacketed non-DOT specification rotationally molded, cross-linked polyethylene portable tanks, for shipment of Class 8 and Division 5.1 materials.	2
8943	Authorized the shipment of a polyol filter cake classed as a Class 3 materials, in a non-DOT specification open top, metal cargo carrying box.	2
8944	Authorized the use of a limited quantity of DOT Specification 3AAX or 3T cylinders that are retested by means other than the hydrostatic retest required in 49 CFR 173.34(e).	1
8955	Authorized the transport of charged oil well guns with detonators attached.	2
8958	Authorized the transport of limited quantities of black powder, classed as a Class 3 material, in DOT Specification 12H fiberboard boxes.	3
8962	Authorized the manufacture, marking and sale of non-DOT specification girth welded stainless steel cylinders for transportation of a compressed gas.	2
8965	Authorized the manufacture, marking and sale of non-DOT specification fiber reinforced plastic hoop wrapped cylinders for shipment of certain compressed gases.	1
8966	Authorized the shipment of sodium hypochlorite solution in four one-gallon polyethylene bottles enclosed in a bag of polyethylene film packed in a corrugated fiberboard box complying with DOT Specification 12B except for handholes authorized in side panels of box.	2
8967	Authorized shipment of a solid propellant explosive, identified as MK 43 Grains and MK 90 grains in a non-DOT specification fiberboard tube, overpacked in a non-DOT specification palletized metal cage.	2
8968	Authorized the use of a non-DOT specification IMO Type 1 portable tank, for transportation of a Division 4.1 materials.	2
8971	Authorized the use of non-DOT specification steel cylinders of equal or greater integrity than those currently authorized for transportation of a liquid oxidizer.	2
8977	Authorized the use of a non-DOT specification IMO Type 5 portable tank, for transportation of liquefied compressed gases.	2
8986	Authorized the transport of slurry blasting agent in non-DOT specification stainless steel cargo tanks.	2

NUMBER	PURPOSE	REASON
8988	Authorized the transport of charged oil well guns as Division 1.4 explosive when the net weight of explosive material in the vehicle or vessel does not exceed 200 pounds.	2
8990	Authorized the manufacture, marking, and sale of non-DOT specification nonrefillable steel inside cylinders, for transportation of Division 2.2 materials.	2
8995	Authorized the use of non-DOT specification steel portable tanks for transportation of certain nonpoisonous, nonflammable compressed gases.	2
8999	Authorized the transport of emergency oxygen generators without marking, labeling, shipping papers or specification packaging.	2
9001	Authorized the manufacture, marking, and sale of non-DOT specification steel cylinders complying in part with DOT Specification 3T cylinders, for transportation of certain Division 2.2 and 2.2 materials.	2
9004	Authorized the manufacture, marking and sale of non-DOT specification containers for transportation of Class 3 and Division 2.1 materials.	2
9010	Authorized the shipment of rocket motors, Class B explosive in a specially designed container to be shipped in a propulsive state.	2
9017	Authorized the shipment of hydrogen fluoride anhydrous in non-DOT specification IMO Type portable tank comparable to DOT Specification 51.	2
9023	Authorized the shipment of various refrigerant gases in non-DOT specification IMO Type 5 portable tanks.	2
9024	Authorized the shipment of various refrigerant gases in non-DOT specification IMO Type 5 portable tanks.	2
9030	Authorized the use of non-DOT specification, metal, single trip, inside container for shipment of a Division 2.2 material.	2
9034	Authorized the shipment of insecticide, liquefied gas (containing no Division 6.1 material) insecticide, liquefied gas (containing Division 6.1 material), compressed gas, n.o.s., disilane and disilane mixture in DOT Specification 3AL cylinders.	2
9036	Authorized manufacture, marking and sale of cylinders complying with Specification 3AA except for inspection of certain billets after parting, for shipment of those gases presently authorized in DOT Specification 3AA cylinders.	2
9047	Authorized the use of copper-bearing (brass) valves in DOT specification cylinders and DOT Specification 5P drums containing ethylene oxide.	2
9048	Authorized the manufacture, marking, and sale of non-DOT specification containers for transportation of Class 3 materials and Division 2.2 materials.	2
9052	Authorized the manufacture, marking, and sale of non-DOT specification 225 gallons rotationally molded polyethylene portable tanks for shipment of those Class 8 materials and hydrogen peroxide presently authorized in DOT Specification 34 and certain Class 3 materials.	2
9059	Authorized the shipment of a fluorine - helium mixture contained in appropriate DOT specification cylinders to be described as fluorine mixture classed as nonflammable gas.	2
9061	Authorized the shipment of a small quantity of a flammable solid labeled Flammable Solid and Dangerous When Wet but without a Flammable Solid W placard on the vehicle.	2
9063	Authorized the use of non-DOT specification IMO Type 5 portable tanks for transportation of nonflammable compressed gases.	2
9064	Authorized the shipment of corrosive materials in a glass container placed in a cushioned cylindrical steel overpack, which is then packed in a cushioned plywood box, of which no more than four can be overpacked in a compartmented wooden outer box.	2

NUMBER	PURPOSE	REASON
9066	Authorized the transportation of an airbag gas generator as flammable solid in a box constructed of single wall corrugated fiberboard with an inside styrofoam container insert for shock absorption.	1
9067	Authorized the manufacture, marking and sale of non-DOT specification portable tanks manifolded together with a frame and securely mounted on a truck chassis for transportation of flammable liquids and corrosive liquids.	2
9070	Authorized the use of non-DOT specification steel portable tanks, for transportation of a flammable liquid.	2
9092	Authorized the manufacture, marking, and sale of non-DOT specification portable tanks manifolded together within a frame and securely mounted on a truck chassis, for transportation of Class 3 and Class 8 materials.	2
9101	Authorized shipment of several rocket motors having gross weight in excess of 172.102 by cargo aircraft only.	2
9108	Authorized the transportation of PETN wet with 25% water in 4 mil polyethylene bags placed in DOT Specification 12H65 fiberboard boxes.	2
9110	Authorized the shipment of sodium chlorate (Division 5.1 material) in non-DOT specification collapsible polyethylene-lined, woven polypropylene bags.	2
9114	Authorized the transport of electron tubes containing small amounts of Class 7 materials (Radium 226 or Krypton 85) without specific determination of total activity or Transport Index for the package.	2
9116	Authorized the manufacture, marking and sale of non-DOT specification rotationally molded, cross-linked polyethylene portable tank enclosed within a protective steel frame for shipment of Class 8, Class 3 or Division 5.1 materials.	2
9120	Authorized the use of a non-DOT specification pressure vessel for transportation of certain Division 2.1 materials.	2
9130	Authorized the shipment of an Division 5.1 materials, in polyethylene containers, not over 10 pounds capacity each, overpacked in a non-DOT specification corrugated fiberboard box as prescribed in 49 CFR 173.217(c).	2
9138	Authorized the shipment of nitrogen in a fiber reinforced plastic full composite cylinder without a safety relief device.	2
9140	Authorized the manufacture, marking and sale of non-DOT specification rotationally molded, cross-linked polyethylene portable tanks for shipment of Class 8, Class 3, liquids or Division 5.1 materials.	2
9141	Authorized the shipment of certain hand signal devices as a Division 4.1 solid instead of a Division 1.4 material.	2
9142	Authorized the use of a non-DOT specification IMO Type 5 portable tank for transportation of Division 2.1 materials.	2
9144	Authorized the manufacture, marking and sale of large, non-DOT specification collapsible, polyethylene-lined woven polypropylene bulk bags, having a capacity of approximately 2,000 pounds each, for shipment of a Division 5.1 and a Class 8 solid material.	2
9145	Authorized the use of a non-DOT specification container, for shipment of Division 2.1 materials.	2
9149	Authorized the use of non-DOT specification IMO Type 1 portable tanks for transportation of motor fuel antiknock compound.	2
9150	Authorized the manufacture, marking, and sale of non-DOT specification rotationally molded, cross-linked polyethylene portable tanks with bottom outlet for shipment of Class 8, Class 3, or a Division 5.1 material.	2
9157	Authorized the use of a non-DOT specification multiunit tank car tank, for transportation of a Division 2.1 material.	2
9162	Authorized the use of a non-DOT specification container for transportation of Class 3 or Division 2.1 materials.	2

NUMBER	PURPOSE	REASON
9164	Authorized the manufacture, marking, and sale of a non-DOT specification steel portable tank of 345 gallon capacity, with removable head, for shipment of waste paint and waste paint sludge.	2
9166	Authorized the manufacture, marking, and sale of cargo tanks manufactured from glass fiber reinforced plastics, for transportation of Class 3 liquids, Class 8 materials and Division 6.1 materials.	1
9168	Authorized the manufacture, marking, and sale of specially designed composite type packaging, for shipment of small quantities of various Class 3, and Class 8 materials, and Division 6.1 liquids and solids shipped without labels.	1
9174	Authorized the use of non-DOT specification cylindrical and spherical pressure vessels for transportation of helium and nitrogen.	2
9181	Authorized the transport of lithium metal and a thionyl chloride solution in the same non-DOT specification stainless steel vessel.	2
9184	Authorized the shipment of calcium carbide and substances which in contact with water emit Division 2.1 gases, solid n.o.s. (strontium aluminate), in polyethylene-lined woven polypropylene collapsible bags in truckload or carloard lots only.	1
9193	Authorized the shipment of a downhole logging tool (snode) that contains an accelerator housing, one section of which is charged with sulfur hexafluoride to a pressure of 80 psig.	1
9198	Authorized the DOI, and other government agencies under contract to DOI, to use aircraft which are under exclusive direction and control of DOI for periods of less than 90 days.	1
9211	Authorized the installation and operation of electrically-powered lighting, air conditioning, alarm, and fire detection systems in cargo holds containing Division 1.1, 1.2, 1.3 and 1.4 explosives in a Maritime Prepositioning Ship (TAKX).	2
9213	Authorized the manufacture, marking, and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags, having a capacity of approximately 2000 pounds each and top and bottom outlets, for shipment of Class 8 solids and nitrates.	1
9220	Authorized the manufacture, marking, and sale of non-DOT specification collapsible flexible bag, disposable bulk container, for transportation of Class 8 solids and Division 5.1 materials.	2
9221	Authorized the manufacture, marking, and sale of non-DOT specification girth welded stainless steel cylinders, for shipment of Division 2.2 materials.	2
9222	Authorized the use of non-DOT specification metal tanks for transportation of a Class 3 liquid or Class 4.1 materials.	5
9228	Authorized the use of non-DOT specification cargo tanks, for transportation of Class 8 materials.	2
9232	Authorized the shipment of explosives and other hazardous materials forbidden or in quantities greater than those prescribed by commercial air carriers activated under the Civil Reserve Air Fleet during a contingency airlift or national emergency.	1
9233	Authorized the shipment of dry chromic acid, in a non-DOT specification 900 cubic-foot, two-compartment, sift-proof covered hopper type tank motor vehicle.	2
9248	Authorized the transport of a safety kit containing two 15-minute highway fusees as a Consumer Commodity.	1
9262	Authorized the transport of oil well cartridges containing not more than 500 grains of a Division 1.4 explosive.	1
9263	Authorized the shipment of compressed gas, n.o.s., classed as a Division 2.1 gas in DOT Specification 4L cylinders.	2
9266	Authorized the use of non-DOT specification IMO Type 5 portable tanks for shipment of liquefied compressed gases.	2

NUMBER	PURPOSE	REASON
9269	Authorized the shipment of ammonium nitrate solution, containing not less than 15% water, in DOT Specification 103DW tank car tanks.	2
9270	Authorized the shipment of hydrogen fluoride, in DOT Specification 112A400W tank cars stenciled DOT Specification 112A200W.	2
9271	Authorized deviation from car separation requirements for transportation of Division 1.1 and 1.2 explosives.	1
9275	Authorized further exceptions to specification packaging, marking and labeling requirements for certain ethyl alcohol formulations.	2
9277	Authorized the shipment of organic phosphate compound mixture, dry, Division 6.1, in non-DOT specification five-ply kraft multiwall, laminated bags of 50 pounds capacity having a minimum total basis weight of 250 pounds.	2
9281	Authorized the transport of cylindrical pellets of densensitized RDX in DOT Specification 12B65 fiberboard boxes.	2
9287	Authorized the use of non-DOT specification containers, for transportation of Class 3 materials and gases.	5
9295	Authorized the manufacture, marking, and sale of non-DOT specification toroidal pressure vessel equivalent to a DOT Specification 39 cylinder, for transportation of Division 2.2 and 2.1 materials.	2
9305	Authorized the use of a non-DOT specification container, for transportation of Class 3 materials and gases.	2
9316	Authorized the manufacture, marking, and sale of a non-DOT specification inside packaging of teflon PFA plastic, similar to DOT-2SL, contained in a DOT-6D steel overpack, for shipment of up to 70 percent nitric acid and those Class 8 materials authorized in a DOT-6D/2SL or 2SL composite packaging.	2
9317	Authorized the use of non-DOT specification skid mounted portable tanks to be transported on public highway within company property.	2
9323	Authorized the shipment only by the U.S. DOD of gasoline and JP-4 and JP-5 fuel, Class 3 liquids, in non-DOT specification collapsible, fabric reinforced rubber drums of 500-gallon capacity.	2
9327	Authorized the manufacture, marking, and sale of mechanical displacement meter provers mounted on a truck chassis or trailer, for shipment of Class 3 liquids and gases.	2
9332	Authorized the transport of a solid explosive dissolved in an ammonia solution as a flammable solid in DOT Specification 34 polyethylene containers or DOT Specification 3E polyethylene bottles, packed in DOT Specification 15A wooden boxes.	2
9338	Authorized the use of DOT Specification 106A500X and 110A500W multi-unit tank car tanks without a gas tight valve protection housing for transportation of a Class 8 material.	2
9343	Authorized the transport of lithium metal in stainless steel DOT specification portable tanks.	2
9346	Authorized setting of the brakes and blocking the wheels of the first and last tank cars on up to a 12 tank car assembly, instead of each individual car, when engaged in unloading crude oil and petroleum.	2
9347	Authorized the manufacture, marking and sale of non-DOT specification stainless steel cylinders for shipment of Division 2.1 and 2.2 materials used for sampling purposes.	2
9348	Authorized the transport of a limited number of certain lithium batteries on passenger carrying aircraft.	3
9352	Authorized the manufacture, marking, and sale of non-DOT specification container described as mechanical displacement meter provers mounted on a truck chassis or trailer, for transportation of Class 3 liquids and Division 2.1 gases.	2
9355	Authorized the transport of a limited number of certain lithium batteries on passenger carrying aircraft.	3

NUMBER	PURPOSE	REASON
9357	Authorized the use of non-DOT specification IMO Type 5 portable tanks for transportation of liquefied compressed gases.	2
9367	Authorized the manufacture, marking and sale of large non-DOT specification collapsible polyethylene-lined woven polypropylene bulk bags having a capacity of approximately 2000 pounds each and top and bottom outlets, for shipment of Class 8 solids and nitrates.	2
9370	Authorized the manufacture, marking, and sale of non-DOT specification steel cylinders complying in part with DOT Specification 3T cylinders for transportation of Division 2.2 gases.	2
9371	Authorized the transportation in commerce of certain Division 1.1, 1.2, 1.3 and 1.4 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
9372	Authorized the transport of charged oil well guns with detonators attached.	2
9374	Authorized the manufacture, marking, and sale of non-DOT specification rotationally molded, cross-linked polyethylene portable tank enclosed within a protective steel frame, for shipment of Class 8 liquids, Class 3 liquids or a Division 5.1 material.	2
9377	Authorized the transport of Division 1.1explosives containing more than 5 percent moisture in packagings without inner plastic bags or other linings.	2
9380	Authorized the use of a non-DOT specification container described as a mechanical displacement meter prover mounted on a truck chassis for transportation of hydrocarbon products.	2
9381	Authorized the transportation of a water reactive solid, which evolves hydrogen slowly when wet, in open packagings such as drums, hopper trucks and gondola cars.	2
9386	Authorized the manufacture, marking and sale of non-DOT specification pressure vessel comparable to DOT Specification 3HT cylinder with certain exceptions for transportation of compressed gases.	2
9387	Authorized the transport of an organic phosphate compound pressurized, with a Division 2.2 gas, in concentrations and quantities greater than now authorized in the regulations, in DOT Specification 3B cylinders.	2
9388	Authorized the use of DOT specification tank cars which have had the amount of liquefied gas loaded into the tank measured by a metering device.	2
9393	Authorized the manufacture, marking and sale of non-DOT specification steel cylinders in compliance with DOT Specification 39, with certain exceptions, for transportation of Division 2.2 gases.	2
9400	Authorized the manufacture, marking, and sale of non-DOT specification rotationally molded, spherical polyethylene portable tank enclosed in a steel skid unit for shipment of Class 8 liquids, Class 3 liquids or a Division 5.1 material.	2
9401	Authorized the use of non-DOT specification IMO Type 5 portable tanks for transportation of Division 2.1 and 2.2 liquefied compressed gases.	2
9402	Authorized the use of non-DOT specification IMO Type 5 portable tanks for transportation of Division 2.1 and 2.2. liquefied compressed gases.	2
9408	Authorized the transport of silicon tetrafluoride in DOT Specification 3AAX cylinders.	2
9413	Authorized the transport of a chemical kit which contains small amounts of hydrochloric acid and zinc powder.	2
9414	Authorized the shipment of tetrafluoromethane in DOT Specification 3AL aluminum cylinders.	2
9416	Authorized the shipment of organophosphorous pesticide, liquid, in a DOT Specification 12P fiberboard box containing two inside DOT Specification 2U polyethylene containers of 2-1/2 gallons capacity.	2

NUMBER	PURPOSE	REASON
9418	Authorized the manufacture, marking, and sale of non-DOT specification portable tank assemblies manifolded together withing a frame and securely mounted on a truck chassis for transportation of Class 3 and Class 8 liquids.	2
9419	Authorized the use of DOT Specification 3AAX or 3T cylinders that (i) are owned or leased by any of its subsidiaries and (ii) are retested by means other than the hydrostatic retest required in 173.34(e) for transportation of certain Division 2.1 and 2.2 gases.	2
9421	Authorized the manufacture, marking and sale of a non-DOT specification steel cylinder complying in part with DOT Specification 3AA for transportation of certain Division 2.1, 2.2 gases and Division 6.1 materials.	2
9426	Authorized the manufacture, marking, and sale of 5-gallon and 6-gallon capacity removable head molded polyethylene drums for transportation of Class 8 liquids and Class 3 liquids.	2
9431	Authorized the packing of several types of explosives in the same package in quantities greater than authorized by 49 CFR 173.87.	2
9436	Authorized the manufacture, marking and sale of non-DOT specification portable tanks for transportation of nonflammable refrigerated liquid.	2
9440	Authorized the manufacture, marking, and sale of non-DOT specification rotationally molded, cross-linked polyethylene portable tanks enclosed with a protective steel frame, for shipment of Class 8 liquids, Class 3 liquids or a Division 5.1 material.	2
9441	Authorized the manufacture, marking and sale of non-DOT specification steel water pump system tanks with outside diameter not exceeding 26 inches for transportation of Division 2.2 gases.	2
9443	Authorized the shipment of Division 1.3 rocket motors with igniters installed.	2
9450	Authorized the manufacture, marking and sale of non-DOT specification cylinders made in compliance with DOT Specification 4B240ET with certain exceptions for transportation of Division 2.1 and 2.2 gases.	2
9456	Authorized the use of DOT Specification MC-330 and MC-331 cargo tanks for transportation of certain corrosive materials.	2
9460	Authorized the transport of a Division 1.1 type 4 explosive in sealed velostat bag containing not more than one pounds of powder or pellets packed in DOT Specification l7C or l7H metal drums.	2
9462	Authorized the manufacture, marking and sale of non-DOT specification portable tanks manifolded together within a frame and securely mounted on a truck chassis for transportation of Class 3 and Class 8 liquids.	2
9478	Authorized the manufacture, marking and sale of non-DOT specification cylinders conforming with DOT Specification 3AL for shape and certain tests for shipment of Division 2.2 gases.	2
9480	Authorized the transport of tetrafluoromethane in DOT Specification 3AL cylinders.	2
9485	Authorized the transport of an insecticide, liquefied gas mixture in DOT Specification 4BA260 cylinders.	2
9487	Authorized the transport of an insecticide, Division 2.2 gases, in DOT Specification 39 cylinders.	2
9490	Authorized the use of non-DOT specification IMO Type 5 portable tanks for shipment of Division 2.1 and Division 2.2 gases.	2
9491	Authorized the transport of hexafluoroethane and trifluoromethane in DOT Specification 3AL cylinders.	2
9498	Authorized the shipment of potassium cyanide, solid, and sodium cyanide, solid, in collapsible, water-tight, polyethylene-lined, woven polypropylene bag each having a capacity not exceeding 2,205 pounds each.	2
9503	Authorized the manufacture, marking and sale of non-DOT specification rotationally molded, polyethylene portable tank enclosed in a steel frame for shipment of Class 8 materials, Class 3 liquids, or a Division 5.1 material.	2

NUMBER	PURPOSE	REASON
9507	Authorized the use of a non-DOT specification full removable head salvage cylinder of 45-gallon capacity for overpacking damaged or leaking packages of pressurized and nonpressurized hazardous materials.	1
9508	Authorized the use of a DOT Specification 4BW240 cylinder that is retested decennially instead of quinquenially, for transportation of a Division 4.3 material.	2
9513	Authorized the transport of an organic phosphate formulation in a bulk motor vehicle.	2
9519	Authorized the manufacture, marking, and sale of non-DOT specification rotationally molded, cross-linked polyethylene or linear medium density polyethylene portable tank enclosed within a protective steel frame for shipment of Clas 8 liquids, Class 3 liquids or a Division 5.1 material.	2
9525	Authorized the use of a welded stainless steel cylinder equivalent to DOT Specification 3E with exceptions, for transportation of certain pyroforic liquids, Class 3 liquids, Division 6.1 liquids and Class 4.1 materials.	2
9527	Authorized the carriage of various Division 1.1, 1.2, 1.3 and 1.4 explosives not permitted for air shipment or in quantities greater than those prescribed for air shipment.	1
9528	Authorized the transport of nonself-propelled Aerospace Ground Equipment with gasoline or aviation fuel in the tanks.	2
9530	Authorized the use of non-DOT specification IMO Type 5 portable tanks for transportation of Division 2.2 gases.	2
9533	Authorized the manufacture, marking and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags having a capacity of approximately 2200 pounds each and top and bottom outlets, for shipment of Class 8 solids and Division 5.1 solids.	2
9548	Authorized the use of a non-DOT specification IMO Type 1 portable tank, for shipment of motor fuel antiknock compound.	1
9549	Authorized the transport of oil well cartridges containing more than 350 grains, but not more than 600 grains of Division 2.2 type 3 explosive, as a Division 1.4 explosive, in a DOT Specification 12H fiberboard box.	2
9551	Authorized the carriage of Division 1.1, 1.2, 1.3 and 1.4 explosives that are not permitted for air shipment or in quantities greater than those prescribed for shipment by air.	1
9568	Authorized use of a DOT Specification MC-306 tank motor vehicle for transportation of sodium hydroxide, liquid.	2
9571	Authorized the transport of not more than 5 grams of an approved or unapproved explosive in a special packaging essentially without regulation.	1
9579	Authorized the use of a non-DOT specification motor vehicle for bulk shipment of Division 5.1 materials.	1
9583	Authorized the use of a non-DOT specification welded, high pressure cylinder for oil sampling purposes.	2
9584	Authorized the use of a non-DOT specification seamless cylinder designed and constructed in accordance with DOT Specification 3A, for gas sampling purposes.	2
9595	Authorized the transport of certain unapproved Division 1.1 explosives for disposal in packagings not presently authorized for Division 1.1 explosives, in metal or fiber drums not exceeding 55-gallon capacity with liners consisting of two polyethylene leak-proof bags.	1
9596	Authorized the use of a non-DOT specification insulated portable tank for transportation of a Division 2.2 gases.	1
9599	Authorized the manufacture, marking and sale of non-DOT specification portable tanks constructed of 304 stainless steel with a carbon steel jacket and approximately 4,000 gallon capacity for shipment of argon, refrigerated liquid, a Division 2.2 gas.	2

NUMBER	PURPOSE	REASON
9603	Authorized the use of a non-DOT specification tank car which conforms to DOT Specification 111A100W1 except for a thinner shell thickness in certain areas and for deviations in length of welds used in attaching bar pads.	5
9606	Authorized the shipment of more than 110 detonators in one inside specially designed packages.	5
9609	Authorized the manufacture, marking, and sale of welded non-DOT specification nonreusable, nonrefillable steel toroidal pressure vessel for a military system.	2
9610	Authorized the transport of DOT Specification 21C fiber drums which contain not more than 5 grams of smokeless powder essentially without regulation.	2
9617	Authorized the transport of a specially defined detonating cord on the same motor vehicle with Division 1.1 and Division 1.4 detonators.	2
9618	Authorized the manufacture, marking and sale of polyethylene, removable head, salvage drums of 90-gallon capacity for overpacking damaged or leaking packages of hazardous materials or for packing hazardous materials that have spilled or leaked for repackaging or disposal.	2
9623	Authorized the transport of a blasting agent or a Division 5.1 material in a DOT Specification MC-306 or MC-307 cargo tank with a storage box containing Division 1.1 explosives mounted directly behind the tractor cab.	2
9628	Authorized the use of large, collapsible polyethylene-lined woven polypropylene bulk bags having a capacity of 1,000 kilos (approximately 2200 pounds) each and top and bottom outlets, for shipment of a Class 8 solid material.	2
9632	Authorized the use of non-DOT specification IMO Type 5 portable tanks for transportation of Division 2.2 and Division 2.1 liquefied compressed gases.	2
9634	Authorized the manufacture, marking, and sale of non-DOT specification fiber reinforced plastic, full composite cylinders for shipment of certain Division 2.2 and Division 2.1 gases.	2
9637	Authorized the manufacture, marking, and sale of nonreusable, fiberboard bulk boxes made of triple-wall corrugated fiberboard having a inside lining of 0.006-inch minimum thickness polyethylene film for transportation of various Class 8 and Division 6.1 materials.	2
9638	Authorized the manufacture, marking, and sale of non-DOT specification welded pressure vessel comparable to a DOT Specification 3HT cylinder with certain exceptions for transportation of compressed gases.	2
9642	Authorized the use of DOT Specification 106A500X and 110A500W multiunit tank car tanks for a waste liquid mixture that is corrosive to skin only.	2
9645	Authorized the manufacture, marking and sale of non-DOT rotationally molded, cross-linked polyethylene or linear low density polyethylene portable tanks enclosed within either a protective steel frame or a foam-filled steel reinforced outer cage.	2
9649	Authorized radiation levels slightly higher than normally allowed for limited quantity Class 7 materials and relief from certain marking requirements for the depleted uranium component of the packages.	3
9657	Authorized the use of DOT Specification 111A100W2 tank cars with bottom outlets, for transportation of sulfuric acid or oleum, Class 8 materials.	2
9658	Authorized the manufacture, marking, and sale of non-DOT specification rotationally molded, composite crosslinked or noncrosslinked polyethylene and Teflon PTA plastic portable tank for shipment of Class 8 liquids, Class 3 liquids or Division 5.1 materials.	2
9659	Authorized the manufacture, marking, and sale of non-DOT specification fiber reinforced plastic (FRP) full composite (FC) cylinder, for transportation of certain Division 2.2 and 2.1 gases.	2
9672	Authorized the shipment of metal alkyl solutions in a DOT Specification MC-330 ro MC-331 cargo tank with a filling/discharge opening that does not have a remote self-closing internal valve.	2

NUMBER	PURPOSE	REASON
9676	Authorized the shipment of certain Class liquids contained in four inside glass bottles or PVC coated glass bottles of one-gallon capacity each, overpacked in a corrugated fiberboard box conforming to DOT Specification 12B65 except for handholes in the same side panels of the box.	1
9677	Authorized the shipment of hydrochloric acid in non-DOT specification bottles of one-gallon capacity, overpacked no more than 60 to a specially-designed, heavy-wall cart, molded of high density polyethylene.	1
9678	Authorized the use of dry bulk tank semi-trailers for shipment of magnesium and calcium salt mixtures.	5
9683	Authorized the manufacture, marking and sale of non-DOT specification containers, for transportation of Class 3 liquids and gases.	5
9686	Authorized the manufacture, marking, and sale of non-DOT specification rotationally molded Teflon PFA container of 20 liter capacity with filament-wound fiberglass reinforcement, for shipment of those Class 3 or Class 8 liquids authorized in DOT-34 and DOT-6D/2S or 2SL composite packagings.	1
9689	Authorized drums containing dense or heavy materials, such as toluene diisocyanate, and other hazardous materials not exceeding 12.09 pounds per gallon, to be secured against movement in a transport vehicle by the use of a fabric restraint dunnage system when shipped by cargo vessel.	1
9694	Authorized the use of MC-331 cargo tanks equipped with angle valves and pressure relief valves not presently authorized in the regulations.	2
9696	Authorized the manufacture, marking and sale of non-DOT rotationally molded Teflon PFA container of 100 liter capacity with filament-wound fiberglass reinforcement and a high density polyethylene overpack for shipment of those liquids authorized in DOT-34 and DOT-6D/2S or 2SL composite packagings.	1
9700	Authorized the use of a DOT Specification 51 portable tank having pressure relief devices with a start-to-discharge pressure of 75 psig, for transportation of flammable, poisonous liquid.	1
9701	Authorized the manufacture, marking, and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags, having a capacity of not more than 2500 pounds each and top and/or bottom outlets, for shipment of Class 3 and Class 8 solids and Division 5.1 solid materials.	2
9706	Authorized the manufacture, marking, and sale of non-DOT specification cylinder complying in part with the DOT-3AA specification, for transportation of certain Division 2.1 gases, Division 2.2 gases and Division 6.1 materials.	2
9713	Authorized the manufacture, marking and sale of large, collapsible polyethylene-linked woven polypropylene bulk bags, having a capacity of approximately 2000 pounds each and top and bottom outlets, for shipment of Class 8 solids and Division 8 solid materials.	2
9716	Authorize the manufacture, marking and sale of non-DOT specification, fiber reinforced plastic, full composite cylinder for shipment of certain Division 2.1 and Division 2.2 gases.	2
9718	Authorized the shipment of Division 2.1and Division 2.2 gases in a non-DOT specification portable tank comparable to DOT Specification 51 portable tanks.	1
9722	Authorized the manufacture, marking and sale of a DOT Specification 34 drum of 55-gallon capacity, for shipment of hydrogen peroxide solution in water, containing not more than 70% hydrogen peroxide by weight.	2
9723	Authorized the transportation in commerce of lab packs containing cyanides and cyanide mixtures with lab packs containing acids and corrosive liquids in the same transport vehicle, subject to specific conditions.	1
9728	Authorized the manufacture, marking and sale of non-DOT specification containers described as mechanical displacement meter provers mounted on a truck chassis or trailer.	2
9729	Authorized the shipment of Class 8 materials in stainless steel cylinders complying with all requirements of DOT Specification 4BW except for being fabricated from Type 304L stainless steel.	2

NUMBER	PURPOSE	REASON
9730	Authorized the use of super-insulated DOT Specification MC-338 cargo tank for transportation of flammable cryogenic liquid.	2
9735	Authorized the Dangerous Cargo Manifest on cargo vessels to be retained in a location other than on or near the bridge of the vessel while the vessel is in port.	1
9740	Permit NASA to hydrostatically retest DOT (ICC) 3AA and 3AAX cylinders and certain non-DOT specification cylinders which are in conformance with DOT (ICC) 3AA and 3AAX specifications with exceptions every ten years rather than every five years as specified in 49 CFR 173.34(e).	2
9741	Authorized the shipment of batteries palletized and shipped as a unit without means of protection from any superimposed weight.	1
9742	Authorized the shipment of methyl bromide liquid in a non-DOT specification portable tank meeting all the requirements of a DOT Specification 51 with exceptions.	1
9743	Authorized shipment of uranium hexafluoride classed as radioactive material in cylinders not manufactured in accordance with ANSI N14.1-1982 standard.	2
9746	Authorized the use of DOT Specification 3BN cylinders for transportation of hydrogen fluoride, anhydrous.	1
9751	Authorized the transport of a Division 1.1 explosive device in limited quantities as a Division 1.4 explosive.	3
9758	Authorized the shipment of certain Division 2.1 gases in a nonrefillable, non-DOT inside container conforming with the DOT-2P except for diameter and capacity.	2
9761	Authorized the manufacture, marking, and sale of non-DOT specification welded stainless steel cylinders patterned after DOT-4DS with exceptions for transportation of Division 2.2 gases.	5
9763	Authorized the shipment of certain hazardous materials in DOT Specification 3BN cylinders not presently authorized.	1
9768	Authorized the shipment of rocket ammunition with explosive projectile, Division 1.1 explosive by cargo aircraft only..	2
9769	Authorized the multimodal transportation of lab-packs with partial relief from segregation requirements.	1
9771	Authorized the shipment, for disposal, of unclassified waste scrap explosives, classed as Division 1.4 explosives, packaged in wood, metal or cardboard boxes overpacked in a specially designed steel overpack.	2
9778	Authorized the shipment of sulfur hexafluoride, classed as a Division 2.2 gas, in non-DOT specification tanks and tubes, used in oil well logging service.	2
9779	Authorized the manufacture, marking and sale of non-DOT specification portable tanks which are manifolded together within a frame and securely mounted on a truck chassis.	2
9781	Authorized the use of a non-DOT specification full opening head, steel salvage cylinder for overpacking damaged or leaking chlorine cylinders.	1
9782	Authorized the shipment of potassium metal in non-DOT specification container.	1
9783	Authorized the manufacture, marking and sale of large collapsible polyethylene-lined woven polypropylene bulk bags, having a capacity of approximately 2260 pounds each and top and bottom outlets, for shipment of Class 4.1 solids, Division materials, Division 6.1 solids and Class 8 solids.	2
9784	Authorized the manufacture, marking and sale of DOT Specification 4BA or 4BW cylinders fitted with rubber footrings attached by welding after heat treatment for transportation of propane.	2
9789	Authorized the shipment of a Class 3, flammable liquid, corrosive, n.o.s. in DOT Specification 57 portable tanks.	2

NUMBER	PURPOSE	REASON
9790	Authorized the manufacture, marking and sale of non-DOT specification welded cylinders conforming with the DOT Specification 4L except that the container is made of Type 316L stainless steel.	2
9791	Authorized the manufacture, marking, and sale of a high strength, non-specification cylinder conforming in part with the DOT-3AA specification for transportation of certain nonflammable, nonliquefied compressed gases.	2
9797	Authorized the one-time shipment of a Division 2.2 gas in a nonrefillable, non-DOT specification container.	3
9801	Authorized the retesting of DOT Specification 111A100W2 tank car tanks, over ten years of age, with sulfuric acid in lieu of water.	5
9804	Authorized the manufacture, marking, and sale of non-DOT specification rotationally molded, polyethylene portable tank enclosed in a steel frame for the shipment of Class 8 materials, Class 3 liquids, or a Division 8 material.	2
9806	Authorized the manufacture, marking and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags, having a capacity of approximately 2200 pounds each and top and bottom outlets, for shipment of Class 8 solids and Division 5.1 materials.	2
9809	Authorized the use of a non-DOT specification container described as a mechanical displacement meter prover mounted on a truck, for transportation of Class 3 liquids.	1
9812	Authorized the shipment of certain hazardous materials in a non-DOT specification portable tank equivalent to a DOT Specification IM-101 except for the material of construction.	2
9816	Authorized the shipment of hypochlorite solution, more than 7 percent available chlorine by weight, in non-DOT specification cargo tanks.	5
9817	Authorized the manufacture, marking and sale of non-DOT specification limited-life polyethylene portable tank enclosed in a steel jacket for the transportation of certain Class 3 liquids, Class 8 materials, or Division 5.1 materials.	2
9819	Authorized the shipment of Class 3liquids and Class 8 liquids in non-DOT specification stainless steel portable tanks.	2
9822	Authorized the shipment of a Division 6.1 liquid (R&D) Samples in packaging conforming to 49 CFR 173.331(b)(1).	1
9823	Authorized the use of a non-DOT specification, toroidal shape pressure vessel for transportation of helium.	1
9828	Authorized the shipment of azinphos methyl, mixture, solid, a Division 6.1 material, in water soluble packets (PVA) inside lined chipboard cartons overpacked in DOT Specification 12B65 fiberboard boxes.	1
9830	Authorized manufacture, marking and sale of non-DOT specification stainless steel cylinders to transport those materials authorized in DOT Specification 4BA cylinders.	2
9831	Authorized the manufacture, mark and sale of vacuum insulated non-DOT specification portable tanks for transportation of helium, refrigerated liquid.	2
9832	Authorized the manufacture, marking, and sale of vacuum insulated non-DOT specification portable tanks, for transportation of certain hazardous materials.	2
9837	Authorized manufacture, marking and sale of DOT Specification 4B cylinders using the lot number in lieu of the serial number.	2
9843	Authorized the manufacture, marking and sale of nonrefillable, non-DOT specification, inside metal container for shipment of materials authorized in DOT Specification 2Q cylinders.	2

NUMBER	PURPOSE	REASON
9846	Authorized the manufacture, marking, and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags, having a capacity of approximately 2200 pounds each and top and bottom outlets, for shipment of a Class 4.1 solid, Division 5.1 material, and Class 8 solids.	2
9847	Authorized the retesting of DOT Specification 3A and 3AA cylinders by means other than the hydrostatic retest required in 49 CFR 173.34(e).	1
9848	Authorized shipment of nitrogen, supplied during transportation by a DOT Specification 3AA cylinder with its valve open, to a non-DOT specification container.	2
9849	Authorized the transportation in commerce of certain Division 1.1, 1.2, 1.3 and 1.4 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
9856	Authorized the use of non-DOT specification packaging and patient use of oxygen systems on board a passenger ship.	5
9860	Authorized the manufacture, marking, and sale of a non-DOT specification stainless steel drum-type container of 55-gallon capacity, conforming to DOT Specification 5B with certain exceptions, for shipment of those materials authorized in a DOT Specification 5B removable head stainless steel drum.	2
9874	Authorized personnel to observe loading and unloading of cargo tanks by viewing video camera monitors in a control center instead of viewing within 25 feet of the cargo tanks.	2
9880	Authorized the manufacture, marking and sale of non-DOT specification containers described as hermetically sealed electron tube devices.	5
9881	Authorized the manufacture, marking and sale of non-DOT specification, metal, single-trip, inside containers, described as hermetically sealed electron tube radiation sensors, for the transportation of argon gas.	5
9884	Authorized the manufacture, marking, and sale of a non-DOT specification insulated cylinder conforming with 49 CFR 178.57 except 178.57-2 and 178.57-8(c) and with DOT Specification 4L with exceptions.	2
9886	Authorized the manufacture, marking, and sale of non-DOT specification steel water pump system tank with an outside diameter not exceeding 28 inches and a precharge of compressed air or nitrogen not exceeding 42 psig.	2
9889	Authorized the manufacture, marking, and sale of a non-DOT specification rotationally molded, linear low density polyethylene portable tank enclosed within a protective steel cage for the shipment of Class 8 liquids, Class 3liquids, or a Division 5.1 material.	2
9894	Authorized the manufacture, marking, and sale of non-DOT specification cylinders for transport of certain hazardous materials.	2
9901	Authorized the shipment of nitric acid, Division 4.1 or Class 8 material, and perchloric acid, Division 5.1 material, in a DOT Specification 12A fiberboard box, with inside glass bottles cushioned and encapsulated by molded polystyrene inserts.	2
9909	Authorized the manufacture, marking and sale of non-DOT specification steel cylinder complying in part with DOT-3AA specification for transportation of certain Division 2.1 and Division 2.2 gases.	2
9912	Authorized the manufacturing, marking, and sale of a non-DOT specification rotationally molded, cross-linked polyethylene portable tank enclosed in a metal skid and stacking frame for the shipment of Class 8 liquids, Class 3 liquids, an Division 5.1 material, or a Division 1.4 material.	2
9916	Authorized the shipment of ethylene oxide in 4,760-gallon DOT Specification 51 steel portable tanks with safety relief valves set at 145 psig and a vacuum/perlite insulation system.	2
9923	Authorized the manufacture, marking, and sale of a non-DOT specification rotationally molded, polyethylene portable tank enclosed in a steel frame, for shipment of Class 8 materials, Class 3 liquids, combustible liquids, or a Division 5.1 material.	2

NUMBER	PURPOSE	REASON
9926	Authorized the manufacture, marking, and sale of nonrefillable, non-DOT specification cylinders designed and manufactured in accordance with DOT-39 specification except for material of construction.	2
9929	Authorized the transport of rocket motors in packaging not authorized in the Department's Hazardous Materials Regulations and having weights exceeding those specified in the regulations.	2
9934	Authorized the use of non-DOT specification Teflon bottles packed in non-DOT specification fiberboard boxes for transportation of certain Class 8 liquids.	2
9940	Authorized the manufacture, marking, and sale of non-DOT specification, metal, single trip, inside containers, described as hermetically-sealed electron tube devices.	4
9941	Authorized the transport of rocket motors in a propulsive state with igniters installed.	5
9946	Authorized the use of a pneumatically-operated valve of a packless design with nonperforated diaphragms backed by an additional gasketed sealing system on cylinders containing a Division 6.1 material.	1
9950	Authorized the transport of an accumulator charged with a mixture of nitrogen and helium to 6000 psi with an actuating cartridge in the valve.	2
9953	Authorized the shipment of Class 3 liquids and/or Division 2.12 gases in temperature controlled equipment.	2
9956	Authorized the shipment of hypochlorite solution in an unlined non-DOT specification cargo tank constructed of titanium.	5
9961	Authorized the manufacture, marking, and sale of a non-DOT specification container described as mechanical displacement meter provers mounted on a truck chassis or trailer, for transportation of hydrogen products.	5
9964	Authorized the transport of a rocket motor in a propulsive state, with igniter installed, which exceeds the weight limitation in 49 CFR.	2
9965	Authorized the marking and shipment of electrical transformers and/or capacitors containing bulk quantities of polychlorinated biphenyl contaminated oil as non-bulk packagings.	2
9969	Authorized the transport of small amounts of liquids and gases in diffusion tubes overpacked in capped pipe nipples.	2
9970	Authorized the shipment of RDX wet with ethyl acetate or ethyl alcohol in polyethylene bags overpacked in fiber drums.	2
9971	Authorized the use of DOT Specification 12A fiberboard box, with handholes, for shipment of certain Class 3 liquids and Class 8 materials.	1
9973	Authorized the transport of explosive projectile with fuzes assembled.	1
9974	Authorized shipment of packages of a Diviison 4.1 solid in a privately owned vehicle without a	1
9977	Authorized the transport of rocket motors in a propulsive state, with igniters installed.	4
9990	Authorized the transport of detonating fuzes, Division 1.4 explosives, in a packaging not authorized in 49 CFR.	2
9991	Authorized the use of a non-DOT specification steel, full opening head, salvage cylinder of 4.8-gallon capacity for overpacking damaged or leaking packages of pressurized and nonpressurized hazardous materials.	1
9994	Authorized the manufacture, marking, and sale of a non-DOT specification stainless steel drum type container of 55-gallon capacity, conforming to DOT Specification 5C with certain exceptions, for shipment of those material authorized in a DOT-5C stainless steel drum.	2

NUMBER	PURPOSE	REASON
9996	Authorized the manufacture, marking, and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags having a capacity of approximately 2,200 pounds each, and top and bottom outlets, for shipment of Division 4.1 solids, Division 5.1 materials, Division 6.1 solids and Class 8 solids.	2
9997	Authorized the transport of a kit containing smokeless powder for small arms, percussion caps and nonhazardous articles such as lead balls and bore cleaner, in non-DOT specification fiber boxes.	2
9998	Authorized the shipment of nitrogen in hydraulic accumulators.	2
10001	Authorized the transport of argon containing up to 10 percent oxygen as a refrigerated liquid in DOT Specification 4L cylinder.	2
10003	Authorized the manufacture, marking, and sale of a non-DOT stainless steel drum-type container of 55-gallon capacity, conforming to DOT-5B, with certain exceptions, for shipment of paint and resin solution, a Class 3 liquid and those materials authorized in a DOT-5B movable head drum..	2
10010	Authorized the manufacture, marking and sale of a non-DOT specification container described as mechanical displacement meter provers mounted on a truck chassis or trailer for transportation of Class 3 liquids and gases.	2
10016	Authorized the shipment of liquid hazardous materials in a removable head polyethylene drum of five-gallon capacity.	2
10019	Authorized the manufacture, marking and sale of non-DOT specification fiber reinforced plastic full wrapped composite cylinder for shipment of compressed air, nitrogen and oxygen.	2
10020	Authorized the use of a non-DOT specification roll-on/roll-off container, for transportation of Class 8 solids.	1
10022	Authorized the use of non-DOT specification full removable head, steel salvage cylinders of approximately 55-gallon capacity for overpacking damaged or leaking packages of pressurized and nonpressurized hazardous materials.	2
10027	Authorized the use of a non-DOT specification insulated portable tank for transportation of liquefied helium.	2
10028	Authorized the shipment of dimethyl sulfate in DOT Specification 112A200W tank cars.	2
10031	Authorized the manufacture, marking, and sale of non-DOT specification, insulated portable tanks for shipment of liquefied helium.	2
10032	Authorized the shipment of Division 2.1Division 2.2 gases in non-DOT specification IMO Type 5 steel portable tanks.	2
10043	Authorized residual amounts of various hazardous materials, Class 3 liquids, Class 8 materials, Division 6.1 materials, Division 5.1 materials, and ORM-A or ORM-B, in inside packaging having a maximum capacity of one-gallon overpacked in outside non-DOT polyethylene bins of 30 cubic-foot capacity.	2
10047	Authorized the manufacture, marking, and sale of a non-DOT specification cylinder conforming in part with DOT Specification 3AA cylinder, for transportation of certain hazardous materials.	2
10048	Authorized the use of a DOT Specification 17C metal drum with inside non-DOT specification metal containers for shipment of pyrophoric liquids, Class 3 liquids, and Division 4.1 materials.	2
10049	Authorized the use of a polyurethane insulated cargo tank conforming with MC-338 built prior to 1984 for transportation of Division 2.1 gases and Division 2.2 gases.	1
10064	Authorized the manufacture, marking and sale of a non-refillable, non-DOT specification cylinder for shipment of Division 2.2 gases.	2
10066	Authorized the manufacture, marking and sale of a welded, stainless steel, non-DOT specification cylinder for shipment of a Division 2.2 gas.	2

NUMBER	PURPOSE	REASON
10067	Authorized the use of non-DOT specification packagings for transportation of anhydrous hydrazine.	4
10082	Authorized the carriage of certain Division 1.1, 1.2, 1.3 and 1.4 explosives that are not permitted for shipment by air or are in quantities greater than those prescribed for shipment by air.	1
10084	Authorized the use of non-DOT specification cargo tanks manufactured from glass fiber reinforced plastics (GFRP) for shipment of certain Class 3, Class 8 or Division 6.1 materials or semi solid waste materials.	2
10085	Authorized the shipment of monochloracetone, inhibited, in a DOT Specification MC-312 cargo tank with no bottom outlets.	2
10089	Authorized the shipment of potassium metal classed as a Division 4.1 material in steel cylinders conforming with all requirements of DOT Specification BBW, except the material of construction is Type 304, 316 or 347 stainless steel.	2
10090	Authorized the manufacture, marking, and sale of a reusable, rotationally molded, polyethylene, wire-frame enclosed portable tank for shipment of Class 8, Class 3 liquids or a Division 5.1 material.	2
10094	Authorized the transportation of ammonium nitrate solution in DOT Specification 111A100W1 lined and insulated tank car tanks.	2
10096	Authorized the use of non-DOT specification multi-wall, plastic lined paper bags, palletized and shrink wrapped in plastic for shipment of a Division 5.1 material.	2
10097	Authorized the transport of rocket motors in a propulsive state and with igniters installed in packaging not authorized in 49 CFR 173.92.	2
10101	Authorized the continued ten-year retest for cylinders conforming in part with 49 CFR 173.34(e)(15).	2
10102	Authorized the manufacture, marking and sale of a polyethylene, removable head drum not to exceed 20 gallon capacity for overpacking damaged or leaking packages of hazardous materials that have spilled or leaked.	2
10110	Authorized the use of a non-DOT specification steel, full opening head,	2
10114	Authorized the predeployment transport of cylinders for passenger use or being returned for maintenance of not more than 12 DOT Specification 3AA cylinders containing oxygen for medical use.	2
10116	Authorized the transport of a Division 1.4 explosive power devices in DOT Specification 12B packagings instead of the packagings required by 49 CFR 173.102.	2
10127	Authorized the transport of a rocket motor with igniter installed and in a packaging not authorized by 49 CFR.	4
10130	Authorized the manufacture, marking and sale of collapsible, disposable polyethylene-lined woven polypropylene bulk bags for shipment of a Division 5.1 material, Division 4.1, Class 8, and Division 6.1 solid materials.	2
10131	Authorized the transport of certain hazardous materials in a container conforming with the DOT Specification 2Q except for size, marking and test.	2
10134	Authorized the use of a non-DOT specification pressure vessel comparable to a DOT 3HT cylinder with certain exceptions.	2
10135	Authorized the shipment of lithium amide, powdered, in a DOT Specification 56 portable tank.	2
10138	Authorized the display of placards showing only the generic n.o.s. identification number on a closed transport vehicle loaded with three or more portable tanks containing materials of the same Division or hazard class or materials of different hazard or division classes which are compatible.	2
10141	Authorized packagings of rhenium metal and alloys containing rhenium to be transported as "limited quantity" radioactive materials without prescribed marking requirements and certification statements, and provides no relief from any regulation other than as specifically stated.	3

NUMBER	PURPOSE	REASON
10142	Authorized the manufacture, marking, and sale of non-DOT specification corrugated fiberboard boxes with handholes, with inside glass bottles, for transportation of Class 3 and Class 8 liquids.	2
10143	Authorized the transport of certain hazardous materials in a container conforming with DOT Specification 2Q exception for size and marking.	2
10146	Authorized the manufacture, marking and sale of super-insulated, non-DOT specification portable tanks for shipment of liquefied helium.	2
10147	Authorized the manufacture, marking and sale of non-DOT Specification, fiber reinforced plastic, full composite cylinders for shipment of certain Division 2.1 and Division 2.2 gases.	2
10148	Authorized the manufacture, marking and sale of a packaging that does not pass the penetration impact test in 49 CFR 173.387(b)(2)(iii) but provides an equivalent level of safety for shipment of etiologic agents.	2
10149	Authorized the transport of a flammable cryogenic liquid in a DOT Specification 113A60W-2 specification tank car tank without replacing the outer jacket frangible disc every year as required.	2
10151	Authorized the use of a non-DOT specification full removable head salvage cylinder of 45 gallon capacity for overpacking damaged or leaking packages of pressurized and nonpressurized hazardous materials.	2
10153	Authorized the use of a collapsible polypropylene-lined woven polypropylene bulk bag having a capacity of approximately 1102.3 pounds, with top and bottom outlets, for shipment of a Division 6.1 solid material.	2
10169	Authorized applying the contamination limits allowed in 49 CFR 173.443(d) for closed transport vehicle by highway to be applied to rail shipments in closed transport vehicles.	2
10171	Authorized the use of a non-DOT specification IMO Type 5 portable tank for shipment of certain compressed gases and a Class 3 liquids.	2
10172	Authorized the manufacture, marking and sale of a non-DOT specification rotationally molded, cross-linked high density polyethylene portable tank enclosed within a protective wire frame for the shipment of Class 8 liquids, Class 3 liquids or a Division 5.1 material.	2
10180	Authorized the manufacture, marking, and sale of DOT Specification 39 cylinders equipped with pressure relief device systems for transportation of Division 2.2 gases.	5
10184	Authorized the shipment of a specific gas mixture in DOT Specification 4B, 4BA or 4BW cylinders retested in accordance with the provisions of 49 CFR 173.34(e)((9) and (e)(10).	4
10193	Authorized the shipment of liquefied Division 2.1 and Division 2.2 gases and a Class 3 liquid, in non-DOT specification steel portable tanks.	2
10195	Authorized a 15 year service life for cylinders that are subjected to 5 year internal and external visual inspections when used in dedicated compatible catalyst formulation service.	2
10203	Authorized transport of 155 mm illuminating projectiles in non-DOT packaging.	2
10206	Authorized the transport of liquid aniline oil and liquid nitrobenzene in certain DOT Specification 112A and 114A tank car tanks which have a dark color band around the center of the tank.	2
10211	Authorized the manufacture, marking and sale of DOT Specification 3AX and 3AAX cylinders with certain dimensional restrictions and that are qualified by means other than the requirements in 49 CFR 178.36-15, 178.36-16(a), 178.37-16, and 178.37-16(a).	2
10227	Authorized the manufacture, marking, and sale of insulated non-DOT specification cylinders for shipments of liquid oxygen.	2
10228	Authorized the use of a non-DOT specification container described as a mechanical displacement meter prover for the shipment of Class 3 liquids and Division 2.1 gases.	2

NUMBER	PURPOSE	REASON
10230	Authorized the manufacture, marking and sale of non-DOT specification, injection molded, crosslink thermoset olefin hydrocarbon portable tank for the shipment of Class 8 liquids, Class 3 liquids, or a Division 5.1 material.	2
10232	Authorized the transportation of certain refrigerant gases in a container conforming in part with DOT Specification 2Q.	2
10235	Authorized the use of tank car tanks conforming to a DOT 105J500W specification, except that the tank and the tank head puncture resistance systems may be manufactured from certain high alloy steels for the use in transportation of a Division 2.3 gas and certain Class 3 liquids.	2
10238	Authorized the manufacture, marking, and sale of 330-gallon non-DOT specification polyethylene tanks for use in the transportation of various Class 3, Class 8 and Division 5.1 materials.	2
10239	Authorized the transportation of hydrochloric acid in DOT 111A100W5 tank car tanks equipped with a surge baffle in the safety vent assembly.	2
10242	Authorized the manufacture, marking and sale of a polyethylene, removable head drum not to exceed 20 gallon capacity for transporting certain solid hazardous materials.	2
10247	Authorized the transport of small quantities of material which are not authorized under 49 CFR 173.4	4
10251	Authorized a one-time shipment of a residue of vinyl chloride in DOT Specification 105A200W tank cars without head shields and thermal protection.	5
10253	Authorized the use of a non-DOT specification rotationally molded, cross-linked polyethylene portable tank enclosed within a protective steel frame, for the shipment of certain Class 3 or Class 8 liquids.	5
10255	Authorized the manufacture, marking and sale of a non-DOT specification container conforming with DOT Specification 2Q except for sidewall thickness for transportation of Division 2.2 and Division 2.1 gases.	2
10256	Authorized the manufacture, marking, and sale of a FRP-1 type, non-DOT specification cylinder for shipment of certain hazardous materials.	2
10257	Authorize the shipment of dimethyltin dichloride in a non-DOT specification steel portable tank mounted in an outer steel box.	2
10259	Authorized the transportation of certain mercaptans and aliphatic mercaptan mixtures in a stainless steel DOT Specification 57 portable tank having a capacity not exceeding 250 gallons.	2
10262	Authorized the manufacture, marking, and sale of a collapsible polyethylene-lined, woven polypropylene bulk bag having a capacity of approximately 2205 pounds with top and bottom outlets, for shipment of Class 8 solids.	2
10265	Authorized the manufacture, marking, and sale of a non-DOT specification container described as a mechanical displacement meter prover for shipment of Class 3 liquids and Division 2.1 gases.	2
10266	Authorized the use of a non-DOT specification container.	2
10267	Authorized the manufacture, marking, and sale of a non-DOT specification paper-faced expanded polystyrene board box for use in the shipment of nitric acid.	2
10272	Authorized the use of insulated and lined DOT Specification MC 331 cargo tank motor vehicles to transport aqueous hypochlorous acid solutions of 50% or less concentration.	2
10273	Authorized the manufacture, marking, and sale of nonreusable, fiberboard bulk boxes having an inside lining of 0.0065-inch minimum thickness polyethylene film.	2
10277	Authorized the manufacture, marking, and sale of non-DOT specification cylinder conforming in part with DOT Specification 4BA.	2

NUMBER	PURPOSE	REASON
10278	Authorized the shipment of certain Division 2.1 gases in a nonrefillable, non-DOT specification inside container conforming with the DOT Specification 2P except for diameter and capacity.	2
10279	Authorized the manufacture, marking, and sale of non-DOT specification steel water pump system tank with an outside diameter not exceeding 26 inches.	2
10285	Authorized shipment of residual amounts of ammonia in non-DOT specification packagings.	5
10291	Authorized the manufacture, marking, and sale of non-DOT specification IMO Type 5 portable tanks for shipment of certain Division 2.1 and Division 2.2 gases.	2
10292	Authorized the manufacture, marking, and sale of a non-DOT specification rotationally molded, linear low density polyethylene portable tank for the shipment of Class 8 liquids, Class 3 liquids or a Division 5.1 material.	2
10295	Authorized the use of a DOT Specification 17C metal drum with inside non-DOT specification metal containers.	2
10297	Authorized the rebuilding and sale of DOT Specification 4B, 4BA and 4BW cylinders for transportation of compressed gases, Class 3 liquids, Class 8 materials and other hazardous materials..	2
10298	Authorized the shipment of liquid fuels that are Class 3 liquids in non-DOT specification collapsible, rubber containers up to 500 gallon capacity by cargo aircraft within and to only remote Alaska locations.	2
10300	Authorized the use of non-DOT specification cylinders, used in Foam Products Unit System.	4
10303	Authorized the carriage of small amounts of liquefied petroleum gas aboard small, float equipped, passenger carrying aircraft.	1
10307	Authorized the use of DOT Specification 111A100W1, W2, W3 and W5 series tank cars, containing certain corrosive materials, with a safety relief device rated at 135 percent of the tank test pressure.	2
10319	Authorized the manufacture, marking and sale of a non-DOT specification pressure vessel (water pump system tank) for use in the shipment of compressed air and nitrogen.	2
10320	Authorized the manufacture, marking, and sale of non-DOT specification steel cylinders comparable to DOT Specification 8AL except the steel shell is made to a DOT Specification 4BW for the shipment of acetylene.	2
10321	Authorized the shipment of a nonliquefied, Division 2.1 gas in DOT Specification 4BA 240, DOT 4BA 260, DOT 4BW 240 and DOT 4BW 260 steel cylinders; 4E 240 and DOT 4E 260 aluminum cylinders.	2
10323	Authorized the use of a non-DOT specification full-opening head salvage cylinder of 8-gallon capacity for overpacking damaged or leaking packages of pressurized and nonpressurized hazardous materials.	2
10325	Authorized the shipment of a liquefied Division 2.1 gas and Division 2.2 gases in a non-DOT specification IMO Type 5 portable tanks with bottom outlets.	2
10326	Authorized the manufacture, marking and sale of a non-DOT specification welded pressure vessel comparable to DOT 3HT cylinder with certain exceptions.	2
10327	Authorized shipment of a refrigeration system consisting of various accumulators and components, containing helium, which is a Division 2.2 gas.	2
10328	Authorized alternate safety relief valve settings for DOT specification tank cars used for shipment of certain Class e liquids.	2
10330	Authorized the manufacture, marking, and sale of a non-DOT specification rotationally molded, teflon PFA inner container enclosed in a steel frame, for shipment of Class 8 materials, Class 3 liquids, or Division 5.1 materials.	2
10334	Authorized the use of a non-DOT specification container for shipment of Class 3 liquids and Division 2.1 gases.	2

NUMBER	PURPOSE	REASON
10335	Authorized the shipment of bromotrifluoromethane in DOT Specification 4BA 400 and 4BW 400 cylinders equipped with fusible pressure relief devices.	2
10336	Authorized the transportation of propellant explosives, solid in packagings larger than those authorized in 49 CFR 173.93.	2
10340	Authorized the manufacture, marking and sale of a nonreusable non-DOT specification polyethylene portable tank enclosed in a steel jacket, for the shipment of Class 8 liquids, and Class 3 liquids.	2
10344	Authorized the transportation of depleted lithium batteries from U.S. military bases overseas to the United States for disposal.	2
10345	Authorized the manufacture, mark and sale of non-DOT specification cylinders containing nonflammable gases to be used as self-contained underwater breathing apparatus.	2
10346	Authorized tank car tanks loaded with chlorine to remain attached to transfer connections when the unloading process is discontinued.	2
10351	Authorized the use of non-vacuum, urethane-foam insulated DOT Specification MC-331 cargo tanks for the shipment of liquid ethylene.	2
10358	Authorized the shipment of compound cleaning, liquids, Class 8, in 5 - gallon plastic bags overpacked in a non-DOT specification fiberboard box.	2
10359	Authorized the shipment of bromine trifluoride, classed as a Division 5.1 material, in non-DOT specification, nonrefillable cylinders.	2
10365	Authorized the use of model 30A or 30B cylinders, containing radioactive material, with 21PT-1A and 21PF-1B overpacks without a maximum gross weight limit.	2
10366	Authorized the manufacture, marking and sale of a non-DOT specification container described as a mechanical displacement meter prover mounted on a twin axle trailer for transportation of Class 3 liquids or Division 2.1 gases.	2
10370	Authorized the use of a aluminum non-DOT specification cylinder for gas and oil well sampling gases, certain Class 3 liquids, certain liquefied petroleum gases, certain hydrocarbon gases and certain Division 2.2 gases.	2
10372	Authorized the use of a non-DOT specification stainless steel, full removable head “salvage” cylinder of 78-gallon capacity for overpacking damaged or leaking packages of pressurized and non-pressurized hazardous materials.	2
10374	Authorized the manufacture, marking, and sale of a non-DOT specification blow molded, polyethylene portable tank enclosed in a steel frame, for the shipment of Class 3 materials, Class 3 liquids, or a Division 5.1 material.	2
10380	Authorized the manufacture, marking, and sale of non-DOT specification cryogenic portable tanks, for transportation of Division 2.2 gases.	2
10382	Authorized the shipment of ethyl phosphonothioic dichloride, anhydrous in DOT Specification 105S300W tank car tanks.	2
10389	Authorized tank car tanks loaded with chlorine to remain attached to transfer connection when the unloading process is discontinued.	2
10392	Authorized the manufacture, marking, and sale of a non-DOT specification rotationally molded, linear low density polyethylene portable tank, enclosed within a protective metal frame for the shipment of Class 8 liquids, Class 3 liquids or a Division 5.1 material.	2
10395	Authorized highway transportation of methane, refrigerated liquid, classed as flammable gas in non-DOT specification cylinders built to 4 L specification.	2

NUMBER	PURPOSE	REASON
10396	Authorized the use of a non-DOT specification container described as a mechanical displacement meter prover for the shipment of a Class 3 liquid.	2
10399	Authorized the shipment of an explosive, rocket ammunition with smoke projectile, reclassified as a Division 1.2 or 1.3 explosive, and packed in accordance with 49 CFR 173.90.	5
10400	Authorized the shipment of grenades with fuzes installed, in partitioned fiberboard cartons overpacked in wooden boxes and palletized.	2
10402	Authorized the shipment of a non-DOT specification Molecular Sieve Column assemble, containing a nitrogen tetroxide mixture, overpacked in a non-DOT specification plywood box.	5
10407	Authorized the use of non-DOT specification, stainless steel, radiation detection devices, filled with a Division 2.2, nontoxic gas.	2
10419	Authorized tank car tanks loaded with chlorine to remain attached to transfer connections when the unloading process is discontinued.	2
10424	Authorized the shipment of a specific gas mixture in DOT Specification 4BA240 cylinders retested in accordance with the provisions of 49 CFR 173.34(e)(9) and (e)(10).	4
10427	Authorized the transportation in commerce of certain Division 1.3C rocket motors with Division 2.2 compressed gases, Division 2.3 (PIH-Zone A) liquefied gases, Class 3 flammable liquids and Division 6.1 (PIH-Zone A) poisonous liquids together in the same motor vehicle, subject to the packaging and special provisions.	5
10428	Authorized the shipment of propellant transfer carts each containing a hazardous material in specially designed non-DOT specification ground support transport containers.	5
10429	Authorized the discharge of certain Class 3 and Class 8 liquids from DOT Specification 57 stainless steel portable tanks without removing the tanks from the vehicle on which it is transported.	4
10430	Authorized the use of a vacuum insulated, non-DOT specification portable tank in a ISO frame for the transportation of certain refrigerated liquids.	2
10433	Authorized the manufacture, marking and sale of a non-DOT specification welded pressure vessel similar to a DOT Specification 3HT cylinder with certain exceptions for shipment of helium.	2
10436	Authorized the use of insulated DOT Specification MC-307 cargo tanks for shipment of a certain Division 6.1 material.	5
10440	Authorized the manufacture, marking and sale of a welded austenitic stainless steel non-DOT specification cylinder conforming with DOT Specification 4DS with exceptions for shipment of Division 2.2 gases.	2
10441	Authorized the transportation by highway of lab pack quantities of cyanides on the same motor vehicle with non-lab packed acidic materials not to exceed 55 gallons per container.	2
10442	Authorized the shipment of waste materials contaminated with small quantities of explosives in specially authorized packagings for incineration.	2
10453	Authorized a change in the definition of dispersant and refrigerant gases.	4
10457	Authorized the use of DOT Specification MC 331 cargo tanks equipped with angle valves, excess flow valves and pressure relief valves not presently authorized in the regulations.	2
10458	Authorized the use of DOT Specification 111A100W2 tank car tanks loaded with sulfuric acid, a Class 8 material, to remain attached to transfer connections when the unloading process is discontinued.	4
10460	Authorized the manufacture, marking and sale of DOT approved ANSI 14.1 containers with minor variations.	2

NUMBER	PURPOSE	REASON
10461	Authorized the manufacture, marking and sale of vacuum insulated, non-DOT specification portable tank in an ISO frame for the transportation of certain refrigerated liquid.	2
10463	Authorized the shipment of hypochlorite solution in DOT Specification 2E90 1 gallon polyethylene bottles overpacked in a non-DOT specification polyethylene drum with no lid.	2
10468	Authorized the use of a non-DOT specification rotationally molded, linear low density, high density, or medium density polyethylene portable tank enclosed within a protective wire frame for the shipment of Class 8 liquids, Class 3 liquids or Division 5.1 materials.	5
10469	Authorized the use of DOT Specification 105S300W tank car tanks for the transportation of phosphorus trichloride.	2
10473	Authorized the manufacture, mark and sale of non-DOT specification polyethylene twin-walled 85 gallon capacity drums to be used as a salvage drum, lab pack container and sole use container for shipment of those hazardous materials authorized in DOT Specification 34 or 35 container.	2
10475	Authorized the rebuilding and sale of DOT Specification 4B, 4BA and 4BW cylinders for the transportation of propane.	2
10476	Authorized the manufacture, marking and sale of large, non-reusable collapsible polypropylene-lined woven polypropylene bulk bags, having a capacity of up to 2204 pounds each and top and bottom outlets, for shipment of Class 3, Class 8, Division 5.1, Division 1.4, and Division 6.1 materials.	2
10480	Authorized the use of a vacuum insulated, cold mass shielded, non-DOT specification portable tank for transportation of liquefied helium.	2
10481	Authorized the manufacture, marking and sale of vacuum insulated, non-DOT specification portable tank in an ISO frame for the transportation of certain refrigerated liquids.	2
10486	Authorized the transportation of mixtures of Division 2.1 and Division 2.2 gases in DOT Specification MC 330 and MC 331 cargo tanks.	2
10489	Authorized the transportation of ammunition for cannon with smoke projectile as a Class B explosive .	4
10492	Authorized tank cars loaded with chlorine to remain attached to transfer connections when the unloading process is discontinued.	2
10497	Authorized the shipment of nitrogen tetroxide in non-DOT specification stainless steel tanks.	5
10502	Authorized the shipment of rocket motors, Division 1.1 explosives (shaped charges) and detonating fuzes in a cargo aircraft.	2
10504	Authorized the use of a non-DOT specification full removable head salvage cylinder of 33 gallons capacity for overpacking damaged or leaking packages of pressurized and nonpressurized hazardous materials.	2
10507	Authorized tank cars loaded with chlorine to be remotely monitored and attached to transfer connections during the unloading process.	2
10511	Authorized the shipment of certain Division 2.2 gases in a non-DOT specification packaging.	2
10513	Authorized the use of flexible intermediate bulk containers, having a capacity of either 500 or 1000 pounds, overpacked in pallet mounted, fiberboard containers for shipment of a certain solid Division 5.1 material.	2
10514	Authorized the use of DOT Specification 105A500W tank car tanks loaded with carbon dioxide, refrigerated liquid, to remain attached to transfer connections when the unloading process is discontinued.	2
10517	Authorized the retesting of DOT Specification 57 portable tanks fabricated of stainless steel at five year intervals.	2

NUMBER	PURPOSE	REASON
10519	Authorized the use of a non-DOT specification full opening hinged head, steel salvage cylinder with a teflon lining of approximately 101 gallons (382 liters) capacity for overpacking damaged or leaking packages of pressurized and nonpressurized hazardous materials.	2
10529	Authorized the use of non-DOT specification containers described as hermetically sealed electron tube devices.	2
10535	Authorized the transportation of zirconium metal, wet with at least 25 percent ethyl alcohol by weight, in non-carbon polyethylene containers overpacked in strong metal cans and wooden boxes.	2
10536	Authorized the shipment of various kinds of explosive substances and devices with an interim hazard classification to test facilities.	2
10546	Authorized the use of tank car tanks loaded with chlorine, which is a Division 2.3 gas, to remain standing with unloading connections attached.	2
10551	Authorized the use of tank car tanks loaded with chlorine, which is a Division 2.3 gas, to remain standing with unloading connections attached.	2
10552	Authorized the use of tank car tanks loaded with chlorine, which is a Division 2.3 gas, to remain standing with unloading connections attached.	2
10553	Authorized the use of tank car tanks loaded with chlorine, which is a Division 2.3 gas, to remain standing with the unloading connections attached.	2
10555	Authorized the manufacture, marking and sale of a non-DOT approved mounting configuration in the construction of a cylinder patterned after a DOT Specification 4B cylinder for shipment of nonflammable gases.	2
10556	Authorized the transportation of certain hazardous materials to be shipped (non-pressurized) inside the material hoses, pump chambers (cylinder) and dispensing hoses of Liquid Control's dispensing units.	2
10562	Authorized the manufacture, marking and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags, having a capacity of approximately 2200 pounds each, a having top and bottom outlets, for shipment of Class 8, Class 3, Division 5.1, and Division 6.1 poison solid materials.	2
10563	Authorized the shipment of certain materials described as flammable liquid, corrosive, n.o.s. in stainless steel DOT Specification 57 portable tanks.	2
10570	Authorized the manufacture, marking and sale of large nonreusable, collapsible polyethylene-lined woven polypropylene bulk bags having a capacity of not over 2205 pounds each, and top and bottom outlets, for shipment of Division 6.1, Class 3, 8 and Division 5.1 solids, and a Division 1.4 materials.	2
10573	Authorized the use of DOT Specification 1005A500W tank car tanks loaded with chlorine and DOT Specification 105A200W tank car tanks loaded with sulfur dioxide to be remotely monitored and attached to transfer connections during the unloading process.	2
10575	Authorized the use of tank cars loaded with carbon dioxide, refrigerated liquid, to be remotely monitored and attached to transfer connections during the unloading process.	2
10576	Authorized the use of tank cars loaded with chlorine to be remotely monitored and attached to transfer connections during the unloading process.	2
10588	Authorized the transportation of uranium hexafluoride in Specification 12B cylinders that have valves that are not brazed in place as normally required by the ANSI N14.1 standard.	3
10589	Authorized the use of an acoustic emission non-destructive testing procedure for evaluating the continuing qualification of tanks that are mounted on or form party of a railroad freight car structure.	2
10590	Authorized the manufacture, marking and sale of a nonrefillable, non-DOT specification, inside container similar to the DOT Specification 2P with the exception of diameter and capacity for the shipment of Division 2.1 gases.	2

NUMBER	PURPOSE	REASON
10594	Authorized the shipment of low level radioactive materials in closed vehicles and bulk containers without detailed analysis of the contents in each closed vehicle or bulk container and with alternative requirements for hazard communication information and packaging.	2
10595	Authorized the use of tank cars loaded with chlorine to be remotely monitored and attached to transfer connections during the unloading process.	2
10596	Authorized the use of non-DOT specification trailer mounted containers described as mechanical displacement meter provers for shipment of a Class 3 liquid.	2
10597	Authorized the shipment of Class 3 liquids and/or Division 2.1 gases in temperature controlled equipment.	2
10599	Authorized the use of a non-DOT specification container described as a truck mounted mechanical displacement meter prover for shipment of certain Class 3 liquids and Division 2.1 gases.	2
10603	Authorized the manufacture, marking and sale of non-DOT specification cylinders for use in the transportation of compressed gases.	2
10610	Authorized the use of tank cars loaded with chlorine to be remotely monitored and attached to transfer connections during the unloading process.	2
10614	Authorized the use of vacuum insulated portable tanks for the transportation of liquid oxygen, liquid nitrogen and liquid argon.	4
10618	Authorized the transportation of a rocket motor in a packaging not authorized and having a weight exceeding that specified in the regulations.	2
10623	Authorized the shipment of nitrogen, oxygen or argon, refrigerated liquids (cryogenic liquids), in non-DOT specification portable tanks.	2
10631	Authorized the use of a DOT Specification MC 338 cargo tank for shipment of certain hazardous materials.	2
10637	Authorized the manufacture, marking and sale of a non-DOT specification fiber reinforced plastic (FRP) hoop wrapped cylinder for transporting Division 2.1 and Division 2.2 gases.	2
10644	Authorized tank cars, containing hazardous material(s), to remain standing with unloading connections attached when no product is being transferred.	2
10645	Authorized the manufacture, marking and sale of insulated non-DOT specification cylinder conforming with 49 CFR 178.57 with exception for shipment of certain Division 2.2 gases.	2
10646	Authorized the transportation of a Division 2.1 gas in a non-DOT specification cylinder.	2
10647	Authorized tank cars containing anhydrous ammonia to remain standing with unloading connections attached when no product is being transferred.	2
10648	Authorized the carriage of Division 1.1,1.2, 1.3 and 1.4 explosives that are not permitted for shipment by air or in quantities greater than those prescribed for shipment by air.	2
10649	Authorized the use of tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10650	Authorized tank cars, containing Division 2.1 gases, Class 3 liquids, and other regulated materials (ORM-E), to remain standing with unloading connections attached when no product is being transferred.	2
10656	Authorized state radiation control officials to approve, on a case-by-case basis, shipments of metal containing unknown amounts of unidentified radionuclides in transport vehicles without regard to specification packaging, marking, labeling, placarding, and certain shipping paper requirements.	2

NUMBER	PURPOSE	REASON
10658	Authorized the transportation of certain Division 1.1, 1.2, 1.3 and 1.4 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
10660	Authorized the transportation of packages of hazardous materials that are labeled only for the primarty radioactive material hazard class even though the small amount of materials contained in the package also meet the definition of a secondary hazard.	2
10661	Authorized the use of non-DOT specification containers described as test separators for the shipment of flammable liquids and flammable gases.	2
10666	Authorized the transportation of jet perforating guns, charged, with devices attached which have been described as detonators by DOT.	2
10668	Authorized the shipment of gasoline, a Class 3 liquid, in non-DOT specification cargo tanks comparable to DOT Specification MC 306, not to exceed 450 gallons capacity.	2
10672	Authorized the manufacture, marking and sale of specially-designed composite type packaging for shipment liquid and solid hazardous materials required to bear the POISON, KEEP AWAY FROM FOOD, FLAMMABLE LIQUID, FLAMMABLE SOLID OR CORROSIVE labels.	2
10677	Authorized the manufacture, marking and sale of a non-DOT specification container conforming to DOT Specification 2P, except for size, testing requirements and marking, for the transportation of a Division 2.1 material.	2
10679	Authorize the manufacture, marking and sale of non-DOT specification rotationally molded, linear medium density polyethylene portable tank enclosed within a protective steel cage for the shipment of Class 8 liquids, Class 3 liquids, or a Division 5.1 material.	2
10683	Authorized the use of a non-DOT specification packaging similar to a DOT Specification 51 portable tank, for transportation in commerce of certain pyrophoric liquids and Class 3 liquids.	2
10684	Authorized the manufacture, marking and sale of non-DOT specification insulated portable tank for the shipment of nitrogen, refrigerated liquid.	2
10687	Authorized the manufacture, marking and sale of nonreusable, fiberboard bulk boxes made of triple-wall corrugated fiberboard having an inside lining of 0.0065-inch minimum thickness polyethylene film.	2
10688	Authorized the carriage of gasoline in non-DOT specification polyethylene containers overpacked in plywood boxes in small, passenger-carrying aircraft within the State of Alaska to meet the needs of a passenger.	2
10689	Authorized the use of tank cars, containing chlorine or sulfur dioxide, to remain standing with unloading connections attached when no product is being transferred.	2
10690	Authorized the use of tank cars, containing chlorine or sulfur dioxide, to remain standing with unloading connections attached when no product is being transferred.	2
10691	Authorized the use of tank cars, containing chlorine or sulfur dioxide, to remain standing with unloading connections attached when no product is being transferred.	2
10692	Authorized the manufacture, marking and sale of a non-DOT specification welded pressure vessel for use in the transportation of a Division 2.1 gas.	2
10693	Authorized the use of tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10695	Authorized the transportation by rail and highway of ethylene oxide packaged in aluminum cartridges within a fiberboard box with a (Division 2.1) label instead of both poison gas (Division 2..3) and flammable gas labels.	2
10697	Authorized the transportation of certain flammable compressed gas mixtures in DOT Specification 3AAX steel cylinders.	5

NUMBER	PURPOSE	REASON
10698	Authorized the manufacture, marking and sale of non-DOT specification cylinder which complies in part with DOT Specification 4B for the shipment of dichlorodifluoromethane.	2
10700	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10705	Authorized the transportation of packages containing acrolein, inhibited, Division 6.1,, to be exempted from the segregation requirements, when shipped via highway.	2
10706	Authorized the shipment of a Class 3 liquid in a non-DOT specification cylindrical steel packaging with a removable end which is bolted on for closure.	5
10709	Authorized the shipment of certain mixtures of Class 3 and Class 8 liquids in stainless steel DOT Specification 57 portable tanks.	5
10710	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10714	Authorized the use of DOT Specification 3AAX and DOT Specification 3T cylinders forming part of a tube module for shipment of liquefied Division 2.2 gases.	2
10717	Authorized a modified periodic test schedule for certain DOT Specification 111A60W2 and 111A100W2 tank cars for shipment of sulfuric acid.	2
10724	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10725	Authorized the manufacture, marking and sale of large, collapsible non-DOT specification non-reusable, flexible bulk bags having a capacity not over 2,200 pounds for shipment of Class 8 solids, Division 5.1 materials, Division 4.1 solids and Division 6.1 solid materials.	2
10732	Authorized the use of a non-DOT specification container described as a mechanical displacement meter prover tank for the shipment of certain Division 2.1 gases.	2
10733	Authorized the manufacture, marking and sale of accumulators, containing a limited quantity of compressed gases, which deviate from the required test parameters.	2
10735	Authorized tank cars, containing chlorine, to remain standing with unloading connection attached when not product is being transferred.	2
10738	Authorized the manufacture, marking and sale of non-DOT specification rotationally molded, crosslinkable high density, polyethylene portable tank with a plastic base, for shipment of Class 8 materials, Class 3 liquids, or a Division 5.1 material.	2
10741	Authorized the use of a non-DOT specification cylinder comparable to a 3AX cylinder for use transporting compressed natural gas.	2
10747	Authorized the transportation of Class 3 liquids in a non-DOT specification cargo tank, described as 1200 gallon volumetric prover tank, mounted on a trailer.	2
10751	Authorized the transportation of certain Division 1.1D explosives together in the same motor vehicle with certain bulk combustible liquids and /or bulk Division 5.1 materials, subject to the packaging, safety control.	2
10753	Authorized transportation of aluminum phosphide, Division 4.1 material, in private owned pest control vehicles without placards.	2
10755	Authorized manufacture, marking and sale of specially designed combination packaging for shipment of hazardous materials required to bear the POISON, KEEP AWAY FROM FOOD, FLAMMABLE LIQUID, FLAMMABLE SOLID OR CORROSIVE labels.	2

NUMBER	PURPOSE	REASON
10756	Authorized the manufacture, marking and sale of a vacuum insulated, non-DOT specification portable tank in an ISO frame for the transportation of certain refrigerated liquids.	2
10758	Authorized the transportation of limited quantities of sodium borohydride, UN 1421 in a sealed watertight aluminum pouch.	3
10762	Authorized the manufacture, marking and sale of non-DOT specification cylinder which meets that requirements of a DOT Specification 39 cylinder with certain exceptions for the transportation of chlorodiflouromethane.	2
10763	Authorized the transportation in commerce of certain Division 1.1, 1.2, 1.3 and 1.4 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
10764	Authorized the use of a non-DOT specification rotationally molded, linear low density polyethylene portable tank for the shipment of Class 8 liquids, Class 3 liquids, or a Division 5.1 material.	2
10765	Authorized the manufacture, marking and sale of non-DOT specification container described as a mechanical displacement meter prover for shipment of Class 3 liquids and Division 2.1 gases.	2
10767	Authorized tank cars, containing carbon dioxide, refrigerated liquid, to remain standing with unloading connections attached when no product is being transferred.	2
10772	Authorized the manufacture, marking and sale of cargo tank motor vehicles which comply with DOT Specification MC 338 except that each tank has a sump location which does not meet the requirement of 49 CFR 178-338-4(c).	2
10773	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10775	Authorized the manufacture, marking and sale of a non-DOT specification rotationally molded, linear low density polyethylene portable tank, enclosed within a protective metal frame for the shipment of Class 7 liquids, Class 3l liquids or a Division 5.1 material.	2
10776	Authorized the manufacture, marking and sale of non-DOT specification cylinders made in conformance with DOT Specification 3E with exceptions, for shipment of Division 2.1 and Division 2.2 gases.	2
10777	Authorized the manufacture, marking and sale of non-DOT specification removable head salvage cylinder of 45 gallon capacity for overpacking damaged or leaking packages of pressurized and non-pressurized hazardous materials.	2
10781	Authorized a one-time shipment of certain pyrophoric solid material, UN 2846, with a nitrogen gas pad, in DOT specification cylinders.	5
10785	Authorized the manufacture, marking and sale of non-DOT specification containers (radiation detection chamber) in certain non-contacting measurement systems.	5
10787	Authorized the carriage of Division 1.1, 1.2, 1.3 and 1.4 explosives that are not permitted for shipment by air, or are in quantities greater than those prescribed for shipment by air.	1
10788	Authorized the manufacture, marking and sale of a non-DOT specification nonrefillable, steel inside cylinder, for the transportation of Division 2.2 gases.	2
10789	Authorized the use of a non-DOT specification full opening head, steel salvage cylinder for overpacking certain damaged or leaking gas cylinders.	2
10791	Authorized the manufacture, marking and sale of a corrugated fiberboard box for use as the outer packaging for lab pack applications in accordance with 49 CFR 173.12(b).	2
10795	Authorized the loading of tank cars coupled in a series with the bottom discharge outlet caps in place on all cars except the first and last, the setting of the hand brake and the blocking of a wheel in both directions on the first and last cars of a series of coupled tank cars prior to unloading.	2

NUMBER	PURPOSE	REASON
10797	Authorized the manufacture, marking and sale of accumulators which deviate from the required test parameters of 49 CFR 173.306(f).	2
10798	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10800	Authorized the transportation of certain Division 1.1, 1.2, 1.3 and 1.4 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
10802	Authorized the transportation of carbon monoxide and gas mixtures containing carbon monoxide in DOT 3AL cylinders charged to a pressure of 3,000 psig or less.	2
10803	Authorized the use of motor vehicles, equipped with specific diesel-operated heating equipment, engaged in the transportation of certain Class 3 liquids or gases.	2
10810	Authorized the transport of cyclotrimethylenetrinitramine (RDX), cyclotetramethylenetranitramine (HMX) and mixtures thereof wet with 10% by mass of water and 5% by mass of alcohol.	2
10814	Authorized the manufacture, marking and sale of a industrial X-ray instrumentation for the transportation of nonliquefied sulfur hexafluoxidde.	5
10818	Authorized the use of non-DOT specification roll-off steel shuttles as outer packagings for the transportation of regulated medical waste in dual packagings.	2
10821	Authorized the use of non-DOT specification steel roll-off containers as outer packagings for the transportation of regulated medical waste in dual packagings.	2
10823	Authorized the manufacture, marking and sale of non-DOT specification fiber reinforced plastic (FRP) full composite (FC) cylinders for the transportation of certain compressed gases.	2
10826	Authorized the use of BFI MWS-150 moldled polyethylene containers as outer packagings for the transportation of regulated medical waste in dual packagings.	2
10827	Authorized the manufacture, marking and sale of a quad-wall fiberboard box with a fitted barrier liner for use as the outer packaging for lab pack applications.	2
10829	Authorized the transportation of Class 3 liquids in a non-specification packaging described as a trailer mounted mechanical displacement meter prover.	2
10832	Authorized the transportation for disposal of unapproved waste explosive materials used in passive restraint systems.	1
10833	Authorized the use of non-DOT specification steel roll-off containers as outer packagings for the transportation of regulated medical waste in dual packagings.	2
10837	Authorized the manufacture, marking and sale of molded fiberglass modules as outer packagings (roll-on/roll-off modules) for the transportation of regulated medical waste in dual packagings.	2
10838	Authorized the manufacture, marking and sale of a reusable, polyethylene portable tank enclosed in a metal frame, for the use in the transportation of certain hazardous materials.	2
10839	Authorized the transportation of certain Division 1.1, 1.2, 1.3 and 1.4 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
10840	Authorized the manufacture, marking and sale of a non-DODT specification full opening head, steel salvage cylinder for overpacking damaged or leaking sulfur dioxide cylinders.	2
10847	Authorizeds the manufacture, marking and sale of composite hooped wrapped aluminum cylinders for use in transporting various gases, Division 2.1 as flammable and Division 2.2	2

NUMBER	PURPOSE	REASON
10848	Authorized the manufacture, marking and sale of a combination packaging consisting of a polypropylene inner canister further packed in an outer packaging.	2
10850	Authorized the transportation of certain cylinders subjected to a complete external visual inspection in lieu of the periodic hydrostatic retest.	2
10857	Authorized the shipment of certain compressed gas in a non-DOT specification container.	2
10858	Authorized tank cars, containing certain hazardous materials, to remain standing with unloading connections attached wen no product is being transferred, provided that a minimal level of monitoring is maintained.	2
10860	Authorized the transportation of rockets, with bursting charge, Division 1.1E by cargo aircraft only which is forbidden by the Hazardous Materials Regulations.	1
10864	Authorized the manufacture, marking and sale of large, collapsible nonreusable polyethylene-lined woven polypropylene bulk bags having a capacity not to exceed 2208 pounds for 6.5 oz. polypropylene material and 2583 pounds for 8 oz. polypropylene material and top and bottom outlets, for shipment of certain Class 8 and 9 and Division 4.1, 4.2, 4.3, 5.1 and 6.1 materials.	2
10865	Authorized the rebuilding, selling, of low pressure, DOT specification 4B, 4BA and 4BW steel cylinders for transporting compressed gases, Class 3 liquids, and Class 8 materials.	2
10869	Authorized the transportation of certain compressed gases in non-DOT specification steel cylinders.	2
10870	Authorized domestic transportation by rail and highway of ethylene oxide packaged in glass ampoules within a fibreboard box with a flammable gas (Division 2.1) label instead of both poison gas (Division 2.3) and flammable gas labels.	4
10874	Authorized the use of the MedX aluminum exchange cart as the outer packaging for the transportation of regulated medical waste in dual packagings.	2
10878	Authorized the manufacture, marking and sale of non-DOT specification fiberglass reinforced plastic (FRP) cargo tanks, for transportation of certain Class 8 liquids.	2
10880	Authorized the use of reusable, flexible Intermediate Bulk Container (IBC) type 12H3 or 13H4 conforming to Subpart N and O of Part 178 with replaced liners having a capacity not over 1000kg (2206 pounds) and top and bottom outlets, for shipment of ammonium nitrate-fuel oil mixture ANFO.	2
10882	Authorized the manufacture, marking and sale of heating equipment for the transportation of certain Class 3 liquids or Division 2.1 gases.	2
10883	Authorized the manufacture, marking and sale of high density polyethylene injection molded bins as outer packagings for the transportation of regulated medical waste in dual packagings.	2
10885	Authorized the transportation of certain Class 1.1 explosives which exceed the quantity limitations or are forbidden for transportation by air.	5
10886	Authorized the use of a specially designed UN1A1W packaging for the shipment of materials poisonous by inhalation and other hazardous materials which fall in Packing Groups I, II, and III.	5
10887	Authorized the shipment of dinitrogen tetroxide in specially designed DOT Specification 51 portable tanks.	1
10888	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10890	Authorized the transportation of a DOT Specification MC-331 cargo tank with a defective safety relief valve for the transportation of residual amount of chlorine.	4
10892	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2

NUMBER	PURPOSE	REASON
10896	Authorized the transportation of magnesium hydride mixtures, Division 4.3, Packing Group III, in non-DOT specification packagings. In addition, the motor vehicles used under the terms of the exemption are not required to be placarded with DANGEROUS WHEN Wet.	2
10897	Authorized the transportation of a water reactive material in special packaging without being labeled or marked with the proper shipping name.	5
10898	Authorized the transportation of a Division 2.2 material (nitrogen) in diaphragm and bladder type accumlators.	2
10899	Authorized the manufacture, marking and sale of a combination packaging consisting of a glass carboy enclosed in an expanded polystyrene packaging, further packed in a corrugated fiberboard box for shipment of nitric acid.	2
10900	Authorized the transportation of certain Division 1.1, 1.2, 1.3 and 1.4 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
10903	Authorized shipment of certain regulated medical waste contained in plastic bags overpacked in various size polyethylene carts not to exceed 269 gallon capacity.	2
10904	Authorized the use of a classification test method for the determination of skin corrosivity as an alternative to a procedure specified in the Hazardous Materials Regulations.	1
10905	Authorized the manufacture, marking and sale of non-DOT specification fiber reinforced plastic (FRP) full composite (FC) cylinders for the transportation in commerce of certain compressed gases.	2
10911	Authorized the manufacture, marking and sale of a non-DOT specification shipping container (pallet reefer) containing four DOT Specification 3AL cylinders from which a controlled flow of gas is released during transportation.	2
10913	Authorized the use of a non-DOT specification rotationally molded, linear low density polyethylene portable tank enclosed within a protective steel cage for the shipment of corrosive liquids, flammable liquids, or an oxidizer.	2
10914	Authorized the manufacture, marking and sale of a non-DOT specification pressure vessel comparable to a DOT-3HT cylinder for the transportation of compressed helium subject to the limitations and special requirements specified.	2
10916	Authorized a DOT Specification 57 portable tank with a non-metallic discharge valve and secondary closure, for transportation of certain hazardous materials.	2
10917	Authorized the transportation of cells and batteries containing sodium (liquid or solid) and which may contain sulfur (liquid or solid).	2
10918	Authorized the manufacture, marking and sale of a reusable, rotationally molded, linear high density polyethylene, portable tank enclosed in a plastic frame for use in the transportation of certain corrosive liquids, flammable liquids or oxidizers.	2
10921	Authorized the transport of limited quantities of solutions containing ethyl alcohol, in strong, outside packagings for beverages, foods, cosmetics and medicines and their concentrates.	3
10922	Authorized the use of certain DOT Specification 3A or 3AA specification cylinders in the transportation of certain compressed gases.	2
10923	Authorized the transportation of reconditioned refrigeration units under the provision of 49 CFR 173.306(e) used to transport new refrigeration units. The refrigeration units may not contain more than 150 pounds of Freon 22.	1
10925	Authorized the transportation of dimethylhydrazine, Class 3 material and nitrogen tetroxide Division 6.1 materials in 55 gallon DOT specification containers aboard cargo only aircraft.	1
10926	Authorized the manufacture, marking and sale of non-DOT specification radiation monitors without a safety relief device for the transportation of argon, compressed.	1

NUMBER	PURPOSE	REASON
10927	Authorized tank car loading when equipped with an auxiliary bottom outlet valve and the temporary application of valve installed on the interior heater coils.	1
10928	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10929	Authorized tank cars, containing various classes of hazardous materials to remain standing with unloading connection attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
10933	Authorized the transportation of labpack quantities of hazardous materials with other containerized hazardous materials with partial relief from certain segregation requirements.	1
10938	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10944	Authorized the manufacture, marking and sale of a non-DOT specification pressure vessel for transportation of compressed gases, n.o.s., containing bromotrifluoromethane.	2
10949	Authorized the transportation of lab pack quantities of cyanides on the same motor vehicle with non-lab packed acidic materials not to exceed 55 gallons per packaging.	1
10950	Authorized the transportation of anhydrous ammonia in MC 330, 331 and non-DOT specification cargo tanks mounted on specially designed trucks.	2
10951	Authorized the transportation of a Division 2.3, Hazard Zone C material, in certain DOT Specification 105A600W and 105S600W tank cars equipped with a pressure control device in addition to the required safety relief valve.	1
10954	Authorized the manufacture, mark and sale of flexible intermediate bulk containers to be used in transporting various classes of hazardous materials.	2
10957	Authorized the unloading of tank cars, coupled in a series, with the setting of the hand brake and blocking of a wheel in both directions on the first and last cars of a series of coupled tank cars and any other cars as required by the grade of the track.	1
10962	Authorized the transportation of materials which require the DANGEROUS WHEN WET label in motor vehicles which are not placarded DANGEROUS WHEN WET, subject to the limitation and special requirements.	2
10963	Authorized the manufacture, marking and sale of a non-DOT specification salvage cylinder for overpacking damaged or leaking cylinders of pressurized and non-pressurized hazardous materials.	2
10964	Authorized the manufacture, marking and sale of a non-DOT specification pressure vessel for the transportation of compressed gas, n.o.s. containing bromotrifluoromethane.	2
10965	Authorized the transportation of various Division 5.1 products in ten pound or less plastic bottles overpacked with strong outside containers.	1
10966	Authorized the transportation by helicopter of a Class 3 material, a combustible liquid, and a Class 8 material in non-DOT specification rotationally molded, cross-linked polyethylene portable tanks.	2
10967	Authorized the continued use for transportation of a limited number of DOT Specification 5P drums for the shipment of ethylene oxide, subject to the conditions and limitations.	2
10968	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10974	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2

NUMBER	PURPOSE	REASON
10975	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10977	Authorized the manufacture, marking and sale of a specially designed combination packaging for transportation of limited quantities of hazardous materials which are required to be labeled poison, KEEP AWAY FROM FOOD, flammable liquid flammable solid, corrosive, oxidizer or DANGEROUS WHEN WET label	2
10979	Authorized the transportation of DOT Specification 57 portable tanks of hydrogen peroxide, concentrations not exceeding 52%, Division 5.1 material, in less that truckload quantities.	1
10982	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10983	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10984	Authorized the transportation of specially designed UN 1A1 steel drums for the shipment of dichlorosilane.	2
10985	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
10987	Authorized the use of a non-DOT full opening head, steel salvage cylinder as an overpack for the transportation of damaged or leaking cylinders containing gases and mixtures of gases.	2
10989	Authorized the transport of electrolyte acid, or battery fluid alkaline, Class 8, included with storage batteries and filling kits overpacked in sealed steel drums when shipments are made by, for or to DOD.	1
10990	Authorized an alternative maintenance program for DOT-Specification 4DA and 4DS hermetically sealed cylinders charged with bromotrifluoromethane, compressed, Division 2.2 used as components on aircraft fire suppression systems.	1
10993	Authorized the transportation of certain liquid fuels in non-DOT specification portable rubber containers of up to 500 gallon capacity by helicopter within and to only remote areas of the U.S.	2
10995	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
10996	Authorized the transportation of certain rocket motors and rocket motor reloading kits as Articles, explosive, n.o.s., Division 1.4C when skipped in quantities and packagings authorized by the exemption.	1
11000	Authorized the transportation of a Division 2.1 material in DOT Specification 112J340W.	5
11003	Authorized the manufacture, marking and sale of a DOT Specification 4L cylinder to be used for the transportation of methane, refrigerated liquid, Division 2.1.	2
11005	Authorized the manufacture, marking and sale of non-DOT specification fiber reinforced plastic (FRP) full composite (FC) aluminum cylinders for the transportation of certain compressed gases.	2
11020	Authorized chlorine filled tank cars to remain attached during unloading without the physical presence of an unloader.	2
11021	Authorized the transportation of bulk shipments of methane, refrigerated liquid, in DOT Specification 113C120W tank cars.	2
11024	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	2
11025	Authorized the manufacture, mark and sell of a non-DOT specification welded stainless steel cylinder having 200 cubic inches maximum water capacity and 3800 psi maximum service pressure for transporting various Division 2.2 gases.	2

NUMBER	PURPOSE	REASON
11029	Authorized shipment of propellant explosives in water, classed as Division 1.3, in DOT MC-307, DOT-407, MC312 or DOT 412 cargo tanks having a minimum design pressure of 25 psig.	1
11031	Authorized the manufacture, marking and sale of non-DOT specification bulk packagings to be used for the transportation of certain Class 9 resins.	2
11032	Authorized the manufacture, marking and sale of a non-DOT specification packaging for the transportation of compressed oxygen.	2
11033	Authorized the transportation of certain compressed gas mixtures (stack gas) in DOT Specification 3AAX cylinders mounted as a tube trailer.	1
11037	Authorized the transportation of certain pesticides containing maneb stabilized against self-heating which, when transported in non-bulk packagings, are not subject to the requirements of 49 CFR Parts 171 to 180.	2
11041	Authorized the transportation of a Class 9 material (aqueous solution containing not more than 12% ammonium perchlorate, 0.5% nitroguandine and 50 ppm of RDX in cargo tanks.	5
11043	Authorized the transportation of materials classed as Division 2.3 on the same transport vehicle with materials classed as Class 3, Class 4, Class 5, and Class 8.	1
11044	Authorized the transportation of a certain organic phosphate compound (2.2 dichlorovinyl dimethyl phosphate), in DOT Specification 4B240 cylinders with up to 11.35 kg (25 pounds) of product which exceeds the quantity authorized by the regulations.	1
11045	Authorized chlorine filled tank cars to remain connected during unloading without the physical presence of an unloader.	1
11050	Authorized the unloading of tank cars containing asphalt cement, classed as Class 9, without the physical presence of an unloader.	1
11054	Authorized the manufacture, mark and sell of non-DOT specification cylinders conforming to 3A specification for use in shipment of various hazardous materials classed in Class 3, Division 2.1 and 2.3.	2
11055	Authorized the transportation of specifically identified hazardous materials that meet criteria for Division 6.1, PG I, Hazard Zone A in combination packages and provides relief from certain labeling and segregation requirements.	1
11057	Authorized the manufacture, marking, and sale of welded non-DOT specification nonrefillable stainless steel cylinders conforming to DOT-Specification 39 for use in transporting nitrogen, compressed, classed as Division 2.2.	2
11058	Authorized the transportation of dilute nitric acid in combination packagings consisting of plastic bottles packed in plastic bags, further packed with vermuculite in a UN 4G corrugated fiberboard box.	2
11059	Authorized the transportation of certain DOT 107A tank car tanks that are retested by means of an acoustic emission method in lieu of the hydrostatic retest required in 49 CFR 173.31(d)(2). The authorized tanks are used exclusively for the transportation of compressed helium, Division 2.2 material.	1
11060	Authorized the manufacture, marking and sale of cargo tank motor vehicles meeting DOT Specification 406, except for the use of aluminum alloys 6005A-T6, 5083 and 6061 as materials of construction, for the transportation of certain Class 3 liquids.	1
11063	Authorized the offering, acceptance, and transportation of hazardous materials by aircraft and by motor vehicle and rail freight incident to transportation by aircraft, when the hazardous materials are certified on a shipping paper by a specific shipper's certification.	5
11070	Authorized the shipment of anhydrous ammonia, classed as Division 2.2, in non-DOT specification cylinders described as part of a closed loop thermal control system for space program.	2

NUMBER	PURPOSE	REASON
11072	Authorized the transportation of explosive materials containing white phosphorus of Division 1, Compatibility Group H stored in shipborne steel barges instead of stored in steel portable magazines or freight containers.	4
11073	Authorized the transportation of chlorosulfonic acid in DOT Class 112S tank cars constructed of ASTM 204-70, Type 304L stainless steel, and equipped with full head shields.	5
11074	Authorized tank cars, containing dicydlopentadiene, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
11075	Authorized relief from certain shipping paper, marking, placarding, and other requirements involving full trains of closed gondola cars containing soils and debris having low concentrations of naturally occurring radioactive material.	1
11077	Authorized the transportation of Class 6.1 and Class 8 materials, in a limited number of UN1A1 and DOT 42B drums which do not meet all requirements of 49 CFR 173.226 and 173.227.	3
11078	Authorized the transport of batteries, wet, filled with alkali, electric storage, classed as Class 8, in specially designed packaging meeting UN 1H2 Packing Group III requirements.	2
11080	Authorized the use of a modified Canadian Explosive Transportation compartment container instead of the IME compartment container, for transportation of certain explosives in the same motor vehicle.	2
11082	Authorized an alternative mechanical type test method to determine corrositivity and specific packaging group.	1
11086	Authorized the use of reusable, collapsible woven polypropylene bulk bags with replaceable liners having a capacity not over 1000 kg (2206 pounds) and top and bottom outlets, for transportation of p-dichlorobenzene.	2
11088	Authorized the transportation of certain Division 6.1 and Division 1.4G materials in specially designed packaging without requiring poison labels, when marked with the word	2
11090	Authorizies the manufacture, marking and sale of a portable reopening device which incorporated a DOT Specification 3AA cylinder containing ethylene, Division 2.1.	2
11093	Authorized those Canadian based employees of CP Rail, who are engaged in infrequent and limited transportation of hazardous materials into the United States, to be trained and receive recurrent training every three years in accordance with Part 9 of the Transportation of Dangerous Goods Regulations.	1
11099	Authorized acoustic emission retesting of DOT-Specification 3A and 3AA compressed gas cylinders (trailer tubes).	1
11103	Authorized the transportation of a GOES Satellite assembly containing non-DOT specification spherical containers pressurized with certain Division 2.2 materials.	2
11105	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when not product is being transferred.	1
11107	Authorized the transportation of certain Division 1.4 explosive devices which have not been examined and approved to be shipped as Division 1.1 devices under certain conditions.	1
11109	Authorized the transportation of certain Division 1.5 explosive substances in freight containers 7.4 m (24 feet) in length in amounts up to the rated weight capacities of the containers which exceed the weight limits authorized by 49 CFR 176.170(b).	1
11111	Authorized the transport of hydrogen bromide, anhydrous, classed as Division 2.3, Hazard Zone C material shipped in MC-330 tank with a minimum design pressure of 375 psig.	1
11117	Authorized tank cars, containing various hazardous materials, to remain standing with unloading connection attached when no product is being transferred, provided that a minimal level of monitoring, is maintained.	1

NUMBER	PURPOSE	REASON
11119	Authorized the transportation of certain organic peroxides, as limited quantities/commodities when the inside containers do not exceed 125 ml for liquids and 500 g for solids.	5
11121	Authorized the transportation of certain hazardous materials on board cargo vessels operated under the U. S. Marine Corps Maritime Prepositioning Force (MPF) program and Military Sealift Command charter utilizing alternative stowage and segregation provision to those specified in 49 CFR Part 176.	4
11131	Authorized transport of LPG propane gas cylinders on passenger ferries.	1
11132	Authorized the transport of Division 4.1, Flammable solid, in a specially designed composite type packaging in quantities not to exceed 55 pounds.	2
11135	Authorized the one-time shipment of a DOT Specification 111A100W1 rail car, containing methyl alcohol residue, Class 3.	4
11136	Authorized the transportation of Fireworks, Division 1.3G, UN0335 by cargo aircraft only, which is otherwise forbidden by the regulations.	1
11139	Authorized the transportation in Alaska aboard cargo aircraft, of Explosives, blasting, type E, Division 1.5D which are described in 49 CFR Section 175.320 as Blasting agent, n.o.s.	5
11141	Authorized the manufacture, marking and sale of non-DOT specification fiberglass containers as an outer packagings for the transportation of regulated medical waste in dual packagings.	2
11143	Authorized the transportation in commerce of certain Class 3 materials in DOT Specification 111A100W1 tank cars.	1
11147	Authorized the transportation of aircraft safety equipment which utilizes non-DOT specification cylinders containing certain compressed gases, Division 2.2.	5
11150	Authorized the transportation of liquefied petroleum gas in DOT specification cylinders, secured to transport vehicles on passenger ferry vessels, which is not authorized by the regulations.	5
11156	Authorized the transportation of Division 1.5D ammonium nitrate-fuel oil mixture and Division 5.1 ammonium nitrate in non-DOT specification multi-wall plastic-lined paper bags.	2
11159	Authorized the manufacture, marking and sale of a reusable, polyethylene portable tank enclosed in a metal-frame for use in the transportation of Class 3 and 8 or a Division 5.1 material.	2
11162	Authorized the shipment of a Class 8 material meeting the definition of a poison inhalation material, in certain DOT Specification 111A60W7 tank cars.	5
11163	Authorized the transport of hydrogen, compressed, Division 2.1, otherwise forbidden on passenger aircraft, portable monitoring system.	1
11167	Authorized manufacture, marking and sale a non-DOT specification 250 gallon capacity packaging system consisting of an inner and outer cylindrical metal container meeting group I packaging criteria for shipment of all packing group I materials, solids and liquids.	2
11168	Authorized the transportation of limited quantities of 1-methyl-3-nitro-1-nitrosoguanidine (MNNG) and 1-ethyl-3-nitro-1-nitrosoguanidine (ENNG) in prescribed packaging as a Division 4.1 material.	1
11169	Authorized the transportation of certain liquids, classed as Division 6.1 and Class 8 which are poisonous by inhalation, packaged in a UN6PA1 composite packaging in an outer wooden box.	1
11171	Authorized the use of reusable, flexible Intermediate Bulk Containers (IBC) type 13H3 or 13H4 conforming to Subpart N and 0 of Part 178 with replaceable liners having a capacity not over 1000 kg (2206 pounds) and top and bottom outlets, for shipment of polystyrene beads.	1

NUMBER	PURPOSE	REASON
11172	Authorized the transportation of non-DOT specification (spherically shaped) cylinders, comparable to DOT specification 3A, used in a deep submergence rescue system designed to remove crew members trapped in a disabled submarine, to store air, nitrogen, and oxygen in non-liquified form.	2
11173	Authorized the transportation of certain hazardous materials in stainless steel cylinders conforming in part with the DOT-4BW specification.	4
11176	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred,	1
11178	Authorized the transportation of bromine, Class 8, Hazard Zone A in a non-DOT specification portable tank constructed of 1/4 inch thick mild steel with 1/4 inch lead lining.	2
11179	Authorized the transportation of empty, uncleaned non-DOT specification reusable plastic drums equipped with venting device, comparable to UN 1H1, containing sulfuric acid, Class 8.	2
11180	Authorized the transportation of metal tubing which contain hazardous materials assigned to Division 4.3, Packaging Group III, or Division 6.1, Packaging Group III, respectively, and excepts them from the packaging, marking, labeling, and placarding requirements of Hazardous Materials Regulations.	1
11184	Authorized the transportation of certain Class 3 materials in DOT Specification 105J300W tank cars with a safety relief device rated at 25 percent of the tank test pressure.	1
11185	Authorized transportation of regulated medical waste in non-DOT specification bulk packaging. The exemption Authorized the use of Meese Model 72P poly-trux carts as re-usable outer packagings for the highway transportation of regulated medical waste in triple packaging type containers.	1
11186	Authorized the manufacture, mark and sell of a cryogenic portable tank of SA-240 316L construction, comparable to MC-338, equipped with safety relief valve with 250 psig for use in transporting hazardous materials classed in Division 2.1 and 2.2.	2
11189	Authorized the transportation of certain air bag inflators and modules and seat-belt pretensioners and modules classed as Class 9.	1
11190	Authorized the transportation of 1G fiber drums as outer packaging for use in transporting various classes of explosives.	1
11191	Authorized the transportation of various hazardous materials in quantities greater than those authorized by cargo aircraft.	1
11192	Authorized the manufacture, mark and sell of non-DOT Specification collapsible, nonreusable, flexible bulk bags for use in transporting various classes of solid hazardous material.	2
11196	Authorized the transportation of various classes of hazardous material in steel portable tanks similar to Specification 51 equipped with fittings at the end or on top in one location.	2
11197	Authorized restricted quantities of hazardous materials that are authorized for exceptions in 172.101 Column 8a to be transported without shipping papers and markings.	1
11199	Authorized the transportation of very small quantities of a Division 4.3 material, sodium metal dispersions - UN1391, in specially designed packagings to be shipped under the provision of 173.4.	2
11200	Authorized the transportation in commerce of methylhydrazine in DOT Specification 110A500W multi-unit tank car tanks which are not fitted with a pressure relief device.	1
11202	Authorized the intra-plant transportation cross public street, of various classes of hazardous materials in quantities not to exceed 55 gallons to be transported as non-regulated.	1

NUMBER	PURPOSE	REASON
11203	Authorized the one-time shipment of "flight-ready" spacecraft components, each containing specific hazardous materials, in specially designed non-DOT specification transport containers, from Titusville, Florida to Vandenberg AFB, California.	3
11204	Authorized tank cars to remain connected during unloading of hydrochloric acid, Class 8.	1
11206	Authorized the transportation of detonating cord, Class 1, in plastic bags as alternative inner packaging overpacked as specified in CFR.	2
11207	Authorized the transportation of certain Class 3 liquids in packaging with a capacity not greater than 5 gallons on service vehicles.	1
11209	Authorized the transportation of liquefied petroleum gas (LPG) in non-DOT specification cargo tank motor vehicles exclusively for agricultural purposes when operated by a private carrier.	2
11210	Authorized the manufacture, mark and sell of a specially designed packaging incorporating an inner receptacle, which is thinner than required, for shipment of approximately 16.11 grams of a Division 5.1 material as essentially non regulated.	2
11211	Authorized the manufacture, marking and sale of non-DOT specification portable tanks comparable to DOT Specification 51 except for the location of the openings to be used for the transportation of certain compressed gases.	2
11212	Authorized chlorine filled tank cars to remain connected during unloading without the physical presence of an unloader.	1
11215	Authorized the transportation in commerce of certain hazardous materials, contained in a Standard Pegasus or a Pegasus XL three or four stage (with optional hydrazine auxiliary propulsion system fourth stage) winged solid fuel rocket in captive carry configuration secured beneath an L-1011 aircraft. The exemption covers launch operations and non-launch operations associated with vehicle deployment with or without a spacecraft.	1
11220	Authorized the refilling and reuse of certain packagings, which have not been subjected to the leakproofness test in accordance with 49 CFR 173.28(b)(2).	1
11221	Authorized the bulk transportation of Propane, Division 2.1, in DOT-51 Specification portable fuel tanks in quantities greater than those presently authorized by cargo air.	1
11226	Authorized rail cars containing ethylene oxide, Division 2.3 to remain connected during unloading without the physical presence of an unloader.	1
11227	Authorized the transportation of certain cartridges, power devices (UN 0276) 1.4C in specially designed vehicles and offshore tool pallets.	1
11228	Authorized transportation of a specially designed packaging configuration containing sulfur hexafluoride, Division 2.2.	2
11230	Authorized the transportation of certain Division 1.1B and 1.4B non-electric detonator assemblies without packagings in the same motor vehicle with Division 1.1D, 1.5D explosives and Division 5.1 oxidizers when those detonator assemblies are placed within the partitioned IME container or compartment	1
11239	Authorized the transportation of certain liquefied flammable and non-flammable refrigerant gases, Division 2.1 and 2.2, in non-DOT specification steel portable tanks equipped openings in the shell which are not grouped together.	2
11241	Authorized the transportation of certain class 3 materials, in greater than 263,000 pounds but not greater than 270,000 pounds, in DOT Specification 105J300W tank cars authorized under DOT-E 11184.	2
11242	Authorized the interfacility transportation of Division 1 explosives packaged in strong wooden boxes and shipped as non-regulated in private owned enclosed vehicles.	1

NUMBER	PURPOSE	REASON
11244	Authorized manufacture, marking and sale of non-DOT specification titanium alloy cylinders for transportation of air, refrigerated liquid.	2
11248	Authorized the manufacture, mark and sale of specially designed combination type packaging for transporting certain hazardous materials without required labeling and placarding in limited quantities.	2
11251	Authorized the transportation of Division 5.2 organic peroxide solid or liquid material in 4H2 combination packaging plastic boxes.	1
11252	Authorized the transportation of certain hazardous materials, in certain non-DOT specification metal aerosol containers.	2
11253	Authorized continued use of certain DOT Specification cargo tanks which are not insulated as required for shipment of Sulfur Dioxide, liquefied, Division 2.3.	1
11254	Authorized the transportation of certain jet perforating guns, charged, secured on specially designed offshore down-hole tool pallets, with total explosive contents not to exceed 200 pounds per pallet which exceeds the 20 pound limitation of the regulations.	1
11255	Authorized manufacture, marking and sale of various gas pressurized shock absorbers, struts and cartridges to be relieved from required test parameters and offered as consumer commodity, ORM-D when contained in a specific packaging configuration.	1
11256	Authorized tank cars, containing chloropicrin and methyl bromide, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
11257	Authorized the manufacture, marking and sale of non-DOT specification salvage cylinders for overpacking damaged or leaking packages of pressurized and non-pressurized hazardous materials for transportation.	1
11260	Authorized the transportation of certain low pressure airbag switches containing limited quantities of argon, compressed.	1
11262	Authorized the manufacture, marking and sale of a non-DOT specification cylinder comparable to DOT Specification 4L to be used for the transportation of oxygen.	1
11263	Authorized the transportation of solid coal tar pitch compounds, Class 9, in open-top and closed-top sift-proof metal cans in amounts that exceeds reportable quantities.	1
11265	Authorized the shipment of ethylene oxide contained in aluminum canisters overpacked in fiberboard boxes to carry a Division 2.1 label instead of a Division 2.3 label.	1
11266	Authorized the transportation of certain radioactive materials in a 20-WC overpack that has an alternative inner packaging.	1
11267	Authorized the transportation of a Topaz II unit which contains Division 4.3 and 4.1 solid substances together in a specially designed metal container.	1
11270	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred.	1
11271	Authorized the transportation of germanium tetrachloride in packagings consisting of an inner glass bottle with a maximum capacity of 10 liters, cushioned within a steel drum, which is further cushioned and overpacked in a second steel drum.	2
11273	Authorized the transportation of certain Division 1.1, 1.2, 1.3 and 1.4 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
11274	Authorized the transportation of personally-owned fire extinguisher bottle in private owned vehicles shipped under military or civilian permanent change of station orders aboard cargo vessel.	1

NUMBER	PURPOSE	REASON
11275	Authorized the manufacture, marking and sale of three designs of non-DOT specification portable tanks, mounted in ISO frames, to be used for the transportation of certain Division 2.1. and 2.2 gases.	1
11277	Authorized the manufacture, marking and sell of large, non-reusable, collapsible, woven polypropylene bulk bags (coated w/ polyethylene film), incorporating four top lifting straps of woven polyester or polypropylene webbing with a minimum breaking strength of 6000 lbs, and having top and bottom outlets.	2
11278	Authorized the transportation of regulated medical waste in the non-DOT specification dual packaging.	1
11281	Authorized the transportation of Class 8 and Division 6.1, PIH material in uninsulated MC 312, 330, 331 and DOT 412 cargo tanks and DOT 51 portable tanks of stainless steel construction.	1
11282	Authorized the transportation of compressed air in non-DOT specification cylinders.	2
11283	Authorized the transportation of flameless heating/thawing devices containing not more than 24 grams of water reactive hazardous materials in each device as a Consumer Commodity, ORM-D.	1
11285	Authorized the transportation of solutions of a organic peroxide type F in UN31A metal Intermediate Bulk Containers, IBCS.	2
11286	Authorized the transportation of small quantities of hazardous materials under the exceptions provided 49 CFR 173.4 when packaged according to the limitation and special requirements.	1
11287	To provide for alternative testing criteria for gas spring devices containing small quantities of compressed, nonflammable nitrogen gas pressurized from 250 psi to 2175 psi at 70 degree F.	1
11288	Authorized the manufacture, marking and sale of non-DOT specification non-refillable metal aerosol container filled with propellent gas and an inner commodity pouch that is empty or contains a non-hazardous material.	2
11289	Authorized the manufacture, marking and sale of DOT Specification 39 cylinders which deviate from the visual inspection requirements.	1
11294	Authorized the transportation of certain lab pack quantities of hazardous materials with other materials in lab packs, which partial relief from certain segregation requirements.	1
11296	Authorized the transportation in commerce of certain waste aerosol cans containing flammable gas propellants, including isobutane and propane, overpacked in removable head DOT Specification 17H for UN1A2 steel drum, or disposal.	5
11297	Authorized the transportation of Reebok	1
11298	Authorized tank cars, containing certain hazardous materials, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
11299	Authorized the manufacture, marking and sale of non-DOT specification insulated cylinders for the transportation of refrigerated liquids.	2
11304	Authorized the transportation of gasoline in UN standard packagings with a capacity not greater than 5 gallons which have not been leak tested prior to reuse in accordance with 49 CFR 173.28(b)(2).	1
11306	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
11313	Authorized the manufacture, marking and sale of non-DOT specification IMO Type 5 portable tanks to be used for the transportation of Division 2.1 and Division 2.2 materials.	2
11314	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1

NUMBER	PURPOSE	REASON
11316	Authorized the transportation of certain cartridges, power device classed as Division 1.4S and airbag inflators or airbag modules classed as Division 4.1 or Class 9 in prescribed packaging.	1
11318	Authorized the continued transportation of certain uninsulated DOT Specification 51 portable tanks that are currently authorized for titanium tetrachloride.	1
11319	Authorized the transportation of dimethylaminoethyl acrylate in certain DOT Specification IM 101 portable tanks.	1
11320	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
11323	Authorized the manufacture, marking and sale of non-DOT specification cylinders for the transportation of hazardous materials authorized in DOT Specification 39 cylinders.	2
11324	Authorized the rebuilding and selling of DOT Specification 4B, 4BA, 4BW and 4E cylinders for transportation of certain hazardous materials.	1
11326	Authorized the manufacture, marking and sale of non-DOT specification, FRP-1 type, cylinders to be used for the transportation of certain Division 2.1 and 2.2 gases.	2
11327	Authorized the transportation of regulated medical waste in non-DOT specification dual packaging.	1
11328	Authorized the transportation of an alternative stacking arrangement for cylindrical shaped bags of Explosive, Blasting Type E,1.5D, UN 0332, packed in 5H3 Bags which otherwise is not authorized by the regulations.	1
11329	Authorized the transportation of an aluminum phosphide based fumigant/insecticide. The aluminum phosphide pesticide must be shipped in a limited number of specially designed containers transported by private motor vehicle.	1
11331	Authorized the manufacture, marking and sale of non-DOT specification portable tanks comparable to DOT Specification 51, except for the location of the openings to be used for the transportation of certain Division 2.1 and 2.2 gases.	2
11335	Authorized the use of nondestructive testing techniques, in lieu of a hydrostatic test, to qualify repairs of DOT Specification tank car tanks.	1
11340	Authorized tank cars, containing fuel oil, to remain standing with unloading connections attached when no products is being transferred, provided that a minimal level of monitoring is maintained.	1
11342	Authorized the transportation of an aluminum phosphide based fumigant/insecticide. The aluminum phosphide mixture, must be shipped in a limited number of specially designed containers transported by private motor vehicle.	1
11344	Authorized tank cars, containing acetic acid, glacial, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
11345	Authorized the manufacture, marking and sale of non-DOT specification, fiber reinforced plastic (FRP) full composite (FC) cylinder to be used for the transportaton of certain Division 2.1 and Division 2.2 gases for use in transporting various gases classed in Division 2.1 and 2.2.	2
11346	Authorized transportation of certain Division 1.1D and 1.4D charge jet perforating guns with Division 1.1B or 1.4B electric detonators affixed.	1
11347	Authorized the manufacture, mark, and sell of DOT Specification 21PF-1B overpacks, with minor variations in the mechanical features and chemical composition of the insulation material, for shipment of Uranium hexafluoride fissile (containing mor	2
11348	Authorized the transportation of ammonium perrhenate (solid), classed as Division 4.1 under the proper shipping name oxidizing substances, solid, n.o.s., UN1479, which contain rhenium.	1

NUMBER	PURPOSE	REASON
11351	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
11352	Authorized the transportation of certain hazardous materials across a public road, from one part a plant to another.	1
11353	Authorized the transportation of uninsulated DOT Specification cargo tanks containing a Division 6.1 material which is poisonous by inhalation.	1
11355	Authorized the transportation of the liquefied petroleum gas (LPG), in DOT Specification MC-331 cargo tank motor vehicles manufactured from quenced and tempered steel which are coated on the inside with a cross linked epoxy-phenolic compound.	1
11356	Authorized the reassignment of certain high viscosity flammable liquids from Packing Group II to Packing Group III for packaging with a capacity greater than 30L.	1
11359	Authorized the transportation of small quantities (30 grams or less) of sodium dithionite (Division 4.2 - PG II) in accordance with 49 CFR Section 173.4.	1
11360	Authorized the transportation of certain non-DOT specification pressure vessels containing compressed hydrogen, which are a component part of a nickel-hydrogen battery.	2
11361	Authorized tank cars, containing styrene monomer inhibited, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
11364	Authorized the transportation of certain X-ray systems containing sulfur hexafluoride.	2
11366	Authorized the transportation of certain Division 1.1, 1.2, 1.3 and 1.4 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
11369	Authorized the use of petroleum oil for the hydrostatic test of certain DOT Specification 111A100W1 tank cars.	1
11371	Authorized the transportation of certain non-DOT specification cargo tanks containing liquefied oxygen on board passengers ferry vessels which are carrying more than 25 passengers, from New London, CT to Orient Point, Long Island, New York.	1
11372	Authorized the transportation of certain fire extinguishers which are marked using an alternate retest marking method.	1
11373	Authorized the transportation of a Division 4.1 (self-heating) material on the same transport vehicle with Class 8 (corrosive) liquids when the materials are separated.	1
11374	Authorized the transportation of nitric acid of up to 72% concentration in combination packagings with teflon inner packagings.	2
11378	Authorized the transportation of certain hazardous materials in non-DOT specification stainless steel cylinders comparable to DOT Specification 4BW.	2
11379	Authorized the manufacture, mark and sale of non-DOT, cylinders (pressure vessels) for use as components of automobile vehicle safety systems. These pressure vessels may be charged with non-toxic, non-liquefied gases, or mixtures thereof and are authorized for transportation in commerce.	2
11380	Authorized the transportation of certain compressed hydrocarbon gases in non-DOT specification cylinders.	2
11381	Authorized the manufacture, marking and sale of DOT Specification 20PF-1, 20PF-2 and 20PF-3 overpacks manufactured in variance with the specification in 49 CFR 178.356, for transportation in commerce when containing uranium hexafluoride, fissile in Type A cylinders..	2
11382	Authorized the manufacture, marking and sale of non-DOT specification fiber reinforced plastic (FRP) hoop wrapped cylinders to be used for transportation of certain compressed gases.	2

NUMBER	PURPOSE	REASON
11383	Authorized the transportation of certain hazardous materials in non-DOT specification stainless steel cylinders comparable to DOT Specification 4BW.	2
11384	Authorized the transportation of certain non-DOT specification pressure vessels containing compressed hydrogen, which are a component part of a nickel-hydrogen battery.	2
11385	Authorized the transportation of certain Division 1.1, 1.2, 1.3 and 1.4 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
11386	Authorized the transportation of certain liquefied petroleum gases and acetylene, contained in DOT Specification cylinders, on board passenger ferry vessels, which are carrying more than 25 passengers.	1
11388	Authorized the transportation of DOT Specification 57 portable tanks made of stainless steel, containing certain dual hazard liquids.	1
11390	Authorized the transportation of Division 1.1, 1.2, and 1.3 explosives which are forbidden or exceed quantities authorized for transportation by cargo aircraft only.	1
11403	Authorized the transportation of detonators, non-electric, Division 1.1B explosive, which is forbidden for transportation by cargo aircraft only.	1
11405	Authorized the use of alternative temperatures for determining if a material meets the definition of 4.2, Packaging Group III when shipped in non-bulk and intermediate bulk quantities.	1
11406	Authorized shipments of waste or recycled materials, destined for landfill, incineration or other disposal, to be transported despite the unexpected detected presence of radioactive material, provided the conditions of the exemption are met.	1
11407	Authorized the transportation in commerce of non-DOT specification cylinders to be used in underwater breathing apparatus, containing various Division 2.2.	2
11412	Authorized the transportation of certain approved Division 1.3G fireworks devices that may, when packaged, marked and offered for transportation and transported fully in accordance with the conditions of this exemption, be classed as Division 1.4G fireworks.	1
11414	Authorized the manufacture, marking and sale of DOT Specification 3AAX cylinders that are manifolded and assembled in an ISO container frame for the transportation of perfluoromethyl vinyl ether, a Division 2.1 material.	2
11416	Authorized the transportation of uranium hexafluoride, Class 7, in DOT authorized Model 1S and 2S cylinders that are designed, fabricated, inspected, and tested in accordance with ANSI N14.1 standards but, because of their size, are not marked with the AMSE 7 code.	2
11417	Authorized the manufacture, mark and sale of a vacuum jacketed non-DOT specification container, containing liquid oxygen, for transportation as ambulance equipment.	2
11425	Authorized the loading and unloading of cargo tanks containing liquid elevated temperature material (dimethyl terephthalate), with an attendant present at all times, but not within 25 feet, as required in 49 CFR.	1
11430	Authorized the manufacture, mark and sale of certain shock absorbers and struts, containing a nonflammable gas, for transportation as accumulators.	1
11432	Authorized transportation of certain Division 1.4 igniters mix-packed with certain Division 1.4 detonators and shipped on the same motor vehicle, cargo vessel or cargo aircraft with Division 1 explosive jet perforating guns, detonating cords, commercial shaped charges or power devices cartridges.	1
11433	Authorized the manufacture, marking and sale of accumulators which deviate from the required test parameters.	1
11434	Authorized tank cars, containing certain hazardous to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring, as specified in the exemption is maintained., without the physical presence of an unloader.	1

NUMBER	PURPOSE	REASON
11436	Authorized the manufacture, marking and sale of non-DOT specification bulk packaging for use in the transportation of regulated medical waste.	1
11440	Authorized the transportation of trimethylacetyl chloride, in polyethylene drums or composite packagings which are not individually overpacked in accordance with Section 173.227(b).	1
11441	Authorized the manufacture, marking and sale of certain refrigerating machine containing nonflammable, nonpoisonous liquefied refrigerant gas to be transported in commerce.	1
11447	Authorized the transportation of certain quantities of metal catalyst, classed as Division 4.2, in non-DOT specification packaging that exceed the maximum net quantity allowed per package.	2
11448	Authorized the transportation of certain materials poisonous by inhalation, Hazard Zone B, in stainless steel drums which are not individually overpacked in accordance with 49 CFR 173.227(b).	2
11449	Authorized tank cars, containing chlorine to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring, as specified in the exemption is maintained.	1
11452	Authorized the transportation of certain non-DOT specification cylinders containing certain Division 2.2 materials.	2
11454	Authorized domestic transportation by cargo vessel and cargo-only aircraft of limited quantities of	1
11455	Authorized the transportation of hazardous materials that exceed 25 kg net weight limit (75 kg net weight of non-flammable compressed gases) in an inaccessible cargo compartment on a chartered aircraft when responding to or returning from an emergency or disaster situation.	1
11457	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring, as specified in the exemption is maintained without the physical presence of an unloader.	1
11472	Authorized the transportation in commerce of pyrotechnic articles classed as Division 1.4G explosives on the same vehicle and in the same storage area that contain other 1.4 explosive articles.	1
11473	Authorized the transportation of a Division 4.2 material in DOT Specification 114A340W tank cars equipped with skid protection in place of a protective housing and equipped with a safety relief device having a start-to-discharge pressure of 82.5 percent of the tank test pressure.	1
11476	Authorized the manufacture, mark and sale of hydraulic accumulators for use in transporting nitrogen.	2
11481	Authorized the manufacture, marking and sale of certain shock absorbers and struts, containing a flammable gas, for transportation as accumulators.	2
11483	Authorized the transportation of not more than 500 non-DOT specification, refillable, high pressure cylinders charged with a Division 2.2 material and fitted with a pyrotechnic actuating device as part of experimental modules use in automobile airbag systems.	1
11484	Authorized tank cars, containing ammonia, anhydrous, liquefied or ammonia solutions, to remain standing with unloading connections attached when no products is being transferred, provided that a minimal level of monitoring, as specified in the exemption is maintained.	1
11485	Authorized tank cars, containing various classes of hazardous materials, to remain standing with unloading connections attached when no product is being transferred, provided that a minimal level of monitoring is maintained.	1
11486	Authorized the transportation of glass ampoules containing certain Division 2.3 materials for disposal in a non-DOT specification packaging known as a single round container.	2
11489	Authorized the transportation by private carriage, of certain unapproved or unidentified items as approved, air bag inflators or air bag modules or seat belt pretensioners or seat belt modules as Division 1.4C explosives articles.	1

NUMBER	PURPOSE	REASON
11490	Authorized the one-time transportation of methylhydrazined, Class 8 material, in DOT Specification 110A500W multi-unit tank car tanks which are not fitted with a pressure relief device and Class 8 in DOT-specification 110A500W multi-unit tank cars not equipped with pressure relief devices.	5
11493	Authorized the transportation of a Division 2.1 material in a nonrefillable, non-DOT specification inside containers conforming with the DOT Specification 2P except for size, testing requirements, marking and maximum charging pressure.	2
11494	Authorized the manufacture, marking and sale of non-DOT specification cylinders (pressure vessels) for use as components of automotive vehicle safety systems for use in transporting compressed gases.	2
11497	Authorized the one-time transportation of a DOT Specification 111A100W1 tank car, containing a residual amount of a Class 8 material, meeting all DOT requirements except that the tank car has a defective top operated bottom outlet valve.	4
11499	Authorized the manufacture, marking and sale of cargo tank motor vehicles conforming to DOT Specification 406, except for head material for shipment of certain Class 3 liquids.	2
11502	Authorized the transportation by highway, of hazardous materials prepared in accordance with 49 CFR 171.11 and the ICAO Technical Instructions, regardless of whether any part of the transportation is by aircraft.	1
11504	Authorized the transportation of certain Class 8 and Division 2.2 materials separated, in train, from an occupied locomotive by a locomotive with batteries disconnected and in tow.	1
11506	Authorized the manufacture, marking and sale of non-DOT specification cylinders (pressure vessels) for use as components of automobile vehicle safety systems. The pressure vessel may be charged with non-toxic, non-liquefied gases, or mixtures thereof.	2
11507	Authorized the transportation of helium in a non-DOT specification packaging made of zirconium.	2
11509	Authorized the continued intrastate transportation of certain Class 3 liquids in non-DOT specification cargo tanks whose designs have been approved by the California State Fire Marshall and we replaced in service prior to April 1, 1984.	1
11510	Authorized the transportation of certain DOT specification cylinders containing propane, a Division 2.1 gas, which is forbidden for shipment aboard passenger carrying aircraft.	1
11512	Authorized the transportation of approximately 150 pounds of black powder, Division 1.1D, by cargo aircraft only.	1
11513	Authorized the transportation cyclotetramethyle tetranitramine (HMX) dry, Division containing less than 10 percent water.	1
11514	Authorized the transportation of certain rocket motors, Division 1.3C, incorporated in a spacecraft without DOT Specification packaging.	1
11515	Authorized the transportation of aluminum processing by-products, Division 4.3, contained in an open top trailer covered with a canvas tarpaulin.	2
11516	Authorized the transportation of certain DOT Specification 2Q containers containing difluoroethane or tetrafluoroethane dimetehylether mixtures.	1
11517	Authorized the transportation of Class 3 and Class 8 materials in multiple non-DOT specification portable tanks manifolded together within a frame and securely mounted on a truck chassis.	2
11520	Authorized the one-time shipment of a partial load of bromine, Class 8, PIH (approximately 754 gallons) in a 1788 gallon capacity nickel-clad DOT Specification MC-312 cargo tank.	3
11521	Authorized tank cars, containing chlorine, to remain standing with unloading connections attached when no products is being transferred, provided that a minimal level of monitoring is maintained.	1

NUMBER	PURPOSE	REASON
11524	Authorized the transportation of non-bulk packages that have hazard warning labels on a different surface of the package from the proper shipping name marking.	5
11534	Authorized the transportation of containers that display subsidiary labels with a hazard class number in the lower corner of the label.	4
11536	Authorized the transportation of a spacecraft in a special sealed packaging (shipping container). The spacecraft contains Division 2.2 gases and Class 8 corrosive liquids in non-DOT specification packagings and limited quantities of Division 1.4S explosives secured within the spacecraft.	2
11549	Authorized the manufacture, marking and sale of cargo tank motor vehicles conforming to DOT 406 Specification, for head and baffle design, for use in transportation of certain hazardous materials.	2
11560	Authorized the transportation in commerce of Division 1 explosives and ammunition presently forbidden or in quantities greater than those authorized.	1
11562	Authorized the transportation of benzyl chloride in phenolic lined UN1A1 drums.	2
11571	Authorized the transportation of a wetted explosives classed as Division 4.1 in certain insulated DOT Specification MC307, MC312, MC407 and MC412 cargo tanks.	1
11574	Authorized the transportation of approximately 2,000 DOT UN 4G fiberboard boxes which have been inadvertently marked UN 4G/Y5/5/95 instead of UN 4G/75/S/95, for shipment of fireworks Division 1.4G.	5
11575	Authorized the transportation of low-level radioactive material with shipping papers not meeting requirements of 49 CFR.	3
11587	Authorized the transportation of a DOT Specification 111A100W1 tank car, containing a Class 9 material, meeting all DOT requirements except that the tank car is overweight.	4
11588	Authorized the offering and transportation of certain cultures and stocks of infectious substances, when described and packaged as regulated medical waste under the provisions of 49 CFR 173.134 and 173.197 subject to the HMR packaging standards of 49 CFR 173.197.	1
11594	Authorized the one-time transportation of a solid carbamate pesticide in fiber drums marked and tested to packing group II not meeting the appropriate UN performance standard,	3
11603	Authorized the transportation of a DOT Specification 112J340W tank car, containing a Division 2.2 material, meeting all DOT requirements except that the tank car has a defective thermometer well.	4
11605	Authorized the transportation of four DOT Specification 111A100W1 tank cars, containing a Class 3 material, meeting all DOT requirements except that the tank cars have unapproved fittings.	3
11608	Authorized the transportation in commerce of a DOT Specification 111A100W1 tank car (TRLX 2684), containing a residual amount of tripropylene, Class 3, meeting all DOT requirements except that the tank car has defective heater coil.	4
11610	Authorized the one-time transportation of a DOT Specification 112A340W tank car, ACFX 19959, containing a Class 2.1 material, meeting all DOT requirements except that the tank car is not equipped with the required tank head puncture protection and the required thermal protection system.	4
11612	Authorized the emergency transportation in commerce of a DOT111A100W1 tank car containing Class 8 material with defective bottom outlet valve.	5
11614	Authorized the emergency transportation in commerce of a rail car containing chlorine equipped with C-kit.	4
11616	Authorized the one-time transportation in commerce of a residual amount of chlorine in a DOT Specification 106A500X ton tank which developed leakage at the fusible plug. The container was equipped with a Chlorine Institute Emergency "B Kit" to prevent leakage during transportation.	4

NUMBER	PURPOSE	REASON
11623	Authorized the emergency exemption of a DOT Specification 112S340W tank car, containing a partial load of a Class 2.2 material.	5
11628	Authorized the emergency loading of oxygen gas from a non-DOT specification cargo tank at the pier.	4
11630	Authorized the one-time transportation in commerce of a residual amount of chlorine in a DOT Specification 106A500X ton tank which developed leakage at the fusible plug. The container was equipped with a Chlorine Institute Emergency "B Kit" to prevent leakage during transportation.	4
11632	Authorized the one-time transportation of a DOT Specification 105A500W tank car, GATX 36825, containing a residual amount of a division 2.3 material, meeting all DOT requirements except that the tank car has a defective safety relief valve which is equipped with a chlorine "C" kit to prevent emission of chlorine vapors during transportation.	4
11633	Authorized the emergency transportation of a DOT Specification 111A100W1 tank car, TRLX 26843, meeting all requirements except that the interior heater coils are cracked.	5
11637	Authorized the transportation in commerce of a certain flammable liquid in non-DOT specification cargo tanks manufactured to the MC-306 specification without the manufacturer having been registered with RSPA nor held an ASME Certificate of Authorization for use of the "U" stamp, both of which are required by 49 CFR 107.501.	5
11639	Authorized the one-time transportation of a DOT-Specification 105A500W tank car meeting all DOT specification requirements except that the tank car has jacket, sill, coupler requirements except that the tank car has jacket, sill, coupler, and safety appliance damage.	4
11640	Authorized the one-time emergency transportation in commerce of a DOT Specification 105A500W tank car, containing a residual amount of Chlorine, a Division 2.3 material, meeting all DOT requirements except that the tank has a wheel score approximately 6" long X 1/3" deep along the lower corner BL side.	4
11641	Authorized the transportation of a DOT Specification 111A100WI tank car, with defective interior heater coils, to remain capped to prevent leakage while in transportation.	4
11642	Authorized the offer of a DOT Specification 112T340W tank car, ACFX 1743, meeting all DOT specification requirements except that the liquid line valve is defective. The liquid line is plugged to prevent the release of any residue of product.	4
11650	Authorized the emergency transportation in commerce of non-DOT specification non-refillable cylinders charged with pyrotechnic initiating device classed as igniters, Division 1.4G.	5
11651	Authorized the transportation in commerce of self-heating solid, organic, Division 4.2 material in non-DOT specification sift-proof cargo tanks.	2
11655	Authorized the transportation in commerce of a empty tank with defective heater coils (PSPX 517) last contained Class 8 material	5
11656	Authorized the transportation in commerce of tank car containing anhydrous ammonia, liquefied, Division 2.2 with torn jacket and insulation.	4
11658	Authorized the emergency transporation in commerce of certain Division 2.1 and 2.2 gases in non-DOT specification IMO Type 5 portable tanks which are comparable to DOT specification 51 except the tank has bottom outlets.	2
11660	Authorized the emergency transportation of two flat bed trucks with attached hydrochloric acid solution tanks equipped with specially designed liner and pressure tested at 100 psi.	1
11661	Authorized the manufacture, marking and sale of non-DOT specification IMO Type 5 portable tanks which confom with DOT Specification 51 except that all openings are not grouped in one location, to be used for the transportation in commerce of Division 2.1 and Division 2.2 materials.	2

NUMBER	PURPOSE	REASON
11666	Authorized the transportation of graphite products classified as Miscellaneous Hazardous Class 9 material in bulk packaging strapped to wooden pallets on an open flat truck bed.	1
11674	Authorized the emergency transportation in commerce of a chlorine filled tank car DOT Specification 105A500W with a defective safety valve equipped with a "C" kit capping device.	4
11675	Authorized the emergency transportation of the specially modified Olympic Torch Relay Cauldron Car (Torch Car) containing a Division 2.1 material.	3
11676	To transport a tank car containing a residue of chlorine with a emergency "C" kit attached.	4
11683	Authorized the transportation of rail cars with defective pressure relief device previously contain Class 3 material.	4
11684	Authorized the emergency shipment of two DOT Specification 105J500W tank cars, containing a class 8 material poisonous by inhalation, meeting all DOT requirements except that the tank cars were overweight.	4
11685	To allow the limited shipment of approved fireworks devices classed as 1.4G or 1.3G explosives that have an approved electric match (igniter) attached to the device.	1
11689	Authorized the emergency one time transportation of one UN1H2 drum of RQ Waste Sulfur Trioxide, Uninhibited, Class 8, overpacked in a 600 gallon salvage drum filled with vermiculite.	4
11694	Authorized the emergency transportation of a DOT Specification 112S340W tank car, TGAX 331017, containing Anhydrous Ammonia, a Class 2.2 material, meeting all DOT specification requirements except the tank cas has defective liquid line.	4
11695	Authorized the emergency transportation of damaged rail cars containing residue of hazardous materials.	4
11703	Authorized the manufacture, marking and sale of non-DOT specification cylinders comparable to DOT Specification 39, for shipment of certain gases.	2
11705	Authorized the emergency one-time transportation of a loaded tank car that is not in accordance with the maximum allowable gross weight requirement of 49 CFR 179.13.	4
11706	Authorized the emergency transportation for final disposition of drums containing hazardous waste, solid n.o.s., Class 9.	5
11709	Authorized the emergency transportation in commerce of Class 6.1, PIH, Zone B material to repair shop for additional insulation.	5
11710	Authorized the emergency transportation in commerce of an accumulator, not to exceed 400 pounds capacity, to be transported as an authorized, non-bulk shipping container for use in transporting sodium, Division 4.3 material.	5
11712	Authorized the transportation in commerce of a DOT specification 111A100W tank car, containing sulfur, a Class 9 material, overloaded by 4000 pounds, to be offered for transportation and to proceed to destination.	5
11713	Authorized the emergency transportation of a DOT Specification 111A100W5 tank car containing a Class 8 material.	4
11714	Authorized the emergency transportation of non-DOT specification containers for use in transporting paint or epoxy for use in road striping.	4
11725	Authorized the transportation in commerce of certain non-DOT specification containers containing certain Division 2.1, 2.2 and 2.3 liquefied and compressed gases.	2
11730	Authorized an emergency exemption from the quantity limitations applicable to packages carried by cargo aircraft for Class 5.1, 6.1 and 8 hazardous materials for air transportation in cargo only aircraft.	4
11737	Authorized the transportation in commerce of Division 4.3 material in portable tank similar to the DOT 51 tank.	2

NUMBER	PURPOSE	REASON
11741	Authorized the emergency transportation in commerce of sodium cyanide mixture dry in reused metal drums, UN1A2/X125/S not permanently marked to the minimum thickness criteria.	5
11743	Authorized the emergency transportation in commerce of ammonium nitrate-fuel oil mixture in bags that are not mark in accordance with CFR.	5
11744	Authorized the emergency transportation of yellow phosphorous waste in specially designed portable bin of steel construction equipped with 3/8 steel plate.	5
11745	Authorized the transportation in commerce of steam generators containing Class 7 material in alternative packaging.	1
11750	Authorized the transportation in commerce of 200 non-DOT specification pressure vessels for use in transporting a Division 2.2 material.	2
11753	Authorized the emergency transportation of ammonia solutions, Class 8, in UN1H1/Y1.2/150 closed head polyethylene drums that do not meet the hydrostatic test pressure requirements.	1
11785	Authorized the emergency manufacture, marking and sale of DOT Specification 39 cylinders with a marking deviation to be used for the transportation in commerce of Division 2.1 and 2.2 materials.	1
11787	Authorized the emergency transportation of Toxic liquid, flammable, organic n.o.s. Division 6.1, PIH, Zone A material in 6HA1 drums that have not been hydrostatic tested to 80 psig.	1
11788	Authorized the emergency reuse of 55 gallon full UN1A1 and UN1A2 drums constructed with a minimum thickness of 0.82 mm body and 1.09 mm heads and manufactured between December 31, 1996 and April 1, 1997. The authorization to mark a 1996 date of manufacture on the drums makes them eligible for reuse in accordance with regulations in effect prior to January 1, 1997.	1
11791	Authorized rail cars to remain connected during unloading of Class 9 material without the physical presence of an unloader.	1
11799	Authorized the transportation in commerce of alternative secondary packaging consisting of heat sealed, plastic sleeve, packed in small quantities with absorbent material to be transported inside a commercial freezer, for use in transporting Infectious substances, Division 6.2.	2
11801	Authorized the transportation in commerce of non-authorized packagings that are not properly marked or labeled for use in transporting Toxic Solid, Inorganic, n.o.s., Division 6.1.	1
11804	Authorized an emergency exemption for the transportation in commerce of a safety kit containing two highway fusees, one tire inflator, and one fire extinguisher as a consumer commodity, ORM-D.	4
11819	Authorized the one-time emergency transportation of cylinders of hydrogen peroxide by cargo aircraft in quantities greater than those presently authorized.	4
11820	Authorized the transportation and reuse or reconditioning of drums with ends thinner than 1.1mm for use in transporting various hazardous materials.	1
11827	Authorized an emergency exemption to waive a 5-year internal inspection of polytetrafluorethylene lined IM portable tanks for use in transporting various classes of hazardous materials.	5
11828	Authorized the transportation in commerce of a chlorine one ton container that developed a leak around the fusible plugs which was been sealed using a B-kit.	4
11829	Authorized the manufacture, mark and sale of non-DOT specification collapsible, non-reusable woven polypropylene bulk bags for use in transporting sodium azide, Division 6.1.	2
11831	Authorized the emergency transportation of DOT-57 portable tanks that contain flammable liquids, Class 3, that were filled after the prescribed retest date.	1

NUMBER	PURPOSE	REASON
11836	Authorized the emergency transportation of polyethylene drums for use in transportation non-bulk quantities of ammonia solutions, Class 8.	5
11838	Authorized the transportation in commerce of chlorine in a DOT specification 106A500X cylinder which developed a leak during storage.	4
11845	Authorized the emergency bulk transportation in commerce of organophosphorus pesticides, flammable toxic, Division 6.1 in IM-101 portable tanks.	5
11846	Authorized the transport of various gases not subject to the segregation requirements in 176.83(d).	1
11853	Authorized the transportation in commerce of consumer commodities eligible for reclassification as ORM-D in aerosol containers overfilled with propellant packaged in DOT 2P metal containers with internal pressures that exceed the limitations.	1
11854	Authorized the emergency manufacture, mark and sell of non-DOT specification packaging for use in transporting regulation medical waste classed in Division 6.2 material.	5
11856	Authorized the emergency transportation in commerce of a satellite system containing Division 2.3 and Class 8 materials.	5
11861	Authorized the emergency transportation in commerce of UN1A2 drums, containing a Division 4.3 material, which are overloaded by 20%.	4
11868	Authorized the emergency transportation in commerce of uranium hexafluoride cylinders with valves and plugs that contain different alloys.	5
11874	Authorized the emergency transportation of hazardous materials in flood affected areas.	4
11875	Authorized the emergency transportation in commerce of hazardous materials in flood affected areas as necessary for delivery to staging areas.	4
11878	Authorized the transportation in commerce of arsenic trioxide in 55-gallon drums without required markings.	1
11887	Authorized the emergency transportation in commerce of rail cars that have non-approved modifications made to the external heater coils to be used in transporting Class 3 material.	5
11888	Authorized an emergency exemption in order to transport an explosive 1.1A in a solution of ethanol and water.	5
11889	Authorized an emergency exemption to transport cylinders of refrigerant gas containing tetrafluoroethane. The cylinders appear to meet the requirements of the DOT spec. 39, except for the markings which incorrectly identify the cylinder contents as dichlorodifluoromethane.	4
11890	Authorized an emergency exemption to transport a material that was recently determined to be a class 8, PG I material in composite IBCs.	5
11902	Authorized an emergency exemption from 173.225(e)(3)(c) concerning portable tank pressure relief device setting and capacity requirements for certain organic peroxides.	5
11904	Authorized an emergency exemption for the one-time transportation of chlorine in a DOT specification tank car tank which developed a leak near the valve.	4
11906	Authorized an emergency exemption to make ongoing shipments both domestically and internationally of carbamate pesticide, solid in incorrectly marked UN 4G boxes.	5
11932	Authorized the transportation in commerce of oxygen generators in passenger service units in bulk non-DOT specification packaging.	1
11937	Authorized the transportation in commerce of an oxygen generator, chemical, with one of the two positive means of preventing unintentional actuation of generator consisting of a packaging feature.	1

NUMBER	PURPOSE	REASON
11951	Authorized the one-time emergency shipment of hypochlorite solution in drums which exceed the quantity limitation per package for cargo aircraft.	1
11955	Authorized the emergency transportation in commerce oxygen generators which utilize special packaging as secondary means of preventing actuation.	1
11956	Authorized the emergency transportation in commerce of protective breathing equipment, containing chemical oxygen generators which utilize special packaging as a secondary means of preventing actuation.	1
11958	Authorized the emergency transportation in commerce of Hazardous Waste Solid, n.o.s. in a hopper type rail car.	5
11959	Authorized an emergency exemption for the movement of a hopper type rail car overloaded with hazardous waste solid .	5
11961	Authorized an emergency exemption to transport a one ton tank container with chlorine. The tank had leakage around one of the product valves and was equipped with a B kit.	4
11973	Authorized an emergency exemption to transport materials (including waste explosives) in packaging that is not authorized for the material.	4
11974	Authorized an emergency exemption to transport a forbidden material from Illinois to Nebraska.	4
11978	Authorized an emergency exemption for the one-time shipment of approximately 1,700 chemicals using generic proper shipping names without the technical names associated with the general description.	5
11979	Authorized the emergency one-time transportation in commerce of resin solution, injected into a polyester felt liner configuration which is shipped in a refrigerated trailer containing dry ice to maintain temperature control.	5
11991	Authorized an emergency exemption to transport containers that have leaks to be shipped back to their origin for reprocessing, in order to prevent significant injury to persons or property.	4
12019	Authorized one-time transportation in commerce of an explosive device installed into a guided missile test vehicle. The device in installed in such a way that it cannot be removed at this stage of assembly.	5

APPENDIX C
ABBREVIATIONS AND ACRONYMS
1996-1997

Abbreviations and Acronyms

AAR	Association of American Railroads
ADR	Agreement Concerning the Carriage of Dangerous Goods by Road
AE	Acoustic Emission
AEGL	Acute Exposure Guideline Levels
ANPRM	Advance Notices of Proposed Rulemaking
ASME	American Society of Mechanical Engineers
ATA	American Trucking Association
CIP	Container Inspection Program
CMA	Chemical Manufacturers Association
COHMED	Cooperative Hazardous Materials Enforcement Development
CTFR	Cargo Tank Facility Reviews
CVSA	Commercial Vehicle Safety Alliance
DDT	Deflagration-to-detonation transition
DG/CS	Dangerous Goods and Cargo Security
DOE	Department of Energy
DOT	U.S. Department of Transportation
DSC	Dangerous Goods, Solid Cargoes and Containers Subcommittee
DTA	Damage Tolerance Analysis
ECOSOC	Experts on the Transport of Dangerous Goods of the United Economic and Social Council
EO	Emergency Order
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FEEST	Freight Environmental Sampling Test
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FR	Final Rule
FRA	Federal Railroad Administration
FWPCA	Federal Water Pollution Control Act
HM	Hazardous Materials
HMEP	Hazardous Materials Emergency Preparedness
HMIS	Hazardous Materials Information System
HMR	Hazardous Materials Regulations
HMS	Hazardous Materials Safety
HMTA	Hazardous Materials Transportation Act
HMTUSA	Hazardous Materials Transportation Uniform Safety Act of 1990
IAEA	International Atomic Energy Agency
ICAO	International Civil Aviation Organization's Technical Instructions
ICC	Interstate Commerce Commission
IIA	Independent Inspection Agency
IMDG	International Maritime Dangerous Goods Code
IMO	International Maritime Organization

IVT	Interactive Video Training
LEPC	Local Emergency Planning Committees
LTSS	Land Transportation Standards Subcommittee
MFAG	Medical First Aid Guide for Use in Accidents Involving Dangerous Goods
NAERG	North American Emergency Response Guidebook
NAFTA	North American Free Trade Agreement
NCDA	North Carolina Department of Agriculture
NDE	Nondestructive Evaluation
NDT	Nondestructive test
NPRM	Notices of Proposed Rulemaking
NRC	Nuclear Regulatory Commission
NRT	National Response Team
NTSB	National Transportation Safety Board
NVOCC	Non Vessel-Owning/Operating Common Carriers
OECD	Organization for Economic Cooperation and Development
OMC	Office of Motor Carriers
OOS	Out-of-Service
PBE	Protective Breathing Equipment
PIH	Poison Inhalation Hazard
PSC	Port State Control Program
PTE	Party-to-an-exemption
RAM	Radioactive Materials
RID	Regulations Concerning the Carriage of Dangerous Goods by Rail
RPI	Railway Progress Institute
RSPA	Research and Special Programs Administration
SADT	Self-accelerating Decomposition Temperature
SANPRM	Supplemental Advance Notices of Proposed Rulemaking
SBIR	Small Business Innovation Research
SCBA	Self-contained breathing apparatus
TAG	Technical Assistance Groups
TCG	Transportation Coordination Group
TEC/WG	Transportation External Coordination Working Group
TIH	Toxic Inhalation Hazard
TSI	Transportation Safety Institute
TTC	Transportation Technology Center
TTT	Train-the-Trainer
UL	Underwriters Laboratory
UN	United Nations
UNSCOE	United Nation's Sub-Committee of Experts on the Transport of Dangerous Goods
USCG	U.S. Coast Guard