DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Parts 172, 173, and 174

[Docket No. HM-180 Notice No. 84-6]

Placarding of Empty Tank Cars

AGENCY: Materials Transportation Bureau (MTB), Research and Special Programs Administration.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes to amend the Department's Hazardous Materials Regulation (HMR) to eliminate the requirement to display EMPTY placards on tank cars containing residues of hazardous materials. Under the present regulations, each tank car that has been emptied, except for a residue, of a hazardous material (other than a combustible liquid) must be placarded with an EMPTY placard. Placards are displayed to communicate a warning to those handling a tank car, and to emergency response personnel, of the potential hazard of its contents. Some emergency response personnel have expressed concern that the EMPTY placard communicates an erroneous message. This results from the fact that the tank car contains some quantity (probably less than three percent) of the hazardous material the tank car contained before being "emptied". Since the use of placards is to identify and communicate the presence of potential hazards and the EMPTY placard can communicate confusing or erroneous information, MTB is proposing to eliminate the "empty" placarding requirement specified in the HMR. This in effect would prohibit the use of the EMPTY placard, since only a placard authorized by the HMR may be displayed under § 172.502.

DATE: Comments must be received on or before November 8, 1984.

ADDRESSES: Comments to Dockets Branch, Materials Transportation Bureau, U.S. Department of Transportation, Washington, DC 20590. It is requested that the docket number be identified and that five copies be submitted. Dockets Branch is located in Room 8426 of the Nassif Building, 400 Seventh Street SW., Washington, DC Public Dockets may be reviewed between the hours of 8:30 a.m. and 5:00 p.m., Monday through Friday, except holidays. Persons wishing to receive confirmation of receipt of their comments should included a self addressed stamped postcard.

FOR FURTHER INFORMATION CONTACT: Lee E. Metcalfe, Office of Hazardous Materials Regulation, Materials Transportation Bureau, Washinton, DC 20590, (202) 426-2075.

SUPPLEMENTARY INFORMATION: Prior to November 1927, the hazardous materials regulations required that when lading was removed from tank cars, placards be removed. The Interstate Commerce Commission issued an order in Docket 3666 on August 1, 1927, authorizing after November 1, 1927, on a voluntary basis, use of the "DANGEROUS-EMPTY" placard. It was a requirement at that time that each loaded tank car containing an "Inflammable" (liquid), a "Corrosive Liquid", "Compressed Gas, or "Poisonous" (liquid) had to have displayed on each end and each side the appropriate placard. Upon removal of the tank car contents (except residue) these placards had to be removed. The "DANGEROUS-EMPTY" placard as a voluntary display continued in use from November 1, 1927, to July 14, 1959 (Order 39, 24 FR 5641), when the "DANGEROUS-EMPTY FLAMMABLE POISON GAS" placard was made mandatory for tank cars containing residual Flammable Poison Gas. In July 1962 (Order 55, Docket 3666, July 6, 1962) a "POISON GAS-EMPTY" placard was established and display was required on each tank car containing the residue of a Poison Gas. Otherwise, the use of "DANGEROUS-EMPTY" placards on tank cars remained voluntary until July 1, 1977, the effective date of new placarding requirements under Docket HM-103 (41 FR 16131, April 15, 1976).

Rulemaking under Docket No. HM-103 (41 FR 15972) established requirements for placarding each transport vehicle and freight container with placards generally resembling the United Nation's hazard warning labels for dangerous goods in transportation. EMPTY placard requirements were established for tank cars, but different requirements were established for cargo tanks. The placards on a cargo tank motor vehicle must remain when it is empty unless it has been cleaned and purged of hazardous residue and vapor. Since 1976, comments have been received from emergency response personnel about the confusion caused by the two placarding systems for an "empty" cargo tank and an "empty" tank car. Also, comments have been received from rail carrier personnel about missing or lost tank car placards. Tank car placards generally are made of tagboard with the EMPTY display being printed on the reverse side of the hazard warning placard. These tagboard placards are loosely held in placard holders and may blow out or be removed. They must be replaced at an additional expense by carriers.

In June 1981, the International Association of Fire Chiefs (IAFC) petitioned for a rule change which was quoted by the MTB in an Advance Notice of Rulemaking, Docket No. HM-180 (46 FR 37953, July 23, 1981). The IAFC petition stressed the difference between the placarding requirements for "empty" cargo tanks and tank cars, and stated that use of the EMPTY placards on tank cars is "misleading and dangerous." Further, IAFC stated that cargo tanks and tank cars should be placarded in a consistent manner, that is, both should remain placarded when emptied unless cleaned and purged of all residue and vapor or reloaded with another material.

Most of the 52 comments received on the advance notice were from representatives of emergency services and industry. One was received from the Association of American Railroads and three were from rail carriers. Five were from city, state and federal agencies concerned with safe transportation of hazardous materials.

Approximately one-third of the comments from industry favored the retention of the EMPTY placard, stating that it is beneficial to emergency response personnel. Others believe the EMPTY placard is beneficial to the rail carriers in car placement activities. The majority of the rail carrier comments were in favor of retaining the EMPTY placard for car placement reasons. One large rail carrier, however, presented an opposing position indicating that computer generated instructions provide for the makeup of a train beginning with the initial loaded switch from the shipper at origin through the spotting for unloading at destination and the return of the empty tank car. Therefore, car placement and train makeup is not dependent upon the determination of the empty or loaded status of rail cars from the placards.

One industry commenter stated that in the course of business they receive "empty" tank cars and return "empty" tank cars between company facilities. This commenter supported the IAFC petition in that the EMPTY placard gave an erroneous message. They recommended, as a replacement, the hazard placard for the material with the word "RESIDUAL" in the lower triangle of the placard. This would continue the use of a display panel with the hazard warning placard on one side but with RESIDUAL on the reverse side. This commenter also suggested the shipping paper notation be changed from "EMPTY" and "EMPTY LAST CONTAINED:" to "RESIDUAL." MTB believes this recommendation to change the shipping papers description has merit.

Another chemical manufacturer recommended:

[T]hat all references to the "EMPTY" placard for rail car be removed and the regulations be worded such that rail cars, containing residue or vapor of a hazardous material, must remain placarded with the proper placard required when the car was loaded. Cars containing non-hazardous materials or cars which have been cleaned of residue and purged of vapor would not be placarded, thereby precisely determining whether a hazard exists. For a placarded car, the shipping paper could be a reliable indicator of whether the rail car was loaded or empty.

It has been our experience that there has always been confusion and potential for error in the use of the "EMPTY" placards. When empty cars return to our plants, we notice that the cars come back in one of four ways; (1) correctly placarded with the "EMPTY" placard, (2) still placarded as in the loaded movement, (3) a combination of loaded and "EMPTY" placards, or (4) with one or all placards missing. As can be seen, the use of the "EMPTY" placard is a hit-or-miss proposition whereby you depend on the consignee to reverse the loaded placard. We are sorry to say that not all consignees are as conscientious in complying with the regulations as we attempt to be.

One large chemical manufacturer who commented had submitted a petition (P-819) in April 1981, before the date of the publication of the advance notice, recommending that placarded tank cars remain placarded unless reloaded with another material or cleaned and purged of hazardous material. This petition contained the following as justification for the requested rule change:

Requiring tank cars containing a residue of a hazardous material to be placarded in the same manner as when they contained a greater amount of the material will fully alert those handling the car of potential dangers. Other empty bulk containers (cargo tanks and portable tanks) are handled this way, and we are not aware that this has been a problem to anyone. Further, requiring the same placard for empty and full cars will encourage permanent placarding for those cars in dedicated service; our experience with non-permanent placards indicates they are frequently lost in transit. Anticipating that many (most) shippers will be displaying the DOT's identification number on placards, it is more important than ever that the correct placards be put on the car and that they stay there.

Elimination of the empty placard will simplify the regulations and reduce their burden by:

- Reducing the number (and cost) of placards kept in inventory (i.e., one style placard will do the job for all bulk containers).
- Eliminating the need for changing or reversing placards after tank cars are unloaded.
- Reducing confusion of whether a tank car is empty and needs to have placards changed or reversed.

MTB also believes that a large chemical manufacturer who ships large quantities of metallic sodium UN1428 has identified a specific deficiency related to the EMPTY FLAMMABLE SOLID W placard. This petitioner stated, in part, the following:

A substantial volume of sodium, metal in tank cars that require the display of a flammable solid W placard. When shipped full the significant water reactive hazard of this commodity is noted on the placard; however, when the placard is reversed showing the word "empty" instead of the symbol "W", this critical hazard is not adequately identified to emergency personnel. The heel in an empty sodium, metal tank car constitutes like hazard as when full; it is extremely dangerous when exposed to minute quantities of water.

Nearly half of the commenters, and this included the vast majority of the comments from emergency services, recommended the removal of the EMPTY placard and the use of the same placard for a loaded and an "emptied" tank car. These commenters generally expressed the belief that the basic placard would provide adequate warning for initial emergency response action. Follow-on actions could be determined from the complete identification of the contents of involved tank car by checking the shipping papers. Further and more detailed actions could be planned from information provided on a consist and from outside sources after specific tank cars had been identified.

MTB believes display of EMPTY placards on tank cars containing hazardous materials is not appropriate for communicating risk and that safety would be enhanced if the placarding system does not differentiate between loaded tank cars and those containing a residue of a hazardous material. Placement of tank cars of hazardous materials, whether loaded or containing a residue, could be accomplished and verified through documentation.

A cost comparison with the present placarding system revealed that using reuseable vinyl placards and leaving tank cars placarded as when filled, unless their service is changed or they are cleaned and purged, would result in average annual savings of approximately $1.4 million in placarding costs.

Proposed Rule Changes

Paragraph (e) of § 172.203 would be revised to change the shipping paper entry for empty packagings and empty portable tanks, cargo tanks, tank cars and multi-unit tank car tanks that contain the residue of a hazardous material to include in the description the word RESIDUAL instead of the word EMPTY.

Footnote 4 to Table 2 in § 172.504 would be revised to eliminate reference to the EMPTY placard. The second sentence of Footnote 4 prohibits display of the EMPTY COMBUSTIBLE placard. This prohibition would not be needed if the EMPTY placard is eliminated.

Paragraphs (a) and (c) of § 172.510 would be revised to eliminate references to the EMPTY placard. The amended paragraph (c), in addition, would prescribe requirements for assuring that an emptied tank car containing the residue of a hazardous material is properly placarded as when it was loaded.

Section 172.525 and its accompanying paragraph (c)(10) in Appendix B to Part 172 which contain the specifications for the EMPTY placards would be removed.

Paragraph (a)(3) of § 173.190 prescribes EMPTY FLAMMABLE SOLID placarding requirements for tank cars containing Phosphorus, white or yellow residue. The proposed change to eliminate the EMPTY placard would eliminate the need for this requirement in this section because the placarding requirements for Phosphorus are based on its hazard class and are given in § 172.504 and § 173.25. Therefore, MTB proposes to remove this placarding requirement from § 173.190(a)(3) since each empty tank car containing a hazardous material residue would retain its placards under this proposed rule change.

The final entry in the placarding notation table in § 174.25 which applies to empty tank cars would be revised to remove the exception pertaining to any tank car that had contained a combustible liquid. Also, § 174.25 would

be revised to remove the exception pertaining to tank cars that had contained combustible liquids and to change the shipping paper description for emptied tank cars that contain the residue of hazardous materials from "EMPTY" to "RESIDUAL" to better indicate the hazard.

Paragraph (e) of § 174.50 would be revised to remove the term "empty" and reword the requirement for clarity to indicate that no open-flame light may be brought near any leaking placarded tank car.

Sections 174.69 would be revised to remove the requirements for removing, replacing or reversing placards on empty tank cars. Also, a requirement would be added making the person who is responsible for removing the lading from a tank car responsible for assuring it is properly placarded before it is offered for transportation, if it contains the residue of a hazardous material.

Sections 174.87, 174.89, 174.90, 174.91, 174.92, and 174.93 concerning the placement of placarded empty tank cars have been reviewed. MTB does not believe that the proposed changes to the tank car placarding requirements would adversely affect the car placement requirements.

Classification of Rule; Reporting Requirements; and Impact on Small Entities

a. Non-Major Rule

MTB has determined that this document will not result in a major rule under terms of Executive Order 12291 or a significant regulation under DOT's regulatory policy and procedures (44 FR 11034), or require an environmental impact statement under the National Environmental Policy Act (49 U.S.C. 4321 *et seq.*). This determination is made on the basis that a final rule consistent with this proposal: (1) Will have an annual effect on the economy that will not exceed $100 million; (2) will cause no major increase in costs or prices for consumers, individual industries, Federal, State, or local governmental agencies, or geographic regions; (3) will not result in significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises in domestic or export markets; and (4) it is not anticipated to have a significant environmental impact. A regulatory analysis is available for review in the docket.

b. Paperwork Reduction Act

There are no new information collection requirements in this proposed rulemaking.

c. Impact on Small Entities

Based on the limited information available concerning size and nature of entities likely to be affected, I certify that this proposal will not, if promulgated, have a significant economic impact on a substantial number of small entities. This determination is based on the fact that the estimated cost of implementation would be relatively insignificant.

List of Subjects

49 CFR Part 172

Hazardous materials transportation, Documentation, Labeling and marking of packages.

49 CFR Part 173

Hazardous materials transportation, Packaging.

49 CFR Part 174

Hazardous materials transportation, Rail safety.

In consideration of the foregoing, 49 CFR Parts 172, 173 and 174 would be amended as follows:

PART 172—HAZARDOUS MATERIALS TABLES AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

1. In § 172.203 paragraph (e) would be revised to read as follows:

§ 172.203 Additional description requirements.

* * * * *

(e) *Empty packagings.* (1) Except for a tank car, or any packaging that still contains a hazardous substance, the description on the shipping paper for an empty packaging containing the residue of a hazardous material may include the word(s) "RESIDUAL * * *" or "RESIDUE: Last contained * * *" as appropriate in association with the basic description of the hazardous material last contained in the packaging.

(2) For empty tank cars, see § 174.25(c), of this subchapter.

(3) If a packaging, including a tank car, contains a residue that is a hazardous substance, the description on the shipping paper shall be prefaced with the phrase "RESIDUAL" or "RESIDUE: Last contained * * *" and shall have "RQ" entered before or after the basic description.

* * * * *

2. In § 172.504 Footnote 4 to Table 2 would be revised to read as follows:

§ 172.504 General placarding requirements.

* * * * *

Table 2

* * * * *

4 A FLAMMABLE placard may be used on a cargo tank during transportation by highway, rail or water, and on a compartmented tank car containing materials classed as Flammable liquid and Combustible liquid.

* * * * *

3. In § 172.510 paragraphs (a) and (c) would be revised to read as follows:

§ 172.510 Special placarding provisions: Rail.

(a) *Square background required.* Each EXPLOSIVES A placard and POISON GAS placard affixed to a rail car must be placed on a square background as described in § 172.527.

* * * * *

(c) *Empty tank car placarding.* When offered for transportation, each empty tank car containing the residue of a hazardous material must be placarded with the placarding required to be displayed when it contained a greater quantity of hazardous material.

* * * * *

§ 172.525 [Removed]

4. Section 172.525 would be removed in its entirety.

Appendix B—[Amended]

5. In Appendix B to Part 172 paragraph (c)(10) would be removed and reserved.

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGING

6. In § 173.190 the last sentence of paragraph (a)(3) would be revised to read as follows:

§ 173.190 Phosphorus, white or yellow.

(a) * * *

(3) * * * After unloading, the tank car must be filled to its entire capacity with an inert gas or to its entire capacity and to not more than 50 percent of the capacity of its dome with water having a temperature not exceeding 104 °F.

* * * * *

PART 174—CARRIAGE BY RAIL

7. In the Placard Notation Table in § 174.25(a)(2) the last entry would be revised, and paragraph (c) would be revised to read as follows:

§ 174.25 Additional information on waybills, switching orders and other billings.

(a) * * *

(2) * * *

Hazardous material or class	Placard notation	Placard endorsement
* * * * *		
Empty tank cars last containing a hazardous material	See § 174.25(c).	Dangerous
* * * * *		

(c) For an empty tank car that contains the residue of a hazardous material, the shipping papers must contain the word(s) "RESIDUAL" or "RESIDUE: Last Contained * * *" followed by the basic description of the hazardous material last contained in the tank car and the placard notation (the word "Placarded" followed by the name of the placard). For example, "RESIDUAL: Sulfuric acid, Corrosive material, UN1830, Placarded: CORROSIVE", or "RESIDUE: Last Contained Sulfuric acid, Corrosive material, UN1830, Placarded: CORROSIVE". For an empty tank car that still contains a residue that is a hazardous substance, the letters "RQ" shall be entered on the shipping paper either before or after the basic description.

* * * * *

8. In § 174.50 paragraph (e) would be revised to read as follows:

§ 174.50 Leaking tank cars.

* * * * *

(e) Open-flame lights may not be brought near a leaking placarded tank car.

* * * * *

9. Section 174.69 would be revised to read as follows:

§ 174.69 Removal of placards and car certification after unloading.

When lading requiring placards or car certifications is removed from rail cars other than tank cars, placards and car certifications must be removed by the person unloading the car. For an empty tank car containing the residue of a hazardous material, the person responsible for removing the lading from the tank car must assure it is properly placarded before it is offered for transportation.

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53, App. A to Part 1, and paragraph (a)(3) of App. A to Part 106)

Issued in Washington, D.C. on August 7, 1984.

Alan I. Roberts,

Associate Director for Hazardous Materials Regulation, Materials Transportation Bureau

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U.S. Department of Transportation

Research and Special Programs Administration

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