



DEPARTMENT OF TRANSPORTATION
MATERIALS TRANSPORTATION BUREAU
WASHINGTON, D.C. 20590

41401

Title 49—Transportation

CHAPTER I—MATERIALS TRANSPORTATION BUREAU, RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

[Docket No. HM-110; Amdt. No. 177-42]

PART 177—CARRIAGE BY PUBLIC HIGHWAY

Repair and Maintenance of Vehicles

AGENCY: Materials Transportation Bureau, Research and Special Programs Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment to the DOT hazardous materials regulations modifies existing requirements on performing repairs or maintenance to a motor vehicle containing hazardous materials. Modification is necessary to allow repair of such a vehicle when it can safely be performed inside a building. The modification prohibits hot work on the cargo or fuel containment systems of the vehicle if the vehicle is required to be placarded but permits repair and maintenance on the vehicle inside a building under specified conditions. An exception is provided for any vehicle containing combustible liquids.

EFFECTIVE DATE: January 1, 1979.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION:

I. PREVIOUS NOTICES AND AMENDMENTS IN THIS DOCKET

On August 27, 1973 (38 FR 22901), the Department of Transportation (DOT) published a notice that, among

other things, proposed to modify an existing requirement (49 CFR 177.854(g)) which prohibited repair and maintenance work on vehicles containing hazardous materials inside a building, or whenever that work could not be performed without hazard. The notice was prompted by a rulemaking petition from a motor carrier who observed that the existing requirement prohibited minor but important repairs, such as brake adjustments and tire and lamp replacement, from being performed indoors on vehicles carrying hazardous materials. The carrier asserted that such minor repair work could be performed safely indoors. The notice resulted in an amendment (39 FR 41741, Dec. 2, 1974) with a 6-month delay in effective date. The effective date was extended another 6 months (40 FR 12269, Mar. 18, 1975) during which time the original proposal was modified (40 FR 21485, May 16, 1975) and then the modification withdrawn (40 FR 44842, Sept. 30, 1975). The effective date was again extended until July 1, 1976 (40 FR 44821, Sept. 30, 1975). Finally, § 177.854(g) as it originally read was confirmed until further amendment (41 FR 27968, July 8, 1976). On October 12, 1976 (41 FR 44712), a new notice was published upon which this amendment is based.

II. PURPOSE OF THIS AMENDMENT

This amendment is intended to reduce the possibility of an accident involving significant quantities of hazardous materials as a result of maintenance or repair work on the motor vehicle in which the materials are contained. Commenters have suggested that a complete examination of the work area might be necessary to control possible sources of accidents. The MTB agrees and has prescribed only general conditions in this amendment to deal with hazards arising from the materials a cargo vehicle may carry, and with conditions that threaten the

integrity of the system on the vehicle that contains the materials. This amendment does not exhaustively address conditions in the work area. Because of the variety of possible circumstances involved, reliance must be placed on existing local, State, and Federal laws concerning motor vehicle repair work, and on the sound judgment and experience of those persons performing the work.

Paragraph (g)(1) of this amendment prohibits hot work on the cargo or fuel containment system of a vehicle carrying a sufficient quantity of a hazardous material to necessitate placarding. Vehicles carrying combustible liquids are excluded from this prohibition.

Under paragraph (g)(2) of the amendment, repair or maintenance inside a building on any placarded vehicle, except one placarded COMBUSTIBLE, is prohibited unless the cargo and fuel containment systems are free from leaks, the vehicle can be quickly removed from the enclosed area if necessary in an emergency, and the vehicle is removed from the enclosed area upon completion of repair or maintenance work. Both a person capable of operating the vehicle, and a means of moving the vehicle (in the event the vehicle cannot or should not be moved under its own power) must be available if removing the vehicle becomes necessary in an emergency. Conditions under which the vehicle should be removed, and the location to which it should be removed, are not prescribed in the amendment. Those conditions, which may vary, are left to be determined by the carrier or repair facility. In some circumstances it may be advisable not to attempt to remove the vehicle until further precautions are taken. To preclude the potential dangers that may develop, the vehicle must be removed from the enclosed area upon completion of repair or maintenance work. This condition was proposed in the notice of proposed rulemaking and generated very few comments because from a practical safety standpoint it appears to be followed by motor carrier shops and repair facilities.

In addition to these three restrictions on inside repair to a placarded vehicle, two more conditions apply if the vehicle contains explosives A or B (any quantity of which necessitates placarding) or contains a flammable liquid or flammable gas (note that cargo tanks and portable tanks containing even residues of these materials necessitate placarding, unless cleaned and purged). The MTB recognizes that hazardous materials other than those prescribed in paragraph (g)(2)(iv) may pose fire hazards.

Such hazards are commensurate with hazards posed by the presence of

gasoline as motor fuel in vehicles subject to customary repair practices. However, although it may be common repair practice to allow some ignition sources near a vehicle being repaired in an enclosed area, the additional and potentially much more extensive hazards, and accident consequences, involving explosives or significant quantities of flammable liquids or flammable gases warrant special precautions. Consequently, a placarded vehicle containing those materials may be repaired inside a building only if ignition sources are eliminated. The method used to eliminate ignition sources is not prescribed in the amendment but is left to the sound judgment of the repair facility, subject to applicable local, State, and Federal laws concerning those facilities.

Some of the differences between this amendment and the notice proposed on October 15, 1976, should be reiterated.

1. The proposed prohibition against use of heat, flame or spark outdoors within 100 feet of a vehicle containing certain hazardous materials has been dropped in favor of a general prohibition on the use of heat, flame, or spark on the cargo or fuel containment system of a placarded vehicle. Judgment on the safe use of welding equipment, outside of a building, on other components of a placarded vehicle is left to the repair facility.

2. Except for a vehicle carrying combustible liquids, any vehicle required to be placarded is subject to this amendment. The previous proposal would have applied to any vehicle containing any quantity of a flammable liquid, combustible liquid, flammable gas, poisonous liquid, oxidizer, or explosive. Excluded from the amendment's coverage is any vehicle not required to be placarded (however, note that materials, especially explosives A or B, listed in table 1 at § 172.504, as well as cargo tanks and portable tanks that have not been cleaned and purged, necessitate placarding regardless of quantities).

3. Repair work performed indoors on placarded vehicles containing cargoes of explosives A or B, flammable liquids, or flammable gases is permitted, provided exposed sources of ignition are eliminated. Compliance with National Fire Protection Association Pamphlet No. 70, "National Electrical Code," although proposed in the last notice for electrical equipment, is not required by the amendment. In addition to that publication, there exist various requirements imposed by local, State, and Federal agencies pertaining to sources of ignition. Rather than requiring compliance with a particular method of protecting exposed ignition sources, the amendment allows use of any reliable method that would pre-

vent the ignition of an explosive flammable mixture.

4. Provided that the requirements of paragraph (g)(2) of the amendment are met, cold repairs to closed fuel cargo containment systems may be performed indoors. The vehicle motor and electrical system must remain operational to the extent necessary to accomplish maintenance repair.

5. The previous proposal to delete paragraph (h) (concerning hot work on cargo tanks and fuel containers) has been dropped. Paragraph (h) will be retained in this amendment since repair of a cargo tank or compartment thereof, formerly containing certain hazardous materials, can be safely performed by using flame, arc, or other means of welding if the tank or compartment has been made gas-free prior to the repair. In response to the notice, several comments indicate that paragraph (h) should be retained since it reflects long standing safe practices set forth by safety organizations, such as NFPA, which should be adhered to by motor carriers and repair shops that engage in such work.

III. IMPACT

This amendment may still necessitate the performance of some kind of repair work outdoors, such as work on vehicles carrying flammable or explosive cargoes. The MTB has attempted to balance the hazards of working in an enclosed area on such vehicles against the disadvantages of possible hazards of requiring the work to be performed outside. A concern raised in comment, with which MTB agrees, is that a rule that is too stringent may result in deferral of repair work, failure to correct vehicle deficiencies, and the continued operation of vehicles in an unsafe condition. On the other hand, hot work in an enclosed area on vehicles carrying explosives or large volumes of liquids, gases or vapors which are flammable presents substantial, inherent risks. Because of the repair worker's sense of smell to detect cargo or fuel leakage, not a sufficient safeguard against the possibility of fire or explosion.

This amendment is a relaxation of existing requirements found in § 177.854(g). Moreover, the restrictions imposed by the amendment are similar to restrictions resulting from existing fire codes and insurance practice. Comments indicate that cleaning and purging a cargo tank can cost \$100 or more and that many repair facilities lack tankage to receive hazardous materials that this amendment may require to be removed from a vehicle in which work is to be performed. The incremental safety thereby achieved is worth the cost of cleaning and pur-

a cargo tank. For facilities that lack receiving tanks, the carrier seeking the repairs will have to arrange to remove the vehicle's contents before hot repair may be undertaken.

Primary drafters of this document are David B. Goodman, Vehicle Requirement Branch, Bureau of Motor Carrier Safety; Joseph T. Horning, Regulations Development Branch, Office of Hazardous Materials Regulation; and Douglas A. Crockett, Standards Division, Office of Hazardous Materials Regulation, Materials Transportation Bureau.

In consideration of the foregoing, Part 177 of Title 49, Code of Federal Regulations, is amended as follows:

1. In § 177.854, paragraph (g) is revised to read as follows:

§ 177.854 Disabled vehicles and broken or leaking packages; repairs.

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(g) *Repair and maintenance of vehicles containing certain hazardous materials.*—(1) *General.* No person may use heat, flame or spark producing devices to repair or maintain the cargo or fuel containment system of a motor vehicle required to be placarded, other than COMBUSTIBLE, in accordance with subpart F of part 172 of this subchapter. As used in this section, "containment system" includes all vehicle components intended physically to contain cargo or fuel during loading or filling, transport, or unloading.

(2) *Repair and maintenance inside a building.* No person may perform repair or maintenance on a motor vehicle subject to paragraph (g)(1) of this section inside a building unless:

(i) The motor vehicle's cargo and fuel containment systems are closed (except as necessary to maintain or repair the vehicle's motor) and do not show any indication of leakage;

(ii) A means is provided, and a person capable to operate the motor vehicle is available, to immediately remove the motor vehicle if necessary in an emergency;

(iii) The motor vehicle is removed from the enclosed area upon completion of repair or maintenance work; and

(iv) For motor vehicles loaded with explosives A or B, flammable liquids or flammable gases, all sources of spark, flame or glowing heat within the area of enclosure (including any heating system drawing air therefrom) are extinguished, made inoperable or rendered explosion-proof by a suitable method. *Exception:* Electrical equipment on the vehicle, necessary to accomplish the maintenance function, may remain operational.

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(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53(e).)

NOTE.—The Materials Transportation Bureau has determined that this final rule will not result in a major economic impact under the terms of Executive Order 12044 and DOT implementing procedures (43 FR 9582). A regulatory evaluation is available in the docket.

Issued in Washington, D.C., on September 12, 1978.

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Acting Director,
Materials Transportation Bureau.
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