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BEFORE THE
GOVERNMENT ACTIVITIES AND TRANSPORTATION SUBCOMMITTEE
COMMITTEE ON GOVERNMENT OPERATIONS
UNITED STATES HOUSE OF REPRESENTATIVES

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Good morning, Madam Chairperson and members of the Subcommittee. I am Alan I. Roberts, Associate Administrator for Hazardous Materials Safety in the Research and Special Programs Administration (RSPA) at the Department of Transportation (DOT). I am here today to discuss the spill of approximately 19,000 gallons of the herbicide, metam sodium, into the Sacramento River on July 14, 1991, and the Department's role in regulating the safe transportation of hazardous materials.

DOT Role

The Department of Transportation (DOT) regulates "hazardous materials" under authority of the Hazardous Materials Transportation Act of 1974 (HMTA; 49 U.S.C. 1801 et seq., as amended by the Hazardous Materials Transportation Uniform Safety Act of 1990 (HMTUSA)). Under the HMTA, the Secretary has the regulatory and enforcement authority "to protect the Nation adequately against the risks to life and property which are inherent in the transportation of hazardous materials in

commerce." The scope of the Hazardous Materials Regulations (HMR) includes classification and designation of materials, hazard communication (by means of shipping descriptions, package markings and labels and placarding of transport vehicles), packaging standards, handling and transport requirements, and reporting of incidents involving the release of hazardous materials.

Under the HMTA, "hazardous material" means a substance or material in a quantity and form which may pose an unreasonable risk to health and safety or property when transported in commerce. The materials addressed by HMTA and regulations include, but are not limited to, explosives, radioactive materials, flammable liquids and solids, and poisons. Although the regulations cover tens of thousands of materials, fewer than 3000 are specifically listed by name. The rest are listed under generic descriptions (e.g., "Flammable liquid, n.o.s."; n.o.s. meaning not otherwise specified) in 20 hazard classes, each of which has defining criteria.

Evolving over a period of eighty years, the HMR have historically focused on materials in transportation which pose acute hazards to persons, such as explosives and poisonous gases. Over the past decade, they have increasingly been addressed to materials with less acute hazards, such as environmentally hazardous substances.

In a number of statutes Congress has designated the Environmental Protection Agency (EPA) as the primary regulatory agency for environmentally hazardous substances. These statutes include the Federal Water Pollution Control Act (FWPCA), the Clean Water Act of 1977 (CWA), the Clean Air Act (CAA), the Toxic Substances Control Act (TSCA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA).

Under CERCLA, "hazardous substances" are materials which are designated by statute or by the EPA. They include materials listed under the FWPCA, the Solid Waste Disposal Act, the Resource Conservation and Recovery Act, the CAA, and the TSCA. In general, hazardous substances are specifically listed by name, rather than by generic defining criteria. Each hazardous substance is assigned a reportable quantity (RQ) at or above which the material may pose an environmental hazard if spilled. The intent of CERCLA is "to provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment."

Under Section 306(a) of CERCLA, "each hazardous substance which is listed or designated as provided in section 101(14) of this Act shall, within 30 days after the enactment of the Superfund Amendments and Reauthorization Act of 1986 or at the time of such

listing or designation, whichever is later, be listed and regulated as a hazardous material under the Hazardous Materials Transportation Act." DOT implements this requirement by listing CERCLA hazardous substances and their respective RQ's in an appendix to the Hazardous Materials Table (49 CFR 172.101 Table) in § 172.101 of the HMR. When EPA issues a final rule to designate additional substances, DOT also issues a final rule to add those substances to the HMR. The CERCLA requirement makes DOT issuance of notices of proposed rulemakings unnecessary since each material is addressed by EPA in a complete rulemaking process prior to its listing. DOT has separate "lists" of hazardous substances and hazardous materials, but both hazardous substances and hazardous materials are regulated as hazardous materials under the HMTA.

Shipper Responsibility

Under the HMR, a shipper is responsible for properly classifying material in accordance with the defining criteria of the HMR and determining if the material is listed in the Appendix to § 172.101 as a hazardous substance. There is no provision by which a shipper may designate a material as a hazardous substance if it is not listed in the appendix. However, even if a material is not listed by name in the table or Appendix, a shipper is responsible for determining whether it meets the criteria of one or more hazard classes, and choosing a generic proper shipping name for the material.

Regulatory Status of Metam Sodium

Metam sodium (sodium N-methyldithiocarbamate), at the reported concentration involved in the California accident (i.e., 32.7%), does not meet DOT hazard class criteria and, therefore, is not regulated as a hazardous material based on the criteria. The material is registered with EPA as both a herbicide and a pesticide but has not been designated as a hazardous substance by EPA. Under the final rule we published under our Docket HM-181 on December 21, 1990 [55 FR 52402], solutions of 35% or more of metam sodium will be regulated, as a poison (Division 6.1, packing group III). Therefore, even under HM-181, metam sodium at this concentration has not been designated a hazardous material.

The tank car involved in the California accident was a DOT specification tank car and would have met DOT packaging requirements for certain low and moderate hazardous materials. Had the material been regulated, hazard communication at the scene of the accident might have been improved by application of DOT requirements for 1) a four-digit emergency response number on the tank car (used by emergency responders in conjunction with DOT's Emergency Response Guidebook); 2) emergency response information on the train; and 3) shipping papers in possession of the train crew identifying the material and providing a telephone number for emergency response contact. Although not required for this shipment, there was an emergency response

contact telephone number specified on the waybill (located in the railroad's office) that could have been used in connection with train consist information in the possession of the train crew.

I would now like to briefly describe several current and future program activities related to the overall hazardous materials regulatory program. These include:

- Docket HM-181 - Performance Packaging
- Implementation of the Hazardous Materials Transportation Uniform Safety Act (HMTUSA)
- MARPOL Annex III
- National Transportation Safety Board (NTSB) Recommendations - Tank Car Related Activities
- Docket 175A- On-going Rulemaking Activity for Existing and New Tank Cars
- Improvements to Data Collection and Enforcement

Docket HM-181 - Performance Packaging

RSPA's primary regulatory objective is the prevention of transportation incidents involving release of materials that are acutely hazardous to life, health and property. In carrying out that objective, RSPA has emphasized accurate classification of these materials, rigorous hazard communication requirements and integrity of containment. RSPA's mission to improve safety in

the transport of acutely hazardous materials is exemplified in final rules issued under Docket HM-181. Under the final rule published on December 21, 1990, UN-recommended shipping descriptions, hazard class definitions, numerical classes, labeling, marking, placarding and packaging requirements more systematically relate the hazards of materials to the most appropriate packaging and handling. Bulk and non-bulk packagings authorized for explosives, gases, flammable, corrosive and poisonous materials, and oxidizers and organic peroxides were methodically and extensively upgraded in HM-181.

RSPA made a special effort in HM-181 to appropriately regulate the high hazard liquids and gases that are poisonous by inhalation. Hazard classification, communication, packaging, stowage and segregation requirements for these materials have been significantly improved.

A number of materials poisonous by inhalation have been identified since 1986 when approximately 25 liquids were listed by name in Docket HM-196 as meeting criteria for the inhalation of vapors (LC 50 values of up to 1,000 ppm). RSPA will regulate about 100 liquids poisonous by inhalation under Docket HM-181. RSPA also classified approximately 70 gases as poisonous by inhalation. The sensitivity of criteria for determining the classification of all other acutely poisonous materials has been substantially increased, and will result in much more extensive regulation of poisonous liquids and gases. For example, in HM-

181, RSPA raises the threshold level for determining oral toxicity by a factor of 10 (from 50 mg/kg to 500 mg/kg under HM-181) and for dermal toxicity by a factor of 5 (from 200 mg/kg to 1,000 mg/kg).

RSPA has devoted much of its resources over the past 10 years to effectively regulating materials presenting medium and high acute hazards to the public, looking to EPA to take the lead in evaluating the chronic hazards of environmentally hazardous substances that present lower acute hazards during transportation. However, in HM-181, RSPA has enhanced non-bulk packaging requirements for a number of materials that present lower acute hazards, including hazardous substances and wastes that meet no other hazard class criteria. HM-181 will be effective on October 1, 1991. The final rule will be implemented in a phased-in manner with full implementation by October 1, 1996.

Implementation of the Hazardous Materials Transportation Uniform Safety Act (HMTUSA)

The Hazardous Materials Transportation Uniform Safety Act (HMTUSA), which the President signed on November 16, 1990, is the first substantial change to the Hazardous Materials Transportation Act (HMTA) since its passage in 1974. The HMTUSA gives the Department of Transportation (DOT) new responsibilities.

The law requires the Secretary to regulate the transportation of hazardous materials in intrastate, interstate and foreign commerce. It delineates the relationship of Federal and non-Federal laws governing the transportation of hazardous materials and the standards which are to be used in the event of a conflict between Federal and non-Federal laws.

HMTUSA mandates a grant program totalling more than $75 million over a six-year period to be funded by registration fees. Grants are to be given for emergency response planning by States and training for public sector responders and hazardous materials employees. In addition, HMTUSA requires the Secretary of Transportation to establish standards for States and Indian tribes to use in establishing and enforcing specific highway routes over which hazardous materials may be transported by motor vehicle.

Rulemakings addressing shipper and carrier registration, motor carrier safety permitting, and the need for a centralized reporting system are required, and a number of research projects are to be undertaken, including a mode and route study and a study of the need for a central reporting system and computerized telecommunications data center.

We have sought appropriations in the FY1992 budget request to Congress to carry out the requirements authorized by HMTUSA. Congress provided us with very specific directions for implementing the Act. We have worked very diligently to meet the very tight deadlines for carrying out 11 rulemakings and six special studies required by the Act. We look forward to receiving our FY1992 appropriation as we strive to maintain our core regulatory programs while carrying out these new mandates.

Let me emphasize that significant progress has already been made in implementing HMTUSA. For example, on February 28, 1991, a final rule was published incorporating into our regulations certain provisions of the Act including the administrative preemption determination process and the increased civil penalties. We have prepared a Notice of Proposed Rulemaking, which will be published on August 1, 1991, to define the new preemption standard for covered subjects and streamline the preemption determination process. In the near future RSPA expects to publish notices of proposed rulemaking in the areas of registration for shippers and carriers of certain hazardous materials; the public sector planning and training grant programs; and extension of the hazardous materials regulations to intrastate transportation.

As mandated by Section 25 of HMTUSA, RSPA entered into a contract on May 1, 1991, with the National Academy of Sciences (NAS) to study the feasibility and necessity of establishing and operating

a central reporting system and computerized telecommunications data center for hazmat shipments. NAS contemplates completing their study by October 1992.

MARPOL Annex III

On June 10, 1991, President Bush signed Annex III of the MARPOL Convention on marine pollutants. Annex III becomes mandatory for international transport by vessel after July 1, 1992. Up to 500 chemicals have been identified under Annex III as marine pollutants and listed in the International Maritime Organization International Maritime Dangerous Goods (IMDG) Code.

Most marine pollutants are already identified as hazardous materials, but under Annex III they would also bear additional marine pollutant markings. The chemical metam sodium is identified as a marine pollutant under Annex III. Provisions for marine pollutants under Annex III (identification, notification, etc.) are already being used optionally by many U.S. shippers. RSPA is considering a rulemaking in FY1992 to implement Annex III provisions. Although Annex III was developed to cover transport by vessel, RSPA will solicit public comment on the merits of applying marine pollutant requirements to all modes of transportation.

NTSB TANK CAR RELATED ACTIVITIES

There are two National Transportation Safety Board (NTSB) recommendations that RSPA and the Federal Railroad Administration (FRA) are currently addressing that focus on packaging of hazardous materials in tank cars: R-91-11 which recommends a Federal/industry working group to develop a near-term, interim solution to tank car packaging problems; and R-89-80, a longer term approach which requires an in-depth safety analysis of various hazardous material and tank car risk factors to be applied to future rulemaking activities.

R-91-11 was issued on July 1, 1991, with the objective of establishing a Federal/industry working group to improve the packaging for more dangerous products such as those that are highly flammable or toxic, or pose a threat to health through the contamination of the environment. Working closely with the FRA, we have called a "kick-off" meeting with the organizations specified in the recommendation (the Association of American Railroads, the Chemical Manufacturers Association, the American Petroleum Institute and the National Fire Protection Association) to develop a list of hazardous materials that should be transported only in pressure tank cars with head shield protection and thermal protection (if needed); and establish a working agreement to ship the listed hazardous materials in such tank cars.

R-89-80 Our response is a joint research effort by RSPA and the FRA that was initiated earlier this year. The major issues addressed by the research program are: (1) adequacy of the present regulations in view of the significant changes that have occurred since the regulations were developed; (2) risk levels associated with the release of hazardous materials from tank cars; and (3) degree of safety protection needed to reduce identified risks to an acceptable level. If determined appropriate, results of this research may be used to modify existing regulations to enhance public safety in the transportation of all hazardous materials.

Docket 175A- On-going Rulemaking Activity for Existing and New Tank Cars

Over the past several years, RSPA and FRA have been engaged in the development of regulations that would improve the level of safety of tank car tanks. Originally part of HM-181, this effort was made a separate rulemaking activity last year under Docket HM-175A. This action was taken because of the magnitude of the safety requirements proposed for tank cars and the need to solicit industry comments to ensure that proposed changes would be responsive to safety needs and at the same time be cost-effective.

On May 15, 1990, RSPA published an advance notice of proposed rulemaking (ANPRM), Docket HM-175A, addressing the safety of existing and new tank cars by reducing the risk of violent rupture and release of hazardous materials when tank cars are involved in accidents. HM-175A addresses such tank car safety issues as the need for head shields, roll-over protection, elimination of bottom outlets, and the disallowance of "non-pressure" tank cars from carrying materials poisonous by inhalation. This rulemaking is extremely complex, and we are presently reviewing the comments to the ANPRM.

Improvements to Data Collection and Enforcement

In response to recommendations made by OTA, GAO and others, RSPA has undertaken substantial and sustained efforts to coordinate DOT data collection and to ensure more complete and accurate reporting of hazardous materials incidents. These efforts have paid off and are producing tangible and significant benefits.

We have implemented an intermodal policy of correlating Hazardous Materials Information System (HMIS) incident reports with those submitted to FRA and the Federal Highway Administration to identify nonreporters and misreporters. As a result of these data comparison efforts, we have closed 37 enforcement cases, collected $46,500 in penalties, and sent a strong signal to the regulated industry that the complete and accurate reporting of reportable incidents is a serious concern of the Department.

On January 1, 1990, the hazardous materials incident report from was revised to provide more meaningful and comprehensive incident data, especially in terms of incident causation and consequence factors. RSPA made extensive efforts to inform the transportation industry of this revision. The new written report form, which is easier to read and to complete, was disseminated through direct mailing to the regulated community. Approximately 30,000 shippers and carriers of hazardous materials were provided the new form as well as the "Guide for Preparing Hazardous Materials Incidents Reports". As a followup to these efforts, the RSPA safety newsletter devoted a feature article on the need for spills to be reported as accurately and completely as possible, and was widely distributed throughout the hazardous materials reporting community.

RSPA believes that these sustained efforts to inform the regulated public, combined with a strong enforcement program, have significantly reduced the underreporting of hazardous materials incidents, and have greatly strengthened the reliability of the HMIS. The increase of over 1,000 incidents reported to RSPA in 1990 can thus be regarded as the direct result of a heightened awareness among all carriers of the necessity to report.

We have increased our staff that processes incident reports, improved data entry software to prevent data transcription errors, and stepped up data analysis. As a result, we have identified geographic areas of the country where substantial

number of spills occur which can assist enforcement and emergency response personnel.

In Docket HM-181, RSPA adopted United Nations recommended nomenclature for hazard classes and hazardous materials descriptions for identifying hazardous materials. This will facilitate the comparison of HMIS data with information collected by U.S. and international agencies.

A comprehensive registration program, to include carriers and shippers of hazardous materials, was mandated by the HMTUSA. RSPA is preparing a notice of proposed rulemaking to implement this registration program. The HMTUSA requires the program to be in place by September 30, 1992. This program will provide DOT with expanded information on the community it regulates. The HMTUSA also extends our jurisdiction over the transportation of hazardous materials to intrastate movement. Preparation of a proposed rulemaking to implement this requirement is underway. Extending Federal reporting requirements to intrastate transportation will increase the accuracy and completeness of the information on hazardous materials spills.

The HMIS data is used extensively within the Department and by other federal, state and local government agencies. To share data with these groups, we have developed and expanded menu

driven programs which provide easy access to the major databases in the system.

Concluding Remarks

The spill of metam sodium into the Sacramento River demonstrated that some chemicals, although not acutely toxic to humans, can cause severe consequences to sensitive aquatic environments. However, regulation of metam sodium as a hazardous material under current regulations would not have significantly changed the consequences of its release. Although not required to do so, the shipper identified the material, provided a source of emergency response information, and transported the material in a Specification 111A tank car designed for hazardous materials. Specification 111A tank cars are used extensively to transport liquid hazardous materials of low and moderate hazard.

Identification and communication of a material's environmental hazard and appropriate packaging are critical to reducing the probability and consequences of accidents involving materials acutely hazardous to the environment. RSPA believes that through partnership with the EPA and other organizations, improvements in hazard communication and packaging can be achieved.

That concludes my statement. I would be happy to answer any questions you may have.