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FROM: BRADY, Phillip: ASSISTANT TO THE PRESIDENT ANS STAFF SECRETARY

TO: DR. D.A. BROMLEY

DATE OF CORRESPONDENCE: 01/11/92

JAN 14 1992

SUBJECT: REVIEW OF THE ANNUAL REPORT ON HAZARDOUS MATERIALS TRANSPORTATION-1990.

****

DIRECTORATE ASSIGNED: PHYSICAL SCIENCES

STAFF ASSIGNED: Jim Ling
Please coordinate with Rachel Levinson.

ACTION REQUIRED: REVIEW/COMMENT

STAFF ACTION: No comments. Rachel has no interest.

****

SENDER'S DUE DATE: 01/27/92

OSTP DUE DATE: 01/27/92 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

****

COPIES TO: D. Allan Bromley
Damar Hawkins

****

WHITE HOUSE TRACKING #: CONTACT PERSON:
PHONE: EXT:

REMARKS:

No comments from OSTP

KAE 1/24/92

OSTP RECEIVED: 01/13/92 DEPT RECEIVED:
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WHITE HOUSE STAFFING MEMORANDUM

92 JAN 13 P2:20

DATE: January 11, 1992 ACTION/CONCURRENCE/COMMENT DUE BY: COB, Monday, 01/27/92

OSTP
MAIL ROOM

SUBJECT: ANNUAL REPORT ON HAZARDOUS MATERIALS TRANSPORTATION -- 1990

	ACTION	FYI		ACTION	FYI
VICE PRESIDENT			HORNER		
SKINNER			MCCLURE		
SCOWCROFT	✓		PETERSMEYER		
DARMAN	✓		PORTER	✓	
BRADY		✓	ROGICH		
BROMLEY	✓		SMITH		
CARD			CLERK		✓
DEMAREST					
FITZWATER					
GRAY					
HOLIDAY	✓				

REMARKS:

Please provide any comments directly to this office by Monday, COB, January 27, 1992. Thank you.

PLEASE RETURN THE REPORT

RESPONSE:

PHILLIP D. BRADY
Assistant to the President
and Staff Secretary
Ext. 2702

THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

January 9, 1991

The President
The White House
Washington, DC 20500

Dear Mr. President:

The Annual Report on Hazardous Materials Transportation for Calendar Year 1990 is submitted for your approval and transmittal to the Congress. The report has been prepared in accordance with the Hazardous Materials Transportation Act (Title 1, 93-633).

I recommend that you forward the report to the Congress in compliance with Section 109(e) of the Act.

Sincerely,

James B. Busey
Acting Secretary

Enclosure

TO THE CONGRESS OF THE UNITED STATES:

In accordance with the requirements of section 109(e) of the Hazardous Materials Transportation Act (Public Law 96-633; 49 U.S.C. 1808(e)), I transmit herewith the Annual Report on Hazardous Materials Transportation for calendar year 1989.

George Bush

THE WHITE HOUSE,

October 26, 1990.

- Copy of Last Transmittal -

DRAFT

TO THE CONGRESS OF THE UNITED STATES:

In accordance with the requirements of section 109(e) of the Hazardous Materials Transportation Act (Public Law 96-633; 49 U.S.C. 1808(e)), I transmit herewith the Annual Report on Hazardous Materials Transportation for calendar year 1990.

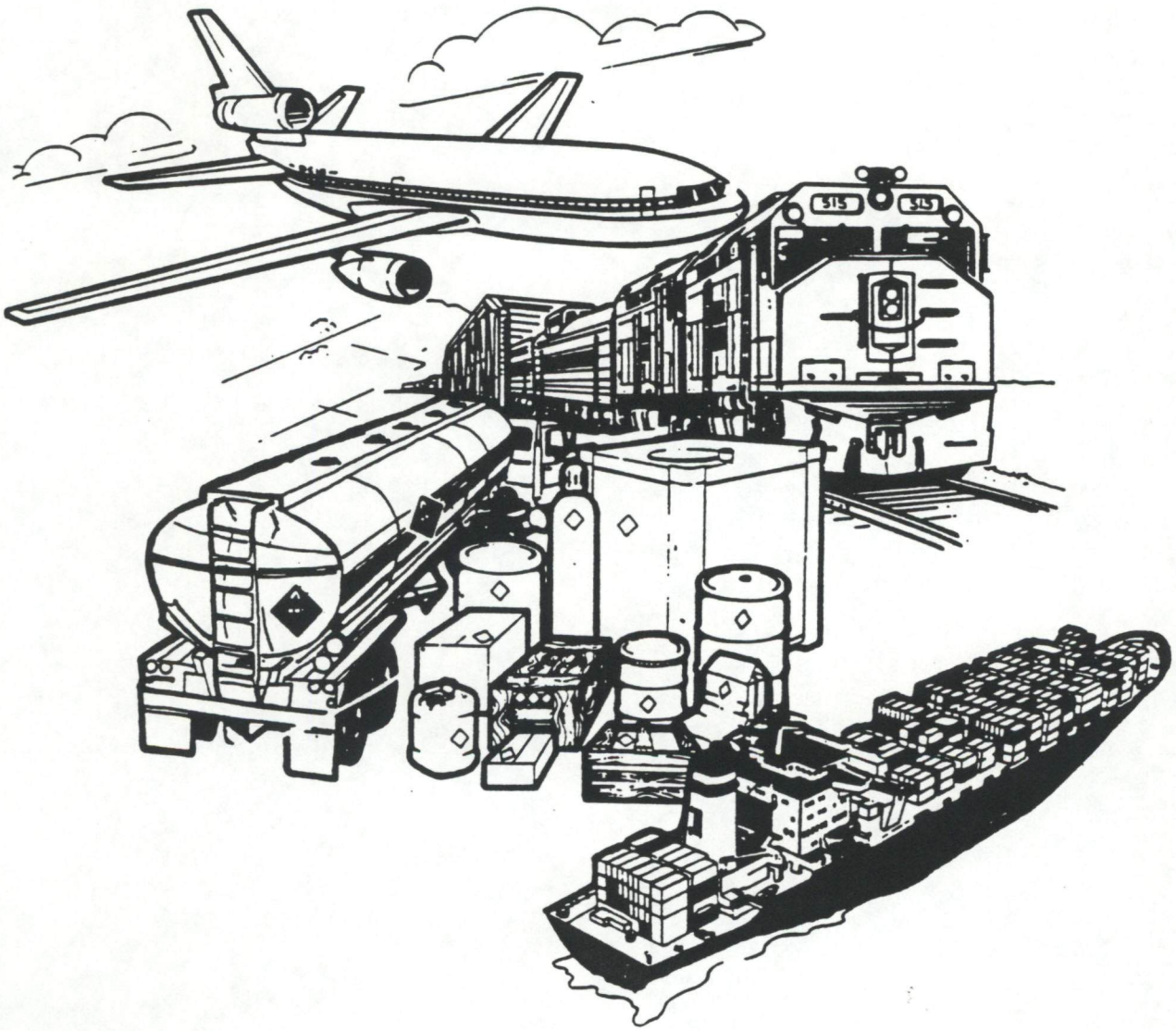
THE WHITE HOUSE,

U.S. Department
of Transportation

**Research and
Special Programs
Administration**

Annual Report on Hazardous Materials Transportation

Calendar Year 1990



ANNUAL REPORT

ON

HAZARDOUS MATERIALS TRANSPORTATION

CALENDAR YEAR 1990

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PREFACE

Hazardous materials are those materials that, as determined by the Department of Transportation (DOT), may pose an unreasonable risk to the public's health and safety or property when transported in commerce. The transportation of hazardous materials is an issue of concern in American communities because of the real and perceived risks that these materials can pose to public safety and health, as well as the environment. Highly publicized transportation incidents involving explosions and injury or loss of life have heightened the public awareness of the potential dangers in hazardous materials transportation. Consequently, the public tends to view the transport of hazardous materials in terms of worst-case scenarios. In actuality, the vast majority of the shipments arrive safely, and the incidents which do occur usually involve small releases and require little or no emergency response action.

This annual report, prepared in accordance with Section 109(e) of the Hazardous Materials Transportation Act (HMTA), 49 App. U.S.C. Section 1808, provides a comprehensive picture of the DOT's activities in administering a national hazardous materials transportation safety program.

The HMTA authorizes the Secretary of Transportation to issue regulations to ensure the safe domestic and international movement of hazardous materials. This authority is delegated to the Administrator of the Research and Special Programs Administration (RSPA), who coordinates the Department's hazardous materials transportation safety program, and to the Administrators of the modal administrations [the United States Coast Guard (USCG), the Federal Aviation Administration (FAA), the Federal Highway Administration (FHWA), and the Federal Railroad Administration (FRA)] who enforce the regulations applicable to their respective modes of transportation.

RSPA develops and issues regulations governing identification and classification of hazardous materials, hazard communication, shipper and carrier operations, and packaging and container specifications. In addition, RSPA exercises enforcement authority over the multimodal transport of hazardous materials and over container manufacturers, reconditioners and retesters of DOT specification containers. Each of the four modal administrations has jurisdictional responsibility for enforcement actions relating to transportation by water, air, highway, and rail.

While the HMTA provides the primary legislative authority for the Department's hazardous materials programs, a number of other related statutes also guide the program. Among these are:

- Federal Aviation Act of 1958
- Port and Tanker Safety Act of 1978
- Ports and Waterways Safety Act of 1972
- Federal Railroad Safety Act of 1970
- Federal Water Pollution Control Act Amendments of 1972
- Resource Conservation and Pollution Control Act Amendments of 1976
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980

Additionally, in 1990, two new pieces of legislation were enacted, the Hazardous Materials Transportation Uniform Safety Act (HMTUSA), P.L. 101-615, and the Sanitary Food Transportation Act (SFTA), P.L. 101-500, which gave the Department extensive new responsibilities. Both of these laws will greatly affect the hazardous materials programs of all the modal administrations, especially RSPA, FHWA, and FRA. HMTUSA encompasses most of the reauthorization legislative initiatives submitted to Congress by the Administration.

EXECUTIVE SUMMARY

The DOT administers a national hazardous materials transportation safety program. This report provides an overview of safety and enforcement initiatives and incident and accident data, and describes the regulations and exemptions to regulations issued during 1990.

DOT has set forth detailed regulations to protect the general public and the workers involved in the handling and transport of hazardous materials. Two principles guide the formulation of the regulations: 1) ensure the safe transportation of hazardous materials through the use of proper packaging and handling, and 2) effectively communicate to carriers and emergency responders the hazards of materials and appropriate procedures to manage emergency situations.

The passage of HMTUSA and SFTA in 1990 reflects an increased awareness and concern for the safe transportation of hazardous materials and the need to assure the public that during transportation food is kept free from contamination. HMTUSA encompasses most of the hazardous materials reauthorization legislative initiatives submitted to Congress by the Administration. Certain provisions of HMTUSA will allow the Department to provide technical and financial support to state and local efforts in the area of emergency preparedness and training.

SFTA requires the Department to issue regulations to govern the transportation of certain products (food, food additives, drugs, medical devices, and cosmetics) in motor and rail vehicles that are also used to transport refuse or other nonfood products. While the two laws will benefit hazardous materials transportation safety, implementation will be an administrative challenge for the Department.

In 1990, RSPA published nine final rulemakings, including HM-181, "Performance-oriented Packaging Standards," the first major revision of the regulations in 15 years. Based on RSPA's own initiative and the United Nations Recommendations on the Transport of Dangerous Goods, HM-181 incorporated requirements for classification, hazard communication, packaging, and handling of hazardous materials.

Other rulemakings of particular note:

- improve emergency response communication and the availability of information for handling hazardous materials incidents;
- require motor carriers of highway route controlled quantities of radioactive materials to transport those materials over most direct routes, from pickup through delivery; and
- improve the safety of cargo tank motor vehicles used for the transportation of hazardous materials.

RSPA addressed several major issues through rulemaking actions that will continue into 1991. These rulemaking actions:

- enhance the training requirements for persons who offer or transport hazardous materials;
- provide standards to assist states in establishing, maintaining, and enforcing specific highway routes for transporting hazardous materials and a regulatory mechanism for resolving routing disputes; and
- regulate materials offered for transportation or transported at elevated temperatures.

In addition to the many rulemaking actions, RSPA completed more than 19,000 discretionary actions involving hazardous materials: 1,631 exemptions, 860 approvals, 15,981 explosives classifications, and 1,504 international competent authority approvals/certifications.

The Department's goal is the prevention of incidents through compliance with the regulations. An extensive compliance and enforcement program ensures that shipments of hazardous materials move safely in the various modes of transportation. The Department's staff of 80 full-time and 1,397 part-time inspectors completed 41,958 inspections, and collected over $5,066,641 in civil penalties.

The Department continues to represent the United States at meetings of international standards-setting organizations concerned with the safe transportation of hazardous materials. Our participation focuses on ensuring that international standards developed by these organizations enhance safety without impeding international trade.

The Department's research and technology program provides the technical analysis to support regulations development and addresses multimodal improvement of safety and efficiency. The Department initiated a variety of research projects, including:

- A "Hazardous Materials Package Performance Evaluation" to obtain data for establishing regulatory requirements that address the puncture, crush, and fire resistance of packaging used to transport bulk quantities of materials extremely poisonous by inhalation.
- Development of a draft "Hazardous Materials Emergency Response Plan Guidance Document for Railroads." This FRA guidelines document identifies elements to consider in preparing for and responding to rail incidents involving hazardous materials. Other key elements allow individual railroads to tailor contingency plans to their own territory and operations.
- A study, "U.S. Local and Regional Railroads: An Assessment of Preparedness Needs Related to Hazardous Materials Emergencies," assessing the regional railroads' current state of preparedness in the event of a hazardous materials emergency, to determine the needs of those railroads to safely handle and transport hazardous materials.

RSPA's Hazardous Materials Information System (HMIS) is the principal source of safety data relating to hazardous materials transportation. The HMIS is used extensively within the Department and by other Federal agencies, state and local governments, the media, and the public. During 1990, RSPA responded to 523 data requests.

Federal efforts are complemented by state enforcement programs. To support state efforts, RSPA sponsors the Cooperative Hazardous Materials Enforcement Development (COHMED) program for persons involved in hazardous materials and emergency management programs. During the last several years, COHMED has facilitated coordination, cooperation, and communication between Federal and state agencies, local government, and the tribal nations. COHMED participants play an important role in the development of a uniform national hazardous materials program.

In 1990, COHMED expanded its outreach to industry. Industry representatives participated in the COHMED semiannual conferences in St. Louis, Missouri, and in Bethesda, Maryland. Industry representatives provide needed insight from the regulated side of the compliance partnership.

For the second year, RSPA continued the Hazardous Materials Specialist program. Under the Intergovernmental Personnel Act, this program has helped hazardous materials specialists from state and local agencies to become familiar with and implement Federal safety regulations in their home jurisdictions.

To inform the public and private sector of the principles and application of the hazardous materials regulatory program and emergency response procedures, the Department administers a comprehensive education and information program. A total of 64 hazardous materials and emergency response classes were conducted through the Transportation Safety Institute. RSPA and the modal administrations conducted training programs at over 100 Federal, state, or industry sponsored conferences.

In addition to classroom training, the Department offers a variety of printed and audio-visual training aids to the hazardous materials community. RSPA completed the production and distribution of six hazardous materials compliance and enforcement training modules. This audio-visual training program was a cooperative effort by the Department, industry representatives of the Hazardous Materials Advisory Council, and state enforcement/emergency management personnel from the COHMED program. RSPA participated in a week-long hazardous materials training telecourse and a live telejournal broadcast over FEMA's Emergency Education Network (EENET). RSPA continues to disseminate hazardous materials information through an electronic bulletin board system known as the Hazardous Materials Information Exchange or HMIX. In 1990, over 24,000 calls were made to access the information on the HMIX bulletin board, and over 20,000 calls were made to the information center.

The Department is proud of its accomplishments. At the Federal, state, and local levels, it continues to strengthen existing programs and cultivate new programs that bring us closer to achieving our goal--improved safety in hazardous materials transportation and nationwide uniformity in application and enforcement of the hazardous materials regulations.

I

REGULATION DEVELOPMENT

The Secretary of Transportation is responsible, under the Hazardous Materials Transportation Act (HMTA), for protecting the public against the dangers inherent in the transportation of hazardous materials. Under authority delegated by the Secretary, the Research and Special Programs Administration (RSPA) develops national standards and establishes criteria, promulgated as the Hazardous Materials Regulations (HMR), to carry out this responsibility.

The HMR, codified at Title 49, Code of Federal Regulations (CFR), Chapter I, Subchapter C, set forth the requirements for:

- Classification of hazardous materials
- Packaging specifications
- Hazard communication
- Transportation and handling
- Incident reporting

The Department continually monitors domestic transportation practices and international regulatory developments, and evaluates requests received from the general public, the regulated industry, other government agencies, and the Department'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.

In 1990, RSPA issued 11 notices of proposed rulemaking and nine final rules. A complete summary of these notices and final rules is contained in Appendix A. The following final rules, enhancing hazardous materials transportation safety, are of particular interest:

- Performance-oriented Packaging Standards

  RSPA revised the requirements for classification, hazard communication, packaging, and handling of hazardous materials, based on United Nations Recommendations on the Transport of Dangerous Goods and RSPA's own initiative. The intended effect of the rule is to simplify and reduce the volume of the Hazardous Materials Regulations (HMR); enhance safety through improved classification and packaging; promote flexibility and technological innovation in packaging; reduce the need for exemptions from the HMR; and facilitate international commerce. The effective date is October 1, 1991, although compliance is authorized as of January 1, 1991.

- Emergency Response Communication Standards

  RSPA improved emergency response communication and the availability of information for handling hazardous materials incidents. In response to petitions for reconsideration and requests for extension of the effective date, three amendments to the final rule were published. The effective date was December 31, 1990.

- Requirements for Cargo Tanks

  This final rule improves the safety of cargo tank motor vehicles used for the transportation of hazardous materials. This comprehensive action addresses the manufacture, operation, maintenance, repair, and requalification of all DOT specification cargo tanks. In response to petitions for reconsideration and requests for extension of the effective date, RSPA issued several amendments to the final rule. The rule became effective on December 31, 1990.

- Direct Routing of Radioactive Materials

  This final rule requires motor carriers of highway route controlled quantities of radioactive materials to transport those materials using the most direct routes, from pickup through delivery. The effective date was October 1, 1990.

A number of ongoing regulatory activities will carry forward into 1991. Others will be initiated in response to the Hazardous Materials Transportation Uniform Safety Act of 1990 (HMTUSA; Public Law 101-615) and the Sanitary Food Transportation Act of 1990 (SFTA; Public Law 101-500). The following are of particular interest:

- Training

  RSPA plans to issue a final rule to enhance the training requirements for persons who offer or transport hazardous materials. These new requirements are intended to increase awareness of safety and regulatory requirements and to reduce the number of the hazardous materials incidents caused by human error.

- Highway Routing and Dispute Resolution Standards

  HMTUSA mandates development of standards for states to use in establishing, maintaining, and enforcing specific highway routes over which hazardous materials may or may not be transported by motor vehicles, and a regulatory mechanism for resolving routing disputes.

- Elevated Temperature Materials

  RSPA is considering a final rule to regulate materials offered for transportation or transported at elevated temperatures. The final rule is based on the potential hazards posed by these materials. The new requirements will prescribe packaging requirements and communicate the hazards of these elevated temperature materials by means of marking, shipping papers, and placarding.

- Safeguarding Food from Contamination During Transportation

  RSPA is considering an advance notice of proposed rulemaking concerning regulatory requirements that will safeguard food and certain other products

from contamination during transportation by highway or rail. This rulemaking will address appropriate communication standards, tank construction, decontamination methods, recordkeeping, certification, and minimum insurance or liability requirements.

- Registration of Shippers and Carriers of Hazardous Materials

  RSPA is developing a rulemaking to establish standards and procedures for registering and collecting fees from shippers and carriers of certain categories of hazardous materials.

- Program Procedures and Regulations

  RSPA is developing a final rule to implement required changes effected by the enactment of HMTUSA, and to eliminate any inconsistencies between the revised HMTA and the HMR. The amendment will address the following changes to the HMTA: 1) the definition of "person" will be expanded to include governmental agencies when hazardous materials are offered or transported in commerce; 2) inconsistency rulings will be changed to "preemption determinations" with provision for judicial review; 3) applications for nonpreemption will be changed to "applications for waivers of preemption"; 4) the standards will be restated for determining preemption under the HMTA; 5) "acting knowingly" will be defined for purposes of civil penalty enforcement proceedings; 6) the increased civil and criminal penalties for violations will be described; 7) compliance with orders issued under the HMTA will be required; 8) compliance by government contractors with the HMTA and the HMR will be required; and 9) false marking/representations and unlawful tampering with packagings, hazard communication devices, and/or documentation will be prohibited.

Inconsistency Rulings

The HMTA provides that any state or local requirement which is "inconsistent" with the HMTA or HMR is preempted. Under procedural regulations adopted by the Department, a state or local requirement is inconsistent if: 1) compliance with both the state or local requirement and the HMTA or the HMR is

impossible; or 2) the state or local requirement is an obstacle to the accomplishment and execution of the HMTA or the HMR. RSPA issues in the Federal Register advisory inconsistency rulings concerning HMTA preemption matters.

In 1990, the Associate Administrator for Hazardous Materials Safety issued five inconsistency rulings (IR's). No decisions were issued on appeals of earlier inconsistency rulings.

In IR-28, the Associate Administrator, in response to an application from Yellow Freight System, Inc., determined that many hazardous materials storage requirements found in a City of San Jose, California, ordinance were inconsistent as applied to transportation (including storage, loading and unloading incidental to transportation). Provisions preempted related to the definition of hazardous materials, permitting, information and documentation, storage, loading and unloading, certain incident reporting requirements, and related civil penalties. However, most incident reporting requirements of the ordinance and related civil penalties were found consistent. The decision in IR-28 has been appealed.

In IR-29, applied for by Reichhold Limited, the Associate Administrator determined that the State of Maine statutes and regulations concerning a permit and fee for hazardous materials transportation were inconsistent. They were preempted, insofar as they were "triggered" by the list of hazardous substances (SARA Title III) instead of the Hazardous Materials Table in the HMR.

In IR-30, the Associate Administrator, in response to an application from the Department of the Navy, found the City of Oakland, California's, "Nuclear Free Zone Act" inconsistent. Preempted were the hazardous materials definitions; inspection, enforcement, and fee provisions; the 45-day prenotification, routing, mode selection, and information requirements; and transportation and related activities prohibitions.

In IR-31, the State of Louisiana applied for a ruling on its statutes and regulations which adopted 49 CFR, Parts 171-180 (the Hazardous Materials Regulations) with respect to rail shippers and carriers. The Associate Administrator determined that those statutes and regulations generally are consistent. Found inconsistent, and thus preempted, were some hazardous materials definitions, the definition of

"train," insurance requirements, written incident reporting requirements, civil penalties for other than "knowing" violations, and certain penalty and enforcement provisions. The IR-31 decision has been appealed.

Finally, in IR-32, the Associate Administrator, in response to an application from the Chemical Waste Transportation Council, ruled on a hazardous waste transportation ordinance of the City of Montevallo, Alabama. Found inconsistent, and thus preempted, were the following: hazardous waste definitions; routing, time-of-day, weather, prenotification and liability insurance requirements; CB radio requirements (for radioactive materials); an immediate accident reporting requirement (for irradiated reactor fuel); and a prohibition of transportation-related hazardous waste storage. This decision has been appealed.

Between 1978 and 1990, RSPA has issued the following decisions under Section 112 of the HMTA:

Inconsistency Rulings	32
Appeal Decisions	10
NonPreemption Determinations	1
Appeal Decisions	1

The preemption provisions of the HMTA were greatly expanded by the enactment of HMTUSA. Future HMTUSA preemption decisions will be legally binding and subject to judicial review. Further, rulings will be called "preemption determinations" and "waiver of preemption determinations."

II

DISCRETIONARY ACTIONS

Exemptions

The HMTA grants the Secretary of Transportation the authority to relieve a person from a requirement of the HMR through the issuance of an exemption. The need for exemptions from the regulations arises from the changing nature of hazardous materials and the methods by which they are transported. Since the regulations are relatively static in nature, exemptions are vital to industry, allowing it to implement new technology and to evaluate new operational techniques. The use of new technologies often increases productivity and enhances safety.

RSPA's Office of the Associate Administrator for Hazardous Materials Safety administers the exemption program within the Department. The program permits hazardous materials shippers, carriers, and container manufacturers to apply for exemptions which allow them to ship materials and to evaluate new packaging methods or shipping practices. The requests are evaluated and authorized if the Associate Administrator concludes that the proposed practices achieve a level of safety which is: 1) equal to or greater than that level of safety which would be required in the absence of an exemption, or 2) consistent with the public interest and the policy of the HMTA in the event there is no existing level of safety established.

The exemptions process includes the evaluation of new applications, modifications to exemptions, renewals of exemptions, and requests to become a "party to" existing exemptions. Emergency exemptions are granted to accommodate special circumstances. Exemptions cover a broad set of circumstances; for example, in 1990, the following exemptions were issued or renewed:

- An exemption which authorized the shipment of explosives, forbidden for transportation by air or in quantities greater than those authorized for air transportation, was issued to support the Department of Defense's Middle East operations (Desert Shield).

- An exemption which authorized the shipment of several types of "Flight-ready" spacecraft and associated equipment for use in the U.S. space program.

- An exemption which authorized the shipment of automotive steering units containing gas generators used to activate airbag passenger restraint systems in motor vehicles.

- An exemption which authorized the shipment of DOT Specification 3AAX cylinders containing compressed natural gas to be used as an alternative fuel source for a metro transit system.

There were a total of 1,196 exemptions in effect at the end of the year. In accordance with the HMTA, Appendix B contains a brief summary of each exemption and the basis for granting or maintaining the exemption.

EXEMPTIONS PROCESSED IN 1990

Routine Exemptions

Mode	Applications				Granted
	New	Renewal	PTE*	Total	
Motor Vehicle	62	412	97	571	405
Rail Freight	21	48	14	83	52
Cargo Vessel	1	27	4	32	27
Cargo Aircraft Only	7	19	1	27	16
Passenger-Carrying Aircraft	0	7	6	13	11
Intermodal	63	849	172	1084	792
Total	**154**	**1362**	**294**	**1810****	**1303**

Emergency Exemptions

Mode	Applications	Granted
Motor Vehicle	77	76
Rail Freight	35	35
Cargo Vessel	3	3
Cargo Aircraft Only	7	7
Passenger-Carrying Aircraft	3	3
Intermodal	104	104
Total	**229*****	**228**

* Party to Exemption

** In addition to the 1,303 applications granted, there were 40 withdrawals, 37 denials and 191 applications returned for further clarification.

*** Of the 229 emergency exemption applications, 63 were issued as new exemptions, one was denied, 13 were granted party status and 152 were renewed.

In order to eliminate the need for issuing recurring exemptions, RSPA periodically converts provisions contained in certain exemptions to regulations of general applicability. This is accomplished through the rulemaking process. The objective is to permit the use of containers or practices by the entire regulated industry. The issuance of Docket HM-181, Performance-oriented Packaging, will affect a large number of exemptions and possibly eliminate many of the exemptions currently in effect.

Approvals

The Associate Administrator for Hazardous Materials Safety has the authority under the HMR to authorize the performance of specific functions. An approval is an authorization which permits persons to ship certain materials or to perform inspections and/or testing activities after having demonstrated they have met the standards contained within the regulations. Before an approval is issued, a discretionary review of classification, packaging and handling of certain hazardous materials or of the manufacturing, inspection, retesting, and requalification of specification containers is performed. By issuing or denying an approval, the Office of the Associate Administrator for Hazardous Materials Safety ensures that a proper level of safety will be maintained.

Approvals are granted for items such as new explosives, cigarette lighters and their packaging, foreign cylinder manufacturers, 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, based upon the criteria stated in the definitions of explosives in 49 CFR, dictates how it is shipped.

To ensure that safety standards are maintained regardless of product origin, inspections are performed at cylinder manufacturers, independent inspection agencies, and cylinder requalification facilities in foreign countries. This program permits foreign manufacturers access to the U.S. market while maintaining the same safety standards required of U.S. manufacturers. In 1990, inspections were completed at foreign cylinder manufacturers and independent inspection agencies in the Philippines and Canada.

Registrations

The registration program provides an inventory of persons performing critical safety functions under the HMR. This program presently covers 18 operations delineated in the regulations. Among those entities registered are packaging manufacturers, cargo tank manufacturers and inspectors, drum reconditioners, and cylinder retesters.

APPROVALS AND REGISTRATIONS ACTIVITIES FOR 1990

Number of Applications*

Approvals

	Received	Granted**
Explosives Classification	16,128	15,981
Cylinder Retester	732	523
Cigarette Lighter/Packaging	286	277
Domestic Independent Inspection Agency	1	1
Repair/Rebuilder	2	4
Foreign Manufacturer	4	2
Foreign Inspector	4	2
Special Approval	47	51
Totals	**17,204**	**16,841**

Registrations

	Received	Granted
Drum Reconditioner	10	11
Specification 35; Drum, Plastic	4	4
Specification 39; Cylinder	5	6
Symbol Registration	270	262
Cargo Tank	710	663
Totals	**999**	**946**

* Applications that are terminated by the applicant or returned for further clarification are not included. The process is designed to eliminate frivolous or deficient applications before they enter the formal approval process. 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 1990.

REGISTRATION OF CYLINDER REQUALIFICATION FACILITIES

DOMESTIC

Alabama	45	Nevada	16
Alaska	10	New Hampshire	14
Arizona	24	New Jersey	81
Arkansas	23	New Mexico	18
California	200	New York	134
Colorado	41	North Carolina	67
Connecticut	42	North Dakota	11
Delaware	9	Ohio	137
Florida	171	Oklahoma	35
Georgia	57	Oregon	34
Hawaii	18	Pennsylvania	147
Idaho	9	Rhode Island	19
Illinois	93	South Carolina	29
Indiana	58	South Dakota	7
Iowa	34	Tennessee	40
Kansas	20	Texas	186
Kentucky	35	Utah	18
Louisiana	72	Vermont	8
Maine	13	Virginia	63
Maryland	38	Washington	48
Massachusetts	74	West Virginia	18
Michigan	76	Wisconsin	45
Minnesota	34	Wyoming	9
Mississippi	16		
Missouri	47	Guam	2
Montana	18	Puerto Rico	8
Nebraska	12	Virgin Islands	3

Total 2,486

FOREIGN

Argentina	1	Marshall Islands	1
Canada	2	Philippines	1
Cuba	1	Portugal	1
England	2	Scotland	1
Japan	7	Singapore	1
Johnson Atoll	1	West Germany	1
Iceland	1		

Total 21
Total Domestic and Foreign 2,507

Competent Authority Approvals

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

The International Maritime Organization (IMO), the International Civil Aviation Organization (ICAO), and the International Atomic Energy Agency (IAEA) all require competent authority approvals or certifications by the country originating the shipment. A further explanation of these organizations and their working groups is found in Chapter IV. The Associate Administrator for Hazardous Materials Safety is the U.S. Competent Authority for the issuance of approvals under rules published by these organizations. Competent authority approvals and certifications usually address material and packaging requirements under IMO and IAEA, and explosive descriptions and hazard classifications under ICAO. A total of 1,504 competent authority approvals and certifications were issued.

International Standards Approvals

Type	Number Issued
IMO Competent Authorities	75
ICAO Competent Authorities	739
IAEA Competent Authorities	690
Total	1,504

III

COMPLIANCE AND ENFORCEMENT

The DOT conducts an extensive compliance and enforcement program to ensure that shipments of hazardous materials move safely among the various modes of transport. Within the Department, RSPA is the coordinator of policy on hazardous materials transportation, and oversees the hazardous materials enforcement programs directed by the four modal administrations (FAA, FRA, FHWA, and USCG).

The modal administrations work cooperatively under an agreement signed in 1989 to strengthen the Department's hazardous materials inspection and enforcement program. RSPA's Associate Administrator for Hazardous Materials Safety convenes a bimonthly intermodal meeting to promote uniformity of enforcement efforts, coordinate rulemaking actions, identify trends, and discuss problems.

To increase the effectiveness of the Department's activities, the DOT utilizes both headquarters and regional staff from each of the administrations, with the exception of RSPA, which currently has no field offices, to carry out enforcement operations. In December 1990, RSPA was authorized to establish three regional offices to augment its enforcement activities. The offices, to be instituted in 1991, will be located in California, Illinois, and New Jersey.

The Department employs 80 full-time hazardous materials inspectors, and 1,397 inspectors from DOT's other safety disciplines are assigned part-time hazardous materials duties. The combined efforts account for a total of 204.65 work-years in hazardous materials compliance and enforcement operations. (Refer to Table 1 for additional information.)

Table I
Hazardous Materials Inspectors—1990

Administration	Full-Time Inspectors	Part-Time			Total Work-Years
		Inspectors	Percent of Time	Work-Years	
USCG	0	905	9.0	81.4	81.4
FAA	11	168	4.3	7.2	18.2
FHWA	9	324	12.0	38.8	47.8
FRA	42	*			42.0
RSPA	18				15.25**
Totals	80	1,397	25.30	127.40	204.65

* In 1990, FRA increased the number of full-time hazardous materials inspectors and reassigned the part-time hazardous materials duties previously performed by Operating Practices and Motive Power and Equipment inspectors to the full-time positions.

** The reduced work-years represent unfilled vacancies and participation in Operation Desert Shield.

The Department's combined efforts resulted in the commencement of 2,163 civil penalty cases in 1990 and the completion of 932 cases. A total of $5,066,641 was collected in penalties.

Table II
Hazardous Materials Enforcement Actions by Administration 1989-1990

Enforcement Actions	FAA		FHWA		FRA		RSPA		USCG*	
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990
Criminal Cases Initiated										
Criminal Cases Completed										
Total Fines $										
Civil Penalty Actions Initiated	114	136	N/A	263	274	1,045	149	174	3,668	1,994
Civil Penalty Actions Completed	34	14	91	157	96	527	145	128	876	668
Letters of Warning Issued							159	160	322	380
Total Civil Penalties Collected $	228,350	136,050	368,900	613,753	737,110	3,468,255	457,100	668,800	490,196	759,332
Average Penalty $	6,716	9,718	4,054	3,909	7,678	6,581	3,152	5,225	560	1,137

* USCG data presented above pertains to the transportation by vessel of both bulk and break bulk (packaged) hazardous materials.

N/A - Not available.

The Department's hazardous materials inspectors conducted 22,306 inspections at shipper and carrier facilities, 5,914 inspections at other types of facilities (such as container manufacturers and freight forwarders), 89,082 inspections of vehicles and vessels transporting hazardous materials, and 15,129 inspections of shipments in transportation. In addition, DOT personnel investigated 1,036 accidents and incidents involving hazardous materials. (A complete summary of civil penalty actions taken by the Department can be found in Appendix D.)

Table III

Hazardous Materials Inspections and Investigations by Mode 1989-1990

Inspections	FAA		FHWA		FRA		RSPA		USCG*	
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990
Operations/Facilities										
Carriers	5,298	4,569	2,707	3,691	5,123	4,791				
Shippers			851	1,515	2,990	4,068	142	375		
Waterfront									4,465	3,297
Container Manufacturers							128	122		
Drum Reconditioners							11	26		
Cylinder Retesters							107	98		
Shipment Observations							300	442		
Freight Forwarders	84	4								
Packages/Shipping Documents	21,601	14,687								
Other					5,152	5,514	100	150		
Vehicles/Vessels										
Railroad Tank and Freight Cars					76,435	73,766				
Vessels									17,657	15,316
Motor Vehicles				**						
Accidents/Incidents	114	127	34	46	194	443			1,456	977

* Data pertains to inspections and investigations of waterfront facilities handling both bulk and break bulk (packaged) hazardous materials.

** Inspections of motor vehicles are carried out by state inspectors under MCSAP. During 1990, 134,150 hazardous materials-carrying vehicles were inspected.

Modal Administration Enforcement Activities

Each of the five administrations directs its enforcement program to address the circumstances unique to the transportation of hazardous materials by its respective mode, or, in the case of RSPA, to address shipper and packaging manufacturer activities. A description of each program follows:

Research and Special Programs Administration
Office of Hazardous Materials Compliance and Enforcement

The primary focus of the RSPA inspector is compliance with packaging specifications, testing requirements, and exemption/approval authorities. Shipments are examined for proper packaging, classification, marking, labeling, and necessary documentation. Inspections are conducted primarily 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 containers on the open market and arranges testing to determine compliance.

RSPA utilizes the Hazardous Materials Information System (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 priority order: complaints received from various sources, manufacturers of specific types of packagings, companies who ship radioactive materials and/or explosives, and follow-up inspections of companies involved in past enforcement actions.

By decentralizing operations in 1991, RSPA will be able to increase the efficiency and productivity of the inspection and enforcement program. Additionally, RSPA hazardous materials inspectors will be able to interact more closely with, and provide training to, the regulated community and state and local enforcement personnel.

This year, one of RSPA's special program initiatives was to work cooperatively with the USCG at port facilities to target imported shipments of hazardous materials. RSPA initiated 12 civil penalty enforcement actions against foreign companies for violations of the Hazardous Materials Regulations. This number

represents 43 percent of the 28 cases initiated with foreign companies since 1982. In 1990, 21 of the cases had been concluded and $104,400 in civil penalties collected. The countries of origin included: Japan, Hong Kong, Korea, the Peoples Republic of China, Brazil, Venezuela, Mexico, England, Scotland, West Germany, France, and Canada.

Federal Aviation Administration
Office of Civil Aviation Security

The FAA civil aviation security inspectors conduct hazardous materials surveillance and inspection activities. These hazardous materials enforcement duties are performed in conjunction with regularly scheduled security inspections of U.S. and foreign passenger and cargo air carriers that regularly accept and transport hazardous materials. In addition to their knowledge of the HMR, FAA inspectors must have an in-depth knowlege of the requirements of the International Civil Aviation Organization.

To ensure freight forwarders and shippers are meeting their responsibilities for the safe shipment of hazardous materials by air, FAA inspection efforts targeted major air carrier facilities. These locations are considered collection points for shipments originating from freight forwarders and shippers.

The Office of Civil Aviation Security continues to participate in the National Aviation Safety Inspection Program (NASIP). Under the NASIP, a special investigation team, including a hazardous materials specialist, is selected to conduct thorough safety audits of preselected air carriers. In the past year, four civil aviation security inspectors provided hazardous materials expertise during 12 safety audits.

The FAA's hazardous materials inspection/surveillance activity computer data system (implemented in 1988) is used to track hazardous materials enforcement information. The system contains data on airports, stations, and operations that handle hazardous materials, as well as information on hazardous materials inspections and inspector training. Since the regional offices are able to enter information as the inspection is accomplished, the program allows more timely surveillance activities of air carriers/freight forwarders who frequently accept, offer, and transport hazardous materials, and of the airport facilities where shipments originate.

Federal Railroad Administration
Office of Safety Enforcement

Within the FRA, the Office of Safety Enforcement (OSE) is responsible for establishing a safe rail environment. The OSE is organized into eight regional offices that are located in major cities throughout the United States.

Each regional office is staffed with hazardous materials safety inspectors who devote approximately 60 percent of their routine inspection time to shipping facilities, 35 percent to rail carriers, and 5 percent to bulk package manufacturers and repair installations. Forty-two regional positions are assigned full-time hazardous materials responsibilities.

Each year the FRA establishes a National Inspection Plan (NIP) to outline agency objectives and how to achieve them. This year's NIP focused on three major inspection areas:

- Carriers, freight forwarders, and shippers of nonbulk shipments of hazardous materials at high-volume intermodal terminals.

- High-level spent nuclear fuel routes and equipment.

- Rail carriers and shippers of bulk shipments of hazardous materials located in the Houston metropolitan area.

Projections from FRA's NIP, Inspection Point Listing, and Staffing Allocation Model are compared with the Quality Improvement Program (QIP), to determine if the areas of greatest concern are adequately inspected.

Concerning tank car safety, FRA oversees the performance of the Association of American Railroads' Tank Car Committee by attending each meeting and by conducting unannounced inspections. The Committee reviews drawings and applications for alterations, conversions, manufacture and repair of tank cars; approves valves and fittings; establishes welder qualifications; and determines minimum personnel and equipment standards for shop certification. These procedures are reviewed by FRA to ensure that the Department's objectives are met.

In 1990, the railroad industry witnessed several draft sill failures resulting in either complete or partial separation of a tank car's draft sill assembly. FRA sought the Committee's expertise to develop, implement, and monitor an industrywide stub sill inspection program. In cooperation with FRA, the Committee is in the process of developing a nondestructive testing method (acoustic emission) to find flaws located in the stub sill area to eliminate the potential safety consequences.

United States Coast Guard

The USCG operates a comprehensive packaged hazardous materials enforcement and container inspection program. The USCG's hazardous materials inspections are conducted by personnel from Marine Safety Offices and Marine Safety Detachments around the country. Targeted inspections are based upon criteria which include a review of the vessels and shippers, detected problem areas, and violation histories. These inspections are conducted in conjunction with vessel and/or waterfront facility inspections. In 1990, USCG field units concentrated inspection efforts on shipments of explosives, fireworks, and hazardous materials in marine portable tanks and freight containers. Additionally, USCG personnel were assigned to observe and provide technical assistance to troops involved in loading operations of hazardous materials for Operation Desert Shield.

The USCG continues to enhance and develop a working relationship with the National Cargo Bureau (NCB). NCB is authorized to assist the USCG in administering the regulations governing the Transportation or Storage of Military Explosives on Board Vessels (46 CFR Part 146); Carriage of Solid Hazardous Materials in Bulk, including bulk grain cargoes (46 CFR Part 148, 46 CFR Parts 31 and 93); and the Hazardous Materials Regulations (49 CFR Subchapter C). Appendix C provides detailed information regarding the USCG's activities as they pertain to bulk shipments.

Federal Highway Administration
Office of Motor Carriers

The Office of Motor Carriers (OMC) enforces the HMRs, in addition to other Federal safety regulations, as they pertain to commercial motor carriers operating in interstate and foreign commerce. OMC's hazardous materials compliance and enforcement activities are incorporated into the following three national program areas: 1) Educational and Technical Assistance Program, 2) Selective Compliance and Enforcement Program, and 3) Commercial Accident Prevention and Evaluation. The following is a brief explanation of each program area.

- Educational and Technical Assistance Program (ETA) - The ETA program is an evaluation of the carrier's safety management systems that effect compliance with the Federal safety and hazardous materials regulations. The program's objectives are two-fold: 1) provide the carrier with regulatory information to promote compliance; and 2) assign the carrier a safety fitness rating. The safety rating is either "satisfactory," "conditional," or "unsatisfactory."

  The "safety review" is the tool used to evaluate safety fitness. This process requires the safety specialist to conduct an interview of the carrier to evaluate their level of knowledge of the required regulations. In addition, the specialist samples records maintained by the carrier to verify compliance with the regulations. To help the carrier improve its safety compliance posture, the specialist provides carrier management with regulatory information at the conclusion of the review.

  During 1990, the OMC conducted 1,391 safety reviews of motor carriers transporting hazardous materials. Of these, 65 percent were rated satisfactory, 29 percent conditional, and 6 percent unsatisfactory.

- Selective Compliance and Enforcement (SCE) - The SCE program is designed to target carriers who have received "conditional" or "unsatisfactory" safety ratings as a result of the safety review process. These carriers present the greatest risk to the public and are closely monitored. The evaluation method used in this program is referred to as a "compliance review." The compliance review is a more in-depth review of the carrier's records to

ascertain if the carrier has taken the necessary actions to comply with the regulations. If the carrier receives a satisfactory rating, it is removed from the SCE list and no follow-up action is required. However, if the carrier is found to be in noncompliance, an enforcement action may be initiated. In 1990, approximately 3,815 compliance reviews were conducted on carriers/shippers of hazardous materials which resulted in 263 enforcement actions.

For the first time, with the enactment of the Motor Carrier Safety Act of 1990, the OMC is granted the authority to shut down operations of motor carriers receiving unsatisfactory safety ratings. The OMC is currently implementing procedures to carry out its authority.

- Commercial Accident Prevention and Evaluation (CAPE) - The CAPE program is designed to assist motor carriers in identifying causative factors of at-fault accidents (preventable accidents) and provide guidance in accident countermeasures to reduce the risk or likelihood of their recurrence. CAPE program candidates are selected medium or large motor carriers (20 or more drivers) which have a reportable preventable accident rate equal to or greater than 0.30 per million miles and have received a "satisfactory" safety rating (or which would have received a satisfactory safety rating if the reportable/preventable accident rate were not included in their safety rating). Motor carriers not participating in the CAPE program will also benefit from the CAPE program's countermeasure assistance in reducing accidents when they are contacted by a FHWA Safety Specialist for safety or compliance reviews.

Hazardous Materials Education and Technical Assistance

FHWA's Hazardous Materials Programs Division provides technical assistance to regional safety specialists. The nine hazardous materials program managers and headquarters staff develop guidance and training materials to promote hazardous materials safety within the regions.

Technical Assistance Groups (TAG) were formed, in support of FHWA's hazardous materials enforcement program, to further develop the expertise of FHWA safety specialists and state enforcement personnel. The TAGs provide in-depth hazardous materials training in four functional areas: cargo tanks, explosives, radioactive materials, and hazardous wastes/hazardous substances.

Commercial Driver's License Program

The Commercial Motor Vehicle Safety Act of 1986 established the Commercial Driver's License program (CDL). The goal of the Act is to improve highway safety by ensuring that drivers of large trucks are qualified to operate those vehicles. By the end of 1990, 31 states had initiated the CDL program. One important aspect of the CDL program requires that all persons who operate or expect to operate either tank vehicles or vehicles required to be placarded for hazardous materials pass special tests and obtain an endorsement to their licenses. States have reported that more than 75 percent have passed the tank vehicle endorsement.

State Enforcement Programs Complement the Federal Program

The Department relies heavily on state safety agencies for highway enforcement of the HMR. Increased awareness of the hazardous materials program can be directly attributed to increased participation in RSPA's Cooperative Hazardous Materials Enforcement Development (COHMED) program and FHWA's Motor Carrier Safety Assistance Program (MCSAP).

In 1990, all but four states or territories (Florida, South Dakota, Northern Marianas, and the U.S. Virgin Islands) were participating in MCSAP. As a prerequisite for those receiving these grants, the FHWA requires that states and eligible territories adopt and enforce the Federal Motor Carrier Safety Regulations (FMCSR) or compatible state regulations. The grants issued under MCSAP are utilized by the states for inspecting commercial vehicles and drivers at roadside inspection sites and performing safety and compliance reviews of carriers in order to check for compliance with the FMCSR and the HMR. States participating in MCSAP conducted 1,258 safety and/or compliance reviews of carriers and inspected 134,896 vehicles transporting hazardous materials.

Significant Departmental Enforcement Activities

The Department has developed a close alliance with a number of other Federal agencies including the U.S. Customs Service; the Department of Defense; and the Bureau of Alcohol, Tobacco, and Firearms. This alliance facilitated an increased number of joint enforcement operations. While increasing the productivity of the Federal enforcement program, these joint operations have provided the Department and its "enforcement partners" with a multifaceted workforce.

Interagency inspection activities with the U.S. Customs Service have proven mutually beneficial during the last several years. Joint enforcement operations have determined compliance with the HMR, aided U.S. Customs Service with its nationwide drug interdiction program, and have been effective in other areas of mutual concern. For example, when violations are suspected, DOT enforcement personnel often request the assistance of U.S. Customs officers to open sealed freight containers. In turn, when approaching hazardous materials shipments, U.S. Customs Service officers request the assistance of DOT specialists. This ongoing exchange of information and expertise not only ensures the safety of enforcement personnel but also has broadened both enforcement programs. The following joint inspection activities are of particular interest:

- FRA's regional hazardous materials inspectors, working cooperatively with U.S. Customs officers and several western railroads, played a vital role in the formulation of new and innovative methods of inspection and safety procedures for the implementation of tamper resistant seals on railroad tank car tanks. These procedures were initiated because U.S. Customs had previously seized large quantities of illegal drugs that were smuggled in cargo tanks by highway and suspected that similar smuggling techniques may have been used with tank car tanks by rail.

- FRA regional hazardous materials inspectors conducted joint inspections of several steamship companies with U.S. Customs officers. As a result of the deficiencies found during the inspections, the steamship lines have initiated changes to their internal inspection procedures that increase safety.

- USCG field units conducted joint enforcement operations with the U.S. Customs Service in port areas and at Non-Vessel Operating Common Carriers (NVOCCs). In 1990, joint hazardous materials inspections were conducted in New York, Philadelphia, Baltimore, Savannah, Miami, Mobile, New Orleans, Houston, San Diego, Los Angeles, San Francisco, and Seattle.

- RSPA hazardous materials inspectors organized an investigation of a shipment suspected to contain unapproved Classes A and B explosives aboard a vessel from the Peoples Republic of China. With the assistance of the U.S. Coast Guard Captain of the Port, the U.S. Customs Service, and the FHWA, the vessel transporting the explosives was boarded and inspected. The inspection revealed that the shipper had not received an approval for the explosives and the vessel was ordered to either anchor six miles offshore or to leave U.S. waters. RSPA and a law firm representing the importers later made arrangements to have the shipment approved.

Further interagency efforts between the USCG and U.S. Customs Service involve the development of a document cross-referencing the hazardous materials UN and NA numbers with the harmonized schedule numbers used by the U.S. Customs Service to identify hazardous materials. This cross-reference system will enhance the enforcement efforts of both agencies and allow the USCG to track containers and cargoes through the Custom's Automated Commercial System data base.

IV

INTERNATIONAL ACTIVITIES

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

Representatives from the U.S. domestic market have a considerable interest in the Department'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 the 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 the Department's participation in its activities follows.

The Committee of Experts on the Transport of Dangerous Goods of the United Nations Economic and Social Council (ECOSOC)

This Committee is the focal point of international activity regarding all transportation of packaged hazardous materials (except radioactive materials). 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 a publication entitled "Recommendations on the Transport of Dangerous Goods," which 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 United States at meetings of the Committee and the Subcommittee. In 1990, the Subcommittee of Experts on the Transport of Dangerous Goods met twice. The results of its work for the 1989-90 biennium was considered by the Committee of Experts at its 16th Session in December of 1990. Items adopted by the Committee are reported to ECOSOC, which is responsible for taking final action to include these decisions in the UN Recommendations. These decisions will be reflected in the seventh revision of the UN Recommendations once they have been approved by ECOSOC.

The Committee's 1989-90 work program covered a wide variety of topics, including several of great interest to the United States. These include:

- Classification of Gases. The Committee completed work in developing a single set of classification criteria for Class 2 materials. The criteria, which were largely based on proposals by the United States, will be in the seventh revision of the UN Recommendations.

- Generic Classification System for Self-reactive Substances in Division 4.1. A new classification system was prepared for self-reactive substances. This system provides a series of test requirements and criteria for designating candidate substances by generic proper shipping names. Packaging and operational requirements are also specified for each entry. The new system enables shippers to classify their materials without approval from a governmental authority.

conducted to develop a data base for use with a Simuloader (a full size tank car test stand) to expose a tank car to 300,000 miles of simulated track movements to determine the rate of crack growth. A tank car with a crack (either existing or fabricated) will be tested.

- FRA's work on "Tank Car Puncture Resistance" will be completed in 1991. Full and one-fifth scale tests were conducted to evaluate the puncture resistance of aluminum tank car tank heads and the effect of cold temperature on tank car head impacts. Test results indicate that head shields substantially improve the puncture threshold of aluminum tank car heads.

The following research projects were completed during the year.

- A study entitled, "Evaluation of Fire Risk Involving Transportation of Class A Explosives in Truck/Rail Car Load Quantities," was conducted to identify the type and degree of risk encountered when a fully-loaded truck or rail car transporting Class A explosives is involved in a transportation accident. Results showed that actions generally taken by truck drivers at the scene involving fire are not appropriate for reducing accident consequences. A follow-up study was completed in FY-1990 which identified several factors that might affect control of fire and its impingements on Class A explosive cargoes. RSPA is currently analyzing the results for future use.

- The project entitled, "Development of Improved Regulatory Definition of and Test Methods for Thermally Unstable and Self-reactive Materials" was completed. The study concluded that 1) a 75°C SADT (Self-Accelerated Decomposition Temperature) coupled with 300 joules/gram of decomposition energy should be used as screening criteria for self-reactive substances, and 2) with minor modifications, the United Nations' test methods for organic peroxides can be used for testing these substances. The findings were used as the basis for the U.S. position presented at the 1990 meeting of the UN Committee of Experts on the Transport of Dangerous Goods. The U.S. proposal was adopted and incorporated in the UN Recommendations.

- A Phase II Small Business Innovative Research Program, "Hazardous Material Product Identification," developed a transponder system to

identify a tank car tank and its contents during an accident. The system uses a passive transponder on the tank car, and a hand-held interrogator, operated by emergency response personnel, activates the transponder. Further testing of the prototype device is indicated to determine its survivability in a rail accident.

- A test support project to test "Tank Car Frangible Discs" and potential surge pressure reduction devices was completed at the Transportation Test Center in Pueblo, Colorado. Laboratory and impact tests showed that rupture of the frangible discs occurs at speeds as low as 8 mph for tank car outages of 1 to 4 percent. The installation of a baffle type surge pressure reducer decreased pressures well below the specified burst pressure. Additional analysis is needed to determine the effect of reduction in vent diameter as a result of the surge pressure reducer.

- The project "Stress Relief for Attachments Welded to Tank Car Shells" evaluated the effects of over-the-road vibrations on the residual stress in tank car shells. This project was initiated because of problems identified by FRA inspectors during tank car inspections. A risk analysis was conducted in the nonweld post heat treatment area. Test cars were modified with nonconforming attachments welded to the tank car. A finite element model of the area of concern was developed.

- A study entitled "Tank Car Design Improvements" was initiated to determine if a design change to certain fittings, valves, and closures is needed or if more stringent loading procedures are required. Causes of tank car lining failures were investigated. Analysis revealed that most leaks are due to improperly secured openings on tank cars transporting corrosive materials. The major problem can be attributed to improper loading techniques coupled with insufficient inspection. Gasket failures involve deteriorated gaskets, improper gasket materials, and improper closure procedures. Results of this study indicate that refinements are needed in state-of-the-art lining inspection.

- In a study "Spent Nuclear Fuel Cask Fire Analysis" several realistic railroad accident scenarios were postulated in which a spent nuclear fuel cask, in a train consist, is exposed to or engulfed in a large fire. While each of the scenarios can occur, the overall probability or frequency in a given year that any one of the scenarios will occur is extremely small. The duration and temperatures of the fire in each

scenario are realistic and supported by accident and experimental data.

VII

TRAINING AND INFORMATION DISSEMINATION

Training and Education

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

1) To promote compliance by informing public and private sector personnel of the principles and application of the Department's regulatory program;
2) To encourage uniform enforcement of the Hazardous Materials Regulations by Federal, state, and local enforcement personnel; and
3) 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 hazardous materials.

RSPA is responsible for the development and delivery of training programs. Technical assistance is provided by the modal administrations, the Transportation Safety Institute (TSI), other Federal agencies, state and local officials, and industry representatives. Classroom instruction is provided both in residence at Oklahoma City, Oklahoma, and at field locations around the country.

Transportation Safety Institute

TSI offers a variety of hazardous materials training programs for a diverse audience. The principal audience for TSI training is Federal and state personnel; the secondary audience is industry. TSI offers 13 different types of hazardous materials training classes, in the following areas:

- Hazardous Materials Compliance and Enforcement
- Cargo Tank Roadside Inspection
- Awareness for Initial Response to Hazardous Materials Incidents
- Hazardous Materials and Hazardous Wastes Requirements for the Department of Defense
- Radioactive Materials Seminar
- Specialized Hazardous Materials Training for FHWA
- Hazardous Materials Compliance and Enforcement for the General Services Administration
- Air Transportation of Hazardous Materials for FAA
- Intermodal Transportation of Hazardous Materials Training for Industry

In 1990, TSI conducted a total of 64 hazardous materials and emergency response classes. A total of 1,768 persons received training, including: federal employees (47 percent); state personnel (41 percent); local government employees (3 percent); industry representatives (7 percent); and international guests (2 percent).

Seminars and Conference Support

The modal administrations conducted additional training seminars in industry-sponsored training programs and conferences. At numerous meetings and conferences, RSPA staff provided information in the following areas: the Emergency Response Guidebook, implementation of the cargo tank rule, performance-oriented packaging standards, the modular enforcement and compliance training series, emergency response communications, and the emergency preparedness grant program required by the newly-enacted HMTUSA.

In May, RSPA sponsored a "Hazardous Materials Transportation Awareness Seminar" in San Juan, Puerto Rico. The seminar, attended by over 150 government and industry representatives from the Caribbean Basin, was a combined effort of RSPA, FHWA, FAA, and the USCG. The major focus was on promoting hazardous materials safety and encouraging compliance with the hazardous materials regulations.

- Infectious Substances. Previously, biological products and diagnostic specimens were not subject to requirements for the transportation of infectious substances, and were being transported in packagings not necessarily capable of withstanding stressful conditions encountered in transportation. On the basis of a U.S. proposal, the Committee agreed to include packaging requirements for both biological products and diagnostic specimens in the UN Recommendations.

- Performance-oriented Packaging Requirements. As of January 1, 1991, DOT specification packagings are no longer acceptable in international commerce under international modal regulations, thus requiring U.S. shippers to use packagings which conform to the UN standards and performance tests. A key issue regarding the implementation of these new requirements is the extent to which combination packagings (such as a glass bottle in a fiberboard box) can vary in design from a tested package design without requiring complete retesting of the modified package design. On the basis of a U.S. proposed revision to the UN Recommendations, the Committee agreed to amendments clarifying this point, which will significantly reduce the testing burden without compromising safety.

The 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 duly constituted 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 United States because of the direct impact of their requirements on shipments of hazardous materials from the United States. The following matters of particular interest to the United States were discussed at the two joint RID/ADR meetings:

- Harmonization of the RID/ADR provisions with the provisions in the UN Recommendations for the transport of Class 4 materials (flammable solids, substances liable to spontaneously combust, and substances which, on contact with water, emit flammable gases).

- Harmonization of the RID/ADR provisions with the provisions in the UN Recommendations for the transport of Class 5 materials (oxidizing substances and organic peroxides).

Since minor amendments to either of these two classes could have a significant impact on non-European transporters, the United States monitors these efforts closely to ensure that such differences do not develop.

The Dangerous Goods Panel of the International Civil Aviation Organization (ICAO)

The Dangerous Goods Panel of the ICAO is responsible for periodic updating of Annex 18 to the Convention on International Civil Aviation which prescribes basic requirements for the safe transportation of dangerous goods by air and its supporting Technical Instructions, which provide the detailed requirements necessary to implement Annex 18. RSPA provides the panel member representing the United States.

The panel is convened every other year and, while no meetings were held during 1990, some important matters relating to the ICAO Technical Instructions were accomplished through correspondence. One issue that was brought to ICAO's attention was a U.S. requirement that all shipments of hazardous material requiring shipping papers must be accompanied with emergency response information and a 24-hour telephone number where more detailed information may be obtained.

International Atomic Energy Agency (IAEA)

The IAEA is an intergovernmental body chartered to foster the peaceful contribution of nuclear energy to mankind. The IAEA, in cooperation with its member states, has developed a regulatory system to help ensure the safe international transportation of such materials. RSPA represents the United States on matters concerning transportation and serves as the Competent Authority of the United States to both governmental and private parties involved in nuclear

transportation.

RSPA continued to participate as a member of the Standing Advisory Group for the Safe Transport of Radioactive Materials (SAGSTRAM), the primary group advising the IAEA Director-General on radioactive materials transportation.

The following matters were considered at the SAGSTRAM meeting -

- Evaluation of the packaging standards for transporting uranium hexafluoride, a precursor material used in the manufacture of nuclear reactor fuel elements;
- Evaluation of the packaging standards for the air transport of plutonium and other high risk radioactive materials;
- Development of a computer data base to collect information regarding radioactive materials transport accidents and incidents; and
- Use of risk assessment in the development and implementation of international regulation.

RSPA continued to provide expertise at Technical Committee meetings convened by the IAEA. Among the matters discussed were review, development, and implementation of additional requirements for the safe transport of radioactive materials worldwide. The reports of these meetings will be presented and discussed at future SAGSTRAM meetings.

The International Maritime Organization

The International Maritime Organization (IMO) is a specialized agency of the UN concerned primarily with the promotion of safety in shipping and the prevention of marine pollution from ships. The IMO facilitates cooperation among governments on technical matters affecting maritime safety and pollution prevention through the exchange of information under the auspices of its committees and the adoption of international agreements.

The USCG participates in the work of IMO as a representative of the U.S. Department of State. The USCG cochairs the Department of State's Shipping Coordinating Committee, which harmonizes all U.S. input to IMO. Technical matters concerning safety and prevention of pollution from hazardous materials are handled within four subcommittees: the Subcommittee on Carriage of Dangerous Goods (CDG), the Subcommittee on Bulk Chemicals, the Subcommittee on

Containers and Cargoes, and the Subcommittee on Fire Protection. International requirements developed by the technical subcommittees are then approved by the parent committees, the Maritime Safety Committee (MSC) and the Marine Environment Protection Committee (MEPC). Pollution prevention measures relating to bulk oil transportation are developed in the MEPC without first being considered by a subcommittee.

The USCG provides the majority of technical expertise for U.S. delegations to IMO. In the case of the CDG Subcommittee, RSPA assists the USCG in developing U.S. positions. The CDG Subcommittee publishes and maintains the International Maritime Dangerous Goods (IMDG) Code, recognized as the worldwide standard for the transportation of packaged hazardous materials by vessel. U.S. regulations governing the transportation of hazardous materials incorporate substantial portions of the IMDG Code by reference.

The work during the previous three sessions completed Amendment 25 to the IMDG Code. This amendment is especially significant since it completely revises the Code and harmonizes transportation by the sea mode with the multimodal recommendations developed by the UN Committee of Experts on the Transport of Dangerous Goods. The purpose of this major revision is to completely update the IMDG Code and mandate the use of performance-oriented packaging. Amendment 25 also contains the recommendations for implementing Annex III of the International Convention for Prevention of Pollution from Ships (MARPOL) 73/78. The four-volume set containing Amendment 25 was distributed by IMO in 1990, with an effective date of January 1, 1991.

The United States continues to have a principal role in the development of provisions for the implementation of MARPOL Annex III in the IMDG Code. The purpose of Annex III is to protect the marine environment from accidental releases of marine pollutants in packaged form. The Annex establishes detailed requirements concerning packaging, marking, labeling, documentation, stowage and, if necessary, quantity limitations for preventing or minimizing pollution of the marine environment.

MARPOL Annex III will enter into force 12 months after the date on which not less than 15 countries, representing 50 percent of the gross tonnage of the world's merchant shipping, have become party to it. The United States represents 5 percent of that tonnage and if the United States ratifies, the required 50 percent would be met, thereby bringing the Annex into force worldwide.

With strong U.S. leadership, the MEPC and the CDG Subcommittees have resolved the key implementing issues. The USCG is now working toward domestic ratification of Annex III and, in 1989, prepared the necessary documents seeking Presidential approval for a recommendation to the Senate for its advice and consent to ratification. The "ratification package" has been transmitted by the President to the Senate for its advice and consent. Assuming a successful ratification effort, it is envisioned that the marine pollutant provisions being implemented in the IMDG Code will be incorporated domestically into 49 CFR, through a RSPA rulemaking.

Another continuing international effort under the auspices of IMO is the work of the Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP). GESAMP is an advisory group consisting of specialized experts nominated by the sponsoring agencies of the UN. The GESAMP's Working Group on the Evaluation of the Hazards of Harmful Substances Carried by Ships is specifically tasked to evaluate and develop pollution profiles for those substances transported in the marine mode. A USCG representative participates in this GESAMP Working Group, which usually meets for one week twice each year.

The IMO Subcommittee on Containers and Cargoes publishes and maintains the Code of Safe Practice for Solid Bulk Cargoes. At its 30th Session, the Subcommittee revised Chapter VI of the International Convention for the Safety of Life at Sea to give mandatory status to recommendations developed by IMO concerning solid bulk cargo. A U.S. proposal to categorize coals according to chemical properties and physical characteristics will be considered at the Subcommittee's 31st Session in 1991.

V

SAFETY PERFORMANCE DATA

RSPA's Hazardous Materials Information System (HMIS) is the principal source of safety data relating to hazardous materials transportation. The HMIS data base contains comprehensive data on incidents, exemptions and approvals, enforcement cases, and other elements that support the regulatory program.

The HMIS is used extensively within the Department and by other Federal agencies, state and local governments, the media, and the public. During 1990, RSPA responded to 523 data requests. HMIS data are used to identify emerging safety problems, monitor compliance efforts, support training programs, and supply analytical justification for regulatory proposals. For example, using HMIS data, RSPA completed:

- A regulatory evaluation and cost-benefit analysis of Docket HM-181, Performance-oriented Packaging Standards.
- An implementation strategy for a registration program which would affect certain hazardous materials carriers and shippers.
- A comprehensive analytical review of the present practices in the highway transportation of hazardous materials.

To enhance the HMIS's performance, RSPA upgraded the system hardware (VAX 6210) by expanding the amount of storage space available. Additionally, menu-driven programs, used by state and local government agencies, were improved to allow users to generate summary statistical reports from the hazardous materials incident data base. Other modifications improved retrieval capabilities for information contained in six subsystems:

- Incidents involving the interstate transportation of hazardous materials by one or more transportation modes.
- Exemptions issued under the Hazardous Materials Regulations.
- Interpretations of the regulations issued by the RSPA.
- Approvals and registrations of specialized container manufacturers, reconditioners, retesters, shippers, and explosives manufacturers.

- Compliance activities, inspection data, and completed enforcement proceedings.
- Highway routes and information on certain high level radioactive materials shipments, primarily spent nuclear fuel.

On January 1, 1990, the use of the revised DOT Form 5800.1, "Hazardous Materials Incident Report," became mandatory. This revision allows RSPA to collect more specific details of incident circumstances, causes, and consequences as shown in Exhibit 1. The form, Exhibit 2, was widely distributed to the hazardous material community well before its effective date, along with a revised "Guide for Preparing Hazardous Materials Incidents Reports" to help carriers provide complete and accurate information on releases. As a result of the efforts to disseminate the reporting requirements, the form and the guide, a significant increase in both the number and quality of submitted reports has occurred.

As part of the rulemaking action that implemented the revised form, RSPA also extended the requirements for immediate telephonic notification of certain incidents to those involving evacuations, closures of major transportation arteries or facilities, and unscheduled events involving aircraft transportation of hazardous materials.

1990 SAFETY STATISTICS

The data contained in the HMIS are constantly evolving and changing as the data collection methodology is improved and the system is enhanced. For a variety of reasons there appears to have been an increase over the last two years in incidents and property damage. The wide distribution of the form, as well as an improved level of reporting by railroads and air and highway small package carriers, resulted in an increase in the number of reported incidents.

The data also reflect changes that occurred concurrently with the revision of the reporting form. Some of the changes include growth in the volume of shipments by both ground and air small package carriers, outreach efforts to encourage better reporting, and regular comparisons of HMIS data with comparable databases. Reporting form revisions have also contributed to an increase in the number of incidents and the amount of damage recorded. These revisions include an extension of the reporting period from 15 to 30 days and the expansion from a single aggregate damage field to five distinct damage totals.

The following summaries describe the information portrayed in the charts and graphs on pages 39 through 55.

Exhibit 3 and the companion Figures I - VI summarize hazardous materials transportation incidents over the past eight years. Highway incidents accounted for all but one of the fatalities and approximately 73 percent of the injuries. Four fatalities and 390 injuries were reported in 212 incidents in 1990.

Exhibit 4 shows the state-by-state breakdown of hazardous materials incidents including injuries, deaths, and property damage.

Exhibit 5 displays, by hazard class, the total number of reported incidents and damages. The first three columns present and rank incidents by hazard class. The last five columns present damages by amount, rank, percentage, and the number of incidents.

Exhibit 6 displays information on injuries that occurred, by hazard class. Also exhibited is the breakdown of major and minor injuries, along with the number of incidents involving injuries in each hazard class.

Exhibit 7 lists the hazardous materials and corresponding hazard classes involved in incidents resulting in fatalities. Gasoline accounted for three of the four fatalities that occurred during the past year.

Exhibit 8 shows the number of incidents occurring in each mode of transport, by attributed cause, along with corresponding percentages. The general causes are separated into four categories.

Exhibit 9 displays in descending order the 50 hazardous materials most often involved in an incident during 1990. The 50 hazardous materials shown, out of more than 2,400 hazardous materials identified in the Hazardous Materials Table, 49 CFR 172.101, accounted for over 77 percent of the 8,687 incidents reported. The exhibit lists, by proper shipping name and hazard class, the number of incidents reported and their corresponding percentages.

Exhibit 10, tabulates incidents that have involved manifested hazardous waste shipments over the past eight years using the same format as Exhibit 3.

Exhibit 11 presents the total number of incident reports received from 1971 to present, and regulatory changes affecting the reporting requirements. The graph is segmented into highway for hire incidents, which account for over 75 percent of all reports, and all other incidents including private highway carriage.

Maps 1 through 5 exhibit 1990 incident data by three-digit zip code areas. The areas with the greatest concentration of hazardous materials incidents were either industrial centers or terminal facilities. Map 1 displays the location of all incidents reported to RSPA; Map 2 shows the origin of shipments that resulted in an incident; Map 3 shows the destination of shipments that resulted in an incident; Map 4 shows the location of highway incidents; and Map 5 displays the location of rail incidents.

Exhibit 1

Information Contained In DOT FORM 5800.1

(Compared to previous edition)

CATEGORY	NEW	ENHANCED	NO CHANGE
Mode of Transportation			☆
Date and Time of Incident		★	
Incident Location		★	
Carrier's Name and Address		★	
Carrier's Identification Number	★		
Shipper's Name and Address		★	
Consignee's Name and Address		★	
Shipping Paper or Waybill Identification Number		★	
Material Name and Identification		★	
Hazardous Substance and RQ	★		
Fatalities			☆
Injuries		★	
Number of People Evacuated	★		
Dollar Amount of Damage		★	
Consequences of Incident	★		
Type of Vehicle Involved (tank trailer, tank car, etc.)		★	
Transportation Phase (en route, loading, etc.)	★		
Land Use at Incident Site (industrial, commercial, etc.)	★		
Community Type at Site (urban, suburban, rural)	★		
Vehicle Accident or Derailment (estimated speed, highway type, number of lanes)	★		
Packaging Information (type, capacity, etc.)			☆
Action Contributing to Packaging Failure	★		
Object Causing Failure	★		
How Package Failed	★		
Package Area that Failed	★		
What Failed on Package	★		
Description of Events		★	

Exhibit 2

DEPARTMENT OF TRANSPORTATION
HAZARDOUS MATERIALS INCIDENT REPORT

Form Approved OMB No. 2137-0039

INSTRUCTIONS: Submit this report in duplicate to the Information Systems Manager, Office of Hazardous Materials Transportation, DHM-63, Research and Special Programs Administration, U.S. Department of Transportation, Washington, D.C. 20590. If space provided for any item is inadequate, complete that item under Section IX, keying to the entry number being completed. Copies of this form, in limited quantities, may be obtained from the Information Systems Manager, Office of Hazardous Materials Transportation. Additional copies in this prescribed format may be reproduced and used, if on the same size and kind of paper.

I. MODE, DATE, AND LOCATION OF INCIDENT

1 MODE OF TRANSPORATION: ☐ AIR ☐ HIGHWAY ☐ RAIL ☐ WATER ☐ OTHER _____

2 DATE AND TIME OF INCIDENT
(Use Military Time. e.g. 8:30am = 0830. noon = 1200. 6pm = 1800. midnight = 2400).
Date: ____/____/____ TIME: _____

3 LOCATION OF INCIDENT (Include airport name in ROUTE/STREET if incident occurs at an airport.)
CITY: _____ STATE: _____
COUNTY _____ ROUTE/STREET: _____

II. DESCRIPTION OF CARRIER, COMPANY, OR INDIVIDUAL REPORTING

4 FULL NAME	5. ADDRESS (Principal place of business)

6. LIST YOUR OMC MOTOR CARRIER CENSUS NUMBER, REPORTING RAILROAD ALPHABETIC CODE, MERCHANT VESSEL NAME AND ID NUMBER OR OTHER REPORTING CODE OR NUMBER.

III. SHIPMENT INFORMATION (From Shipping Paper or Packaging)

7 SHIPPER NAME AND ADDRESS (Principal place of business)	8. CONSIGNEE NAME AND ADDRESS (Principal place of business)
9 ORIGIN ADDRESS (If different from Shipper address)	10. DESTINATION ADDRESS (If different from Consignee address)

11 SHIPPING PAPER/WAYBILL IDENTIFICATION NO

IV. HAZARDOUS MATERIAL(S) SPILLED (NOTE: REFERENCE 49 CFR SECTION 172.101.)

12 PROPER SHIPPING NAME	13 CHEMICAL/TRADE NAME	14. HAZARD CLASS	15. IDENTIFICATION NUMBER (e.g. UN 2764, NA 2020)

16 IS MATERIAL A HAZARDOUS SUBSTANCE? ☐ YES ☐ NO
17. WAS THE RQ MET? ☐ YES ☐ NO

V. CONSEQUENCES OF INCIDENT, DUE TO THE HAZARDOUS MATERIAL.

18 ESTIMATED QUANTITY HAZARDOUS MATERIAL RELEASED (Include units of measurement)	19. FATALITIES	20. HOSPITALIZED INJURIES	21. NON-HOSPITALIZED INJURIES
22 NUMBER OF PEOPLE EVACUATED			

23 ESTIMATED DOLLAR AMOUNT OF LOSS AND/OR PROPERTY DAMAGE, INCLUDING COST OF DECONTAMINATION OR CLEANUP (Round off in dollars)

A PRODUCT LOSS	B CARRIER DAMAGE	C PUBLIC/PRIVATE PROPERTY DAMAGE	D DECONTAMINATION/ CLEANUP	E OTHER

24 CONSEQUENCES ASSOCIATED WITH THE INCIDENT:
☐ SPILLAGE ☐ FIRE ☐ EXPLOSION ☐ VAPOR (GAS) DISPERSION ☐ ENVIRONMENTAL DAMAGE ☐ MATERIAL ENTERED WATERWAY/SEWER ☐ NONE ☐ OTHER: _____

VI. TRANSPORT ENVIRONMENT

25 INDICATE TYPE(S) OF VEHICLE(S) INVOLVED:
☐ TANK CAR ☐ RAIL CAR ☐ TOFC/COFC ☐ CARGO TANK ☐ AIRCRAFT ☐ VAN TRUCK/TRAILER ☐ BARGE ☐ FLAT BED TRUCK/TRAILER ☐ SHIP ☐ OTHER: _____

26 TRANSPORTATION PHASE DURING WHICH INCIDENT OCCURRED OR WAS DISCOVERED:
☐ EN ROUTE BETWEEN ORIGIN/DESTINATION ☐ LOADING ☐ UNLOADING ☐ TEMPORARY STORAGE/TERMINAL

27 LAND USE AT INCIDENT SITE: ☐ INDUSTRIAL ☐ COMMERCIAL ☐ RESIDENTIAL ☐ AGRICULTURAL ☐ UNDEVELOPED

28 COMMUNITY TYPE AT SITE: ☐ URBAN ☐ SUBURBAN ☐ RURAL

29 WAS THE SPILL THE RESULT OF A VEHICLE ACCIDENT/DERAILMENT? ☐ YES ☐ NO
IF YES AND APPLICABLE, ANSWER PARTS A THRU C.

A ESTIMATED SPEED	B HIGHWAY TYPE: ☐ DIVIDED/LIMITED ACCESS ☐ UNDIVIDED	C TOTAL NUMBER OF LANES: ☐ ONE ☐ TWO ☐ THREE ☐ FOUR OR MORE	SPACE FOR DOT USE ONLY

FORM DOT F 5800.1 (Rev 6/89) Supersedes DOT F 5800.1 (10/70) (9/1/76) THIS FORM MAY BE REPRODUCED

VII. PACKAGING INFORMATION: If the package is overpacked (consists of several packages, e.g. glass jars within a fiberboard box), begin with Column A for information on the innermost package.

ITEM		A	B	C
30. TYPE OF PACKAGING, INCLUDING INNER RECEPTACLES (e.g. Steel drum, tank car)				
31. CAPACITY OR WEIGHT PER UNIT PACKAGE (e.g. 55 gallons, 65 lbs.)				
32. NUMBER OF PACKAGES OF SAME TYPE WHICH FAILED IN IDENTICAL MANNER				
33. NUMBER OF PACKAGES OF SAME TYPE IN SHIPMENT				
34. PACKAGE SPECIFICATION IDENTIFICATION (e.g. DOT 17E, DOT 105A100, UN 1A1 or none)				
35. ANY OTHER PACKAGING MARKINGS (e.g. STC, 18/16-55-88, Y1.4/150/87)				
36. NAME AND ADDRESS, SYMBOL OR REGISTRATION NUMBER OF PACKAGING MANUFACTURER				
37. SERIAL NUMBER OF CYLINDERS, PORTABLE TANKS, CARGO TANKS, TANK CARS				
38. TYPE OF LABELING OR PLACARDING APPLIED				
39. IF RECONDITIONED OR REQUALIFIED	A. REGISTRATION NUMBER OR SYMBOL			
	B. DATE OF LAST TEST OR INSPECTION			
40. EXEMPTION/APPROVAL/COMPETENT AUTHORITY NUMBER, IF APPLICABLE (e.g. DOT E1012)				

VIII. DESCRIPTION OF PACKAGING FAILURE: Check all applicable boxes for the package(s) identified above.

41. ACTION CONTRIBUTING TO PACKAGING FAILURE

	A	B	C		A	B	C	
a.	☐	☐	☐	TRANSPORT VEHICLE COLLISION	☐	☐	☐	j. CORROSION
b.	☐	☐	☐	TRANSPORT VEHICLE OVERTURN	☐	☐	☐	k. METAL FATIGUE
c.	☐	☐	☐	OVERLOADING/OVERFILLING	☐	☐	☐	l. FRICTION/RUBBING
d.	☐	☐	☐	LOOSE FITTINGS, VALVES	☐	☐	☐	m. FIRE/HEAT
e.	☐	☐	☐	DEFECTIVE FITTINGS, VALVES	☐	☐	☐	n. FREEZING
f.	☐	☐	☐	DROPPED	☐	☐	☐	o. VENTING
g.	☐	☐	☐	STRUCK/RAMMED	☐	☐	☐	p. VANDALISM
h.	☐	☐	☐	IMPROPER LOADING	☐	☐	☐	q. INCOMPATIBLE MATERIALS
i.	☐	☐	☐	IMPROPER BLOCKING	☐	☐	☐	r. OTHER _____

42. OBJECT CAUSING FAILURE

	A	B	C	
a.	☐	☐	☐	OTHER FREIGHT
b.	☐	☐	☐	FORKLIFT
c.	☐	☐	☐	NAIL/PROTRUSION
d.	☐	☐	☐	OTHER TRANSPORT VEHICLE
e.	☐	☐	☐	WATER/OTHER LIQUID
f.	☐	☐	☐	GROUND/FLOOR/ROADWAY
g.	☐	☐	☐	ROADSIDE OBSTACLE
h.	☐	☐	☐	NONE
i.	☐	☐	☐	OTHER _____

43. HOW PACKAGE(S) FAILED

	A	B	C	
a.	☐	☐	☐	PUNCTURED
b.	☐	☐	☐	CRACKED
c.	☐	☐	☐	BURST/INTERNAL PRESSURE
d.	☐	☐	☐	RIPPED
e.	☐	☐	☐	CRUSHED
f.	☐	☐	☐	RUBBED/ABRADED
g.	☐	☐	☐	RUPTURED
h.	☐	☐	☐	OTHER _____

44. PACKAGE AREA THAT FAILED

	A	B	C	
a.	☐	☐	☐	END, FORWARD
b.	☐	☐	☐	END, REAR
c.	☐	☐	☐	SIDE, RIGHT
d.	☐	☐	☐	SIDE, LEFT
e.	☐	☐	☐	TOP
f.	☐	☐	☐	BOTTOM
g.	☐	☐	☐	CENTER
h.	☐	☐	☐	OTHER _____

45. WHAT FAILED ON PACKAGE(S)

	A	B	C	
a.	☐	☐	☐	BASIC PACKAGE MATERIAL
b.	☐	☐	☐	FITTING/VALVE
c.	☐	☐	☐	CLOSURE
d.	☐	☐	☐	CHIME
e.	☐	☐	☐	WELD/SEAM
f.	☐	☐	☐	HOSE/PIPING
g.	☐	☐	☐	INNER LINER
h.	☐	☐	☐	OTHER _____

IX. DESCRIPTION OF EVENTS: Describe the sequence of events that led to incident, action taken at time discovered, and action taken to prevent future incidents. Include any recommendations to improve packaging, handling, or transportation of hazardous materials. Photographs and diagrams should be submitted when necessary for clarification. **ATTACH A COPY OF THE HAZARDOUS WASTE MANIFEST FOR INCIDENTS INVOLVING HAZARDOUS WASTE.** Continue on additional sheets if necessary.

46. NAME OF PERSON RESPONSIBLE FOR PREPARING REPORT	47. SIGNATURE	
48. TITLE OF PERSON RESPONSIBLE FOR PREPARING REPORT	49. TELEPHONE NUMBER (Area Code)	50. DATE REPORT SIGNED

Exhibit 3

Incident Statistics by Mode and Reporting Year

Mode	1983	1984	1985	1986	1987	1988	1989	1990 *	Total
Incidents by Mode									
Air	66	102	114	120	163	172	188	295	1,220
Highway	4,871	4,507	4,751	4,615	4,952	4,900	6,022	7,163	41,781
Railway	868	996	843	855	889	1,018	1,195	1,222	7,886
Water	12	8	7	7	15	16	11	7	83
Freight Forwarder	1	145	296	150	118	78	127	0	917
Other	1	6	6	12	1	1	2	0	29
TOTALS	5,819	5,764	6,019	5,759	6,138	6,185	7,545	8,687	51,916
Deaths by Mode									
Air	0	0	0	0	0	0	0	0	0
Highway	8	6	8	16	10	19	8	4	79
Railway	0	0	0	1	0	0	0	0	1
Water	0	1	0	0	0	0	0	0	1
Freight Forwarder	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	8	7	8	17	10	19	8	4	81
Injuries by Mode									
Air	3	15	4	12	26	6	54	33	153
Highway	118	147	195	229	247	129	217	287	1,569
Railway	68	76	53	59	25	36	36	70	423
Water	0	18	0	2	8	0	7	0	35
Freight Forwarder	0	3	1	12	25	0	15	0	56
Other	0	0	0	2	0	0	0	0	2
TOTALS	189	259	253	316	331	171	329	390	2,238
Damages by Mode (In Dollars)									
Air	52,525	770,956	12,299	62,813	13,779	562,176	104,936	141,328	1,720,812
Highway	9,253,755	11,116,351	12,689,492	13,106,727	15,528,694	18,472,190	15,187,972	19,660,706	115,017,887
Railway	2,559,130	3,353,339	10,273,671	3,077,825	7,721,765	2,180,397	10,533,302	13,602,048	53,301,477
Water	76,088	509,029	3,242	53,500	99,930	74,262	39,900	69,898	925,849
Freight Forwarder	300	14,011	13,918	102,117	51,126	15,009	37,655	0	234,136
Other	16,500	975	515	3,385	50	2,700	2,600	0	26,725
TOTALS	11,958,298	15,766,661	22,993,137	16,406,367	23,415,344	21,306,734	25,906,365	33,473,980	171,226,886

Note: Effective January 1, 1990, Freight Forwarder classification no longer used.
Some previous years' figures have been updated.

* Preliminary data as of March 1, 1991.

Figure I

Hazardous Materials Incidents, 1983 - 1990 *

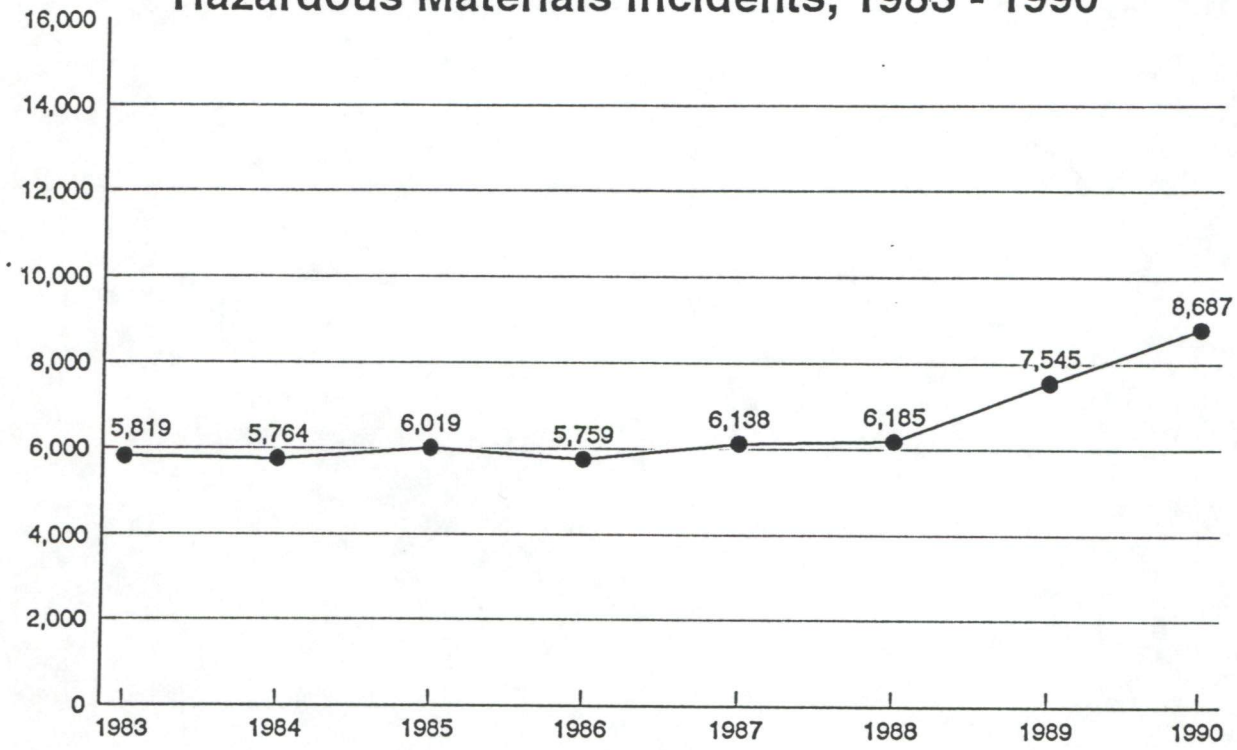
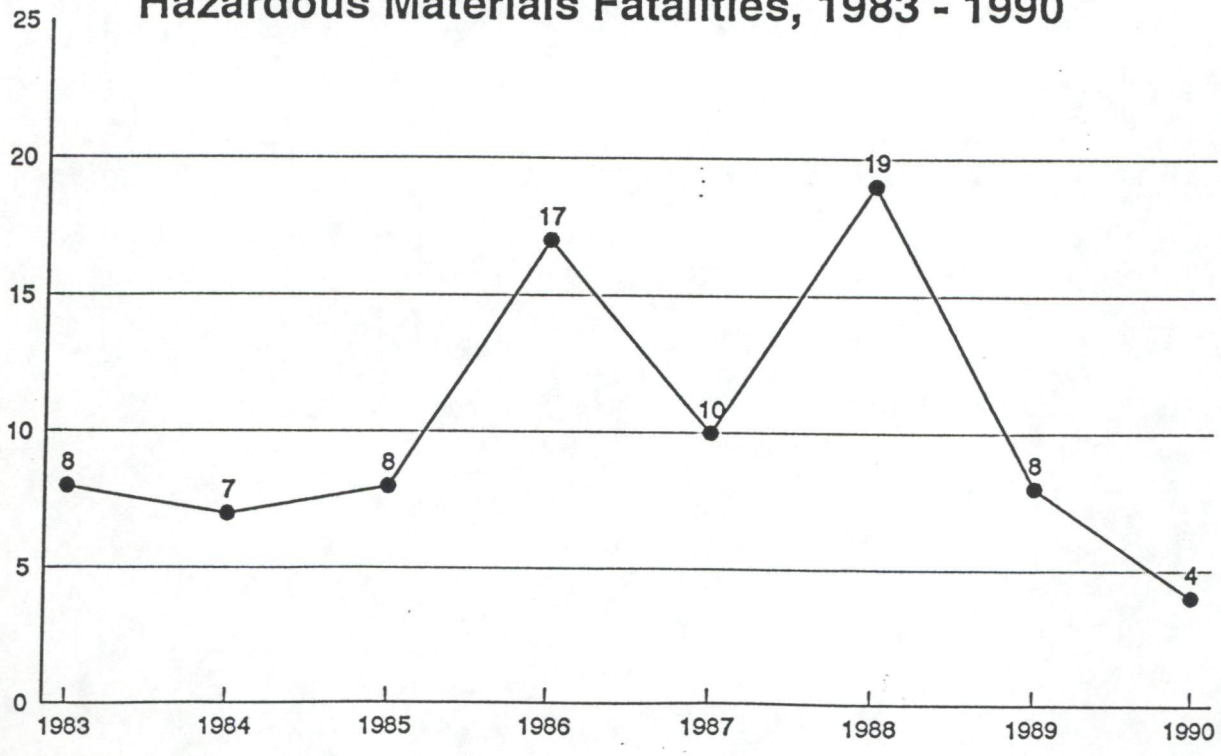


Figure II

Hazardous Materials Fatalities, 1983 - 1990 *



* Preliminary data as of March 1, 1991.

Figure III

Reported Incidents by Rail, 1983 - 1990*

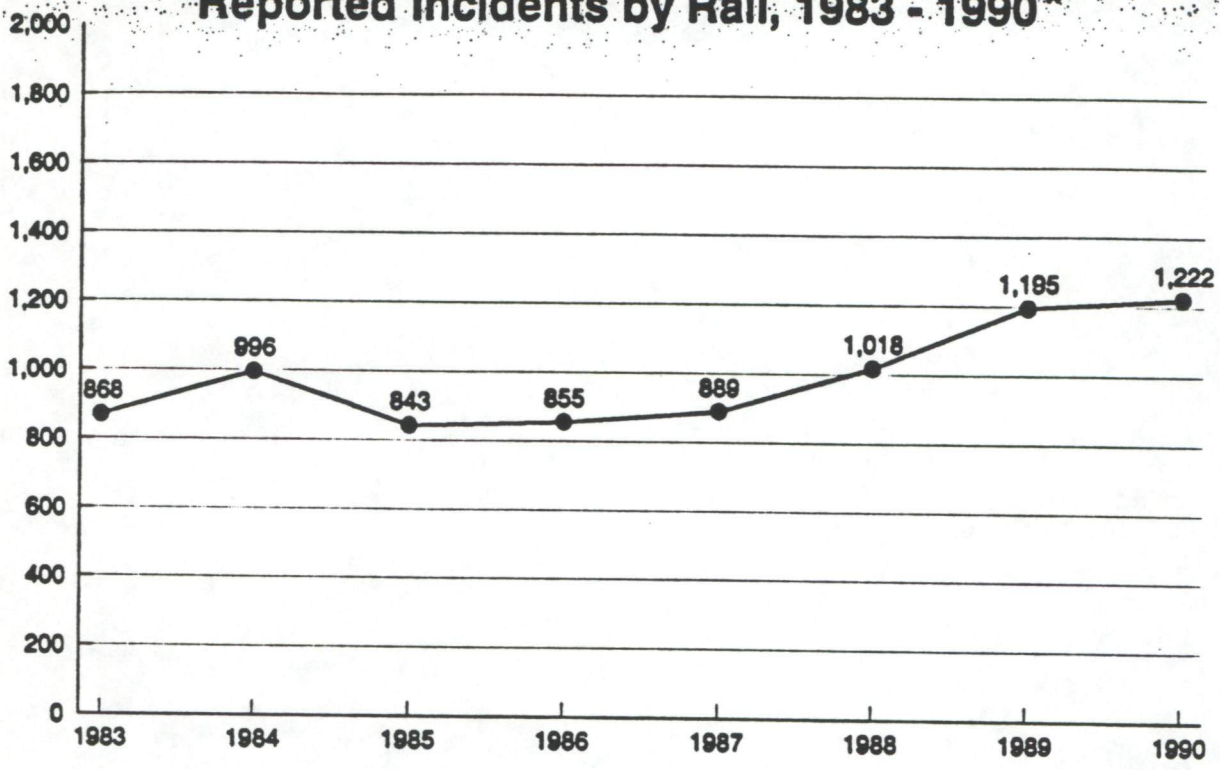
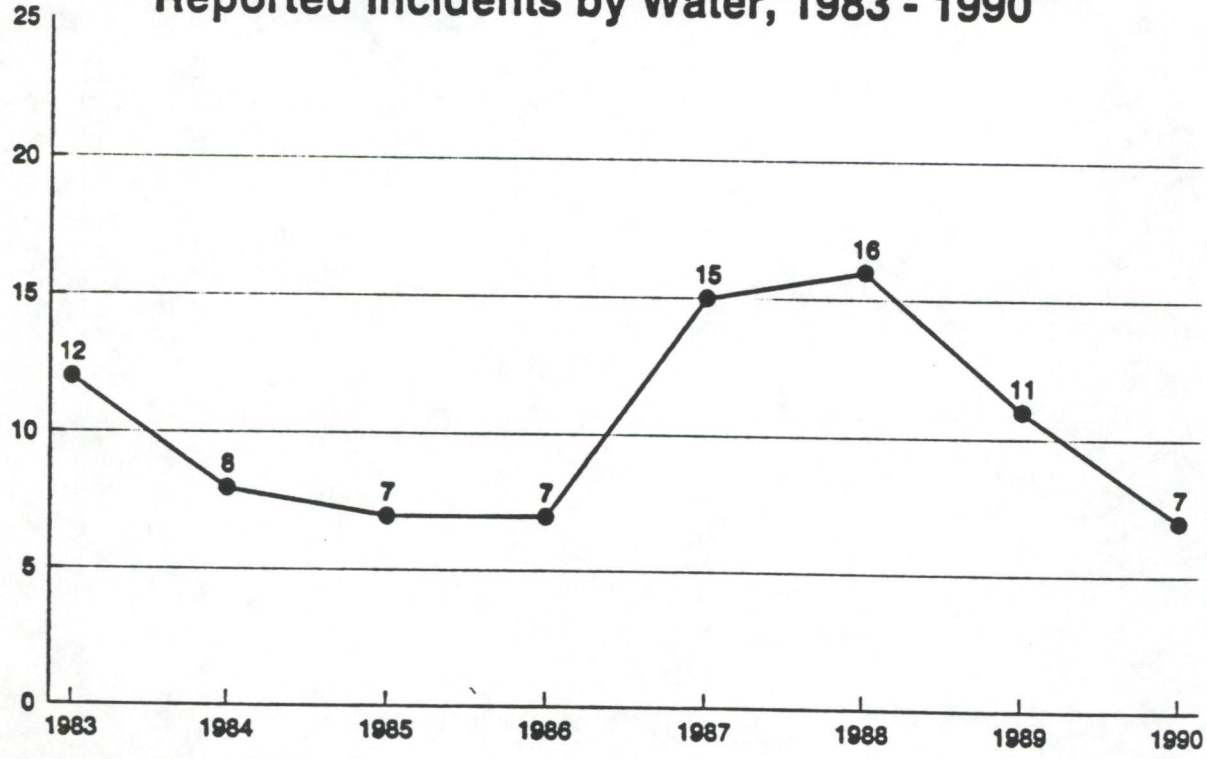


Figure IV

Reported Incidents by Water, 1983 - 1990*



* Preliminary data as of March 1, 1991.

Figure V

Reported Incidents by Air, 1983 - 1990 *

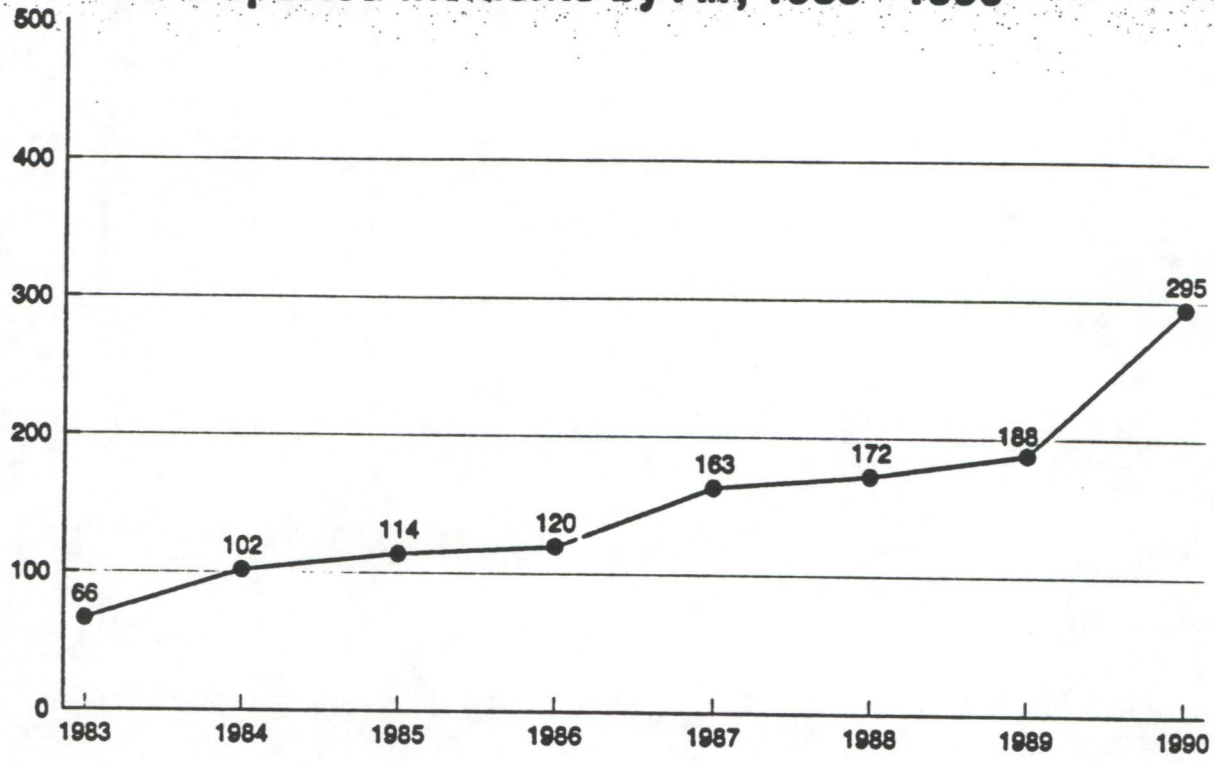
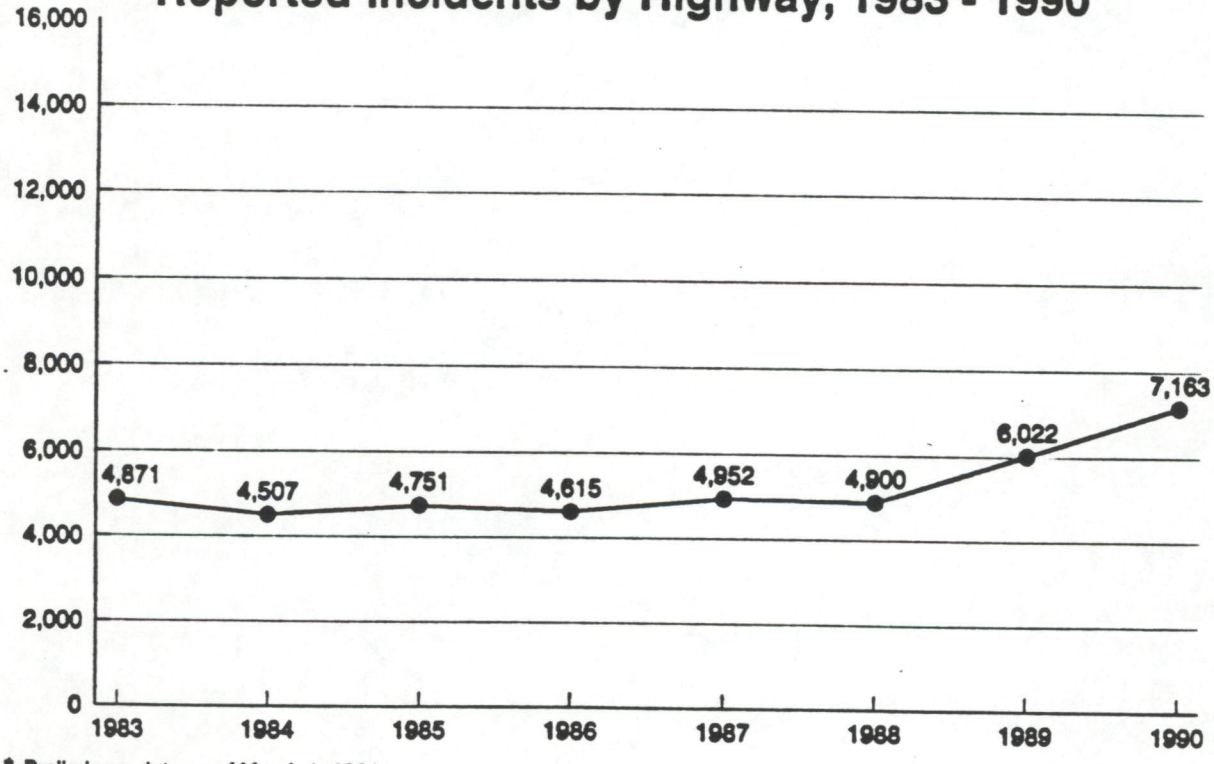


Figure VI

Reported Incidents by Highway, 1983 - 1990 *



* Preliminary data as of March 1, 1991.

Exhibit 4

Hazardous Materials Summary by State - 1990

All Modes

State	Incidents	Injuries		Deaths	Damages
		Major	Minor		
Alabama	154	1	19	0	$ 619,789
Alaska	8	0	0	0	2,997,029
Arizona	114	0	13	0	423,563
Arkansas	117	0	3	0	805,202
California	740	8	28	0	1,641,523
Colorado	117	0	0	1	539,763
Connecticut	72	1	1	0	137,320
Deleware	21	0	0	0	225,313
Dist. of Columbia	25	0	0	0	6,519
Florida	362	2	14	0	569,463
Georgia	212	1	5	0	1,062,649
Hawaii	9	0	2	0	9,677
Idaho	23	0	1	0	235,699
Illinois	707	2	14	0	821,484
Indiana	227	1	24	0	1,326,341
Iowa	159	1	27	0	184,249
Kansas	166	1	2	0	288,847
Kentucky	128	2	6	0	287,247
Louisiana	182	2	21	0	666,623
Maine	28	0	1	1	456,811
Maryland	135	1	1	0	386,710
Massachusetts	118	0	5	0	378,654
Michigan	322	0	5	0	550,412
Minnesota	172	0	0	0	411,495
Mississippi	95	0	5	0	260,889
Missouri	201	1	12	0	509,499
Montana	18	0	2	0	$ 103,571
Nebraska	45	0	2	0	159,120
Nevada	37	0	0	0	143,452
New Hampshire	14	0	3	0	25,230
New Jersey	179	1	15	0	301,878
New Mexico	63	0	0	0	274,099
New York	344	3	9	1	860,893
North Carolina	395	2	8	0	580,812
North Dakota	10	0	0	0	1,615
Ohio	613	0	21	0	966,973
Oklahoma	66	0	5	0	136,255
Oregon	91	0	5	0	447,316
Pennsylvania	732	7	15	0	3,922,969
Rhode Island	6	0	0	0	29,638
South Carolina	86	0	3	0	1,475,740
South Dakota	6	0	0	0	658
Tennessee	324	1	11	0	4,071,617
Texas	497	2	16	1	3,032,436
Utah	92	0	2	0	156,760
Vermont	7	0	0	0	30,514
Virginia	118	0	3	0	325,743
Washington	68	0	3	0	62,088
West Virginia	47	1	1	0	218,749
Wisconsin	167	0	16	0	132,312
Wyoming	34	0	0	0	107,409
* Other	15	0	0	0	0
TOTAL	8,687	41	349	4	$ 33,473,980

Note: Preliminary data as of March 1, 1991.

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

Exhibit 5

Incidents and Damages by Hazard Class - 1990 *

Hazard Class	Reported Number of Incidents	Rank	Percent of Reported Incidents	Amount of Damages	Rank by Damages	Percent of Total Damages	Number of Incidents Involving Damages
Flammable Liquid	3,380	1	38.9	$13,456,650	1	40.2	2,787
Corrosive Material	3,243	2	37.3	3,938,169	3	11.8	2,600
Combustible Liquid	644	3	7.4	7,756,619	2	23.2	516
Oxidizer	231	4	2.7	1,021,293	6	3.1	193
Poison Liquid or Solid, Class B	231	4	2.7	886,280	7	2.6	186
Other Regulated Material, Class A	205	6	2.4	3,589,603	4	10.7	148
Flammable Compressed Gas	199	7	2.3	280,659	9	0.8	80
Non Flammable Compressed Gas	192	8	2.2	369,993	8	1.1	116
Other Regulated Material, Class E	152	9	1.7	1,641,822	5	4.9	92
Organic Peroxide	63	10	0.7	16,851	16	0.1	54
Flammable Solid	50	11	0.6	67,363	13	0.2	35
Blasting Agent	30	12	0.3	30,057	15	0.1	9
Other Regulated Material, Class B	25	13	0.3	86,254	12	0.3	17
Other Regulated Material, Class C	22	14	0.3	194,689	10	0.6	15
Radioactive Material	21	15	0.2	36,835	14	0.1	6
Other Regulated Material, Class A	9	16	0.1	1,748	17	<.1	8
Poison Gas or Liquid, Class A	7	17	0.1	1,045	18	<.1	6
Explosives, Class A	5	18	0.1	97,730	11	0.3	4
Explosives, Class C	4	19	<.1	320	19	<.1	2
Etiological Agent	2	20	<.1	0	20	0	0
Explosives, Class B	0	21	0	0	20	0	0
Irritating Material	0	21	0	0	20	0	0
TOTAL			100.3	$33,473,980		100	

Note: Since some incidents involve multiple hazard classes, double counting occurs in the "Reported Number of Incidents" and "Number of Incidents Involving Damages." Therefore, no totals are shown for these columns. The calculation of "Percent of Reported Incidents" is based on the actual total of 8,687 incidents.

* Preliminary data as of March 1, 1991.

Exhibit 6

Injuries by Hazard Class -1990**

Hazard Class *	Number of Injuries	Percent of Injuries	Major Injuries ***	Minor Injuries	Number of Incidents with Injuries
Corrosive Material	150	38.5	17	133	96
Flammable Liquid	67	17.2	10	57	42
Poison Liquid or Solid, Class B	19	4.9	1	18	11
Nonflammable Compressed Gas	74	19.0	4	70	16
Oxidizer	19	4.9	2	17	11
Other Regulated Material, Class A	14	3.6	0	14	9
Flammable Compressed Gas	9	2.3	1	8	3
Poison Gas or Liquid, Class A	8	2.1	0	8	3
Combustible Liquid	9	2.3	2	7	7
Flammable Solid	6	1.5	0	6	2
Other Regulated Material, Class B	2	.5	0	2	1
Other Regulated Material, Class C	3	.8	2	1	3
Other Regulated Material, Class E	10	2.6	2	8	4
TOTAL	390	100.2%	41	349	208

Note: All % figures rounded to nearest .1%.

* No reports received for other hazard classes.

** Preliminary data as of March 1, 1991.

*** Major injuries are those requiring hospitalization, or involving 2nd or 3rd degree burns, or resulting in injury-related loss of time at work of one or more days, such as would be caused by inhalation of strong irritating vapors. All other injuries are considered minor.

Exhibit 7

Fatalities by Hazardous Material and Class - 1990*

Hazardous Material	Hazard Class	Number of Deaths
Gasoline	Flammable Liquid	3
Paint	Flammable Liquid	1
	TOTAL	4

Exhibit 8

Incident Cause by Mode - 1990 *

	Air	Highway	Rail	Water	Total	Percent of all Incidents
Human Error	223	5,495	545	4	6,267	72.1
Package Failure	50	1,221	603	2	1,876	21.6
Vehicle Accident/Derailments	0	240	47	0	287	3.3
Other	22	207	27	1	257	3.0
TOTAL	295	7,163	1,222	7	8,687	
Percent of Incidents by Mode	3.4	82.5	14.1	< .1		

* Preliminary data as of March 1, 1991.

Exhibit 9

Incidents by Top 50 Hazardous Materials - 1990 *

Rank	Hazardous Material	Hazard Class	Incidents	Percent of Total Incidents
1	Corrosive liquid n.o.s	Corrosive material	584	6.7
2	Gasoline	Flammable liquid	493	5.7
3	Flammable liquid n.o.s	Flammable liquid	483	5.6
4	Compound cleaning liquid	Corrosive material	439	5.1
5	Hydrochloric acid	Corrosive material	376	4.3
6	Sulfuric acid	Corrosive material	322	3.7
7	Fuel oil no. 1,2,4,5,6	Combustible liquid	311	3.6
8	Resin solution	Flammable liquid	306	3.5
9	Paint	Flammable liquid	266	3.1
10	Sodium hydroxide liquid	Corrosive material	222	2.6
11	Phosphoric acid	Corrosive material	176	2.0
12	Adhesive	Flammable liquid	175	2.0
13	Alkaline liquid n.o.s	Corrosive material	154	1.8
14	Liquefied petroleum gas	Flammable gas	139	1.6
15	Ink	Flammable liquid	137	1.6
16	Methyl alcohol	Flammable liquid	127	1.5
17	Combustible liquid n.o.s.	Combustible liquid	112	1.3
17	Isopropanol	Flammable liquid	112	1.3
19	Potassium hydroxide liquid	Corrosive material	107	1.2
20	Hazardous substance n.o.s	ORM-E	102	1.2
21	Xylene (xylol)	Flammable liquid	88	1.0
22	Compound cleaning liquid	Flammable liquid	86	1.0
23	Ammonium hydroxide 12-44%	Corrosive material	82	0.9
24	Ammonia anhydrous	Nonflammable gas	73	0.8
25	Hypochlorite solution >7%	Corrosive material	64	0.7
26	Petroleum naphtha	Combustible liquid	62	0.7
27	Paint related material	Flammable liquid	60	0.7
28	Ethyl alcohol	Flammable liquid	59	0.7
28	Toluene	Flammable liquid	59	0.7
30	Poisonous liquid n.o.s	Poison B	58	0.7
31	Cement	Flammable liquid	53	0.6
32	Corrosive solid n.o.s.	Corrosive material	51	0.6
32	Hydrogen peroxide 40-52%	Oxidizer	51	0.6
34	Hazardous waste n.o.s.	ORM-E	50	0.6
35	Methyl methacrylate inhib	Flammable liquid	47	0.5
35	Petroleum naphtha	Flammable liquid	47	0.5
37	Extract liquid flavoring	Flammable liquid	45	0.5
37	Fuel oil	Combustible liquid	45	0.5
39	Alcohol n.o.s.	Flammable liquid	43	0.5
39	Crude oil petroleum	Flammable liquid	43	0.5
39	1,1,1-Trichloroethane	ORM-A	43	0.5
42	Coating solution	Flammable liquid	42	0.5
43	Acetone	Flammable liquid	41	0.5
44	Acid liquid n.o.s.	Corrosive material	40	0.5
44	Battery fluid acid	Corrosive material	40	0.5
44	Styrene monomer inhibited	Flammable liquid	40	0.5
47	Flammable liquid corrosive	Flammable liquid	38	0.4
48	Nitric acid (over 40%)	Oxidizer	35	0.4
49	Formaldehyde (f.p.>141 F.)	ORM-A	34	0.4
49	Hydrofluoric acid solution	Corrosive material	34	0.4
51	Compound cleaning liq hcl	Corrosive material	32	0.4
	TOTAL		6,728	77.4

Note: Percentage figures based on 8,687 incidents reported in 1990.

* Preliminary data as of March 1, 1991.

Exhibit 10

Hazardous Waste Incident Statistics

By Mode and Reporting Year

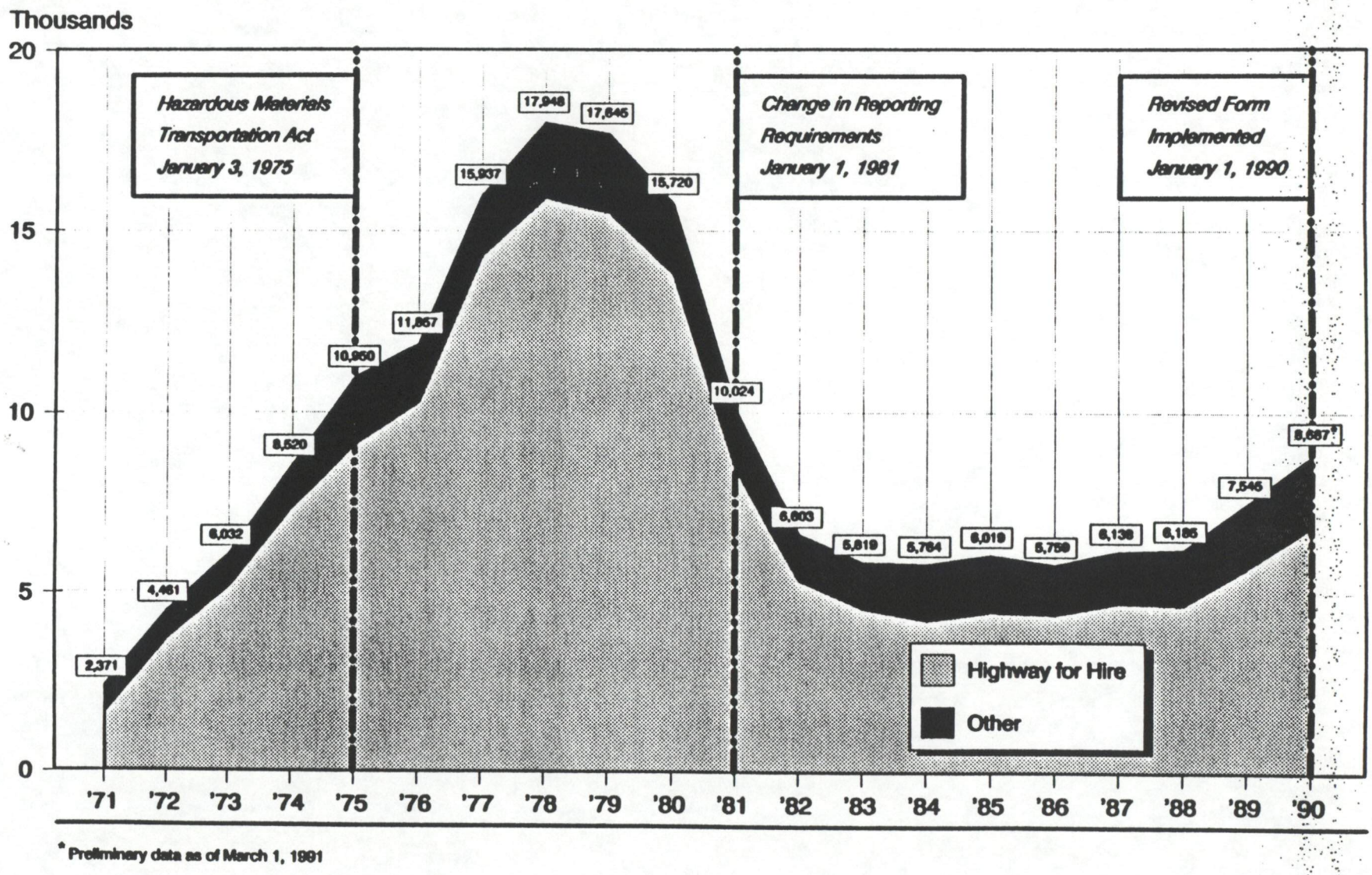
Mode	1983	1984	1985	1986	1987	1988	1989	1990 *	Total
Incidents by Mode									
Air	0	0	0	2	0	1	0	0	3
Highway	71	97	96	97	112	151	133	163	920
Railway	4	6	2	7	13	6	15	25	78
Water	0	0	0	0	1	1	0	0	2
Freight Forwarder	0	0	0	20	10	4	0	0	34
Other	0	0	3	8	1	1	0	0	13
TOTALS	75	103	101	134	137	164	148	188	1050
Deaths by Mode									
Air	0	0	0	0	0	0	0	0	0
Highway	0	0	1	0	0	0	0	0	1
Railway	0	0	0	0	0	0	0	0	0
Water	0	0	0	0	0	0	0	0	0
Freight Forwarder	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0
TOTALS	0	0	1	0	0	0	0	0	1
Injuries by Mode									
Air	0	0	0	0	0	0	0	0	0
Highway	3	12	2	35	3	4	2	4	65
Railway	0	0	0	0	0	0	0	4	4
Water	0	0	0	0	0	0	0	0	0
Freight Forwarder	0	0	0	1	0	0	0	0	1
Other	0	0	0	0	0	0	0	0	0
TOTALS	3	12	2	36	3	4	2	8	70
Damages by Mode (in Dollars)									
Air	0	0	0	0	0	0	0	0	0
Highway	171,449	574,061	1,049,967	795,222	248,959	689,794	761,490	1,287,577	5,578,539
Railway	122	40,000	0	600	5,942	1,200	115,625	4,516	168,005
Water	0	0	0	0	2,500	0	0	0	2,500
Freight Forwarder	0	0	0	2,970	3,195	1,100	0	0	7,265
Other	0	0	410	285	50	2,700	0	0	3,445
TOTALS	171,571	614,061	1,050,367	799,077	260,646	694,794	877,115	1,292,093	5,759,754

Note: Effective January 1, 1990, Freight Forwarder classification no longer used.

* Preliminary data as of March 1, 1991.

Exhibit 11

Total Hazardous Incidents, 1971-1990



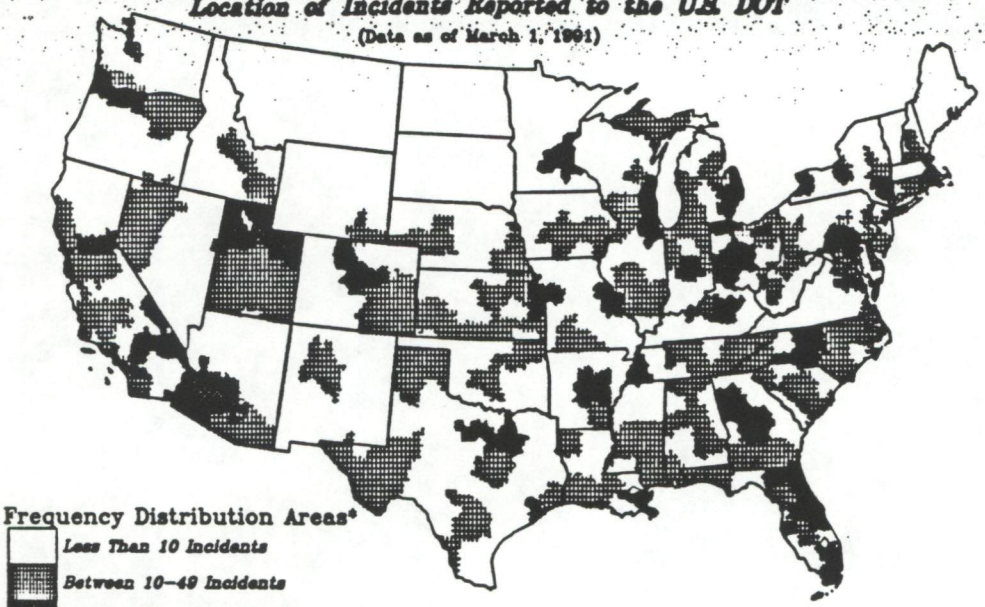
* Preliminary data as of March 1, 1991

Map 1

TRANSPORTATION INCIDENTS INVOLVING HAZARDOUS MATERIALS, 1990

Location of Incidents Reported to the U.S. DOT

(Data as of March 1, 1991)



Frequency Distribution Areas*

- *Less Than 10 Incidents*
- *Between 10–49 Incidents*
- *Between 50–100 Incidents*
- *Greater Than 100 Incidents*

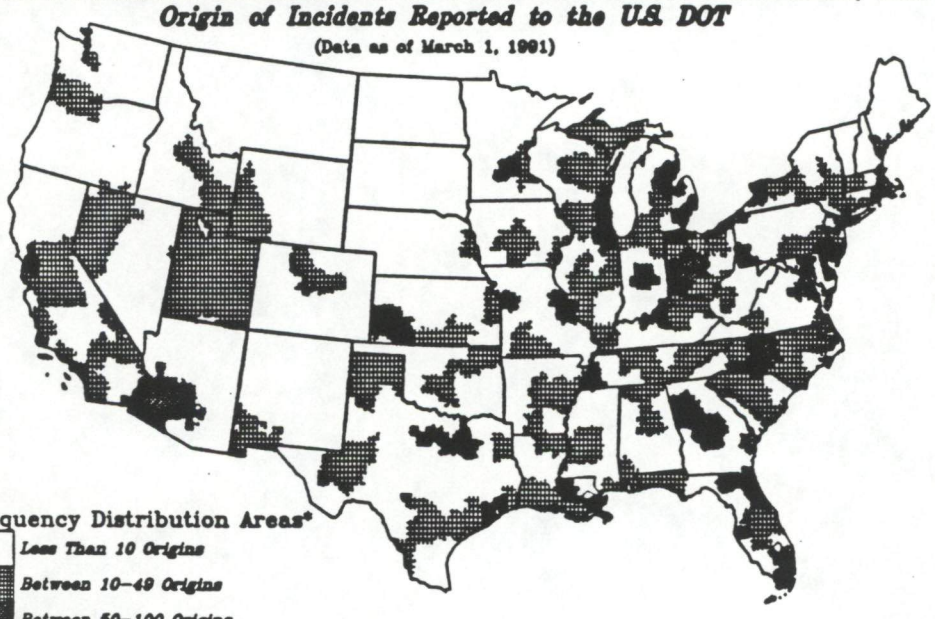
* Areas shown on this map are based on Three-Digit Zip Code boundaries.

Map 2

TRANSPORTATION INCIDENTS INVOLVING HAZARDOUS MATERIALS, 1990

Origin of Incidents Reported to the U.S. DOT

(Data as of March 1, 1991)



Frequency Distribution Areas*

- *Less Than 10 Origins*
- *Between 10–49 Origins*
- *Between 50–100 Origins*
- *Greater Than 100 Origins*

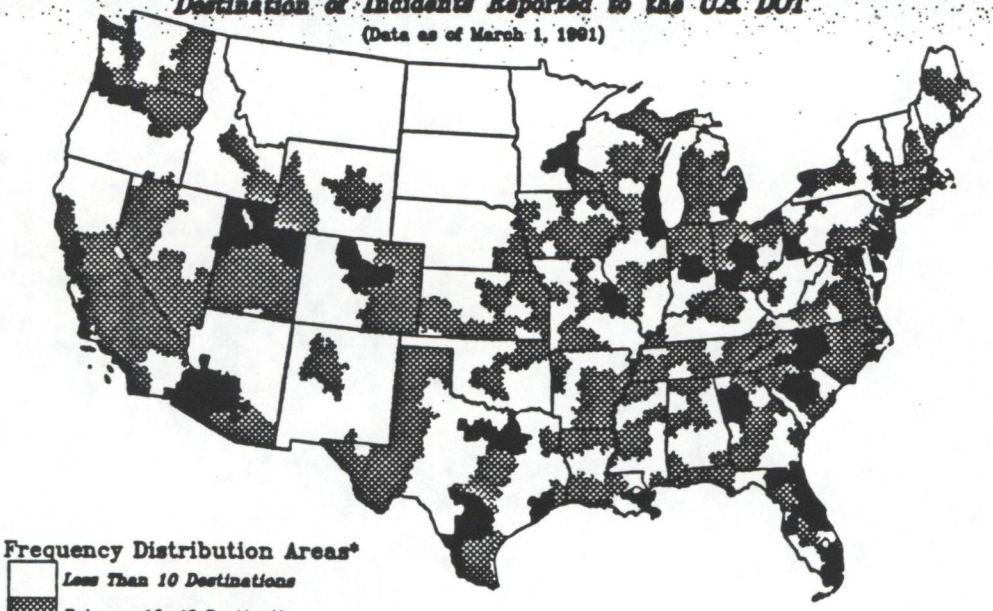
* Areas shown on this map are based on Three-Digit Zip Code boundaries.

Map 3

TRANSPORTATION INCIDENTS INVOLVING HAZARDOUS MATERIALS, 1990

Destination of Incidents Reported to the U.S. DOT

(Data as of March 1, 1991)



Frequency Distribution Areas*

Less Than 10 Destinations

Between 10–49 Destinations

Greater Than 50 Destinations

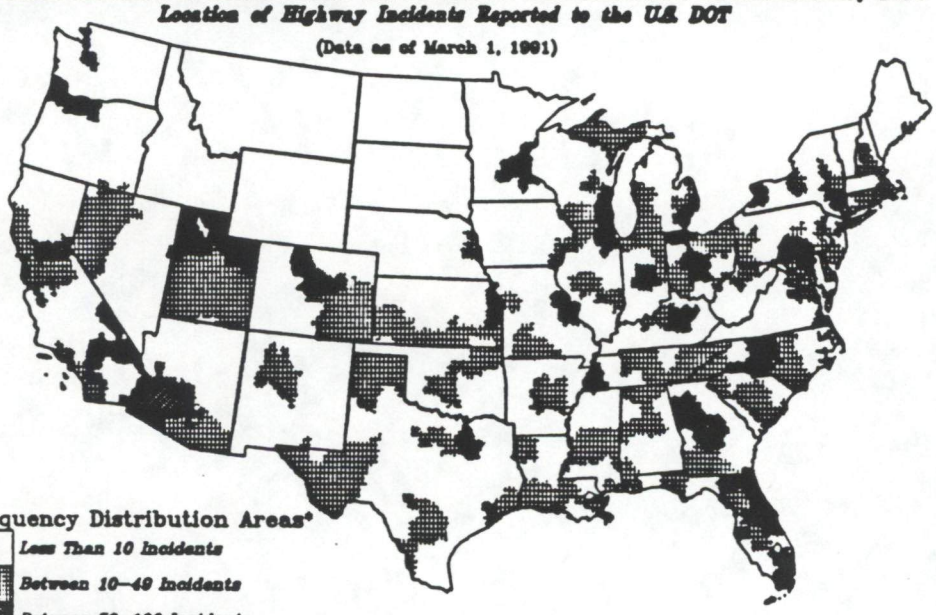
* Areas shown on this map are based on Three-Digit Zip Code boundaries.

Map 4

TRANSPORTATION INCIDENTS INVOLVING HAZARDOUS MATERIALS, 1990

Location of Highway Incidents Reported to the U.S. DOT

(Data as of March 1, 1991)



Frequency Distribution Areas*

Less Than 10 Incidents

Between 10–49 Incidents

Between 50–100 Incidents

Greater Than 100 Incidents

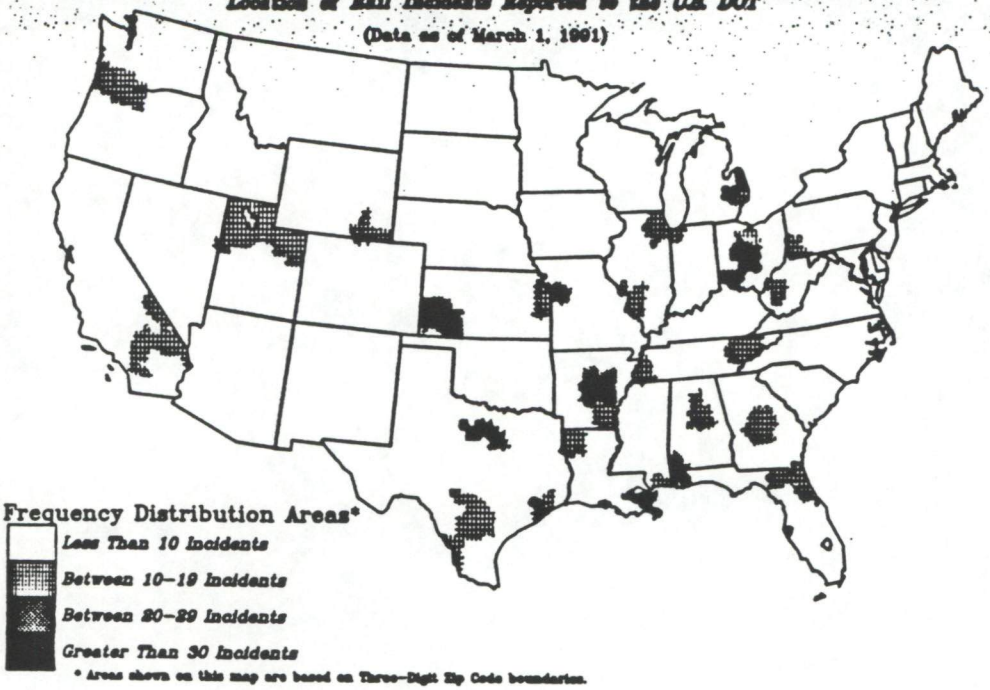
* Areas shown on this map are based on Three-Digit Zip Code boundaries.

Map 5

TRANSPORTATION INCIDENTS INVOLVING HAZARDOUS MATERIALS, 1990

Location of Rail Incidents Reported to the U.S. DOT

(Data as of March 1, 1991)



Frequency Distribution Areas*

- *Less Than 10 Incidents*
- *Between 10–19 Incidents*
- *Between 20–29 Incidents*
- *Greater Than 30 Incidents*

* Areas shown on this map are based on Three-Digit Zip Code boundaries.

VI

RESEARCH AND TECHNOLOGY

The Department pursues a diverse program of research and technology for hazardous materials transportation safety. Each administration identifies safety concerns and assesses technological advances for consideration when developing new or modifying existing regulations.

Highlights of this year's program are as follows:

- RSPA continued its work on the "Hazardous Materials Package Performance Evaluation." The project objectives are: 1) to determine credible accident scenarios for the shipment of materials extremely poisonous by inhalation (MEPBI); 2) to determine an acceptable level of risk for the release of MEPBI; 3) to develop performance requirements for packages containing MEPBI; 4) to develop design approaches meeting the determined performance requirements, and 5) to determine the acceptability of using certain DOT specification packagings for the transport of Type B quantities of radioactive materials. The results of the MEPBI portion of the project will be used to establish regulatory requirements that address the puncture, crush, and fire resistance of packaging used to transport bulk quantities of MEPBI.

- FRA completed a "Hazardous Materials Emergency Response Plan Guidance Document for Railroads" for use in developing Emergency Response Plans. The guidelines identify elements which must be considered in preparing for and responding to rail incidents involving hazardous materials, and other key factors which allow individual railroads to tailor contingency plans to their own territory and operations.

- FRA's Office of Research and Development is studying regional railroads to evaluate the current state of preparedness in the event of a hazardous materials emergency and to determine the needs of those railroads to safely handle and transport hazardous materials. This study, "U.S. Local and Regional Railroads: An Assessment of Preparedness Needs Related to Hazardous Materials Emergencies," will be completed in 1991.

New initiatives and projects continued from the previous year:

- Work continues on the "Evaluation of the Hazard Characteristics of Currently Manufactured Blasting Agents" to evaluate technology advances in the manufacturing processes of these materials. The study focuses on changes in blasting agents' shock and deflagration-to-detonation transition (DDT) sensitivity. DDT sensitivity measures the behavior of a blasting agent involved in a fire. Laboratory testing of several field samples of blasting agents is currently underway. The results of this project will enable RSPA to evaluate the adequacy of current regulations regarding new blasting agents.

- A cooperative project of RSPA and the Occupational Health and Safety Administration continues to evaluate the performance of totally-encapsulated chemical protective suits when exposed to high concentrations of toxic chemicals. The study, "Totally-Encapsulating Chemical Protective Suit Testing in Worst Case Chemical Exposures," is being conducted by the Lawrence Livermore National Laboratory. The objective is to obtain measurements and compare penetration of different protective suit compositions by chemicals under laboratory and field conditions. Laboratory testing was completed in 1990. The data will be used to develop improved performance and testing standards for totally-encapsulating chemical protective suits used by response personnel during chemical emergencies.

- Work continues on "Improved Design, Production, and Requalification Tests for Gas Cylinders Fabricated from High Strength Steels." RSPA initiated this project to address an industry trend towards the use of higher strength materials to reduce cylinder weight. This trend has necessitated the development of design, production, and requalification tests to verify the safety of high pressure gas cylinders. Preliminary work has raised several questions regarding the validity of production

and requalification tests currently being used on DOT specification cylinders.

- The "Development of Test Criteria for Evaluating Detonation, Fragmentation, and Radiation Heat Hazards of Explosives" continues. New tasks were added to this project to explore the feasibility of using "burning time" as a criterion for assessing radiant heat hazard of explosives and to examine the effect of packaging on the fireball hazard of packaged explosives. The results will enable RSPA to develop criteria for distinguishing propellant explosives from propellant-like flammable solids.

- A project entitled, "Development of Test Methods to Determine the Compatibility of Liquid Hazardous Materials with Polyethylene Packagings" has been initiated. Phase One has been completed and the results indicate that it is possible to develop test requirements to assess chemical compatibility of hazardous liquids with polyethylene packages. The second phase of this project will generate the details necessary to finalize a testing scheme for measuring compatibility. Upon completion of this project, RSPA plans to develop a simple and cost-effective test method for adoption into the HMR.

- The capability to detect radioactive materials released during transportation accidents is of paramount concern to emergency responders and radiological specialists. The objective of the project "Tabulation of the Relative Sensitivity for Two (2) Radiation Detection Instruments for the Types of Radioactive Materials Being Transported" is to determine the capability of two commonly used civil defense instruments. The CDV-700 Geiger Mueller counter and the CDV-715 ionization chamber are used to detect routinely transported radioactive materials. This project is providing a qualitative evaluation of instrument response for use in a guidance document, "Radioactive Materials Information and Incident Guidance."

- A project entitled, "Hazard Evaluation Criteria for Lithium Batteries in Transportation" was initiated to assess the hazards and develop new testing methods which can be used to evaluate various hazard properties inherent in a lithium battery. The assessment was completed in 1990.

- Work continues on "New Tank Car Steels," a project initiated to conduct a metallurgical evaluation of new steels being proposed by industry for use in future tank car construction. In some cases, these new high strength, microalloyed steels are made using the practice of inclusion shape control. For comparison purposes, FRA is developing a data base of desired material properties used in existing tank car steels.

- A "Tank Car Structural Integrity" research project was initiated to analyze critical flaw size for tank car steels. The project is long term, since a variety of damaged tank car steels are needed for study. Detailed metallurgical investigations will be conducted on deformed, dented or otherwise stressed steels from tank cars involved in derailments. The material's metallurgical properties will be determined as a function of the material's loading rate and temperature.

- Phase II of a Small Business Innovative Research program will determine if a detection device can be developed to identify internal shell cracks and flaws on insulated, jacketed tank cars. Detection techniques for uninsulated tank cars do exist; however, their use on insulated tank cars is limited.

- FRA initiated a study to evaluate the effect of typical railroad accident fires on spent nuclear fuel casks. A part of this project will be the determination of the fire boundary conditions to be used in a model analysis of a spent nuclear fuel cask. Previous fire data were analyzed and an evaluation of thin and thick-walled, thermally massive objects was attempted. Design temperatures for casks which contain radioactive materials are slightly different from thermal conditions prescribed for insulated tank cars. A final report is being prepared.

- A project to study "Residual Stress/Fatigue Crack Growth" is continuing into 1991. The objectives are to identify stresses in tank cars that can lead to crack initiation, and to determine the time it takes for a crack, once initiated, to propagate to failure. Over-the-road tests were

USCG headquarters and regional staff provided hazardous materials training to nonvessel operating common carriers (NVOCC), and various industry and government groups nationwide.

At locations throughout the nation, FRA personnel presented seminars on the safe transportation of hazardous materials by rail. A total of 71 seminars were conducted involving over 1,200 individuals, including 360 railroad employees, 478 shippers, 242 emergency responders, and 71 state employees.

FAA's regional staff conducted and/or participated in 46 seminars, attended by over 1,800 individuals, including operators, freight forwarders, shippers, and other aviation industry employees.

FHWA's Hazardous Wastes/Hazardous Substances Technical Advisory Group (TAG) provided an overview of FHWA activities to a number of professional groups. The groups included: the Chemical Waste Transportation Institute, National Safety Council, Central Conference of the Teamsters Union, and the Midwest Environmental Enforcement Association.

New Training Initiatives

In 1990, RSPA continued to expand educational programs to increase the public's awareness of the risks involved in the transportation of hazardous materials. Increased emphasis was placed on developing outreach programs and 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 reach broader audiences.

RSPA Participated in Two Teleconferences Over the Federal Emergency Management Agencies' (FEMA) Satellite Emergency Education Network (EENET)

RSPA participated in a week-long hazardous materials training telecourse which provided training for first responders to incidents involving hazardous materials. This five-day program included lecture presentations, panel discussions, and audience participation via telephone "call-ins."

RSPA participated in the live telejournal, "Status Report of Where We are in Hazardous Materials Training," along with representatives of the Department of Labor/Occupational Safety and Health Administration (DOL/OSHA), FEMA, Department of Energy (DOE), and National Institute of Environmental Health Sciences (NIEHS). The telejournal provided an overview of the broad range of

hazardous materials training available from U.S. Government agencies. EENET officials estimate a live-viewing audience of over 100,000 for each broadcast.

Hazardous Materials Transportation Training Modules: Compliance & Enforcement

RSPA completed the production and distribution of six hazardous materials compliance and enforcement training modules. This audio-visual training program is a cooperative effort by the Department, industry representatives of the Hazardous Materials Advisory Council (HMAC), and state enforcement/emergency management personnel of the COHMED program.

The modules are designed to provide "off-the-shelf" training on the safe transportation of hazardous materials. The first set of six modules teaches the basics for transporting hazardous materials. Topics covered are:

1. Hazardous Materials Table
2. Shipping Papers
3. Packaging
4. Marking and Labeling
5. Placarding
6. Carrier Requirements

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

Upon completion of a successful pilot test program, three hundred copies of the modules were distributed at no charge to state agencies participating in the COHMED program (law enforcement, emergency response agencies, and public utilities commissions), to DOT headquarters and/or regional offices (FAA, FHWA, USCG, and National Highway Traffic Safety Administration), and to Governors' highway representatives.

The 1991 schedule calls for the continuing development of this series with a set of six modules on HMR requirements for cargo tanks, intermodal/international operations, radioactive materials, compressed gas cylinders, and portable tanks. Updates and supplements will be issued periodically to reflect changes to the HMR, including performance-oriented packaging standards. Most of the pre-production development should be accomplished during 1991.

"The Compliance Partnership" a New Training Videotape Series

RSPA, in cooperation with the Office of Personnel Management, has produced a new videotape entitled "Overview of the HazMat Regulations." This videotape, the first of four in the "Compliance Partnership Videotape Series," provides an overview of the Federal Hazardous Materials Regulations and discusses the importance of a strong Federal, state, and industry partnership. The target audience of this first video is elected officials, state and local government, and middle to upper management in law enforcement.

The development schedule for 1991 calls for completion of a videotape specifically for judges and attorneys who handle hazardous materials enforcement cases. Two additional videotapes will address state programs and investigative techniques.

"The Hazardous Waste Puzzle" - A Videotape Developed by FHWA

FHWA's Hazardous Wastes/Hazardous Substances TAG, in cooperation with the State of Idaho, developed and produced a new videotape entitled "The Hazardous Waste Puzzle." This videotape outlines the requirements for handling hazardous wastes and hazardous substances. The target audience is Federal, state, and local enforcement personnel.

"Tag Groups - FHWA's Hazardous Materials Experts"

This video, produced by FHWA and the State of Idaho, briefly describes the Technical Assistance Groups for each of the hazardous materials specialty areas (cargo tanks, explosives, radioactive materials, and hazardous wastes and substances).

Hazardous Materials: An Introduction for Public Officials

To heighten awareness of the sensitive issues associated with the management of a hazardous materials program, RSPA and FEMA developed a six-hour "briefing" for newly elected or appointed public officials. The briefing addresses key roles and responsibilities, typical planning needs required of all communities, organization/ agency roles, and resource assessment. FEMA offers the briefing at various locations nationwide.

DOT/EPA Workshops on the Transportation of Hazardous Materials and Hazardous Wastes

RSPA, in cooperation with the Environmental Protection Agency (EPA), presented a one-day workshop on "Complying with Federal Requirements for Transporting and Reporting Releases of Hazardous Materials" at the HazWaste Expo '90. The workshop, sponsored by the National Association of Hazardous Waste Generators, held in San Diego, California, was attended by approximately 1,000 government and industry representatives.

The workshop covered requirements for three Federal agencies: DOT (shipping papers, release reporting, marking, labeling, placarding); EPA (hazardous wastes and manifests); and Occupational Safety and Health Administration (OSHA) (worker protection standards).

Consequence Modeling Book and Software Produced

Three instructional workshops were presented to users of the "Handbook of Chemical Hazard Analysis Procedures" and the associated software program known as "ARCHIE" (Automated Resource for Chemical Hazard Incident Evaluation). Using courseware developed under sponsorship of RSPA, FEMA, and EPA in 1989, the workshop participants acquired an in-depth knowledge of the software program and how to apply the results.

RSPA SPONSORED TRAINING

COURSES AND PARTICIPANTS

Type of Course	Classes	Participants
Hazard Awareness/Hazard Analyses*	6	153
Compliance and Enforcement **	58	1615
Total	64	1768

TYPES OF PARTICIPANTS

Type	Number
Federal	813
State/Local Government	775
Industry	135
International	45

* Includes Train-the-Trainer Awareness for Initial Response to HM Incidents course.

** Includes all TSI Training Courses and the DOT/EPA Workshops

Note: The number of participants attending the ARCHIE Workshops and/or the Public Officials Briefings are not included in the above figures. These courses, previously sponsored by DOT and FEMA, are currently being delivered by FEMA. Therefore, figures are significantly lower than those reported in the 1989 report.

Publication Development

The Department publishes a variety of training and educational materials to foster compliance with the Hazardous Materials Regulations. The publications inform the regulated public and the enforcement community 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 40 different pamphlets, charts, fact sheets, and technical guides. These noncopyrighted publications are widely reproduced and used by industry and public sector personnel (fire, police, and sheriffs departments; civil defense/emergency management agencies; universities and colleges; and other Federal, state and local government agencies) in training programs across the nation. In 1990, RSPA disseminated approximately 750,000 of these training documents.

RSPA completed the revision, production, and distribution of the 1990 "Emergency Response Guidebook" (ERG). RSPA incorporated into the 1990 edition comments offered by emergency response agencies, industry, other Federal agencies, and the public. Significant improvements were also made in the content and presentation of emergency guidance, as well as recommendations for public protection. The ERG is RSPA's most widely distributed technical guide for emergency response personnel. Over one million copies were distributed free of charge to emergency response agencies nationwide. The distribution process, directed in-house, coordinated local delivery through a network of key state agencies. Updated every three years, the next edition will be issued in 1993.

Commodity Flow Study Primer

RSPA is developing a guidance manual for state and local officials on performing hazardous materials commodity flow studies. When completed, the document will provide guidance on conducting commodity flow studies and assistance in statistical methodology. The manual will also include data from a major RSPA-sponsored research study on hazardous materials being transported by highway.

Information Dissemination

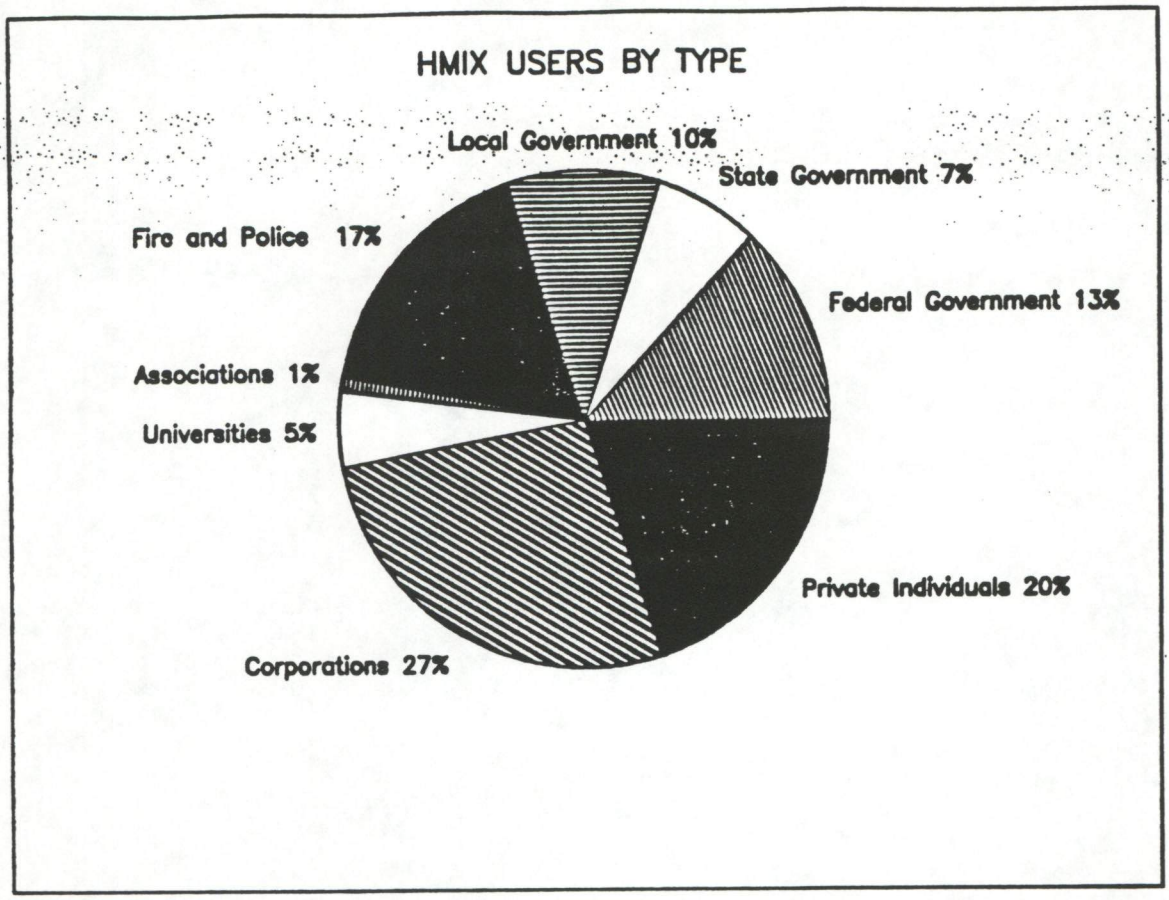
An important goal of the Department is to ensure that individuals in the transportation community receive information they need to manage their hazardous materials and emergency response programs. To maximize outreach efforts, the Department uses many resourceful methods to disseminate information.

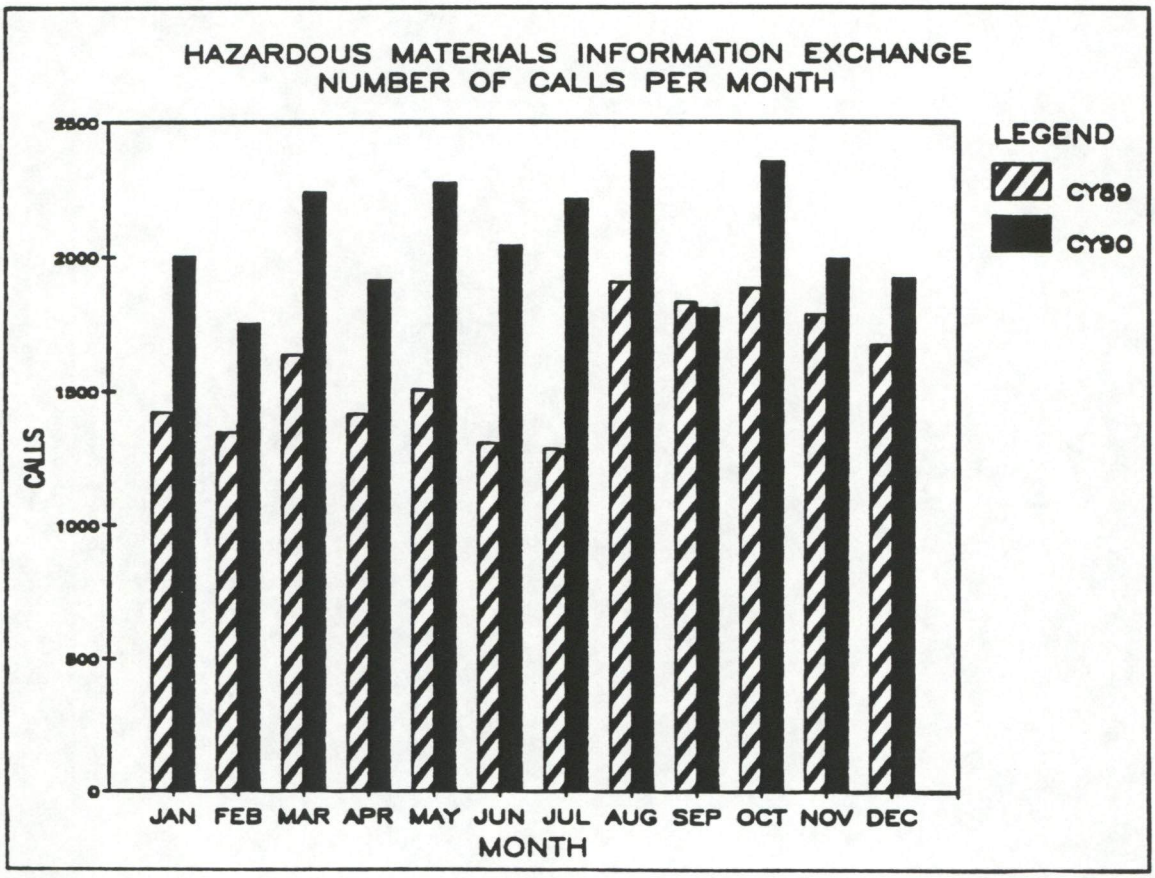
Hazardous Materials Information Exchange (HMIX)

RSPA continues to disseminate hazardous materials information through its electronic bulletin board system known as the Hazardous Materials Information Exchange or HMIX. The HMIX, jointly sponsored by RSPA and FEMA, offers Federal and state agencies and constituency groups a centralized place to find and/or exchange information on hazardous materials transportation safety. The bulletin board contains information regarding the availability and status of hazardous materials training courses, print and media training aids; state and regional activities; conferences; laws and regulations; literature selections; contacts -- Federal and state agencies, associations, and publishers; and other pertinent data.

In addition to the bulletin board service, technical assistance is available to individuals needing help in setting up their computer and software through the HMIX information center. The technicians also provide information to those without computer capability.

In 1990, over 24,000 calls were made to access the information on the HMIX bulletin board, and over 20,000 calls were made to the information center. As of December 31, there were over 10,000 users of the HMIX. A new topic containing information on the "Emergency Response Guidebook" was added to the bulletin board. This topic provides a method for the users of the guidebook to communicate with those who developed the 1990 ERG through the bulletin board message service. Additionally, it provides a valuable link between state distributors and RSPA staff.


HMIX USERS BY TYPE
Local Government 10%
State Government 7%
Fire and Police 17%
Federal Government 13%
Associations 1%
Universities 5%
Private Individuals 20%
Corporations 27%


HAZARDOUS MATERIALS INFORMATION EXCHANGE
NUMBER OF CALLS PER MONTH
LEGEND
CY89
CY90
CALLS
2500
2000
1500
1000
500
0
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
MONTH

RSPA's Hazardous Materials Transportation Safety Exhibit

RSPA promotes hazardous materials transportation safety and distributes educational materials at transportation conferences nationwide. With the assistance of the Commercial Vehicle Safety Alliance (CVSA), an association of state and Canadian province highway safety enforcement personnel, approximately 40,000 pieces of educational materials were disseminated to industry, law enforcement, and emergency management personnel. In FY 1990, RSPA's "Hazardous Materials Transportation Safety" exhibit was displayed in the following locations:

Central States Truck Show	Chicago, Illinois
Hazardous Materials Spills Conference	Houston, Texas
Hazardous Materials Transportation Seminar	San Juan, Puerto Rico
Southeast Truck Show	Atlanta, Georgia

Periodicals

To meet the public's need for information, clarification, or interpretation of various aspects of the hazardous materials regulations, RSPA publishes a "Hazardous Materials Transportation Safety Newsletter." The newsletter contains informative articles, updates on regulatory actions, special notices, training schedules, and responses to frequently asked questions from the public. The newsletter is distributed to shippers, carriers, freight forwarders, and Federal, state, and local government agencies. RSPA maintains a current mailing list of over 7,500 individuals and associations involved with hazardous materials transportation safety and emergency response.

In each edition of its Proceedings of the Marine Safety Council magazine, the USCG publishes an article to assist maritime personnel. Each article, entitled "Chemical of the Month," provides a breakout of the properties and hazards associated with a particular hazardous material commonly transported by vessel. Regulatory updates, stowage and packaging requirements, and industry changes are also provided.

VIII

INTERGOVERNMENTAL OUTREACH PROGRAMS

The safe transportation of hazardous materials is a shared responsibility between the private and public sectors--the Federal Government, state and local governments, and private interests. The Department coordinates with these entities to achieve a unified national hazardous materials safety program. This year, interagency coordination was particularly critical since the USCG and RSPA were involved in Operation Desert Shield activities. In the future, emphasis in interagency consultation and liaison will be increasingly important as the Department implements the new mandates contained in HMTUSA and SFTA.

Federal Coordination Activities

Department of Defense

The Secretary of Transportation and the Secretary of Defense work together to ensure the safe movement of military shipments within the United States. and to destinations overseas. To accomplish this task, RSPA and DOD conduct semiannual meetings to coordinate regulatory and emergency response activities involving the transportation of explosives, ammunition, rocket motors, and other hazardous materials needed for national security. Meetings were held in 1990 to discuss the status of several critical exemption and approval requests such as the use of commercial airports by the Civil Reserve Air Fleet for carriage of ammunition and other hazardous materials, and the impact of new regulations on the DOD.

Departmental Support of Operation Desert Shield

Beginning in August, the USCG assisted DOD in the deployment of troops and materials to the Persian Gulf. USCG field units provided port safety and security to Operation Desert Shield sealift cargo vessels which were loaded in United States and foreign ports. The range of activities included vessel escorts, enforcement of safety/security zones, cargo loading supervision, hazardous materials

inspections, prestow inspections, stowage plan review, and assistance to numerous DOD commands. All District offices, the Area Commands and USCG Headquarters activated full-time response cells to address necessary policy, logistics, and administrative and public affairs issues. In addition, the USCG:

- Provided guidance to various National Guard units concerning the approval of intermodal freight containers for ammunition transport.
- Issued approvals authorizing defense contractors to transport military explosives in different types of freight containers, and authorized the Military Traffic Management Command (MTMC) to use diesel powered industrial trucks.
- Reviewed and approved emergency exemptions to reclassify ammunition and extended expiring approvals for the MTMC.

In support of Operation Desert Shield, RSPA issued nine new exemptions to DOD authorizing the shipment of explosives by air that are normally forbidden or exceed weight quantities; three exemption renewals to bring specifications in-line with Desert Shield requirements; and 45 competent authority approvals for packaging relief from international requirements.

National Transportation Safety Board

RSPA, FHWA, FRA and FAA continue to work closely with the National Transportation Safety Board (NTSB). In response to a variety of safety recommendations, a number of research projects, test programs, rulemaking actions, etc. are in various stages of development. These address: cargo tank maintenance and repair, headshield protection for tank cars, petrochemical loading facility safety standards, evacuation distances for munitions accidents, highway routing guidelines, and packaging and handling standards for molten sulphur. Others address hazardous materials restriction notices at air freight forwarder facilities, emergency response communications, specifications to secure tank car closure fittings, remote cutoff valves for cargo tanks, and a wide range of safety issues concerning cylinders.

Chemical Weapons Destruction Program

The USCG's involvement in international regulatory matters provides direct benefits to DOD's mandated chemical weapons destruction program. Since early 1988, the USCG has provided multimodal counsel to DOD on negotiations with Germany and other countries along the transportation route from Europe to

Johnston Atoll. This counsel resulted in the successful and uneventful transport of these munitions in 1990 to their repository on Johnston Atoll. For Operation Steel Box, two dedicated vessels were modified to achieve maximum safety in transit. Operation Steel Box was completed when the last rounds were unloaded from the vessels in November 1990.

State Program Coordination

Hazardous Materials Specialist Program

RSPA encourages states to take an active role in hazardous materials transportation safety. In 1989 and 1990, RSPA, sponsored a hazardous materials specialist program under the Intergovernmental Personnel Act (IPA). The purpose of the program is to achieve uniformity between state and Federal hazardous materials regulations, enforcement methodology, and penalty actions. This internship program allows a state or local government hazardous materials program manager to attend a 12 week residency program at DOT headquarters. The intern gains insight in program development while actively participating with departmental staff. Four law enforcement officers from the states of Minnesota, Michigan, Texas, and New Jersey completed the program in 1990. RSPA's goal is for the interns to use the knowledge gained to establish and administer hazardous materials transportation safety programs within their state or jurisdiction.

Cooperative Hazardous Materials Enforcement Development (COHMED) Program

RSPA sponsors the COHMED program for persons involved in managing hazardous materials and emergency management programs. During the last several years, COHMED has facilitated coordination, cooperation, and communication between Federal and state agencies, local government, and the tribal nations. COHMED participants play an important role in the development of a uniform national hazardous materials program.

In 1990, COHMED expanded its outreach to industry. Industry representatives participated in the COHMED semiannual conferences in St. Louis, Missouri, and in Bethesda, Maryland. Participants agree that industry representatives provided needed insight from the regulated side of the compliance partnership.

Highlights of COHMED activities:

- Four COHMED committees were formed to more effectively utilize the expertise of the participants. The committees are: Enforcement,

Investigation and Compliance; Routing and Risk Assessment; Training, Publications and Resource Development; and Emergency Response. Each committee confers throughout the year to plan future initiatives.

- A new conference format allowed participants to focus on selected educational programs, regulatory activities, and other topics of concern. Concurrent enforcement and emergency response "breakout sessions" were augmented with general and working sessions.

- Representatives of COHMED worked with RSPA/HMAC curriculum development teams to create the hazardous materials compliance and enforcement training modules. A COHMED representative (while participating in the IPA program) served as the instructor of the pilot test program.

- COHMED participants provided technical support to RSPA in the development of two videotapes. The first video, entitled "Hazardous Materials Managers: An Introduction and Overview" was produced by the Arizona Department of Public Safety in cooperation with the National Highway Traffic Safety Administration and the International Association of Chiefs of Police and is now in final production. This video will be used as a training aid for law enforcement officers new to the hazardous materials program. The second video, "Spotting and Identification of Precursor Chemicals," was produced by the Drug Enforcement Administration. It focuses on the recognition of hazardous materials used in the manufacture of illegal drugs. Both videotapes are scheduled for distribution in 1991.

- Five states participating in the COHMED program completed a study on "Thinning Wall Thicknesses of Specification Cargo Tanks" used to transport corrosive liquids (primarily sulfuric acid). Tank car measurements were taken in Arizona, Maryland, Missouri, Oregon, and Washington. Results of the study revealed that states with warmer climates had a more serious problem with premature deterioration of specification cargo tanks than states with colder climates. The study also identified several other potential problem areas.

IX

FUTURE ADMINISTRATION CHALLENGES

In 1990, two significant pieces of legislation, HMTUSA and SFTA, were enacted which gave the Department major new responsibilities. The passage of these laws reflects an increased awareness and concern for the safe transportation of hazardous materials and the need to ensure the public that food is kept free from contamination during transportation.

Hazardous Materials Transportation Uniform Safety Act

On November 16, 1990, the President signed HMTUSA, the first substantial change to the Hazardous Materials Transportation Act since it was enacted in 1975. HMTUSA encompasses most of the hazardous materials reauthorization legislative initiatives submitted to Congress by the Administration. Under the Act the Department is required to initiate rulemakings to:

- Extend the applicability of the Hazardous Materials Regulations to intrastate commerce.
- Specify what information must be contained on shipping papers, where shipping papers are to be maintained and under what circumstances they must be released.
- Set forth training requirements for employees who handle hazardous materials.
- Require motor carriers of certain hazardous materials to hold a safety permit.
- Require shippers to confirm that a motor carrier holds a safety permit before certain hazardous materials are offered for transportation.
- Set forth procedures for determination of Federal preemption and waivers of preemption.
- Develop a national curriculum and implement public sector grant programs to provide financial and technical assistance for public sector planning and training.
- Improve hazardous materials identification systems.

- Determine the feasibility, necessity, and benefits of a continually monitored telephone system for emergency response information.
- Require registration by shippers and carriers of certain hazardous materials.
- Establish Federal standards for states and Indian tribes to use in establishing specific highway routes for hazardous materials shipments.

To enhance public safety related to the transportation of high-level radioactive waste and spent nuclear fuel, a "Dedicated Train Study" is required to compare the safety of using trains operated exclusively for transporting these materials. A mode and route study is also required to determine which factors, if any, should be taken into consideration by shippers and carriers in the selection of routes and modes. Another study concerning the establishment and operation of a central reporting system and computerized telecommunications center is to be conducted by the National Academy of Sciences. Once this study is completed, RSPA will evaluate the results and the results of a rulemaking on improvements to hazardous materials identification systems, and make recommendations to Congress. A registration program will be designed and implemented to fund the grant programs -- emergency response planning and training grants for local public sector personnel and hazardous materials worker protection training grants for private sector workers. Grants to the private sector will be administered by the National Institutes of Environmental Health Sciences (NIEHS).

Sanitary Food Transportation Act

SFTA was signed into law on November 3, 1990, shortly before enactment of HMTUSA. SFTA requires the Secretary to issue regulations to ensure that food and other consumer products are not contaminated during transportation. The new law requires the Secretary, in consultation with the Secretaries of the Departments of Agriculture and Health and Human Services, and the Administrator of the EPA, to issue transport regulations. These regulations would govern the transportation of certain products (food, food additives, drugs, medical devices, and cosmetics) in motor and rail vehicles that are also used to transport refuse or other nonfood products. RSPA has been designated as the lead agency to develop and publish the requirements set forth in the law with support from FHWA and FRA. SFTA requires the establishment of standards and requirements to address:

- Recordkeeping, identification, marking, certification or other means of verification to promote compliance;

- Decontamination, removal, disposal and isolation procedures;
- Appropriate materials of construction for cargo tanks, tank trucks, and rail tank cars; and
- Minimum insurance and liability requirements and appropriate enforcement measures.

In addition, RSPA is required to identify: 1) nonfood products that can be shipped in cargo tanks and tank cars that are also used to transport food, 2) unacceptable nonfood products which would make food products unsafe, and 3) products, including asbestos, that present extreme danger to human or animal health and therefore must be transported in dedicated vehicles. Procedures and guidelines for issuing waivers from the regulations issued under the Act or from any provision of the Act are also required.

FHWA and FRA will be responsible for enforcing the requirements of this Act and to provide assistance to state enforcement programs. These modes are also required to develop and implement training programs for inspectors who will enforce regulations issued under this Act or compatible state laws and regulations.

APPENDIX A
RULEMAKING ACTIONS

APPENDIX A

RULEMAKING ACTIONS TAKEN IN 1990

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Emergency Response Communication Standards (HM-126C)	Final Rule	08/17/90	Requires that certain response information accompany shipments of hazardous materials. Responds to petitions for reconsideration and extends effective date.
Training (HM-126F)	NPRM	07/26/89	Proposal which considers the adoption of training requirements for all persons involved in the transportation of hazardous materials.
Passive Restraint Systems - Airbags (HM-139H)	NPRM	02/26/90	Proposes to provide for shipments of airbags under regulations of general applicability, rather than exemptions.
Hazardous Substances (HM-145I)	Final Rule	11/07/90	Adds CERCLA hazardous substances or adjusts the reportable quantities based on EPA designations, as required by SARA.
Directing Routing of Radioactive Materials (HM-164C)	Final Rule	05/08/90	Requires motor carriers of highway route controlled quantities of radioactive materials to transport those materials using the most direct routes from pickup through delivery.
Deletion of Appendix A to Part 177 (HM-164D)	Final Rule	02/08/90	Removes Appendix A to Part 177 containing a DOT policy statement regarding the relationship of State, local, and Federal rules on motor carriers transporting radioactive materials.
Hazardous Materials; Miscellaneous Amendments (HM-166W)	Final Rule	07/05/90	Responds to petitions for rulemaking and corrects minor errors in the regulations through periodic rulemaking actions.
Compatibility with the IAEA for Radioactive Materials (HM-169A)	NPRM	02/08/90	Updates radioactive material requirements based upon the current Safety Series #6 of the IAEA. Extends the comment period.

APPENDIX A

RULEMAKING ACTIONS TAKEN IN 1990

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Tank Car Head Shield and Thermal Protection (HM-175A)	ANPRM	05/15/90	Proposes to require head shields on tank cars for materials which are poisonous by inhalation.
Performance-oriented Packaging Standards (HM-181)	Final Rule	12/21/90	Consolidated final rule incorporating changes to classification, hazard communication, packaging, and handling requirements based on the United Nations Recommendations on the Transport of Dangerous Goods and RSPA's initiative.
Recodification of Explosive Regulations (HM-181A)	NPRM	05/02/90	Proposes to align the requirements in the HMR for explosives with the U. N. Recommendations and HM-181.
Revisions to Modal Regulations (HM-181B)	NPRM	05/02/90	Proposes to revise 49 CFR Parts 174-177 for consistency with HM-181 proposals. Focusing on editorial revisions, stowage, and segregation of hazardous materials.
Transportation of Hazardous Materials in Tank Car Tanks and Rail Cars (HM-181C)	Supplemental NPRM	05/23/90	Corrections and supplemental proposals in HM-181 related to tank cars and rail cars.
Flammable Solids, Oxidizers, and Organic Peroxides (Class 4 and 5 Issues) (HM-181D)	NPRM	06/28/90	Additional proposals to classify and test criteria of flammable solids, oxidizers, and organic peroxides (Classes 4 and 5). Supplemental notice to HM-181.
Requirements for Cargo Tanks (HM-183, 183A)	Final Rule	09/07/90	Establishes new requalification, use, and manufacturing standards for cargo tanks. Responds to petitions for reconsideration and extends effective date.

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RULEMAKING ACTIONS TAKEN IN 1990

SUBJECT AND DOCKET NUMBER	ACTION	DATE PUBLISHED	SYNOPSIS
Implementation of ICAO Technical Instructions (HM-184F)	NPRM	11/07/90	Proposes to permit the offering, acceptance, and transportation by aircraft, and motor vehicle incident to transportation by aircraft, of hazardous materials conforming to the most recent edition of the International Civil Aviation Organization's (ICAO) Technical Instructions.
Hazardous Materials; Editorial Corrections (HM-189I)	Final Rule	10/01/90	Changes to or deletion of incorrect references, spelling, editorial errors, and minor regulatory changes which established no new requirements. This final rule is issued annually without notice of proposed rulemaking.
Elevated Temperature Materials (HM-198A)	NPRM	09/21/89	Proposal to regulate elevated temperature materials which pose thermal hazards.
Thin Wall Tank Cars (HM-201B)	Final Rule	09/24/90	Permits reduced wall thickness in limited areas for certain repaired tank cars. Responds to petitions for reconsideration.
Transportation of Explosives by Vessel and Miscellaneous Amendments (HM-204)	NPRM	05/21/90	Proposes to align Part 176 with the proposals in HM-181.
Transportation of Military Explosives by Vessel; Revocation of 46 CFR (HM-204A)	NPRM	05/21/90	Proposes to update and move requirements for the transport of military explosives by vessel from 46 CFR Part 146 to 49 CFR Part 176.
Acetylene Cylinders (HM-23)	NPRM	06/14/90	Proposes retest provisions for existing acetylene cylinders.

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Flammable Solids, Oxidizers, and Organic Peroxides (Class 4 and 5 Issues) (HM-181D)	NPRM	06/28/90	Additional proposals to classify and test criteria of flammable solids, oxidizers, and organic peroxides (Classes 4 and 5). Supplemental notice to HM-181.
Requirements for Cargo Tanks (HM-183, 183A)	Final Rule	09/07/90	Establishes new requalification, use, and manufacturing standards for cargo tanks. Responds to petitions for reconsideration and extends effective date.

APPENDIX B
EXEMPTIONS IN EFFECT

ACTIVE EXEMPTIONS FOR 1990

Listed below in numerical sequence are the exemptions granted, under the authority given the Department by the Act, that were issued during the year 1990. 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; and

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

NUMBER	PURPOSE	REASON
868	Authorizes the exceptions to requirements for carrier inspection of manufacture, vehicle, loading, etc. for transportation of Class A and B explosives loaded by Department of Defense shippers in DOT Specification containers.	2
970	Authorizes the use of DOT Specification 3AA2015 or 3AA2400 cylinders, for transportation of a flammable poisonous gas.	1
2000	Authorizes the use of a non-DOT specification portable tank or a DOT Specification 4L cylinder, for shipment of flammable liquefied compressed gases.	2
2136	Authorizes the shipment of radioactive materials with explosives in Department of Defense containers packaged and loaded by the Department of Defense without carrier inspection.	2

NUMBER	PURPOSE	REASON
2462	Authorizes the shipment of certain lead azide in glass bottles overpacked in non-DOT specification wooden box.	2
2582	Authorizes the shipment of certain hazardous materials in cylinders made in compliance with DOT Specification 3E1800, with certain exceptions.	1
2709	Authorizes the use of DOT Specification 6J/2S or 6D/2S metal drum/polyethylene containers or non-DOT specification drums, for shipment of Classes A and B explosive liquids.	1
2787	Authorizes the shipment of certain nonflammable compressed gas, in non-DOT specification pressure vessels equipped with a regulating valve.	2
3004	Authorizes the use of a non-DOT specification cylinder, for transportation of certain flammable, and nonflammable compressed gases.	2
3095	Authorizes the use of a non-DOT specification cargo tank, for shipment of corrosive and flammable liquids.	2
3121	Authorizes the use of non-DOT specification cargo tanks, for transportation of a certain Class A poisonous liquid.	2
3126	Authorizes the transport of Class A explosives in DOT Specification 5 metal drums, or in DOT Specification 42B aluminum drums.	2
3142	Authorizes the shipment of nonflammable compressed gases, in DOT Specification 3A1800 or 3A2000 cylinders, from which a controlled flow of gas is released to a leak calibration apparatus.	3
3187	Authorizes the shipment of flammable liquids or organic peroxides in various non-DOT and DOT specification containers.	2
3216	Authorizes the use of a proposed DOT Specification 110A300W tank car tank, for transportation of certain flammable compressed gases.	1
3302	Authorizes the use of non-DOT specification sampling bottles (cylinders), for transportation of certain nonflammable gases.	2

NUMBER	PURPOSE	REASON
3330	Authorizes the use of non-DOT specification insulated containers overpacked in DOT Specification 17C, 17H, or 37A metal drums, for transportation of certain flammable solid materials.	2
3498	Authorizes the transport of open top vehicles, military combat & tactical vehicles loaded w/their combat supply of accessory ammunition up to 6000 lbs. & not to exceed 18 percent of net weight of vehicle.	1
3549	Authorizes the transport of certain Class A explosives in a special non-DOT specification packaging.	2
3630	Authorizes the use of a DOT Specification 33A polystyrene case to contain four 5-pint glass bottles of nitric acid.	2
3768	Authorizes the use of DOT Specification MC-304, MC-307 and MC-312 cargo tanks, for transportation of certain flammable and corrosive liquids.	2
3941	Authorizes the transport of ammonium perchlorate in non-DOT specification aluminum portable tanks.	1
3996	Authorizes the shipment of phosphoric anhydride in DOT Specification 6K metal drums.	2
4039	Authorizes the shipment of liquefied hydrogen in a non-DOT specification vacuum insulated portable tank.	2
4052	Authorizes the shipment of an aerosol formulation pressurized with nitrogen in a DOT Specification 39 seamless aluminum cylinder.	2
4242	Authorizes the use of a non-DOT specification pressure vessel, for transportation of certain pyroforic mixture.	2
4338	Authorizes the use of DOT Specification 3AA2015 cylinders and DOT Specification 51 portable tanks, for shipment of certain corrosive liquids and a flammable liquid.	2

NUMBER	PURPOSE	REASON
4453	Authorizes the use of a non-DOT specification bulk, hopper-type tank, for transportation of blasting agent, n.o.s. or ammonium nitrate-fuel oil mixtures.	2
4575	Authorizes the use of non-DOT specification tank car tanks, for transportation of certain liquefied compressed gases.	2
4588	Authorizes the use of packaging not presently prescribed for certain high explosives.	2
4726	Authorizes the transport of certain liquid metal fluorides, in non-DOT specification seamless monel cylinders, overpacked in a strong wooden box with cushioning material.	2
4734	Authorizes the use of modified DOT Specification MC-331 cargo tanks, for transportation of certain flammable liquids and corrosive materials.	2
4803	Authorizes the use of a non-DOT specification cargo tank, for shipment of certain corrosive liquids.	1
4850	Authorizes 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	Authorizes the shipment of liquefied and nonliquefied compressed gases and a flammable liquid in stainless steel cylinders, complying with DOT Specification 4BS with certain exceptions.	2
5022	Authorizes the shipment of certain Class A and Class B explosives in temperature controlled equipment.	1
5038	Authorizes the shipment of dimethyldichlorosilane, trichlorosilane, other specifically identified flammable liquids and silicon tetrachloride in non-DOT specification type 304 stainless steel cylinders.	2
5206	Authorizes the privately operated bulk hopper-type units, for transportation of blasting agents.	1

NUMBER	PURPOSE	REASON
5232	To authorize the shipment of certain flammable and nonflammable liquefied compressed gases in AAR Specification 120A300W tank cars, and DOT Specification 105A500W tank cars.	2
5248	Authorizes the shipment of a certain quantity of polonium-210 in any DOT Specification approved outer Type A packaging.	2
5403	Authorizes the use of non-DOT specification cargo tanks, meeting the requirements of DOT MC-312 with certain exceptions, in support of oil well acidizing and industrial cleaning operations.	1
5493	Authorizes the shipment of hydrogen sulfide in DOT-105A600W tank cars.	2
5600	Authorizes the transport of flammable or nonflammable compressed gases, flammable or corrosive liquids or oxidizers presently authorized to be shipped in a non-DOT specification cylinder made to DOT 3A Specification except monel metal may be used rather than steel.	1
5604	Authorizes the use of insulated non-DOT specification portable tanks for a nonflammable compressed gas.	1
5643	Authorizes the shipment of a nonflammable gas in vacuum insulated non-DOT specification portable tanks.	1
5649	Authorizes the shipment of an oxidizer, in non-DOT specification polypropylene or polyethylene bags.	1
5701	Authorizes the use of a non-DOT specification cargo tank for transportation of a certain oxidizer.	1
5704	Authorizes the transport of certain Class A and Class B explosives in prescribed non-DOT specification steel drums.	2
5820	Authorizes the shipment of nonflammable gases in non-DOT specification IMCO Type 5 portable tanks.	2
5948	Authorizes the shipment of radioactive waste materials in ATMX 500 or 600 rail cars.	2

NUMBER	PURPOSE	REASON
6016	Authorizes the shipment of liquid oxygen, nitrogen, and argon in non-DOT specification portable tanks.	1
6071	Authorizes the use of non-DOT specification pressure vessels, for transportation of nonflammable compressed gases.	2
6117	Authorizes the transport of hydrogen sulfide in DOT Specification 105A600W tank car tanks or proposed DOT Specification 120A600W tank car tanks.	1
6126	Authorizes the shipment or chloroacetylchloride in DOT Specification 6D/2S or 2SL composite packaging.	1
6154	Authorizes the transport for certain flammable solids in a modified DOT Specification 12B fiberboard box.	2
6263	Authorizes the transport of certain nonflammable compressed gases, in non-DOT specification welded, cylindrical or spherical, steel tanks.	2
6267	Authorizes the use of DOT and non-DOT specification fiberboard boxes, for shipment of certain oxidizing materials.	2
6293	Authorizes the shipment of specific corrosive materials, in DOT Specification MC-311 or MC-312 tank motor vehicles.	2
6296	Authorizes additional bag packagings, for transportation of certain Class B poisons in DOT Specification 44D multiwall paper bags.	2
6299	Authorizes the manufacture, marking and sale of non-DOT specification portable tanks, for transportation of nonflammable gases.	2
6309	Authorizes the use of non-DOT specification steel portable tanks, for transportation of certain nonpoisonous, nonflammable compressed gases.	2
6325	Authorizes the transport of oxidizers, in non-DOT specification cargo tanks or DOT Specification MC-306, MC-307, or MC-312 cargo tanks.	2

NUMBER	PURPOSE	REASON
6333	Authorizes the transport of certain corrosive liquids, in non-DOT specification type MC-312 glass lined cargo tanks.	2
6349	Authorizes the use of non-DOT specification portable tanks, for shipment of certain flammable and nonflammable gases.	1
6369	Authorizes the use of DOT Specification 105A400W, 112A400W, 114A400W, 120A300W, and proposed 120A400W tank car tanks for shipment of certain Class B poisonous liquids.	2
6418	Authorizes 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
6434	Authorizes the use of non-DOT specification paper bags, for transportation of a poisonous B solid material.	2
6442	Authorizes the transport of a 155 mm high explosive projectile containing either a corrosive or flammable liquid, in a metal cannister with an inner polyethylene container.	2
6443	Authorizes the use of DOT Specification MC-331 insulated cargo tanks not presently authorized, for tranportation of a flammable gas.	1
6472	Authorizes the use of non-DOT specification polystyrene containers, for transportation of certain Class B explosives.	2
6484	Authorizes the transport of mixtures of nitromethane and various solvents, in DOT Specification MC-307 or MC-312 tank motor vehicles.	2
6497	Authorizes the use of a modified DOT Specification 56 portable tank, for transportation of Class B poison solids.	2
6518	Authorizes the shipment of specified pyrophoric liquids and solids, water reactive solids and certain other flammable liquids in non-DOT specification steel portable tanks or cylinders.	2

NUMBER	PURPOSE	REASON
6530	Authorizes the shipment of hydrogen and mixtures of hydrogen with helium, argon or nitrogen in DOT Specification 3A, 3AA, 3AX or 3AAX steel cylinders.	2
6538	Authorizes the use of a non-DOT specification inside nonrefillable metal container, for transportation of a certain flammable gas.	2
6543	To authorizthe e shipment of certain corrosive and flammable liquids in non-DOT specification 16 gauge, Type 304 stainless steel cylinders and/or 14 gauge Type 316 stainless steel cylinders.	2
6563	Authorizes the shipment of certain nonflammable gases, in non-DOT specification steel cylinders, made in compliance with DOT Specification 3E with certain exceptions.	2
6610	Authorizes the shipment of an organic peroxide in non-DOT specification 111A100W6 tank cars and MC-307 cargo tanks.	1
6611	Authorizes the use of a non-DOT specification vacuum insulated portable tank, for transportation of a nonflammable gas.	1
6614	Authorizes the use of non-DOT specification polyethylene bottles, packed inside a high density polyethylene box, for transportation of certain corrosive liquids.	1
6626	Authorizes the use of DOT Specification 3A or 3AA cylinders and cylinders marked ICC-3, 3A or 3AA, for shipment of certain compressed gases.	1
6637	Authorizes the manufacture, marking and sale of non-DOT specification polyethylene drums, for shipment of organic peroxides, oxidizers, flammable liquids, corrosive liquids and Class B poisonous liquids.	1
6651	Authorizes the one-time reuse of the involved single-trip containers, for transportation of certain Class B poisonous solids.	2
6658	Authorizes the use of a non-DOT specification open-head steel drum, for transportation of a certain Class A explosive.	4

NUMBER	PURPOSE	REASON
6670	Authorizes the shipment of tetrafluoromethane, in DOT Specification 3A2400, 3AA2400, 3AX2400 and 3AAX2400 cylinders.	1
6686	Authorizes the use of a modified DOT Specification 39 steel cylinder, for transportation of a certain flammable gas.	1
6691	Authorizes the use of DOT Specification 3A or 3AA cylinders over 35 years old which can be retested every 10 years, for transportation of certain flammable and nonflammable gases.	1
6694	Authorizes the use of non-DOT specification IMO Type 5 portable tanks, for transportation of nonflammable gases.	2
6695	Authorizes the use of a non-DOT specification IMO Type 5 portable tank, for transportation of certain nonflammable compressed gases.	2
6704	Authorizes the use of non-DOT specification cargo tanks for shipment of certain corrosive liquids.	2
6724	Authorizes the transport of caseless ammunition in an inside fiberboard box with egg crate separations and overpacked in a non-DOT specification strong wooden box.	1
6735	Authorizes the transport of bromine in a non-DOT specification cylinder constructed in accordance with all requirements of DOT Specification 4B, 4BA or 4BW except that the cylinder shall be marked "DOT-E 6735" in lieu of the DOT specification marking.	1
6762	Authorizes the transport of chemical kits in plastic inside bottles, packed in plastic boxes overpacked in fiberboard boxes.	1
6765	Authorizes the use of non-DOT specification portable tanks, for transportation of a flammable and a nonflammable gas.	1
6769	Authorizes the transport of trifluoromethane in DOT Specification tank cars and cargo tanks.	2
6773	Authorizes the shipment of a flammable compressed gas, in a DOT Specification 105A600W tank car.	1

NUMBER	PURPOSE	REASON
6787	Authorizes the manufacture, marking and sale of DOT Specification 34 polyethylene drums, for shipment of Class B poisonous liquids, flammable liquids, organic peroxides and corrosive liquids.	1
6805	Authorizes the use of DOT Specification 3AAX steel cylinders for a flammable compressed gas mixture.	1
6810	Authorizes the shipment of a nonliquefied, nonflammable compressed gas in seamless steel tanks (tubes) made in compliance with DOT Specification 107A except they are not mounted on a rail car.	1
6859	Authorizes the use of non-DOT specification nonrefillable titanium alloy spherical pressure vessel, for shipment of a nonflammable compressed gas.	2
6874	Authorizes the transport of sodium and potassium cyanides in non-DOT specification wooden boxes.	1
6890	Authorizes the transport of an explosive severance system consisting of linear segments which may contain up to 79 grams of hexanitrostilbene.	2
6895	Authorizes the shipment of zirconium liquid mixtures in a DOT Specification 37A steel drum.	1
6921	Authorizes the use of a non-DOT specification portable tank, for transportation of liquefied helium.	1
6922	Authorizes the use of a DOT Specification 106A500-X multi-unit tank car tank, for shipment of certain compressed gases.	1
6927	Authorizes theuse of a non-DOT specification portable tank, for transportation of certain Class B poisonous liquids.	1
6929	Authorizes the shipment of a Class B explosive in rocket motors in a propulsive state.	1
6932	Authorizes the use of non-DOT specification IMO Type 5 portable tanks, for transportation of anhydrous hydrofluoric acid.	1

NUMBER	PURPOSE	REASON
6944	Authorizes the transport of a liquid high explosive in a specially designed stainless steel desiccator.	1
6962	Authorizes the shipment of argon or helium in a DOT Specification 3AA1800 or 3AA2000 cylinders.	1
6963	Authorizes the use of non-DOT specification intermodal portable tanks, for transportation of hydrofluoric acid and anhydrous hydrofluoric acid.	1
6971	Authorizes 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	Authorizes the use of non-DOT specification cylinders, for transportation of certain nonliquefied compressed gases.	2
6999	Authorizes cargo loading hatches of vessels being loaded with military explosives to remain open overnight under certain conditions.	1
7011	Authorizes the transport of caustic soda beads and a corrosive solid in non-DOT specification polyethylene containers not exceeding 57-gallon capacity.	1
7023	Authorizes the use of non-DOT specification steel portable tanks, for shipment of an oxidizer or corrosive material.	2
7024	Authorizes the transport of an alkaline corrosive liquid in non-DOT specification collapsible rubber containers.	1
7026	Authorizes the manufacture, marking and sale of a non-DOT specification welded steel pressure vessel, for transportation of a compressed gas.	2
7032	Authorizes outside packages exceeding the 100 pounds limitation to be carried aboard cargo aircraft only for shipment of a certain corrosive solid.	2

NUMBER	PURPOSE	REASON
7040	Authorizes the carriage of larger quantities of corrosive liquids in DOT Specification 6D cylindrical steel overpack with inside DOT Specification 2SL container mounted on a pallet and covered with a wooden overwrap.	1
7041	Authorizes the shipment of pyrophoric waste materials in non-DOT specification cargo tanks of the MC-331 type.	2
7046	Authorizes the use of modified DOT Specification MC-312 glass lined cargo tanks, for transportation of certain corrosive liquids and a certain oxidizer.	2
7051	Authorizes the use of non-DOT specification Teflon bottles overpacked with either a DOT Specification 12A or 12B fiberboard box, for transportation of a corrosive liquid.	1
7052	Authorizes the shipment of batteries containing lithium and other materials, classed as flammable solid.	1
7060	Authorizes 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
7070	Authorizes the shipment of a poison B solid in a plastic jar overpacked in a metal can equivalent to DOT Specification 2N, packed in a single-faced corrugated fiberboard DOT Specification 12B box.	1
7071	Authorizes the polyethylene packagings in a quantity not provided for in the regulations, for transporation of a certain corrosive liquid.	1
7076	Authorizes packaging not prescribed in the Hazardous Materials Regulations, for transportation of a certain corrosive liquid and flammable liquid.	1
7096	Authorizes the shipment of bromotrifluoromethane (Freon 1301) in non-DOT specification cylinders, fabricated in accordance with DOT Specification 4B240ET with certain exceptions.	2

NUMBER	PURPOSE	REASON
7097	Authorizes the shipment of dry mixtures of parathion and tetraethyl dithio pyrophosphate from specification packaging requirements.	2
7218	Authorizes the manufacture, marking and sale of non-DOT specification fiber reinforced plastic full composite cylinders, for shipment of certain nonflammable compressed gases.	2
7227	Authorizes the use of a vacuum insulated, non-DOT specification portable tank for the shipment of a certain nonflammable gas.	1
7235	Authorizes the manufacture, marking and sale of non-DOT specification fiber reinforced plastic hoop wrapped cylinders, for transportation of certain nonflammable compressed gases.	2
7247	Authorizes a bulkhead in the lower hold of a vessel separating military explosives from general cargo to be secured on 4 inch by 6 inch uprights, in lieu of the required 6 by 6 inch uprights.	1
7252	Authorizes the transport of Pourvex and Tovex Extra in DOT Specification 17H metal drums.	2
7255	Authorizes simultaneous loading of two holds within the same hatch when handling military explosives.	1
7259	Authorizes the use of DOT Specification 56 aluminum portable tanks for shipment of phosphorous pentasulfide by cargo vessel.	2
7268	Authorizes the use of a DOT Specification 39 nonrefillable cylinder, for shipment of a nonflammable compressed gas.	2
7274	Authorizes the use of non-DOT specification portable tanks, for shipment of certain nonflammable gases.	1
7275	Authorizes the carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1

NUMBER	PURPOSE	REASON
7277	Authorizes the manufacture, marking and sale of non-DOT specifiation fiber reinforced plastic full composite cylinder, for transportation of certain nonflammable compressed gases.	2
7285	Authorizes the use of non-DOT specification IMO Type 5 portable tanks, for transportation of certain nonflammable, liquefied gases.	1
7413	Authorizes the transport of carbon dioxide or nitrogen, in a non-DOT specification brazed steel cylinder.	2
7446	Authorizes 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	Authorizes the use of non-DOT specification pressure vessels, for transportation of a nonflammble gas.	1
7454	Authorizes blasting agent to be stowed in proximity to certain explosives without a bulkhead separating these materials.	1
7455	Authorizes the handling and stowage of explosive material in an anchored and unmanned barge.	3
7458	Authorizes the manufacture, marking and sale of non-DOT specification seamless cylinders, for transportation of nonflammable gases.	2
7466	Authorizes the shipment of certain flammable liquid mixtures, in a spun 99-percent pure aluminum can, overpacked in a corrugated fiberboard box.	2
7476	Authorizes the manufacture, marking and sale of certain non-DOT specification cargo tanks, for transportation of certain flammable and corrosive liquids and poison waste materials.	2
7477	Authorizes the use of non-DOT specification seamless aluminum cylinders, for transportation of certain nonflammable compressed gases.	2
7498	Authorizes the shipment of a corrosive liquid in a non-DOT specification corrugated polypropylene box.	1

NUMBER	PURPOSE	REASON
7517	Authorizes the manufacture, marking, and sale of non-DOT specification fusion welded tank car tanks, for transportation of a nonflammable compressed gas.	1
7526	Authorizes the shipment of a pyrophoric liquid in non-DOT specification portable tanks.	2
7544	Authorizes the transport of solutions of sodium hydroxide and certain other liquid corrosives, or other liquid corrosive materials in a DOT Specification 2U polyethylene inside container, overpacked in a non-DOT specification fiberboard box.	2
7548	Authorizes the stowage of explosives on deck of vessel, over the square of the hatch.	1
7573	Authorizes the transport of certain hazardous materials presently forbidden or in quantities greater than allowed for cargo-only aircraft.	1
7594	Authorizes the transport of certain poison B liquids in DOT Specification MC-312 cargo tanks.	2
7598	Authorizes the shipment of certain corrosive materials, oxidizers and Class B poisons in DOT Specification 60 except the ends are bolted instead of welded.	2
7601	Authorizes the shipment of desensitized nitroglycerin in non-DOT specification inside containers.	3
7607	Authorizes the shipment of hydrogen in certain non-DOT specification seamless stainless steel cylinders.	1
7616	Authorizes the carrier to certify the shipping paper on behalf of the shipper when transporting hazardous materials by rail.	1
7628	Authorizes the use of DOT Specification 111A100W-5 tank cars equipped with a safety relief valve instead of a vent for shipment of certain corrosive liquids.	5
7638	Authorizes the manufacture, marking and sale of DOT Specification 4L cylinders, for transportation of certain nonflammable compressed gases.	4

NUMBER	PURPOSE	REASON
7640	Authorizes the use of a DOT Specification 34 polyethylene container of 15 gallon capacity for shipment of hydrogen peroxide, 60 percent.	2
7648	Authorizes the carriage of aerial illuminating flares for testing purposes in cargo aircraft only.	3
7650	Authorizes the use of non-DOT specification vacuum insulated steel portable tanks for shipment of certain nonflammable compressed gases.	2
7654	Authorizes 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 flammable liquid.	2
7657	Authorizes the manufacture, marking and sale of non-DOT specification cylinders, for transportation of certain compressed gases.	2
7674	Authorizes the shipment of certain Class A explosives on flat-cars and open-top rail cars.	1
7708	Authorizes the use of non-DOT specification girth welded cylinders for shipment of a nonflammable compressed gas.	2
7716	Authorizes the transport of ammonium nitrate in inside polyethylene bottles or foil pouches, each containing less than 3 pounds or less, overpacked in DOT Specification 12H-65 fiberboard boxes with a plastic liner bag containing not more than 36 pounds net weight.	2
7719	Authorizes the use of brazed DOT Specification 39 cylinders, for transportation of methylacetylene propadiene stabilized.	2
7721	Authorizes the manufacture, marking, and sale of non-DOT specification steel cylinders, for transportaion of certain nonflammable, nonliquefied compressed gases.	1
7731	Authorizes the manufacture, marking, and sale of non-DOT specification super-insulated portable tanks for shipment of pressurized liquid helium.	2
7753	Authorizes the shipment of yellow phosphorous in a tight-head 55 gallon DOT Specification 17C drum.	2

NUMBER	PURPOSE	REASON
7765	Authorizes the use of nonrefillable, non-DOT specification cylinders, for transportation of a nonflammable gas.	2
7767	Authorizes the manufacture, marking and sale of non-DOT specification welded steel cylinders, for transportation of nonflammable compressed gases.	1
7768	Authorizes 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
7770	Authorizes the transport of anhydrous hydrogen fluoride or anhydrous methylchloromethyl ether in certain non-DOT specification portable tanks.	2
7774	Authorizes the shipment of bromine trifluoride in non-DOT specification cylinders.	2
7777	Authorizes the use of DOT-34 polyethylene containers, DOT-12B or 12P corrugated fiberboard boxes, or DOT-6D or 37M cylindrical steel drums overpacked with an inside Specification 2SL polyethylene containers for shipment of spent sulfuric acid.	2
7808	Authorizes the shipment of insecticides in DOT Specification 39 cylinders equipped with a pressure relief device.	1
7811	Authorizes the use of DOT Specification 12A corrugated fiberboard boxes with handholes, for shipment of certain corrosive and flammable liquids.	2
7823	Authorizes the transport of iodine pentafluoride in non-DOT specification welded stainless steel cylinders complying with DOT Specification 4BW with certain exceptions.	2
7834	Authorizes the transport of nonliquefied sulfur hexafluoride in certain X-ray machines, overpacked in strong wooden or fiberboard boxes.	1
7835	Authorizes 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

NUMBER	PURPOSE	REASON
7840	Authorizes the transport of a Class C explosive and a nonflammable compressed gas, in the same non-DOT specification fiberboard shipping container.	1
7846	Authorizes frame mounting and manifolding of DOT Specification seamless steel tank car tanks, for shipment of certain nonflammable gases.	1
7862	Authorizes the use of non-DOT specification aluminum, single trip, inside container, for transportation of a nonflammable gas.	2
7873	Authorizes the use of non-DOT specification intermodal portable tanks, for transportation of a Class B poison liquid.	2
7876	Authorizes the use of a shipping description, etching acid, liquid, n.o.s., to be used for products which do not comply with the definition in 49 CFR 173.299(a).	2
7887	Authorizes the shipment of packages of toy propellant devices as an ORM-D material and excepted from labeling requirements.	1
7891	Authorizes the transport of packages bearing the DANGEROUS WHEN WET label, in motor vehicles which are not placarded FLAMMABLE SOLID W.	1
7907	Authorizes the shipment of wet nitrocellulose, a flammable liquid or flammable solid, in non-DOT specification fiberboard drums.	2
7909	Authorizes the transport of limited quantities of poisonous liquids and solids in non-DOT specification plastic, metal or plastic-coated glass containers.	1
7929	Authorizes the transport of flaked or pelletized TNT in woven polyethylene or polypropylene cloth outer bags, with plastic film liners.	1
7943	Authorizes the shipment of corrosive liquids in fiberboard boxes complying with DOT Specification 12B except for handholes in top flaps.	2
7945	Authorizes the use of a non-DOT stainless steel cylinder similar to the DOT Specification 4DS cylinder.	2

NUMBER	PURPOSE	REASON
7948	Authorizes the manufacture, marking and sale of non-DOT specification cargo tanks for shipment of flammable and corrosive waste materials.	2
7954	Authorizes the shipment of nonflammable gases in manifolded DOT Specification 3A2400, 3AA2400 or 3AAX2400 cylinders.	1
7959	Authorizes the stowage of recreational vehicles carrying liquefied petroleum gas for heating and cooking on the vehicle deck of passenger-carrying ferries and other passenger-carrying vessels.	1
7963	Authorizes the transport of perchloromethyl mercaptan and thiophene-2-acetyl chloride, in monel tanks constructed in accordance with DOT Specification 51.	2
7971	Authorizes the manufacture, marking and sale of non-DOT specification cylinders, for transportation of nonflammable compressed gases.	1
7972	Authorizes the transport of limited quantities of explosives in a special shipping container without placarding the vehicle.	1
7987	Authorizes the shipment of a poison B, in non-DOT specification five ply natural kraft multiwall bags.	2
7991	Authorizes the transport of railway track torpedoes and fusees in flagging kits of specified construction.	1
8006	Authorizes the transport of unlabeled packages of toy paper or plastic caps complying with the requirements of 173.100(p) and 173.109, in motor vehicles with placards, when the gross weight of the caps is 1000 pounds or more.	2
8009	Authorizes the use of DOT Specification 3AAX cylinders made of 4130X steel, for transportation of a compressed natural gas.	1
8013	Authorizes the use of a DOT Specification cylinder not presently authorized for certain flammable and nonflammable gases.	2

NUMBER	PURPOSE	REASON
8023	Authorizes the use of non-DOT specification hooped wrapped FRP cylinders, for shipment of certain compressed gases.	1
8035	Authorizes the transport of limited quantities of certain propellant explosives in a plastic tube packed in a DOT Specification 12B fiberboard box.	1
8037	Authorizes the use of a non-DOT specification fiberboard drum for shipment of wet nitrocellulose.	2
8051	Authorizes the manufacture, marking and sale of DOT Specification reusable, blowmolded, polyethylene containers, for transportation of corrosive materials.	1
8059	Authorizes the manufacture, marking and sale of non-DOT specification fiber reinforced plastic full composite cylinders, for transportation of certain flammable and nonflammable compressed gases.	1
8060	Authorizes the use of non-DOT specification IMO Type 5 portable tanks, for transportation of certain nonflammable, liquefied gases.	2
8063	Authorizes the use of a vacuum insulated DOT Specification 4L welded cylinder, for transportation of certain nonflammable gases.	2
8074	Authorizes the use of a DOT Specification 3E cylinder without safety devices, for transportation of certain flammable and nonflammable gases.	1
8077	Authorizes the use of non-DOT specification steel drums, for shipment of a flammable and corrosive liquid.	4
8080	Authorizes the transport of dry chromic acid in a DOT specification 105A300W tank car which has been converted to DOT Specification 111A100W1; or a DOT Specification 103AW tank car converted to DOT Specification 103W.	1
8084	Authorizes the transport of Class A explosives containing more than 5 percent moisture in plastic tubes overpacked in DOT specification wooden or fiberboard boxes.	1

NUMBER	PURPOSE	REASON
8086	Authorizes the transport of a cruise missile containing hazardous materials.	2
8091	Authorizes the transport of certain mercury relays containing metallic mercury, classed as ORM-B, exempted from 49 CFR Parts 100-177.	1
8094	Authorizes the shipment of corrosive materials in a DOT Specification 56 tank where a DOT Specification 60 tank is permitted in the regulations.	2
8099	Authorizes the use of a non-DOT specification corrugated fiberboard box with an inner heat-sealed bag for the transportation of certain poisonous solids.	2
8119	Authorizes the use of a non-DOT specification cargo tank designed and constructed in full compliance with DOT Specification MC-307 or MC-312 with certain exceptions, for transportation of certain corrosive and flammable liquids.	2
8125	Authorizes the use of non-DOT specification portable tanks, for transportation of certain flammable and nonflammable gases and flammable liquids.	2
8126	Authorizes the use of non-DOT specification portable tanks, for transportation of certain liquefied petroleum gases and other gases classed as flammable gas and a flammable liquid.	2
8127	Authorizes the use of a non-DOT specification fiberboard drum for shipment of wet nitrocellulose.	1
8141	Authorizes the transport of individual cells and modules consisting of three cells containing lithium metal and thionyl chloride.	1
8156	Authorizes the shipment of flammable gases in DOT Specification 39 cylinders up to 225 cubic inches in volume.	1
8178	Authorizes the use of a non-DOT specification composite cylinder for a compressed nonliquefied gas.	1

NUMBER	PURPOSE	REASON
8196	Authorizes the use of a non-DOT specification portable tank for the transportation of certain compressed gases.	1
8207	Authorizes the shipment of certain corrosive liquids, n.o.s., in a one-quart tin can, placed in a molded polyethylene liner, overpacked in a modified 28 gauge DOT Specification 37A 2-gallon drum.	2
8214	Authorizes the transport of inflators and modules for passive restraint systems for use in automobiles.	1
8215	Authorizes the shipment of certain identified Class A, B and C explosives in non-DOT specification containers.	3
8220	Authorizes the use of non-DOT specification small, high pressure cylinders of welded construction for aircraft use in the transportation of nonflammable compressed gases.	1
8225	Authorizes the use of a non-DOT specification rotationally molded, cross-linked polyethylene portable tank for the shipment of corrosive liquids and an oxidizer.	2
8230	Authorizes the shipment of certain oxidizers in non-DOT specification containers.	1
8232	Authorizes the use of a non-DOT specification portable tank for the transportation of certain compressed gases.	2
8236	Authorizes the shipment of a passive restraint system, and the inflator therefore, containing a Class B explosive as a flammable solid.	1
8244	Authorizes the shipment of various flammable, combustible, and corrosive materials in lined marine portable tanks.	1
8248	Authorizes the shipment of various corrosive liquids in a modified DOT Specification 15C wooden box, compartmented to accommodate four (4) inner glass bottles, each secured in an aluminum canister.	2

NUMBER	PURPOSE	REASON
8273	Authorizes the transport of a passive restraint module, and the inflator therefore, containing a Class B explosive as a flammable solid.	1
8284	Authorizes the shipment of oleum in DOT Specification 103AW or 111A100W2 tank cars equipped with safety valves instead of safety vents.	2
8287	Authorizes the shipment of a corrosive liquid in a DOT Specification 6D/2SL composite container or a DOT Specification 34 drum equipped with a bung vent.	2
8299	Authorizes the manufacture, marking and sale of non-DOT specification pressure vessels for shipment of a compressed gases.	2
8307	Authorizes the shipment of nonpyrotechnic mixture of certain corrosive materials, gas and an explosive charge in a non-DOT specification container.	2
8308	Authorizes the carriage of radioactive materials aboard highway vehicles when the combined transport index exceeds 50 and or the separation criteria cannot be met.	2
8337	Authorizes the manufacture, marking and sale of non-DOT specification cargo tanks for shipment of flammable or corrosive waste, liquid, or semisolids.	1
8352	Authorizes the shipment of ammonium persulfate and sodium persulfate in non-DOT specification plastic bags similar to DOT Specification 44P bags.	2
8362	Authorizes the shipment of batteries containing lithium metal and thionyl chloride in fiberboard boxes overpacked in wooden boxes.	1
8369	Authorizes the transportation of glycidol at a controlled temperature and separated from certain other chemicals in non-DOT specification drums.	2
8387	Authorizes the transport of hydrogen peroxide in DOT Specification MC 312 tank motor vehicle aboard cargo vessel.	2

NUMBER	PURPOSE	REASON
8388	Authorizes the shipment of liquid hazardous materials in a five-gallon capacity removable head polyethylene drum.	2
8390	Authorizes the shipment of 95 percent - 98 percent sulfuric acid in DOT Specification 2E polyethylene bottles overpacked in DOT Specification 12A80 fiberboard boxes.	2
8391	Authorizes the use of a non-DOT specification cylinder for shipment of various nonflammable gases.	2
8394	Authorizes the transport of certain thermostatic elements containing small quantities of sodium potassium alloy, liquid packed in a strong fiberboard box.	3
8396	Authorizes the transport of a flammable liquid which is also an organic peroxide in DOT Specification MC-307 and MC-312 cargo tanks.	2
8397	Authorizes the use of non-DOT specification, reusable, molded polyethylene drums with removable head for shipment of various dry hazardous materials.	1
8401	Authorizes the carriage of fuel in Canadian 5B containers loaded in cargo compartments of passenger-carrying helicopters.	5
8408	Authorizes the non-DOT specification cargo tanks complying with DOT Specification MC-307/312 except for bottom outlet valve variation, for transport of flammable or corrosive waste liquids or semisolids.	2
8409	Authorizes the shipment of hydrofluoric acid solution no greater than 70 percent in non-DOT specification polyethylene bottles not exceeding 6 liters capacity packed in DOT Specification 12A fiberboard box.	2
8410	Authorizes the shipment of perchloric acid not to exceed 72 percent in glass bottles of not more than 2.5 liters overpacked 6 to a non-DOT specification IMCO 4C2 wooden box.	2

NUMBER	PURPOSE	REASON
8414	Authorizes the transport of certain nonflammable gases in non-DOT specification intermodal portable tanks.	2
8426	Authorizes the manufacture, marking and sale of non-DOT specification cargo tanks complying with DOT Specification MC-307/312 with certain exception for transport of liquid and semisolid waste materials.	2
8427	Authorizes the use of a DOT Specification 3A or 3E stainless steel cylinder for shipment of anhydrous hydrazine.	2
8431	Authorizes the shipment of monochloroacetic acid solution, classed as a corrosive material in DOT Specification 111A100W6 tank cars made of 316L stainless steel with bottom outlets and washout prohibited.	2
8432	Authorizes 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
8436	Authorizes the use of a stainless steel DOT Specification Type 304 stainless steel DOT Specification 3A, or 3E seamless cylinders for shipment of a flammable liquid.	2
8439	Authorizes the manufacture, marking and sale of non-DOT specification cylinders complying with DOT Specification 4DS, with certain exceptions, for shipment of various nonflammable compressed gases.	2
8445	Authorizes 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	Authorizes the transport of rocket motors, Class B explosives, in non-DOT specification polyethylene containers.	1
8451	Authorizes the transport of not more than 25 grams of high explosives and pyrotechnic materials in a special shipping container.	1

NUMBER	PURPOSE	REASON
8453	Authorizes the use of non-DOT specification cargo tanks and DOT Specification MC-306, MC-307, or MC-312 stainless steel cargo tanks to transport blasting agent.	2
8458	Authorizes the conversion of DOT Specification 105A500W or 112A400W tank cars to a DOT Specification 111A100W2 tank car.	2
8467	Authorizes the use of non-DOT specification IMCO Type V portable tanks for shipment of nonflammable gases.	2
8470	Authorizes the use of a non-DOT specification box for shipping rocket motors.	5
8472	Authorizes the use of non-DOT specification, metal, single trip, inside container for shipment of a nonflammable gas.	1
8473	Authorizes the use of non-DOT specification IMCO Type V portable tanks for shipment of a flammable liquid.	2
8477	Authorizes the use of a noninsulated DOT Specification 111A100W6 tank car, for shipment of thionyl chloride.	2
8480	Authorizes the transport of a flammable gas in a device which allows a slow rate of leakage of the gas.	2
8489	Authorizes the shipment of certain oxidizers and a corrosive material in a non-DOT specification collapsible, flexible bag, disposable bulk container.	2
8494	Authorizes the use of DOT Specification MC 307 cargo tanks equipped with sight glass gauges.	2
8495	Authorizes the manufacture, marking and sale of non-DOT specification spherical containers similar to DOT Specification 4DS for shipment of bromotrifluoromethane pressurized with nitrogen.	2
8498	Authorizes the use of a non-DOT specification 55 gallon polyethylene Specification 34 type packaging.	2

NUMBER	PURPOSE	REASON
8516	Authorizes the shipment of ammonium nitrate-fertilizer, classed as an oxidizer and ammonium nitrate-fuel oil, classed as a blasting agent to be stowed in the same hold or compartment aboard ship.	2
8518	Authorizes the manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/312 except for bottom outlet valve variations, for transportation of flammable or corrosive waste liquids or semisolids.	2
8519	Authorizes the stowage of motor vehicles containing gasoline, classed as a flammable liquid in same cargo compartment with other hazardous materials or specially equipped roll-on-roll-off cargo vessel.	2
8520	Authorizes "pipe test" in lieu of "fire test" for blasting agents that will be packaged in drum size containers not to exceed 55 gallons.	1
8522	Authorizes 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	Authorizes the shipment of various flammable and nonflammable compressed gases in non DOT specification IMCO Type 5 portable tanks.	2
8526	Authorizes the shipment of flammable liquids and/or flammable gases in temperature controlled equipment.	2
8538	Authorizes the shipment of a high explosive liquid in DOT Specification 15M boxes having inside 2-gallon polyethylene bottles wrapped in plastic bags and packed in sawdust.	1
8539	Authorizes the carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1

NUMBER	PURPOSE	REASON
8545	Authorizes the transport of limited quantities of liquid high explosives within inside polyethylene bottles, placed on a layer of sawdust on the bottom of a DOT-37A drum, placed in a DOT-15A wooden box.	1
8552	Authorizes the manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/MC-312 except for bottom outlet valve variations, for transportation of flammable or corrosive waste liquids or semisolids.	2
8554	Authorizes the transport of propellant explosives and blasting agents, in DOT Specification MC-306, MC-307, and MC-312 cargo tanks.	1
8555	Authorizes the shipment of a large rocket motor segment on a special highway vehicle.	1
8556	Authorizes the use of non-DOT specification portable tanks for shipment of liquefied hydrogen.	2
8561	Authorizes the manufacture, marking and sale of non-DOT specification stainless steel cylinders similar to a DOT Specification 3HT, for shipment of oxygen.	2
8569	Authorizes the shipment of 6.6 gallons of hydrazine, aqueous solution in non-DOT specification F-16 emergency fuel tanks.	1
8570	Authorizes the manufacture, marking and sale of non-DOT specification rotationally molded, cross-linked polyethylene portable tank, for shipment of corrosive liquids and an oxidizer.	2
8571	Authorizes the shipment of various flammable liquids packaged in a DOT Specification 12A80 corrugated fiberboard box with two inside metal containers not over 10-liter capacity each.	2
8573	Authorizes the manufacture, marking and sale of non-DOT specification polyethylene bottles for shipment of certain oxidizers, overpacked in a DOT Specification 12B fiberboard box.	2

NUMBER	PURPOSE	REASON
8580	Authorizes the carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
8582	Authorizes 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
8585	Authorizes the manufacture, marking and sale of non-DOT specification reusable, rotationally molded, polyethylene container, for shipment of certain corrosive liquids and oxidizer.	2
8597	Authorizes the transport of nitric acid in non-DOT specification stainless steel portable tanks within plant premises over public road.	2
8620	Authorizes the manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/MC-312 except for bottom outlet valve variations, for transportation of flammable or corrosive waste liquids or semisolids.	2
8627	Authorizes the shipment of various flammable liquids or corrosive materials (oil well treating compounds) contained in six separate 60-gallon steel tanks firmly mounted on the chassis of a truck.	2
8640	Authorizes the manufacture, marking, and sale of non-DOT specification cargo tanks complying with DOT Specification MC-307/312, for shipment of liquid and semisolid waste materials.	2
8645	Authorizes the shipment of a viscous oxidizing material in DOT Specification MC-307/311 insulated tank motor vehicles at ambient temperature.	2
8678	Authorizes the use of non-DOT specification IMCO Type V portable tank, for shipment of flammable and nonflammable gases.	2
8679	Authorizes the shipment of a water reactive material packaged in the same outside packaging with other hazardous materials.	5

NUMBER	PURPOSE	REASON
8692	Authorizes the shipment of sodium persulfate in collapsible polyethylene-lined, woven polypropylene bags having a capacity of approximately 2,200 pounds each.	2
8697	Authorizes the transport of propane in DOT Specification 4B240, 4BA240, 4BW240 cylinders via helicopter utilizing sling loads.	4
8706	Authorizes the manufacture, marking, and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/MC-312 except for bottom outlet valve variations for transportation of flammable or corrosive waste liquids or semisolids.	2
8718	Authorizes the manufacture, marking, and sale of non-DOT specification, limited cycle life, fiberglass reinforced plastic cylinders, for shipment of various nonflammable compressed gases.	2
8723	Authorizes the use of non-DOT specification motor vehicles for bulk shipment of certain blasting agents.	5
8725	Authorizes the manufacture, marking, and sale of non-DOT Specification fiber reinforced plastic hoop wrapped cylinders, for shipment of certain compressed gases.	2
8732	Authorizes the shipment of monoethanolamine, classed as a corrosive material in DOT Specification MC-306 cargo tanks constructed of steel and aluminum.	2
8733	Authorizes the shipment of various refrigerant gases, classed as nonflammable gases in non-DOT specification portable tanks constructed in accordance with ASME Section VIII and DOT Specification 51, but not certified.	2
8735	Authorizes the manufacture, marking, and sale of non-DOT specification removable head polyethylene drums for shipment of corrosive liquids.	2
8741	Authorizes the carriage of various Class A explosives not permitted for air shipment.	1

NUMBER	PURPOSE	REASON
8748	Authorizes 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
8757	Authorizes the manufacture, marking, and sale of non-DOT specification stainless steel cylinders, for shipment of compressed gases.	2
8760	Authorizes display of FLAMMABLE placards, showing identification number (1993), on Barton Solvents, Inc. cargo tanks specified for the materials and having six or more compartments when transporting one or more hazardous material.	5
8761	Authorizes the manufacture, marking, and sale of non-DOT specification cargo tanks complying with DOT Specification MC-307/312 except for bottom outlet valve variations for transportation of liquid and semisolid waste materials.	2
8780	Authorizes the manufacture, marking and sale of non-DOT specification reusable, blowmolded, polyethylene container for transportation of certain corrosive liquids and an oxidizer.	2
8781	Authorizes the manuacture, marking,and sale of non-DOT specification steel drums one millimeter thickness, to be used in place of 20/18 gauge, 55-gallon capacity DOT Specification 17E drums, for transportation of various hazardous materials.	2
8786	Authorizes the use of a non-DOT specificaion cylinder, for shipment of limited quantities of compressed gases.	3
8787	Authorizes the transport of certain flammable and corrosive liquids in DOT Specification 2E polyethylene bottles, packed in a DOT Specification 12B fiberboard box.	2
8791	Authorizes the use of a non-DOT specification portable tank, for transportation of ethyl chloroformate.	2
8795	Authorizes the manufacture, marking, and sale of non-DOT specification cylinders made in compliance with DOT Specification 4B240ET, for transportation of nonflammable gases.	2

NUMBER	PURPOSE	REASON
8802	Authorizes the use of non-DOT specification IMO Type 5 portable tanks, for transportation of liquefied compressed gases.	2
8809	Authorizes the manufacture, marking, and sale of non-DOT fiber drum overpacks for 15-gallon capacity inner polyethylene container, similar to DOT-12P/2U except top head is molded polyolefin polymer secured to drum by wire stitches, for shipment of commodities authorized in DOT-21P/2U composite container.	2
8812	Authorizes the manufacture, marking, and sale of non-DOT specification five-gallon metal containers comparable to DOT Specification 5L, for shipment of gasoline, and gasohol, classed as flammable liquids.	2
8814	Authorizes the manufacture, marking, and sale of non-DOT specification fiber reinforced plastic full composite cylinders, for transportation of certain flammable and nonflammable compressed gases.	2
8815	Authorizes the transport of certain blasting agents in a cement mixer motor vehicle.	2
8820	Authorizes the use of a non-DOT specification IMCO Type 5 portable tank, for transportation of liquefied compressed gases.	2
8822	Authorizes the manufacture, marking, and sale of non-DOT specification cargo tanks made in full compliance with DOT Specification MC-307 or MC-312 with certain exceptions, for transportation of certain waste hazardous materials.	2
8826	Authorizes the carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
8839	Authorizes the manufacture, marking, and sale of non-DOT specification rationally molded, cross-linked polyethylene portable tanks, for shipment of corrosive liquids and an oxidizer.	2
8842	Authorizes the use of non-DOT specification small, high pressure cylinders of welded construction for aircraft use or military weapons system only.	2

NUMBER	PURPOSE	REASON
8845	Authorizes the transportation of charged oil well jet perforating guns equipped with detonator and arrest device, classed as explosives A and C.	2
8850	Authorizes the manufacture, marking, and sale of non-DOT specification stainless steel, cubical-shaped container, for shipment of those liquid hazardous materials for which DOT Specification 5, 5B, 5C or 17E drums are prescribed.	2
8854	Authorizes the manufacture, marking, and sale of non-DOT specification IMCO Type 5 portable tanks, for shipment of hydrogen fluoride, classed as a corrosive material.	2
8859	Authorizes the shipment of a compressed gas in accumulators which deviate from required test criteria.	5
8860	Authorizes the extended periods in the retest frequency of DOT Specifications 103CW and 103EW tank cars in chlorosulfonic acid and nitric acid service.	1
8861	Authorizes the manufacture, marking, and sale of DOT Specification 57 portable tanks, for shipment of various flammable liquids which are also corrosive or poison and certain Class B poison liquids.	2
8862	Authorizes the shipment of propylene oxide, classed as a flammable liquid, in DOT Specification 5P lagged steel drums.	2
8864	Authorizes the transport of a corrosive liquid, n.o.s. in existing non-DOT specification cargo tanks comparable to DOT Specification MC-312 except for remote release valve and overturn protection.	2
8865	Authorizes 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
8867	Authorizes the shipment of a viscous flammable liquid, n.o.s. contained in a poly vinyl chloride bottle overpacked six to a DOT Specification 12B fiberboard box.	2

NUMBER	PURPOSE	REASON
8870	Authorizes the shipment of compatible hazardous materials of various classifications packed in separate inside receptacles not exceeding 8 fluid ounces or 1/2 lb. packed inside a strong outside container, labeled according to the highest order of hazard, and described as chemical kit.	1
8871	Authorizes 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 corrosive solids and nitrates.	2
8873	Authorizes the shipment of carbon disulfide, classed as a flammable liquid, in a special DOT Specification MC-312 cargo tank.	5
8877	Authorizes 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	Authorizes 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
8886	Authorizes a longer time period between retests of DOT Specifiation 4B or 4B240ET cylinders containing nonflammable gas.	2
8891	Authorizes 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
8893	Authorizes the shipment of a liquid formulation containing a liquid explosive ingredient described as flammable liquid, n.o.s., in various DOT specification metal drums.	2
8898	Authorizes the use of a non-DOT specification ASME Code stamped portable tank, for transportation of liquefied compressed gases.	2

NUMBER	PURPOSE	REASON
8901	Authorizes the shipment of chloropicrin, in polyethylene bottles overpacked in non-DOT specification triple-wall, corrugated fiberboard boxes.	2
8904	Authorizes the manufacture, marking and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/312 except for bottom outlet valve variation and certain other features, for transportation of flammable, corrosive or poisonous waste liquids or semisolids.	2
8906	Authorizes 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	Authorizes 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	Authorizes the shipment of scrap, guillotined small arms ammunition loosely packed in non-DOT specifiation, nonreusable, closed-top wooden crates or fiberboard boxes, in truckload lots to an incinerator for disposal.	2
8913	Authorizes the use of non-DOT specification IMO Type 5 portable tanks, for shipment of flammable liquids.	2
8915	Authorizes the shipment of various flammable and nonflammable compressed gases in DOT Specification 3A, 3AA, 3AX, 3AAX and 3T cylinders.	1
8920	Authorizes the manufacture, marking, and sale of non-DOT specification welded high pressure nonrefillable cylinders, for transportation of nonflammable, liquefied gases.	2
8921	Authorizes the manufacture, marking, and sale of nonreusable non-DOT Specification steel jacketed polyethylene portable tanks, for transportation of corrosive liquids.	2
8923	Authorizes the transport of a flammable liquid which is also corrosive in DOT Specification 51 portable tanks.	2

NUMBER	PURPOSE	REASON
8927	Authorizes the manufacture, marking, and sale of non-DOT specification girth, welded steel spheres, for transportation of nonflammable gases.	2
8931	Authorizes the shipment of sulfuric acid, classed as a corroisve material in DOT Specification 111A100W2 tank cars equipped with bottom outlets.	2
8932	Authorizes the use of cargo tanks complying with DOT Specification MC-307 and MC-312, for transportation of organic peroxide solution.	2
8936	Authorizes the shipment of a mixture containing 57 percent chloropicrin and 43 percent 1,3-dichloropropene, 1,2-dichloropropane and related hydrocarbons, respectively, by weight, in nonauthorized DOT Specification 5B metal drums.	2
8937	Authorizes the shipment of coated magnesium granules in non-DOT specification collapsible flexible bag, disposable bulk container.	2
8938	Authorizes the manufacture, marking, and sale of DOT Specification 4L welded cylinders, for transportation of nonflammable gases.	2
8939	Authorizes 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 flammable liquids and corrosive liquids.	5
8942	Authorizes the manufacture, marking, and sale of steel jacketed non-DOT specification rotationally molded, cross-linked polyethylene portable tanks, for shipment of corrosive liquids and an oxidizer.	2
8943	Authorizes the shipment of a polyol filter cake classed as a flammable solid, a non-DOT specification open top, metal cargo carrying box.	2
8952	Authorizes the use of a DOT Specification 21C fiber drum, for transporting desensitized HMX (cyclotetramethylene tetranitramine).	2
8955	Authorizes the transport of charged oil well guns with detonators attached.	2

NUMBER	PURPOSE	REASON
8958	Authorizes the transport of limited quantities of black powder, classed as a flammable solid, in DOT Specification 12H fiberboard boxes.	3
8960	Authorizes the carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
8963	Authorizes the transport of a rocket motor in a propulsive state, in a DOT Specification 15A wooden box.	3
8966	Authorizes 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
8968	Authorizes the use of a non-DOT specification IMO Type 1 portable tank, for transportation of a flammable solid.	2
8977	Authorizes the use of a non-DOT specification IMO Type 5 portable tank, for transportation of liquefied compressed gases.	2
8988	Authorizes the transport of charged oil well guns as Class C explosive when the net weight of explosive material in the vehicle or vessel does not exceed 200 pounds.	2
8990	Authorizes the manufacture, marking, and sale of non-DOT specification nonrefillable steel inside cylinders, for transportation of nonflammable compressed gases.	2
8995	Authorizes the use of non-DOT specification steel portable tanks, for transportation of certain nonpoisonous, nonflammable compressed gases.	2
9001	Authorizes the manufacture, marking, and sale of non-DOT specification steel cylinders complying in part with DOT Specification 3T cylinders, for transportation of certain nonflammable and flammable gases.	2

TRADE MARK NITROGEN CORP. ZTMN88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. (Multiple violations) Failure to placard in compliance with hazardous materials regulations. §172.508. Violation of special placarding provisions. §172.510.	$ 2,000.00
UNION CAMP CORP ZUNI88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. (Multiple violations) Improperly securing car after unloading. §174.67(k). (Multiple violations) Failure to placard in compliance with hazardous materials regulations. §172.508. (Multiple violations) Improper preparation to unload tank car, including failure to set brakes, block wheels, and/or set caution signs. §174.67(a).	$ 24,000.00
UNION CAMP CORP ZUNI89001HMT	Failure to placard in compliance with hazardous materials regulations. §172.508. Placard not readily visible or improperly located. §172.516. Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. (Multiple violations) Tank car without shelf couplers. §173.31(a)(7).	$ 13,510.00
UNION PACIFIC FREIGHT ZUPF88001HMT	Offering hazardous materials for transportation with improper shipping papers. §172.200-.203 & §174.25(a) (Intermodal shipment). (Multiple violations)	$ 4,500.00
UNION PACIFIC RESOURCES CO. ZUPR88001HMT	Failure to properly prepare car of hazardous materials for loaded move; usually involves insecure closures. §173.31(b).	$ 5,000.00
UNION TANK CAR ZUTC87001HMT	Offering hazardous materials for transportation with improper shipping papers. §172.200-.203. Violation of special placarding provisions. §172.510.	$ 6,000.00
UNION TEXAS PETROLEUM ZUTP88001HMT	Offering package of hazardous materials not marked in compliance with the regulations. §172.300.	$ 1,000.00
UNITED REFINING CO. ZURC88001HMT	Failure to properly prepare car of hazardous materials for loaded move; usually involves insecure closures. §173.31(b). (Multiple violations) Use of tank car not meeting DOT specifications. §173.31(a). Failure to load compressed gas car properly; insufficient outage. §173.314.	$ 25,450.00
UNITED STATES STEEL COMPANY ZUSS88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29.	$ 2,100.00
UNITED SUPPLIES INCORPORATED ZUDS88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29.	$ 500.00
UNIVERSAL OIL PRODUCTS ZUNP86001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. Improperly securing car after unloading. §174.67(k).	$ 1,400.00
UNOCAL CHEMICALS ZUNO88002HMT	Failure to properly prepare car of hazardous materials for loaded move; usually involves insecure closures. §173.31(b).	$ 3,000.00
U.S. INDUSTRIAL CHEMICALS CO. ZUSI84001HMT	Failure to properly prepare car of hazardous materials for loaded move; usually involves insecure closures. §173.31(b). (Multiple violations)	$ 2,500.00
U.S. INDUSTRIAL CHEMICALS CO. ZUSI88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. Improperly securing car after unloading. §174.67(k). Failure to properly prepare car of hazardous materials for loaded move; usually involves insecure closures. §173.31(b).	$ 6,450.00
U.S. VANADUIM CORP. ZUSV88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. (Multiple violations) Improperly securing car after unloading. §174.67(k). (Multiple violations)	$ 3,000.00
UVALDE COUNTY FARMERS CO-OP ZUVA88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29.	$600.00
VERDEGAAL BROTHERS, INC. ZVBI88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. (Multiple violations) Improperly securing car after unloading. §174.67(k). (Multiple violations)	$ 2,800.00
VININGS CHEMICAL CO. ZVCH87001HMT	Use of tank car not meeting DOT specifications. (Wrong commodity stencilled on tank.) §173.31(a).	$ 2,500.00

VISTA CHEMICALS CO. ZVIS88001HMT	Tank car without shelf couplers. §173.31(a)(7). (Multiple violations) Failure to properly prepare car of hazardous materials for loaded move; usually involves insecure closures. §173.31(b). (Multiple violations) Offering hazardous materials for transportation with improper shipping papers. §172.200-.203. (Multiple violations)	$ 17,500.00
VISTA POLYMERS, INC. ZVPI88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. (Multiple violations) Improperly securing car after unloading. §174.67(k). (Multiple violations)	$ 4,000.00
VULCAN MATERIALS CO. CHEM. DIVISION ZVMC87001HMT	Improper preparation to unload tank car, including failure to set brakes, block wheels, and/or set caution signs. §174.67(a). (Multiple violations)	$ 3,500.00
VULCAN MATERIALS CO. CHEM. DIVISION ZVMC88001HMT	Use of tank car not meeting DOT specifications. §§173.31(a) & 173.22. Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. (Multiple violations) Improperly securing car after unloading. §174.67(k). (Multiple violations)	$ 5,000.00
WARREN PETROLEUM CO. ZWPC88001HMT	Failure to properly prepare car of hazardous materials for loaded move; usually involves insecure closures. §173.31(b).	$ 4,000.00
WAUSAU PAPER MILLS CO. ZWAU88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. Improperly securing car after unloading. §174.67(k).	$ 1,000.00
WEFCO ZWEF87001HMT	Failure to completely placard or failure to apply correct placards. §172.504. Improper preparation to unload tank car, including failure to set brakes, block wheels, and/or set caution signs. §174.67(a).	$ 4,000.00
WESKEM INCORPORATED ZWES88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. (Multiple violations) Improperly securing car after unloading. §174.67(k). (Multiple violations) Failure to placard in compliance with hazardous materials regulations. §172.508.	$ 2,500.00
WESTERN GAS PROCESSORS ZWGP87001HMT	Improper preparation to unload tank car, including failure to set brakes, block wheels, and/or set caution signs. §174.67(a). (Multiple violations)	$ 5,850.00
WESTINGHOUSE HANFORD CO. ZWHC88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. Improperly securing car after unloading. §174.67(k).	$ 2,100.00
WESTVACO CORP. ZWVC88001HMT	Failure to placard in compliance with hazardous materials regulations. §172.508. Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. (Multiple violations) Improper preparation to unload tank car, including failure to set brakes, block wheels, and/or set caution signs. §174.67(a). Failure to attach unoading connections securely. §174.67(h). Failure to attend tank car unloading or allowing tank car unloading hoses to remain connected after unloading is completed. §174.67(i). Improperly securing car after unloading. §174.67(k). (Multiple violations)	$ 6,000.00
WEYERHAEUSER COMPANY ZWEY88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. Improperly securing car after unloading. §174.67(k).	$ 2,000.00
WITCO CHEMICAL CORP. ZWC 86001HMT	Violation of special placarding provisions. §172.510. Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. Use of tank car not meeting DOT specifications. §173.31(a). Improper shipping paper for RESIDUE movement. §174.25(c). Improperly securing car after unloading. §174.67(k).	$ 10,000.00
WORTH CHEMICAL CO. ZWCY88001HMT	Placard not readily visible or improperly located. §172.516. Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. Improper preparation to unload tank car, including failure to set brakes, block wheels, and/or set caution signs. §174.67(a). (Multiple violations) Improperly securing car after unloading. §174.67(k).	$ 5,300.00
WYAN CHEMICAL CO. ZWYC88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. (Multiple violations) Improperly securing car after unloading. §174.67(k). (Multiple violations)	$ 4,000.00
YOUNG REFINING CO. ZYRC87001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. Improperly securing car after unloading. §174.67(k). Offering hazardous materials for transportation with improper shipping papers. §172.200-.203.	$ 3,700.00
ZACLON, INC. ZZAC88001HMT	Failure to comply with retest and reinspection requirements for tank cars. §173.31(c).	$ 1,500.00

ZIPP INDUSTRIES ZZIP88001HMT	Improper offering or acceptance of unloaded hazardous materials rail car; usually due to insecure closures. §173.29. Improperly securing car after unloading. §174.67(k).	$ 1,000.00
	TOTAL	**$3,358,865.00**

NUMBER	PURPOSE	REASON
9010	Authorizes the shipment of rocket motors, Class B explosive in a specially designed container to be shipped in a propulsive state.	2
9011	Authorizes the certain DOT Specification 5, 6 and 17 series drums constructed of stainless steel, nickel or monel to be exempt from certain steel drum test requirements, for shipment of those commodities presently authorized for each drum.	2
9017	Authorizes the shipment of hydrogen fluoride anhydrous in non-DOT specification IMO Type portable tank comparable to DOT Specification 51.	2
9023	Authorizes the shipment of various refrigerant gases in non-DOT specification IMO Type 5 portable tanks.	2
9034	Authorizes the shipment of insecticide, liquefied gas (containing no poison A or B material) insecticide, liquefied gas (containing poison A and B material), compressed gas, n.o.s., disilane and disilane mixture in DOT Specification 3AL cylinders.	2
9043	Authorizes the shipment of ammonium nitrate solution, classed as an oxidizer in modified DOT Specification MC-306 cargo tanks.	2
9048	Authorizes the manufacture, marking, and sale of non-DOT specification containers, for transportation of flammable liquids and gases.	2
9052	Authorizes the manufacture, marking, and sale of non-DOT specification 225 gallon rotationally molded polyethylene portable tanks, for shipment of those corrosive liquids and hydrogen peroxide presently authorized in DOT Specification 34 and certain flammable liquids.	2
9054	Authorizes the manufacture, marking, and sale of non-DOT 55-gallon polyethylene containers, for shipment of certain corrosive liquids, including those presently authorized in DOT Specification 34; hydrogen peroxides; classed as an oxidizer, and ethyl and methyl alcohol, classed as flammable liquids.	2

NUMBER	PURPOSE	REASON
9061	Authorizes 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
9066	Authorizes 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
9070	Authorizes the use of non-DOT specification steel portable tanks, for transportation of a flammable liquid.	2
9077	Authorizes the transport of railway track torpedoes and railway fusees in flagging kits constructed of 24 gauge galvanized steel.	1
9092	Authorizes 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 flammable liquids and corrosive liquids.	2
9106	Authorizes the carriage of certain Class A, B and C explosives that are not permitted for air shipment or are in quantities greater than those prescribed for shipment by air.	1
9108	Authorizes the transport of an initiating explosive in a plastic bag, packed in a DOT Specification 12H fiberboard box.	2
9110	Authorizes the shipment of sodium chlorate, in non-DOT specification collapsible polyethylene-lined, woven polypropylene bags.	2
9116	Authorizes 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 corrosive liquids, flammable liquids or an oxidizer.	2
9118	Authorizes the shipment of 1,2-benzisothiazolin-3-1 in aqueous solution or dispersion, either by itself or in combination with ethylenediamine or sodium hydroxide, in DOT Specification 57 steel portable tanks.	2

NUMBER	PURPOSE	REASON
9132	Authorizes the use of non-DOT specification portable tanks manifolded together within a frame and securely mounted on a truck chassis, for transportation of flammable and corrosive liquids.	2
9133	Authorizes the shipment of a formulated dry organophosphorous pesticide in a DOT Specification 56 metal portable tank.	2
9138	Authorizes the shipment of nitrogen in a fiber reinforced plastic full composite cylinder without a safety relief device.	2
9142	Authorizes the use of a non-DOT Specification IMO Type 5 portable tank, for transportation of liquefied compressed gases.	2
9145	Authorizes the use of a non-DOT specification container, for shipment of flammable gases.	2
9150	Authorizes manufacture, marking, and sale of non-DOT specification rotationally molded, cross-linked polyethylene portable tanks with bottom outlet, for shipment of corrosive and flammable liquids or an oxidizer.	2
9157	Authorizes the use of a non-DOT specification multiunit tank car tank, for transportation of a flammable gas.	2
9164	Authorizes 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	Authorizes the manufacture, marking, and sale of cargo tanks manufactured from glass fiber reinforced plastics, for transportation of flammable liquids, corrosive materials and poison B materials.	1
9168	Authorizes the manufacture, marking, and sale of specially designed composite type packaging, for shipment of small quantities of various flammable, corrosive, and poison B liquids and solids shipped without labels.	1
9169	Authorizes transport of a water reactive material in vented freight shipping containers.	5

NUMBER	PURPOSE	REASON
9172	Authorizes the manufacture, marking, and sale of non-DOT specification nonreusable fiberboard bulk box of triple-wall corrugated fiberboard, for shipment of various corrosive and poison B solids.	2
9174	Authorizes the use of non-DOT specification cylindrical and spherical pressure vessels, for transportation of helium and nitrogen.	2
9176	Authorizes the manufacture, marking, and sale of DOT Specification 4L cylinders, for transportation of certain nonflammable gases.	2
9182	Authorizes the transport of explosive pest repellant devices, in plastic boxes packed in DOT Specification 12B fiberboard boxes.	2
9184	Authorizes the shipment of calcium carbide in polyethylene-lined woven polypropylene collapsible bags in truckload or carloard lots only.	1
9197	Authorizes the manufacture, marking, and sale of DOT Specification 34 drums, for transportation of certain flammable liquids.	2
9201	Authorizes the shipment of calcium cyanide, solid, in collapsible, water-tight, polyethylene-lined, woven polypropylene bags having capacity of 2,204 pounds, overpacked in fiberboard boxes, in full freight container loads, docking at various U.S. ports.	1
9209	Authorizes the shipment of hydrogen peroxide solution in water containing 29 percent - 32 percent hydrogen peroxide by weight, in a DOT-12P fiberboard box containing one inside DOT-2U polyethylene container of not over five gallons or two inside DOT-2U polyethylene containers of not over 2-1/2 gallon capacity each.	2
9211	Authorizes the installation and operation of electrically-powered lighting, air conditioning, alarm, and fire detection systems in cargo holds containing Class A, B and C explosives in a Maritime Prepositioning Ship (TAKX).	2

NUMBER	PURPOSE	REASON
9213	Authorizes 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 corrosive solids and nitrates.	1
9220	Authorizes the manufacture, marking, and sale of non-DOT specification collapsible flexible bag, disposable bulk container, for transportation of corrosive solids and oxidizers.	2
9221	Authorizes the manufacture, marking, and sale of non-DOT specification girth welded stainless steel cylinders, for shipment of nonflammable gases.	2
9222	Authorizes the use of non-DOT specification metal tanks, for transportation of a flammable liquid or flammable solid.	5
9228	Authorizes the use of non-DOT specification cargo tanks, for transportation of corrosive materials.	2
9230	Authorizes the transport of titanium metal powder, dry, in two polyethylene bags overpacked in a DOT Specification 17H or 17C steel drums.	2
9232	Authorizes 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	Authorizes 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
9235	Authorizes the manufacture, marking, and sale of non-DOT specification steel drums of 24-gauge thickness and six-gallon capacity, to be used in place of 24 gauge, five-gallon capacity, DOT Specification 17E steel drums, for transportation of various hazardous materials.	2
9243	Authorizes the shipment of a trick noise maker in outside packagings which are not required to be marked or labeled.	1

NUMBER	PURPOSE	REASON
9244	Authorizes the transport of explosive pest repellant devices, in fiberboard boxes packed in DOT Specification 12B fiberboard boxes.	2
9248	Authorizes the transport of a safety kit containing two 15-minute highway fusees as a Consumer Commodity.	1
9253	Authorizes the manufacture, marking, and sale of DOT Specification 34 drums of 55-gallon capacity, for transportation of certain corrosive liquid and an oxidizer.	2
9262	Authorizes the transport of oil well cartridges containing not more than 500 grains of high explosive.	1
9265	Authorizes the transport of certain Classe A, B and C explosives that are not permitted for shipment by air.	1
9266	Authorizes the use of non-DOT specification IMO Type 5 portable tanks, for shipment of liquefied compressed gases.	2
9270	Authorizes the shipment of hydrogen fluoride, in DOT Specification 112A400W tank cars stenciled DOT Specification 112A200W.	2
9271	Authorizes deviation from car separation requirements, for transportation of Class A and B explosives.	1
9275	To broaden the exceptions to specification packaging, marking and labeling requirements for certain ethyl alcohol formulations.	2
9277	Authorizes the shipment of organic phosphate compound mixture, dry, Class B poison, in non-DOT specification five-ply kraft multiwall, laminated bags of 50 pounds capacity having a minimum total basis weight of 250 pounds.	2
9279	Authorizes the transport of a flammable solid which is water reactive in open-top freight containers and open top trailers convered with tarpaulins.	1

NUMBER	PURPOSE	REASON
9280	Authorizes the use of DOT Specification MC-330 and MC-331 cargo tanks, for transportation of flammable liquids which are also corrosive materials.	2
9281	Authorizes the transport of cylindrical pellets of densensitized RDX, in DOT Specification 12B65 fiberboard boxes.	2
9282	Authorizes the shipment of trifluoroethylene, classed as compressed gas, in DOT Specification 110A800W tanks.	2
9287	Authorizes the use of non-DOT specification containers, for transportation of flammable liquids and gases.	5
9289	Authorizes the shipment of certain herbicides in metal or polyethylene portable tanks considered to be an implement of husbandry, without shipping papers.	1
9290	Authorizes the manufacture, marking, and sale of 15-gallon steel overpacks similar to DOT-3M except for a slight reduction in wall thickness with polyethylene liner meeting DOT 2SL except for marking for shipment of those commodities authorized in DOT-37M/2SL.	2
9295	Authorizes the manufacture, marking, and sale of non-DOT specification toroidal pressure vessel equivalent to a DOT Specification 39 cylinder, for transportation of nonflammable, nonliquefied gases.	2
9296	Authorizes the transport of limited quantities of liquid sodium potassium alloy, packaging bearing the DANGEROUS WHEN WET label in motor vehicles and rail cars which are not placarded FLAMMABLE SOLID W.	1
9302	Authorizes the air transport of radioactive material without transport index and separation distance controls provided operations are in accordance with safety instructions provided by DOE or DOE contractor radiological safety personnel.'	1

NUMBER	PURPOSE	REASON
9305	Authorizes the use of a non-DOT specification container, for transportation of flammable liquids and gases.	2
9307	Authorizes the shipment of methyl alcohol in inside metal containers of two-gallon capacity, overpacked three to a DOT Specification 12B fiberboard box.	5
9316	Authorizes 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 corrosive liquids authorized in a DOT-6D/2SL or 2SL composite packaging.	2
9317	Authorizes the use of non-DOT specification skid mounted portable tanks to be transported on public highway within company property.	2
9323	Authorizes the shipment only by the U.S. Department of Defense of gasoline and JP-4 and JP-5 fuel, classed as flammable liquids, in non-DOT specification collapsible, fabric reinforced rubber drums of 500-gallon capacity.	2
9327	Authorizes the manufacture, marking, and sale of mechanical displacement meter provers mounted on a truck chassis or trailer, for shipment of flammable liquids and gases.	2
9331	Authorizes the shipment of sodium chlorite solutions, in DOT Specification MC-306 and MC-307 cargo tanks.	2
9332	Authorizes 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
9343	Authorizes the transport of lithium metal in stainless steel DOT Specification portable tanks.	2

NUMBER	PURPOSE	REASON
9346	Authorizes 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
9348	Authorizes the transport of a limited number of certain lithium batteries on passenger carrying aircraft.	3
9352	Authorizes 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 flammable liquids and flammable gases.	2
9354	Authorizes the transport of alcohol-wet nitrocellulose in non-DOT specification fiber drums.	2
9355	Authorizes the transport of a limited number of certain lithium batteries on passenger carrying aircraft.	3
9357	Authorizes the use of non-DOT specification IMO Type 5 portable tanks, for transportation of liquefied compressed gases.	2
9364	Authorizes the shipment of a parathion mixture, liquid, in a DOT Specification 12P corrugated fiberboard box containing two inside DOT Specification 2U polyethylene containers of 2-1/2-gallon capacity.	2
9370	Authorizes the manufacture, marking, and sale of non-DOT specification steel cylinders complying in part with DOT Spsecification 3T cylinders, for transportation of nonflammable gases.	2
9374	Authorizes 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 corrosive liquids, flammable liquids or an oxidizer.	2
9377	Authorizes the transport of high explosives containing more than 5 percent moisture in packagings without inner plastic bags or other linings.	2

NUMBER	PURPOSE	REASON
9381	Authorizes 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
9387	Authorizes the transport of an organic phosphate compound pressurized, with a nonflammable compressed gas, in concentrations and quantities greater than now authorized in the regulations, in DOT Specification 3B cylinders.	2
9388	Authorizes 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
9400	Authorizes the manufacture, marking, and sale of non-DOT specification rotationally molded, spherical polyethylene portable tank enclosed in a steel skid unit, for shipment of corrosive liquids, flammable liquids or an oxidizer.	2
9401	Authorizes the use of non-DOT specification IMO Type 5 portable tanks, for transportation of flammable and nonflammable liquefied compressed gaes.	2
9408	Authorizes the transport of silicon tetrafluoride in DOT Specification 3AAX cylinders.	2
9413	Authorizes the transport of a chemical kit which contains small amounts of hydrochloric acid and zinc powder.	2
9418	Authorizes 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 flammable and corrosive liquids.	2
9426	Authorizes the manufacture, marking, and sale of 5-gallon and 6-gallon capacity removable head molded polyethylene drums for transportation of corrosive liquids and flammable liquids.	2
9430	Authorizes the manufacture, marking, and sale of a polyethylene/fiberglass removable head salvage drum of 90-gallon capacity for overpacking damaged or leaking packages of hazardous materials, for repackaging or disposal.	2

NUMBER	PURPOSE	REASON
9433	Authorizes the transport of flammable gases at atmospheric pressure in glass bulbs not exceeding one-liter capacity, packed in DOT Specification 12A/12B fiberboard boxes.	2
9440	Authorizes 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 corrosive liquids, flammable liquids or an oxidizer.	2
9443	Authorizes the shipment of Class B rocket motors with igniters installed.	2
9463	Authorizes the manufacture, marking, and sale of non-DOT specification cargo tanks complying generally with DOT Specification MC-307/312 except for full opening rear head for shipment of flammable, corrosive or poison B waste liquids or semisolids.	2
9485	Authorizes the transport of an insecticide, liquefied gas mixture in DOT Specification 4BA260 cylinders.	2
9491	Authorizes the transport of hexafluoroethane and trifluoromethane in DOT Specification 3AL cylinders.	2
9502	Authorizes the use of DOT Specification 3A and 3E cylinders for transportation of diborane and diborane mixtures.	2
9507	Authorizes 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	Authorizes the use of a DOT Specification 4BW240 cylinder that is retested decennially instead of quinquenially, for transportation of a flammable solid, dangerous when wet.	2
9517	Authorizes the carriage of Class A, B and C explosives that are not permitted for air shipment or in quantities greater than those prescribed for shipment by air.	1

NUMBER	PURPOSE	REASON
9519	Authorizes 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 corrosive liquids, flammable liquids or an oxidizer.	2
9525	Authorizes the use of a welded stainless steel cylinder equivalent to DOT Specification 3E with exceptions, for transportation of certain pyroforic liquids, flammable liquids, poison B liquids and flammable solids.	2
9527	Authorizes the carriage of various Class A, B and C explosives not permitted for air shipment or in quantities greater than those prescribed for air shipment.	1
9533	Authorizes 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 shipmet of corrosive solids and oxidizers (solids only).	2
9548	Authorizes the use of a non-DOT specification IMO Type 1 portable tank, for shipment of motor fuel antiknock compound.	1
9549	Authorizes the transport of oil well cartridges containing more than 350 grains, but not more than 600 grains of Class A, type 3 explosive, as Class C explosive, in DOT Specification 12H fiberboard box.	2
9550	Authorizes the carriage of a cesium clock containing 5 grams of cesium and wet storage batteries in the passenger compartment of an aircraft.	1
9551	Authorizes the carriage of Class A, B and C explosives that are not permitted for air shipment or in quantities greater than those prescribed for shipment by air.	1
9555	Authorizes the use of DOT Specification MC-330 and MC-331 cargo tanks for shipment of a poison B liquid.	2

NUMBER	PURPOSE	REASON
9569	Authorizes the shipment of certain alkaline corrosive liquids in an unlined tin can overpacked in a 29-gauge non-DOT removable lug, cover, unlined steel pain of three and one-half gallon capacity, also containing a nonhazardous resin mix.	2
9571	Authorizes the transport of not more than 5 grams of an approved or unapproved explosive in a special packaging essentially without regulation.	1
9579	Authorizes the use of a non-DOT specification motor vehicle for bulk shipment of oxidizers.	1
9581	Authorizes the transport of solid radioactive material in concrete filled DOT Specification 17C or DOT Specification 17H steel drum with the DOT Specification 2R or DOT Specification 55 on its geometric center must fit snuggly in the cavity of the DOT-20WC wooden protection jacket.	2
9583	Authorizes the use of a non-DOT specification welded, high pressure cylinder for oil sampling purposes.	2
9584	Authorizes the use of a non-DOT specification seamless cylinder designed and constructed in accordance with DOT Specification 3A, for gas sampling purposes.	2
9595	Authorizes the transport of certain unapproved Class A explosives for disposal in packagings not presently authorized for Class A explosives, in metal or fiber drums not exceeding 55-gallon capacity with liners consisting of two polyethylene leak-proof bags.	1
9603	Authorizes 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	Authorizes two shipments of more than 110 detonators in one inside specially designed packages.	5

NUMBER	PURPOSE	REASON
9607	Authorizes the shipment of self-pressurized containers in strong outside fiberboard box with inside container which consist of a polyethylene terephthalate container enclosed in a neoprene rubber sleeve and overpacked in a vented metal can.	5
9609	Authorizes the manufacture, marking, and sale of welded non-DOT specification nonreusable, nonrefillable steel toroidal pressure vessel for a military system.	2
9610	Authorizes the transport of DOT Specification 21C fiber drums which contain not more than 5 grams of smokeless powder essentially without regulation.	2
9611	Authorizes the manufacture, marking, and sale of non-DOT specification steel drums of one millimeter thickness (19 gauge), to be used in place of 20/18 gauge, 55-gallon capacity DOT-17E drums.	2
9612	Authorizes the transport of ethyl chloroformate and methyl chloroformate in DOT Specification 105A500W tank cars which have been restenciled DOT 105A100W.	2
9617	Authorizes the transport of a specially defined detonating cord on the same motor vehicle with Class A and Class C detonators.	2
9623	Authorizes the transport of blasting agent or an oxidizer in a DOT Specification MC-306 or MC-307 cargo tank with a storage box containing Class A explosives mounted directly behind the tractor cab.	2
9628	Authorizes 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 corrosive solid.	2
9632	Authorizes the use of non-DOT Specification IMO Type 5 portable tanks, for transportation of flammable and nonflammable liquefied compressed gases.	2

NUMBER	PURPOSE	REASON
9634	Authorizes the manufacture, marking, and sale of non-DOT specification fiber reinforced plastic, full composite cylinders for shipment of certain flammable and nonflammable gases.	2
9637	Authorizes 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 corrosive solids and poison B solids.	2
9638	Authorizes 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	Authorizes the use of DOT Specification 106A500X and 110A500W multiunit tank car tanks for a waste liquid mixture that is corrosive to skin only.	2
9643	Authorizes the transport of certain hazardous materials over 0.3 miles of public highway exempted from DOT requirements for package marking, labeling, specification packaging, and segregation.	2
9644	Authorizes the manufacture, marking, and sale of a DOT Specification 23G cylindrical fiberboard box tested once a year instead of every six months, for shipment of certain Class A explosives.	2
9645	Authorizes 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
9646	Authorizes the transport by rail of freight shipping containers loaded with combinations of packages of Class A, B and C explosive and a corrosive liquid, not authorized in 49 CFR 174.81.	2
9649	Authorizes radiation levels slightly higher than normally allowed for limited quantity radioactive materials and relief from certain marking requirements for the depleted uranium component of the packages.	3

NUMBER	PURPOSE	REASON
9654	Authorizes the shipment of hydrogen peroxide solution exceeding 52 percent concentration, in aluminum drums conforming to DOT Specification 44D except for rolling hoops	2
9655	Authorizes the use of a 3,930-gallon capacity, non-DOT specification steel portable bin, for transportation of a corrosive solid.	2
9657	Authorizes the use of DOT Specification 111A100W2 tank cars with bottom outlets, for transportation of sulfuric acid or oleum, classed as a corrosive material.	2
9658	Authorizes 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 corrosive liquids, flammable liquids or oxidizers.	2
9659	Authorizes the manufacture, marking, and sale of non-DOT specification fiber reinforced plastic (FRP) full composite (FC) cylinder, for transportation of certain flammable and nonflammable compressed gases.	2
9670	Authorizes DOT Specification 21C fiber drums to be marked on the side instead of both ends as required in Section 173.65(j) when the ends of the drums have been dipped in wax.	2
9672	Authorizes 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
9676	Authorizes the shipment of certain flammable 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	Authorizes 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

NUMBER	PURPOSE	REASON
9686	Authorizes 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 flammable or corrosive liquids authorized in DOT-34 and DOT-6D/2S or 2SL composite packagings.	1
9689	Authorizes 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
9690	Authorizes the manufacture, marking, and sale of non-DOT specification rotationally molded crosslinked or noncrosslinked polyethylene portable tank, for the shipment of corrosive liquids, flammable liquids or an oxidizer.	2
9694	Authorizes the use of MC-331 cargo tanks equipped with angle valves and pressure relief valves not presently authorized in the regulations.	2
9700	Authorizes 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	Authorizes the manufacture, marking, and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags having a capacity of no more than 2500 pounds each, and top and/or bottom outlets, for shipment of flammable and corrosive solids and oxidizer (solids only)..	2
9702	Authorizes the manufacture, marking, and sale of a non-DOT specification multiwall kraft paper pinch/seal bag of 25-pound and 50-pound net construction, for shipment of calcium nitrite, and oxidizer, n.o.s.	2
9705	Authorizes the shipment of propyleneimine, inhibited, classed as a flammable liquid in DOT Specification 51 portable tank.	1

NUMBER	PURPOSE	REASON
9706	Authorizes the manufacture, marking, and sale of non-DOT specification cylinder complying in part with the DOT-3AA specification, for transportation of certain flammable gases, nonflammable gases and poison A materials.	2
9710	Authorizes abbreviated marking of the one-way travel time on the tank and on shipping papers.	3
9718	Authorizes the shipment of flammable and nonflammable gases in a non-DOT specification portable tank comparable to DOT Specification 51 portable tanks.	1
9723	Authorizes the shipment of "lab-packs" containing cyanides and cyanide mixture with "lab-packs" containing acids and corrosive liquids in the same transport vehicle.	1
9735	Authorizes the Dangerous Cargo Manifest on cargo vessels owned and operated by Hapag-Lloyd AG to be retained in a location other than on or near the bridge of the vessel while the vessel is in port.	1
9739	Authorizes the shipment of corrosive liquids in DOT Specification MC-306 stainless steel cargo tanks.	2
9741	Authorizes the shipment of batteries palletized and shipped as a unit without means of protection from any superimposed weight.	1
9745	Authorizes the manufacture, marking, and sale of nonrefillable non-DOT specification inside metal containers conforming with DOT Specification 2P containers, for shipment of nonflammable or flammable gases.	2
9750	Authorizes to transport of ammonium nitrate solution containing not less than 13 percent water in DOT Specification MC-307 insulated cargo tank or a DOT Specification MC-311 insulated cargo tank.	2
9754	Authorizes the manufacture, marking, and sale of non-DOT specification reusable, rotationally molded, polyethylene container conforming with DOT Specification 34 with exceptions, for shipment of certain corrosive liquids, flammable liquids, Class B poisonous liquids and an oxidizer.	2

NUMBER	PURPOSE	REASON
9758	Authorizes the shipment of certain flammable gases in a nonrefillable, non-DOT inside container conforming with the DOT-2P except for diameter and capacity.	2
9761	Authorizes the manufacture, marking, and sale of non-DOT specification welded stainless steel cylinders patterned after DOT-4DS with exceptions, for transportation of nonflammable gases.	5
9768	Authorizes the shipment of rocket ammunition with explosive projectile, Class A explosive by cargo aircraft only.	2
9769	Authorizes the use of lab-packs for transportation by vessel, partially exemption lab-packs from segregation requirements.	1
9774	Authorizes the manufacture, marking, and sale of non-DOT specification blow-molded, high molecular weight polyethylene drums, with removable head, for shipment of corrosive material solids and poison B solids.	2
9791	Authorizes the manufacture, marking, and sale of a high strength, non-specification cylinder comforming in part with the DOT-3AA specification, for transportation of certain nonflammable, nonliquefied compressed gases.	2
9797	Authorizes the one-time shipment of a nonflammable gas, in a nonrefillable, non-DOT specification container.	3
9802	Authorizes the carriage of certain Class A, B and C explosives that are not permitted for shipment by air, or are in quantities greater than those prescribed for shipment by air.	1
9803	Authorizes the carriage of certain Class A, B and C explosives that are not permitted for shipment by air, or are in quantities greater than those prescribed for shipment by air.	1
9804	Authorizes the manufacture, marking, and sale of non-DOT specification rotationally molded, polyethylene portable tank enclosed in a steel frame, for the shipment of corrosive materials, flammable liquids, or an oxidizer.	2

NUMBER	PURPOSE	REASON
9809	Authorizes the use of a non-DOT specification container described as a mechanical displacement meter prover mounted on a truck, for transportation of flammable liquids.	1
9811	Authorizes the shipment of non-DOT specification steel portable tanks containing scrap metal pipe that is contaminated with asbestos and poison B materials for disposal.	1
9812	Authorizes 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	Authorizes the shipment of hypochlorite solution, more than 7 percent available chlorine by weight, in non-DOT spsecification cargo tanks.	5
9817	Authorizes the manufacture, marking and sale of non-DOT specification limited-life polyethylene portable tank enclosed in a steel jacket for the transportation of certain flammable liquids, corrosive materials, or an oxidizer.	2
9819	Authorizes the shipment of flammable liquids and corrosive liquids in non-DOT specification stainless steel portable tanks.	2
9823	Authorizes the use of a non-DOT specification, toroidal shape pressure vessel for transportation of helium.	1
9825	Authorizes sludge to be classified as Low Specific Activity (LSA) at a specific activity greater than that normally allowed for liquids transported in the specification MC-312 cargo tank.	1
9832	Authorizes the manufacture, marking, and sale of vacuum insulated non-DOT specification portable tanks, for transportation hazardous materials.	2
9836	Authorizes the manufacture, marking, and sale of nonreusable expanded polystyrene case similar to a DOT-33A, except that it will incorporate six cavities to contain not more than six five-pint bottles, for shipment of those commodities authorized by Part 173 to be shipped in a DOT-33A case.	2

NUMBER	PURPOSE	REASON
9840	Authorizes the transport of hydrogen peroxide solution in DOT Specification 34 polyethylene (55-gallon drum) by cargo-aircraft only (a helicopter) between Nikiski, Alaska, and Cook International, Tyonek, Alaska.	2
9841	Authorizes the shipment of flammable gases, nonflammable gases and flammable liquids in a non-DOT specification IMO Type 5 portable tank.	2
9844	Authorizes the use of a non-DOT specification polyethylene container of 15-gallon capacity, similar to a DOT Specification 34, for shipment of hydrogen peroxide, 60 percent.	2
9846	Authorizes 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 flammable solid, oxidizing materials, and corrosive solids.	2
9847	Authorizes the retesting of DOT Specification 3A and 3AA cylinders by means other than the hydrostatic retest required in 49 CFR 173.34(e).	1
9851	Authorizes a one-time shipment of insulated dewars containing liquid nitrogen to be transorted in the cabin of a passenger-carrying aircraft under special conditions.	4
9856	Authorizes the use of non-DOT specification packaging and patient use of oxygen systems on board a passenger ship.	5
9857	Authorizes the manfuacture, marking, and sale of non-DOT specification fiber drum, not exceeding 210 liter capacity, for shipment of those hazardous materials authorized in DOT Specification 21C fiber drum.	2
9860	Authorizes 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

NUMBER	PURPOSE	REASON
9861	Authorizes the shipment of sodium perborate, anhydrous, classed as an oxidizer, in DOT Specification 44B and 44C multiwall paper bags, or DOT Specification 44P all-plastic bags.	2
9865	Authorizes the transport of an aqueous solution of a Class A explosive in a DOT Specification 17H drum with a DOT Specification 2S polyethylene liner in temperature controlled vans.	2
9870	Authorizes the manufacture, marking, and sale of non-DOT specification conforming with DOT Specification 34 except for having one opening of 2.75-inch in diameter, for shipment of certain corrosive, flammable,and poison B liquids and an oxidizer.	2
9872	Authorizes the manufacture, marking, and sale of a non-DOT Specification fiber drum conforming to DOT Specification 21C, except that the top cover of lid is constructed of high density polyethylene, and secured to the side wall by a metal lever action closing ring.	2
9873	Authorizes the transport of nitrocellulose, wet with not less than 25 percent weight by water.	2
9874	Authorizes 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
9876	Authorizes the manufacture, marking, and sale of DOT Specification 39 cylinders equipped with a pressure relief device system other than prescribed.	2
9884	Authorizes 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 DOT 4L Specification with exceptions.	2
9885	Authorizes the manufacture, marking, and sale of non-DOT specification removable head metal drums, for transportation of corrosive materials.	2

NUMBER	PURPOSE	REASON
9886	Authorizes 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
9887	Authorizes the manufacture, marking, and sale of non-DOT specification insulated portable tanks, for transportation of certain hazardous materials.	2
9888	Authorizes the transport of an electric car containing a sodium-sulfur battery which is at its operating temperature (575-660 degrees Fahrenheit) and shipment of electric cars containing depleted sodium-sulfur batteries.	1
9889	Authorizes 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 corrosive liquids, flammable liquids, or an oxidizer.	2
9891	Authorizes the manufacture, marking, and sale of non-DOT specification fibre drums of not over 115 pounds net weight, similar to DOT Specification 21C except tht the top head is of molded polyethylene and secured to the sidewall by a lever locking ring.	2
9892	Authorizes the manufacture, marking, and sale of a non-DOT specification rotationally molded, medium density polyethylene drum, with removable head, for transportation of oxidizers, organic peroxides, flammable, corrosive and poison B solids.	2
9894	Authorizes the manufacture, marking, and sale of non-DOT specification cylinders for transport of certain hazardous materials.	2
9899	Authorizes the shipment of cartridge power devices and explosive power devices, classed as Class C explosive, affixed on an empty gas turbine engine in a non-DOT specification packaging.	2

NUMBER	PURPOSE	REASON
9901	Authorizes the shipment of nitric acid, classed as oxidizer or corrosive material, and perchloric acid, classed as oxidizer, in a DOT Specification 12A fiberboard box, with inside glass bottles cushioned and encapsulated by molded polystyrene inserts.	2
9902	Authorizes the use of a DOT Specification 3AA cylinder having a capacity greater than one (1) gallon for the transportation of sulfur trioxide, unstabilized.	1
9903	Authorizes the manufacture, marking, and sale of specially designed and operated valves to be used on cylinders for shipment of poison A materials.	2
9912	Authorizes 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 corrosive liquids, flammable liquids, an oxidizer, or a blasting agent.	2
9914	Authorizes the transport of certain blasting agents in DOT Specification MC-306, MC307 and MC-312 cargo tanks; DOT Specification IM-101 and 102 portable tanks and IMO Type 1 and Type 2 portable tanks.	2
9915	Authorizes reuse of DOT-17H drums, for multiple shipments of nitrocellulose, wet with not less than 30 percent alcohol or solvent, and nitrocellulose, wet with not less than 20 percent water, without subjecting drums to reconditioning requirements when performing a specific inspection and cleaning program.	2
9916	Authorizes 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
9920	Authorizes the manufacture, marking, and sale of nonreusable, fiberboard bulk boxes made of triple-wall corrugated fiberboard having an inside lining of 0.006-inch minimum thickness polyethylene film, for shipment of waste corrosive solids or poison B solids.	2

NUMBER	PURPOSE	REASON
9923	Authorizes the manufacture, marking, and sale of a non-DOT specification rotationally molded, polyethylene portable tank enclosed in a steel frame, for shipment of corrosive materials, flammable liquids, combustible liquids, or an oxidizer.	2
9926	Authorizes 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	Authorizes 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
9933	Authorizes the shipment of a corrosive, poisonous liquid in non-DOT specification plastic-coated glass carboy enclosed in an expanded polystyrene overpack.	2
9934	Authorizes the use of non-DOT specification Teflon bottles packed in non-DOT specification fiberboard boxes, for transportation of certain corrosive liquids.	2
9935	Authorizes the use of a non-DOT specification, regular slotted corrugated fiberboard box to ship Class A and Class C detonators.	1
9937	Authorizes the manufacture, marking, and sale of a non-DOT specification fiber drum, not exceeding 100-liter capacity, for shipment of those hazardous materials authorized in DOT-21C fiber drums.	2
9938	Authorizes the transport of certain Class A explosives in a DOT Specification 15A wooden box exceeding the weight limitation of 140 pounds prescribed in 49 CFR 173.65(a)(4).	2
9940	Authorizes the manufacture, marking, and sale of non-DOT specification, metal, single trip, inside containers, described as hermetically-sealed electron tube devices.	4
9941	Authorizes the transport of rocket motors in a propulsive state with igniters installed.	5

NUMBER	PURPOSE	REASON
9946	Authorizes the use of a pneumatically-operated valve of a packless design with nonperforated diaphragms backed by an additional gasketed sealing system on cylinders contining a poison A material.	1
9952	Authorizes the manufacture, marking, and sale of a non-DOT specification 37A, except that the top cover or lid is constructed of plastic and secured by a metal lever action closing ring.	2
9953	Authorizes the shipment of flammable liquids and/or flammable gases in temperature controlled equipment.	2
9956	Authorizes the shipment of hypochlorite solution in an unlined non-DOT specification cargo tank constructed of titanium.	5
9961	Authorizes the manuacture, 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	Authorizes the transport of a rocket motor in a propulsive state, with igniter installed, which exceeds the weight limitation in 49 CFR.	2
9968	Authorizes the transport of a limited number of certain lithium batteries on passenger-carrying aircraft.	2
9970	Authorizes the shipment of RDX wet with ethyl acetate or ethyl alcohol in polyethylene bags overpacked in fiber drums.	2
9971	Authorizes the use of DOT Specification 12A fiberboard box, with handholes, for shipment of certain flammable liquids and corrosive materials.	1
9972	Authorizes the shipment of phosphorus pentasulfide, in non-DOT specification railroad tank car tanks, identified as a AAR Specification 207W tank car.	2
9973	Authorizes the transport of explosive projectile with fuzes assembled.	1

NUMBER	PURPOSE	REASON
9977	Authorizes the transport of rocket motors in a propulsive state, with igniters installed.	4
9981	Authorizes the use of a DOT Specification 42D aluminum drum of 30-gallon capacity for shipment of fuming nitric acid, instead of authorized DOT-42B aluminum drums.	1
9983	Authorizes the use of a wooden box having a gross weight exceeding that authorized in the regulations.	2
9989	Authorizes the shipment of certain corrosive liquids inside a DOT Specification 12P fiberboard box containing one DOT Specification 2U polyethylene container and two non-DOT Specification polyethylene containers.	2
9990	Authorizes the transport of detonating fuzes, Class C explosives, in a packaging not authorized in 49 CFR.	2
9991	Authorizes 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
9992	Authorizes the shipment of dithiocarbamate pesticides, solid, n.o.s., classed as poison B, in a bag constructed of coated woven polypropylene with a polyethylene inner bag.	2
9993	Authorizes the transport of a fire extinguisher device containing 20 grams of a Class C explosive, in a strong fiberbord box.	2
9994	Authorizes 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
9995	Authorizes the transport of a alkaline corrosive liquids in non-DOT specification packaging.	2

NUMBER	PURPOSE	REASON
9996	Authorizes the manufacture, marking, and sale of large, collapsible polyethylene-lined woven polypropylene bulk bags having a capacity of approxamately 2,200 pounds each, and top and bottom outlets, for shipment of flammable solids, oxidizing materials, poison B solids and corrosive solids.	2
9997	Authorizes 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	Authorizes the shipment of nitrogen in hydraulic accumulators.	2
10001	Authorizes the transport of argon containing up to 10 percent oxygen as a refrigerated liquid in DOT Specification 4L cylinder.	2
10003	Authorizes 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, classed as flammable liquids, and those materials authorized in a DOT-5B removable head drum.	2
10015	Authorizes the manufacture, marking, and sale of DOT Specification 34 polyethylene drum of 30-gallon and 55-gallon capacity for shipment of benxoyl chloride.	2
10016	Authorizes the shipment of liquid hazardous materials in a removable head polyethylene drum of five-gallon capacity.	2
10020	Authorizes the use of a non-DOT specification roll-on/roll-off container, for transportation of corrosive solids.	1
10022	Authorizes 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
10028	Authorizes the shipment of dimethyl sulfate in DOT Specification 112A200W tank cars.	2

NUMBER	PURPOSE	REASON
10031	Authorizes the manufacture, marking, and sale of non-DOT specification, insulated portable tanks for shipment of liquefied helium.	2
10032	Authorizes the shipment of liquefied flammable and nonflammable gases in non-DOT specification IMO Type 5 steel portable tanks.	2
10040	Authorizes the transport of a solution containing 10.2 percent nitroglycerin in a packaging exceeding the quantity limitations in the Department's Hazardous Materials Regulations.	2
10046	Authorizes the shipment of a specified type of lithium battery which is not excepted from the requirements of the Department's Hazardous Materials Regulations.	2
10047	Authorizes 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
10058	Authorizes the transportation of acetic acid aqueous solution in a non-DOT specification nonremovable head polyethylene container of 10-gallon capacity.	2
10059	To authorize manufacture, marking and sale of a DOT specifiction 4L welded steel cylinder for shipment of liquified carbon dioxide classed as nonflammable gas.	
10069	Authorizes the transport of devices classed as Class B explosives as Class C explosives.	2
10085	Authorizes the shipment of monochloracetone, inhibited, in a DOT Specification MC-312 cargo tank with no bottom outlets.	2
10090	Authorizes the manufacture, marking, and sale of of a reusable, rotationally molded, polyethylene, wire-frame enclosed portable tank, for shipment of corrosive, flammable liquids or an oxidizer.	2
10094	Authorizes the transportation of ammonium nitrate solution in DOT Specification 111A100W1 lined and insulated tank car tanks.	2

NUMBER	PURPOSE	REASON
10097	Authorizes the transport of rocket motors in a propulsive state and with igniters installed in packaging not authorized in 49 CFR 173.92.	2
10101	Authorizes the continued ten-year retest for cylinders conforming in part with 49 CFR 173.34(e)(15).	2
10103	Authorizes the transport of an air bag module installed in an automobile steering assembly and packaged.	2
10108	Authorizes the use of polyethylene drums manufactured without ultraviolet (UV) light stabilizer for shipment of certain hazardous materials that are authorized to be transported in DOT Specification 34 polyethylene drums.	2
10110	Authorizes the use of a non-DOT specification steel, full opening head, "salvage" cylinder for overpacking damaged or leaking packages of pressurized or nonpressurized hazardous materials.	2
10119	Authorizes the carriage of certain Class A, B and C explosives that are not permitted for shipment by air, or are in quantities greater than those prescribed for shipment by air.	3
10120	Authorizes the transportation of an organic phosphate mixture in a one-cubic foot capacity free-standing container constructed of high density polyethylene having a minimum wall thickness of 0.030 inch.	2
10129	Authorizes the non-DOT specification packaging for explosive projectiles.	2
10134	Authorizes the use of a non-DOT specification pressure vessel comparable to a DOT 3HT cylinder with certain exceptions.	2
10135	Authorizes the shipment of lithium amide, powdered, in a DOT Specification 56 portable tank.	2
10138	Authorizes 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 hazard class or materials of different hazard classes which are compatible.	2

NUMBER	PURPOSE	REASON
10142	Authorizes the manufacture, marking, and sale of non-DOT specification corrugated fiberboard boxes with handholes, with inside glass bottles, for transportation of flammable and corrosive liquids.	2
10153	Authorizes 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 Poison B solid.	2
10155	Authorizes the manufacture, marking, and sale of a collapsible, disposable, polyethylene-lined woven polypropylene bulk container bag having a capacity not greater than 2200 pounds, with top and bottom outlets, for shipment of flammable solids, corrosive solids, oxidizers, and poison B solids.	2
10163	Authorizes the shipment of 50 percent benzoyl peroxide, classed as an organic peroxide, in a DOT Specification 12B65 fiberboard box with one inside polyethylene bag.	2
10164	Authorizes the transportation of depleted lithium cells which originally contained more than 12 grams of lithium.	2
10165	Authorizes the carriage of a small quantity of a flammable liquid in two safety lamps on board an aircraft.	2
10166	Authorizes the manufacture, marking and sale of a non-DOT specification, rotationally molded polyethylene open head waste container and overpack in a 10-, 12-, and 15-gallon size with a snap on cover for various hazardous materials.	2
10170	Authorizes the manufacture, marking, and sale of a non-DOT specification, nonreusable, removable head polyethylene container for the shipment of flammable solids, oxidizers, and organic peroxides.	2
10171	Authorizes the use of a non-DOT Specification IMO Type 5 portable tank, for shipment of certain compressed gaes and a flammable liquid.	2
10174	To authorize a one-time shipment of metallic sodium in a non-DOT specification tank car tanks conforming with a DOT Specification 105A300.	3

NUMBER	PURPOSE	REASON
10176	Authorizes the shipment of certain lithium batteries in strong wooden box, DOT Specification 12B fiberboard box, or DOT Specification 21C fiber drum.	2
10180	Authorizes the manufacture, marking, and sale of DOT Specification 39 cylinders equipped with pressure relief device systems, for transportation of nonflammable gases.	5
10190	Authorizes the transportation of lithium sulfur dioxide batteries in non-DOT specification containers.	2
10193	Authorizes the shipment of liquefied flammable and nonflammable gases in non-DOT specification steel portable tanks.	2
10196	Authorizes the manufacture, marking, and sale of an insulated non-DOT specification cylinder conforming with 49 CFR 178.57 except 178.57-2 and 178.57-8(c), for shipment of liquid oxygen.	5
10207	Authorizes transport of a rocket motor with initer installed and in a propulsive state.	2
10210	Authorizes the shipment of methyl parathion mixtures and parathion mixtures in DOT Specification 5C stainless steel drums of 15-gallon capacity.	2
10211	Authorizes 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
10214	Authorizes the shipment of hydrobromic acid and hydrogen peroxide solution in DOT Specification 34 polyethylene drums.	2
10226	Authorizes the shipment of a waterproofing resin solution in non-DOT specification cargo tanks.	2
10227	Authorizes the manufacture, marking, and sale of insulated non-DOT specification cylinders for shipments of liquid oxygen.	2

NUMBER	PURPOSE	REASON
10229	Authorizes the manufacture, marking, and sale of nonrefillable non-DOT specification inside metal containers conforming with DOT Specification 2P except for size.	2
10231	Authorizes the shipment of sodium tetrasulfide in a non-DOT specification portable tank conforming in part with DOT Specification IM 101.	2
10232	Authorizes the transportation of certain refrigerant gases in a container conforming in part with DOT Specification 2Q.	2
10234	Authorizes the manufacture, marking, and sale a of non-DOT specification steel drum not to exceed 60-liter capacity, in compliance with the DOT Specification 17E except for the steel sheet thickness, for shipment of toluene diisocyanate.	2
10235	Authorizes 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 poisonous gas and certain flammable liquids.	2
10236	Authorizes the one-time transportation of a residue of liquefied petroleum gas in an ICC Specification 114A340W tank car tank with the tank and safety relief valve overdue for test and without a coupler vertical restraint system.	3
10239	Authorizes the transportation of hydrochloric acid in DOT 111A100W5 tank car tanks equipped with a surge baffle in the safety vent assembly.	2
10247	Authorizes the transport of small quantities of material which are not authorized under 49 CFR 173.4	4
10249	Authorizes the shipment of sulfur trioxide in DOT Specification 51 portable tanks.	2
10253	Authorizes 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 flammable or corrosive liquids.	5

NUMBER	PURPOSE	REASON
10256	Authorizes 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
10260	Authorizes the shipment of a 30 percent hydrogen peroxide solution, classed as an oxidizer, in a straight sided, cylindrical steel overpack enclosing a polyethylene container of 101-liters capacity.	2
10261	Authorizes the use of a non-DOT specification container consisting of an inner polyethylene bottle with an FRP outer housing, for the transportation of sulfuric acid solutions, not exceeding 98 percent concentration.	2
10262	Authorizes 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 corrosive solids.	2
10265	Authorizes the manufacture, marking, and sale of a non-DOT specification container described as a mechanical displacement meter prover for shipment of combustible liquids, flammable liquids and flammable gases.	2
10266	Authorizes the use of a non-DOT specification container.	2
10267	Authorizes 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
10273	Authorizes the manufacture, marking, and sale of nonreusable, fiberboard bulk boxes having an inside lining of 0.0065-inch minimum thickness polyethylene film.	2
10277	Authorizes the manufacture, marking, and sale of non-DOT specification cylinder conforming in part with DOT Specification 4BA.	2

NUMBER	PURPOSE	REASON
10278	Authorizes the shipment of certain flammable gases in a nonrefillable, non-DOT specification inside container conforming with the DOT Specification 2P except for diameter and capacity.	2
10279	Authorizes the manufacture, marking, and sale of non-DOT specification steel water pump system tank with an outside diameter not exceeding 26 inches.	2
10285	Authorizes shipment of residual amounts of ammonia in non-DOT specification packagings.	5
10288	Authorizes the transportation of a DOT Specification 105A300W or 112A340W tank car tank with a safety relief device start-to-discharge pressure at 82.5 percent of the tank test pressure.	2
10291	Authorizes the manufacture, marking, and sale of non-DOT specification IMO Type 5 portable tanks for shipment of certain flammable and nonflammable compressed ases.	2
10292	Authorizes the manufacture, marking, and sale of a non-DOT specification rotationally molded, linear low density polyethylene portable tank for the shipment of corrosive liquids, flammable liquids or an oxidizer.	2
10295	Authorizes the use of a DOT Specification 17C metal drum with inside non-DOT specification metal containers.	2
10297	Authorizes the rebuilding and selling of DOT Specification 4B, 4BA and 4BW cylinders in accordance with specification prescribed procedures.	2
10300	Authorizes the use of non-DOT specification cylinders, used in Foam Products Unit System.	4
10301	Authorizes the shipment of liquid nitrogen contained in an insulated plastic container to be transported in the cabin of a passenger-carrying aircraft under special conditions.	4
10302	Authorizes the shipment of trinitrotoluene (TNT), Class A explosive, in packages which are labeled in accordance with IMO regulations rather than the regulations in 49 CFR Parts 100-199.	4

NUMBER	PURPOSE	REASON
10305	Authorizes the use of DOT Specification 111A100W2 tank car tanks with an extended retest interval.	2
10307	Authorizes the use of a DOT Specification 111A100W5 tank car tank with a safety vent rupture disc rated at 135 psig.	2
10308	Waives the requirements of 49 CFR 176.105(a) that explosives must be the last cargo loaded and the first cargo unloaded from a vessel in each port.	2
10309	Authorizes the transport of DOT Specification 112J340W tank car tanks with overdue tank and safety relief valve tests containing liquefied petroleum gas (propane) for a period not to exceed six months.	4
10311	Authorizes the shipment of sulfur dioxide in a DOT Specification MC-331 cargo tank overdue for hydrostatic retest and reinspection.	5
10312	Authorizes the transport of a DOT Specification 105A500W tank car tank with a defective safety relief valve for the transportation of chlorine residue.	4
10315	Authorizes the one-time shipment of radioactive contaminated shredded scrap steel contained in a gondola type rail car without regard to specification packaging, marking, labeling, placarding and certain shipping paper requirements.	4
10316	Authorizes the transportation of various Class C explosives in the same outside packaging in quantities greater than those authorized in 49 CFR 173.87.	2
10318	Authorizes the manufacture, marking, and sale of a nonreusable, non-DOT specification blow-molded, polyethylene portable tank enclosed in a steel frame, for shipment of corrosive materials, flammable liquids, or an oxidizer.	2
10320	Authorizes 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

NUMBER	PURPOSE	REASON
10321	Authorizes the shipment of a nonliquefied flammable 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	Authorizes 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
10330	Authorizes the manufacture, marking, and sale of a non-DOT specification rotationally molded, tefln PFA inner container enclosed in a steel frame, for shipment of corrosive materials, flammable liquids, or an oxidizer.	2
10334	Authorizes the use of a non-DOT specification container for shipment of flammable liquids and flammable gases.	2
10335	Authorizes the shipment of bromotrifluoromethane in DOT Specification 4BA 400 and 4BW 400 cylinders equipped with fusible pressure relief devices.	2
10336	Authorizes the transportation of propellant explosives, solid in packagings larger than those authorized in 49 CFR 173.93.	2
10337	Authorizes the one-time shipment of a DOT Specification 105A600W tank car filled with hydrogen chloride, refrigerated liquid more than 90 psig when offered for transportation.	4
10338	Authorizes the one-time shipment of two DOT Specification IM 101 portable tanks, equipped with bottom outlets, containing octylamine which is classed and marked as a corrosive material under internationl regulations instead of as a corrosive material and poison B under 49 CFR.	4
10341	Authorizes the one-time shipment of 83 freight containers each loaded with 20 moisture-proof, foil-lined canvas bags, containing 2,4-dichlorophenoxyacetic acid, which are not marked in accordance with 49 CFR.	5

NUMBER	PURPOSE	REASON
10343	Authorizes the shipment of liquid oxygen in an insulated non-DOT specification cylinder conforming with 49 CFR 178.57 except 178.57-2 and 178.57-8(c).	2
10344	Authorizes the transportation of depleted lithium batteries from U.S. military bases overseas to the United States for disposal.	2
10346	Authorizes tank car tanks loaded with chlorine to remain attached to transfer connections when the unloading process is discontinued.	2
10347	Authorizes the shipment of trimethylacetal chloride in DOT Specification 34 polyethylene drums of 55 gallons capacity.	2
10348	Authorizes the one-time shipment of radioactive contaminated shredded scrap steel contained in a gondola type rail car without regard to specification packaging, marking, labeling, placarding and certain shipping paper requirements.	5
10349	Authorizes the one-time shipment of styrene monomer residue in a DOT Specification 103W tank car tank which is overdue for retest and for cleaning prior to scrapping.	3
10350	Authorizes the transport of dicalcium phosphate containing isopropyl alcohol in bulk bags transported in refrigerated vans.	5
10352	Authorizes the manufacture, marking, and sale of non-DOT specification steel drums, for shipment of various hazardous materials.	2
10353	Authorizes the manufacture, marking, and sale of collapsible, disposable polyethylene-lined woven, polypropylene bulk bags having a capacity not greater than 2200 pounds each with top and bottom outlets, for shipment of ammonium nitrate-fuel oil mixtures.	2
10354	Authorizes the shipment of hydrochloric acid in DOT Specification 111A100W5 tank car tanks equipped with an orifice plate in line with the safety relief device.	4

NUMBER	PURPOSE	REASON
10355	Authorize the transportation of hydrofluoric acid solutions in a DOT Specification 111A100W-5 tank car tank equipped with an ethylene chlorotrifluoroethylene lining.	2
10358	Authorizes the shipment of compound cleaning, liquid, classed as a corrosive liquid, in 5 - gallon plastic bags overpacked in a non-DOT specification fiberboard box.	2
10360	Authorizes the transportation of a Class B poison in a polyethylene packaging not authorized in 49 CFR.	2
10363	Authorizes the transport of a DOT Specification 111A100W1 tank car tank with defective interior coils for the transportation of benzene (benzol) residue.	4
10364	Authorizes the one-time shipment of a corrosive liquid in approximately 550 non-DOT specification 55 gallon metal drums overpacked in polyethylene, removable head, salvage drums not to exceed 95-gallon capacity.	3
10368	Authorizes the one-time shipment of a residue of crude oil, petroleum in a DOT Specification 111A100W1 tank car tank with damaged interior heater coils resulting from a derailment.	4
10369	Authorizes the one-time shipment of a hazardous substance, solid, n.o.s. in a DOT Specification 111A100W1 tank car tank with a defective tank shell.	4
10372	Authorizes 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 nonpressurized hazardous materials.	2
10373	Authorizes the use of a non-DOT specification packaging for explosive projectiles.	2
10374	Authorizes the manufacture, marking, and sale of a non-DOT specification blow molded, polyethylene portable tank enclosed in a steel frame, for the shipment of corrosive materials, flammable liquids, or an oxidizer.	2

NUMBER	PURPOSE	REASON
10375	Authorizes the transport of ammunition for cannon with explosive projectile and ammunition for cannon with invert projectile aboard cargo aircraft.	5
10376	Authorizes the DOT Specification 105A500W tank car tanks loaded with carbon dioxide, refrigerated liquid, to remain standing with unloading connections attached.	4
10377	Authorizes the shipment of a DOT Specification 105A500W tank car tank with a defective safety relief valve for the transportation of chlorine residue.	4
10378	Authorizes the one-time only transport shipment of radioactive contaminated scrap steel contained in a gondola type rail car without regard to specification packaing, marking, labeling, placarding and certain shipping paper requirements.	4
10379	Authorizes the transportation of a DOT Specification 105A500W tank car tank with a defective safety relief valve equipped with a chlorine "C" kit for the transportation of chlorine.	4
10380	Authorizes the manufacture, marking, and sale of non-DOT specification cryogenic portable tanks, for transportation of nonflammable gases.	2
10381	Authorizes the transportation of rocket warheads classed as Class A explosives on cargo aircraft.	2
10382	Authorizes the shipment of ethyl phosphonothioic dichloride, anhydrous in DOT Specification 105S300W tank car tanks.	2
10387	Authorizes the transportation of starter cartridges, Class C explosive, in DOT Specification 17H steel drums.	2
10389	Authorizes tank car tanks loaded with chlorine to remain attached to transfer connection when the unloading process is discontinued.	2

NUMBER	PURPOSE	REASON
10390	Authorizes the manufacture, marking, and sale of non-DOT specification steel drums, in compliance with DOT Specification 5 and 6 series drums except that the rolling hoops are constructed of round pipe sections.	2
10392	Authorizes 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 corrosive liquids, flammable liquids or an oxidizer.	2
10396	Authorizes the use of a non-DOT specification container described as a mechanical displacement meter prover for the shipment of a flammable liquid.	2
10397	Authorizes the one-time shipment of vinyl chloride in a DOT Specification 105J300W tank car tank with the double shelf coupler and draft gear on the "A" end completely detached from the car.	4
10398	Authorizes the shipment of a DOT Specification 112S400W tank car tank with a defective safety relief valve for the transportation of a residue of hydrogen fluoride.	4
10399	Authorizes the shipment of an explosive, rocket ammunition with smoke projectile, reclassified as a Class B explosive, and packed in accordance with 49 CFR 173.90.	5
10400	Authorizes the shipment of grenades with fuzes installed, in partitioned fiberboard cartons overpacked in wooden boxes and palletized.	2
10401	Authorizes the shipment of a detonating fuze in a packaging which exceeds the 190-pound gross weight limitation in 49 CFR 173.113.	5
10402	Authorizes 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
10403	Authorizes the transport by cargo only aircraft of Class A explosives which are forbidden in 49 CFR 172.101.	4

NUMBER	PURPOSE	REASON
10404	Authorizes the shipment of a DOT Specification 105A600W tank car filled with hydrogen chloride, refrigerated liquid less than the required minimum permitted filling density.	4
10412	Authorizes the one-time shipment of diethylamine and triethylamine in DOT Specification 17E, 20/18 gauge, steel drums having a capacity of 55 gallons.	3
10413	Authorizes the one-time shipment of sodium chlorte in 400 non-DOT specification metal drums.	3
10419	Authorizes tank car tanks loaded with chlorine to remain attached to transfer connections when the unloading process is discontinued.	2
10422	Authorizes the one-time shipment of radioactive contaminated scrap steel contained a gondola rail car without regard to specification packaging, marking, labeling, placarding, and certain shipping paper requirements.	4
10423	Authorizes the one-time shipment of ASME Code "U" stamped storage containers charged with liquefied petroleum gas to over 5 percent of their water capacity.	4
10424	Authorizes 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
10425	Authorizes the use of a non-DOT specification combination packaging equivalent to the DOT Specification 12P/2U combination packaging for shipment of a certain corrosive liquid.	5
10426	Authorizes the shipment of liquefied petroleum gas in DOT Specification 51 portable tanks exceeding the weight limitations authorized for shipment by cargo aircraft.	5
10427	Authorizes the shipment of several types of "Flight-ready" spacecraft each containing one or more hazardous materials in specially designed non-DOT specification transport containers.	5

NUMBER	PURPOSE	REASON
10428	Authorizes the shipment of propellant transfer carts each containing a hazardous material in specially designed non-DOT specification ground support transport containers.	5
10429	Authorizes the discharge of certain flammable and corrosive liquids from DOT Specification 57 stainless steel portable tanks without removing the tanks from the vehicle on which it is transported.	4
10431	Authorizes the manufacture, marking, and sale of non-DOT specification fiber drum, similar to a DOT Specification 21C except the bottom head may be made of low density polyethylene, for the transportation of certain flammable liquids and flammable solids.	2
10434	Authorizes the shipment of corrosive liquids in an individually shrink-wrapped non-DOT specification fibreboard box containing one inside nonrigid double-wall bag with a capacity not exceeding 5 gallons.	2
10435	Authorizes the manufacture, marking, and sale of certain non-DOT specification cargo tanks, for transportation of flammable liquids, corrosive material or poison B materials.	5
10436	Authorizes the use of insulated DOT Specification MC-307 cargo tanks for shipment of a certain Class B poison.	5
10442	Authorizes the shipment of waste materials contaminated with small quantities of explosives in specially authorized packagings for incineration.	2
10444	Authorizes the use of a DOT Specification 105A500W tank car tank with a defective safety relief valve for the transportation of chlorine residue.	4
10445	Authorizes the use of a DOT Specification 105A500 tank car tank with a defective safety relief valve for the transportation of sulfur dioxide residue.	4
10446	Authorizes the use of a DOT Specification 105A500W tank car tank with defective vapor valves for the transportaton of chlorine residue.	4

NUMBER	PURPOSE	REASON
10448	Authorizes the shipment of rocket ammunition with explosive projectile, Class A explosive, which are forbidden for transportation by air.	4
10449	Authorizes the use of DOT Specification 3AA cylinders for compressed natural gases.	5
10450	Authorizes the shipment of certain Class A and B explosives in cargo aircraft.	5
10453	Authorizes a change in the definition of dispersant and refrigerant gases.	4
10454	Authorizes the one-time shipment of aluminum scrap containated with a small amount of radioactive material contained in a closed trailer van without regard to specification packaging, marking, labeling, placarding, and certain shipping paper requirements.	5
10456	Authorizes the use of DOT Specification 11A60W7 tank car tanks for the transportation of fluosulfonic acid.	2
10458	Authorizes the use of DOT Specification 111A100W2 tank car tanks loaded with sulfuric acid, classed as a corrosive material, to remain attached to transfer connections when the unloading process is discontinued.	4
10463	Authorizes 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
10467	Authorizes the use of a DOT Specification 105A500W tank car tank with a defective vapor valve for the transportation of chlorine.	4
10468	Authorizes 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 corrosive liquids, flammable liquids or an oxidizer.	5
10474	Authorizes the use of a DOT Specification 105A500W tank car tank with a defective safety relief valve for the transportation of chlorine.	4

NUMBER	PURPOSE	REASON
10482	Authorizes the one-time shipment of aged picric acid and diethyl ether in a specially designed bomb basket and trailer.	4
10483	Authorizes tank cars loaded with chlorine to remain attached to transfer connections when the unloaded process is discontinued.	2
10489	Authorizes the transportation of ammunition for cannon with smoke projectile as a Class B explosive .	4
10491	Authorizes the use of a DOT Specification 105A500W tank car tank with a defective safety relief valve for the transportation of chlorine.	4
10492	Authorizes tank cars loaded with chlorine to remain attached to transfer connections when the unloading process is discontinued.	2
10493	Authorizes the shipment of explosives which are forbidden for transportation by air or are in quantities greater than those prescribed for air transportation.	4
10494	Authorizes the use of a DOT Specification 105A500W tank car tank with a defective safety relief valve for the transportation of chlorine residue.	4
10496	Authorizes the use of a DOT Specification 105A500W tank car tank with a defective safety relief valve for the transportation of chlorine residue.	4
10497	Authorizes the shipment of nitrogen tetroxide in non-DOT specification stainless steel tanks.	5
10498	Authorizes the shipment of nitric acid (98 percent) in DOT Specification 111A60ALW2 and 103A-ALW tank car tanks equipped with a nonapproved valve arrangement.	5
10505	Authorizes the one-time shipment of vinyl chloride residue in a DOT Specification 112T340W tank car tank with the head shield, double shelf coupler and draft gear on the "A" end completely detached from the car.	4

NUMBER	PURPOSE	REASON
10506	Authorizes the one-time shipment of liquefied petroleum gas residue in three DOT Specification 112J340W tank car tanks with derailment-damaged coupler restraint systems, thermal protection systems, and tank head puncture resistance systems.	4
10518	Authorizes the one-time shipment of approximately 4,600 DOT Specification 34 containers of 5-gallon capacity inadvertently marked to a 4-gallon capacity.	5
10522	Authorizes the one-time shipment of radioactive contaminated scrap steel contained within a gondola rail car without regard to specification packaging, marking, labeling, placarding, and certain shipping paper requirements.	4
10523	Authorizes the shipment of rocket ammunition with explosive projectile, Class A explosive, which is forbidden for transportation by air.	4
10524	Authorizes the one-time shipment of chlorine in a DOT Specification 105A500W tank car tank with a defective safety relief valve equipped with a chlorine "C" kit.	4