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Abridgment

Transport of Hazardous Materials and Docket HM-112

Alan I. Roberts, Office of Hazardous Materials Operations,
U.S. Department of Transportation

HM-112 is a serial docket number assigned to an omnibus regulatory action on several hundred different subjects pertaining to the U.S. Department of Transportation's (DOT's) regulations on the safe transport of hazardous materials. The principal matters addressed in the action are

1. Consolidation of DOT's hazardous materials regulations into a single volume;
2. Allocation of one part addressing hazardous materials communications, documentation, marking, labeling, and placarding;
3. Realignment of the regulations applicable to certain hazardous materials that are consumer commodities;
4. Elimination of all regulations pertaining to certain materials;
5. Complete reissuance and restatement of the modal regulations pertaining to transport of hazardous materials by air, rail, and water;
6. Addition of four new classes of materials, or other regulated materials (ORM), to be subject to certain regulations when transported by air or water or both;
7. Requirement that all materials classed as class B poisons and those materials in other classes also meeting the definition of class B poisons be labeled to identify their hazards even in quantities previously exempt from labeling requirements; and
8. Many other changes necessary to unifying and clarifying DOT's hazardous materials regulations.

This amendment is probably the most significant action taken over the past 60 years. It is important because it brings all the department's regulations together into a single volume. It also improves the safety regulations pertaining to the safe transport of hazardous materials by making them as intermodally compatible as practicable. All persons concerned with the department's regulations—shippers, carriers, or emergency, regulatory, or enforcement personnel—will agree that this is an important rule-making action.

The impact of HM-112 is best judged by the people affected by the regulations adopted under the Docket, who agree that consolidation is a benefit. Now they need only deal with a single volume when they class a material, determine its required packaging, marking, and labeling, prepare shipping documents, and identify transport vehicles regardless of the mode or modes to be used.

The new hazardous materials table set forth in Section 172.101 applies to four modes of transport for the first time in 60 years of regulation. Furthermore, consolidation eliminated more than 700 pages of federal regulations and thereby the need to wade through three different volumes to find the applicable requirements on transport of hazardous materials. Of further benefit was the elimination of requirements that were incompatible for movement between modes. In the past, regulations addressed requirements in different places and not only were inconsistent in several areas but also failed to recognize intermodal movements.

For example, there were different placarding requirements for rail and highway for 40 years. When a tractor semitrailer moved to a rail yard, the placarding on the trailer was not appropriate for its transport aboard a rail car. Worse yet, though, was the situation for intermodal transport involving carriage aboard vessels. The system failed to recognize intermodal container movement, which has become a very important form of transporting all kinds of goods in commerce. Under the new system, the shipper knows how to label the package, mark the contents on the outermost packaging, prepare documentation, and apply placards to freight containers that will be transported by one or a combination of modes. These requirements are now set forth in part 172 of DOT's hazardous materials regulations.

Another important fact is that now the labeling and placarding system can be considered consistent with the international standards and provisions for the additional communication required by some international regulatory bodies, such as the Intergovernmental Maritime Consultative Organization.

It has been estimated that more than \$60 billion worth of retail consumer commodities sold annually in the United States fall within the hazardous materials definitions set forth in the regulations. All aerosol products and such products as nail polish, aftershave lotion, paints and related materials, and many cleaning compounds are classed as hazardous under the regulations.

In 1972, a notice was published in the Federal Register requesting public participation and comment on whether some form of adjustment should be made in the regulations as they apply to these materials. Many responses supporting the contention that these materials were in some ways overregulated were received. Comments along these lines were also received from the president of the New York City Fire Fighters Union; this suggested that certain adjustments should be made, par-

ticularly in the area of documentation requirements.

After the comments were carefully considered, a notice was issued, on January 24, 1974, that removed certain regulatory requirements pertaining to the transport of all hazardous materials covered by small quantity partial exemptions in the regulations. After the comments on the notice were evaluated, it was decided that the final regulations on some materials, such as those packaged and distributed in a form intended or suitable for sale through retail sale agencies or instrumentalities for consumption by individuals for the purpose of personal care or household use, be limited. Also included in the provision were drugs and medicines.

One of the important aspects of an action of this type is the fact that a number of transportation requirements addressing a large block of materials posing a very limited transport hazard were removed. Greater emphasis can now be placed on those materials remaining under regulation. Until now, much time and effort was spent on these retail materials. Basically, the consumer commodity provision makes certain requirements of shippers and places limitations on quantity, type of packaging, package marking, and certain special qualifications. When the shipper has met these requirements, he or she may offer them for transport by air, highway, rail, or water in the same fashion, except that shipping documents are required for air shipments. Virtually no regulations, other than incident reporting and air documents, apply to transport of such materials by carriers.

During the rule-making procedure, it became clear that there were several materials being regulated that did not warrant treatment as hazardous. It is interesting to note, for example, that before July 1, 1976, it was illegal to transport an inflated truck or bus tire unless the tire was a part of the vehicle in which it was placed. Many carriers transport tires to tire banks nationwide, and, since the standard truck tire is inflated to 550 kPa (80 lbf/in²) or more, its contents conform to the definition of a compressed gas under the regulations. No provision was made for such transport in the regulations. Although the enforcement personnel were not citing people for transporting inflated tires, a federal regulation prohibiting such transport created a risk for unknowing individuals doing so.

Other materials considered were carbonated beverages, air conditioners, refrigerators, and tennis balls of internal pressures exceeding the definition of a compressed gas. Tennis balls, in terms of quantity and form, hardly pose a risk that should be regulated for purposes of transportation safety. Another example is film manufactured today, which is of the safety type. Therefore extensive modifications and deletions in the regulations were made for transporting film. The same treatment was also given to flash bulbs, which today are not considered to pose the same kinds of hazard that bulbs made many years ago did.

For several years the National Archives Service has been recasting rules for carrying hazardous materials by air, rail, and water. It is important that the regulations be set forth clearly and concisely, so that those who ship or transport hazardous materials can easily inform themselves of what is required of them. Over the past 60 years, the regulations have been amended on a piecemeal basis but never completely overhauled in terms of layout or manner of expression. In the 200-word paragraphs of the old regulations, much could be missed or misunderstood. Appropriate enforcement of regulation requirements not clearly understood is a problem. This effort to codify and state them clearly has been very effective. The transfer of the regulations pertaining to the transport of hazardous materials by water, for example, resulted in the elimination of more

than 700 pages of previous regulations. The recodification and restatement effort should be completed in the next 2 years.

Four new classes of materials (ORM) will be subject to certain regulations when transported by air or water or both. Each ORM class is covered by a suffix, A, B, C, or D. An ORM-D material is one identified by the shipper as a consumer commodity. The other three letters designate materials that can create certain irritating or toxic effects (ORM-A), can cause destruction to the structure of an aircraft (ORM-B), or have certain properties warranting specific attention when transported in large volumes aboard vessels (ORM-C). The ORM-C designation is the principal recipient of requirements previously in the Hazardous Articles class in the Coast Guard regulations. A typical material under the latter would be castor beans, which pose a hazard when transported in large volumes aboard vessels.

Simply stated, the ORM classes address certain materials that warrant a limited amount of regulation usually applicable to only one mode of transport.

All class B poisons, and those materials in other classes also meeting the definition of a class B poison, must be labeled to identify their poison hazards, even when they are in quantities previously exempt from labeling requirements. In the past, the regulations pertaining to the labeling of class B poisons applied only if the material was a designated class B poison.

There was previously no dual labeling requirement for flammable liquids that also met the definition of a class B poison. Historically, with few exceptions, flammability took precedence over toxicity in determining the class of a material, because the greatest transport problem has been fire. There have been very few transport accidents resulting from poisoning. This does not mean that we should ignore the potential hazard of poisons during transport. One major regulation pertaining to the transport of poisons is the prohibition against their being in the same cargo compartment or vehicle with materials marked as or known to be foodstuffs, feed, or any other material intended for consumption by humans or animals.

The new regulations require that the poison label be placed on any package containing a material that conforms to the definition of a class B poison, regardless of class and quantity. The only exception pertains to drugs intended for consumption by humans.

These new requirements for poisons, along with those pertaining to hazardous materials communications, reflect one of the most significant increases in the level of regulation imposed under Docket HM-112.

In the eyes of a safety professional, Docket HM-112 brings many improvements, especially communications requirements, to the hazardous materials transport safety program. Of shippers of industrial chemicals and petroleum products, for instance, it requires more effort to assure compliance with several new and some improved old requirements.

Many have expressed appreciation of the benefits of the consolidated regulations. The Docket has given the shippers of consumer commodities, drugs, and medicines relief from the documentation requirements that caused them considerable problems in the past.

Carriers reactions to the Docket are mixed. Motor carriers must convert to the new placarding format. Rail carriers are required to follow revised car placement. Train crews must also carry documents indicating the locations of all placarded cars in their trains. Overall, the standardized documentation and placarding requirements will improve the ability of carriers to carry out their responsibilities.

The view of the public is probably the most difficult

to measure, because the general public is not aware of most programs. As new regulations are implemented, they will need to be instructed on one communication scheme rather than two for placards on vehicles, and instructions on how to read shipping papers will be provided. In the past there was no format for hazardous

materials descriptions.

Although this review has been general in nature, the importance and impact of HM-112 have been outlined.

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