



DEPARTMENT OF TRANSPORTATION
HAZARDOUS MATERIALS REGULATIONS BOARD
WASHINGTON, D.C. 20590

22901

[49 CFR Parts 173, 177]

[Docket No. HM-110; Notice No. 73-5]

HANDLING OF HAZARDOUS MATERIALS
ON MOTOR VEHICLES

Miscellaneous Amendments

The Hazardous Materials Regulations Board is considering amendment of several sections of the Department's Hazardous Materials regulations. Commenters need only identify the particular proposal on which they wish to comment when responding. The proposals covered in this document are:

- A. Emergency discharge controls on MC 330 cargo tanks.
- B. Cargo tank certificate retention.
- C. Hydrostatic and pneumatic testing of cargo tanks.
- D. Cargo heaters with explosives and flammable commodities.
- E. Attendance of tank vehicles during loading and unloading.
- F. Openings on cargo tank to be closed during transportation.
- G. Repairs and maintenance to vehicles in closed garages.
- H. Warning devices on vehicles containing hazardous materials.

PROPOSAL A

EMERGENCY DISCHARGE CONTROLS ON MC 330
CARGO TANKS

The Hazardous Materials Regulations Board is considering amendment of § 173.33 of the Department's Hazardous Materials regulations to require that all Specification MC 330 cargo tanks used for the transportation of flammable compressed gases and anhydrous ammonia be equipped with emergency discharge controls as is now required on Specification MC 331 cargo tanks. At the time Specification MC 331 cargo tank specification was adopted, the Interstate Commerce Commission decided not to require an updating of the standards for Specification MC 330 cargo tanks.

The Board believes that it is now necessary to require that these tanks conform to the same emergency discharge control standards as are required for MC 331 cargo tanks to assure the same degree of safety. A recent accident involving an MC 330 cargo tank has demonstrated the need to require that these tanks be retrofitted with remote controlled internal shutoff valves. In this accident, the propane from an MC 330 cargo tank provided fuel to a fire which resulted from the accidental rupture of a manifolded storage tank intake line into which the cargo tank was unloading. The escaping propane from the cargo tank was not discharging at a rate high enough to activate the excess flow valve. The fire was directed to another cargo tank that eventually exploded. As a result of the fire

and explosion, one person was killed and over \$200,000 in property damage occurred. There is little doubt that if an internal valve, as specified in section 178.337-11(c) had been installed on the cargo tank, the flow of propane could have been shutoff by manual means, if not automatically by the melting of the fusible element.

In order not to impose an undue burden on tank owners, the Board is proposing that the emergency discharge controls may be installed when the cargo tanks are scheduled for the 5-year retest required in § 173.33.

In consideration of the foregoing, it is proposed to amend 49 CFR Part 173 as follows:

In § 173.33, paragraph (1) would be added as follows:

§ 173.33 Cargo tank use authorization.

* * * * *

(1) MC 330 cargo tanks used for flammable compressed gas or anhydrous ammonia must be equipped with an emergency discharge control that conforms to the requirements of § 178.337-11(c) of this subchapter at each liquid or vapor discharge opening. The control must be installed not later than the date the tests prescribed by paragraph (e) of this section are required.

PROPOSAL B

CARGO TANK CERTIFICATE RETENTION

The Hazardous Materials Regulations Board is considering an amendment to clarify the requirement for retention of the manufacturer's certificate for specification cargo tanks.

The Board has found that many motor carriers are not aware of a requirement that the manufacturer's certificate for a specification cargo tank must be retained by the motor carrier for as long as the tank is in service and for 1 year thereafter. The confusion may be caused by the fact that the certificate-retention requirements are presently contained in the cargo tank specifications in Part 178, and many of the specifications no longer appear in the published codification of the regulations, although the tanks may be continued in use. The Board believes that a general retention provision is needed in Part 177 to resolve this problem. In addition, the Board is proposing to require carriers to retain all retest and inspection reports in the same file with the manufacturer's certificate.

In consideration of the foregoing, it is proposed to amend 49 CFR Part 177 as follows:

(A) In Part 177 Table of Contents, § 177.814 would be added to read as follows:

Sec.
177.814 Retention of manufacturer's certificate

(B) Section 177.814 would be added to read as follows:

§ 177.814 Retention of manufacturer's certificate.

(a) Each motor carrier who uses a cargo tank vehicle shall have in his files a certificate signed by a responsible official of the manufacturer or fabricator of the cargo tank, or a competent testing agency, certifying that the cargo tank has been designed, constructed, and tested in accordance with, and complies with, the requirements contained in the specification for the tank set forth in this subchapter. The certificate and any other data furnished as required by the specification must be retained at the principal office of the carrier during the time that the cargo tank is used by the carrier and for 1 year thereafter. However, the motor carrier may himself perform the tests and inspections to determine whether the tank meets the requirements of the specification. If the motor carrier does so and determines that the tank conforms to the specification, he may use the tank if he retains the test data, in place of a certificate in his files at his principal office for as long as he uses the tank and 1 year thereafter. Each motor carrier who uses a specification cargo tank which he does not own and has not tested or inspected shall obtain a copy of the certificate and retain it in his files at his principal office during the time he uses the tank and for 1 year thereafter.

(b) Upon a written request to, and with the approval of, the Director, Regional Motor Carrier Safety Office, for the region in which a motor carrier has his principal place of business, a motor carrier may retain the certificate and other data specified in paragraph (a) of this section at a regional or terminal office. The address and jurisdictions of the Directors of Regional Motor Carrier Safety Offices are shown in § 390.40 of Chapter III of this title.

(c) *Withdrawal of certification.*—See § 177.824(i).

(d) A copy of retest and inspection reports required by §§ 173.33 and 177.824 and all records of repairs to each cargo tank must be retained in the same file with the manufacturer's certificate for that tank as specified in paragraph (a) of this section.

PROPOSAL C

HYDROSTATIC AND PNEUMATIC TESTING OF CARGO TANKS

The Hazardous Materials Regulations Board is considering amendment of § 177.824 of the Department's Hazardous Materials Regulations to clarify the hydrostatic and pneumatic testing procedures for cargo tanks.

Present requirements specify hydrostatic or pneumatic testing of cargo tanks under certain conditions. But the procedures for pneumatic testing are not contained in the regulations. Therefore, the Board is proposing that these procedures be incorporated into the regulations.

In consideration of the foregoing, it is proposed to amend 49 CFR Part 177 as follows:

In § 177.824, subparagraph (d)(2) would be revised to read as follows:

§ 177.824 Retesting and inspection of cargo tanks.

• • • • •

(d) • • • • •

(2) For hydrostatic testing, the tank (including its domes, if any) must be completely filled with water or a liquid having a viscosity similar to water and the pressure must be gaged at the top of the tank. Pressure must be applied in accordance with the following chart and increased for pneumatic testing by a pressure equivalent to the static head in the tank when fully loaded with the heaviest lading authorized to be transported or water, whichever is heavier. The tank must hold the prescribed pressure for at least 10 minutes. All tank valves, piping, and other accessories in communication with the lading must be pressure tested and proved tight at the tank design pressure. During the pneumatic test the entire surface of all joints under pressure must be coated with a solution of soap and water, heavy oil, or other materials suitable for the purpose of foaming or bubbling to indicate the presence of leaks. Other methods equally sensitive for determining leaks may be used.

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PROPOSAL D

CARGO HEATERS WITH EXPLOSIVES AND FLAMMABLE COMMODITIES

The Hazardous Materials Regulations Board is considering amendment of § 177.834 of the Department's Hazardous Materials Regulations, to clarify the prohibition against the use of certain heaters in a transport vehicle which is loaded with explosives or flammable commodities.

There has been much confusion concerning the use of catalytic cargo heaters in vehicles transporting flammable liquids and flammable gases. The Federal Highway Administration has taken the position that, for the purposes of these regulations, a catalytic heater is a combustion heater. This proposal would specifically state that catalytic heaters are considered as such, and not permitted in vehicles transporting flammable materials. However, commenters are invited to submit test data and other evidence in support of the use of catalytic heaters as a safe means of heating the cargo spaces of motor vehicles.

The Board also feels that the precautions against the loading of explosives into transport vehicles containing a heater should be the same as that pertaining to flammables, and that the specific provision should be included under general requirements.

In consideration of the foregoing, it is proposed to amend 49 CFR Part 177 as follows:

(A) In § 177.834, paragraph (1) would be amended to read as follows:

§ 177.834 General requirements.

• • • • •

(1) *Use of cargo heaters with explosives and flammable commodities.*—(1) *Flammable liquids and flammable gases.*—Except as provided in paragraph (1)(2) of this section, a flammable liquid or a flammable gas must not be loaded into a truck body or a trailer containing a combustion heater or equipped with operable automatic temperature control equipment. For purposes of this section, a catalytic heater is a combustion heater. Fuel tanks for automatic temperature control equipment must be empty or removed from the vehicle, except that liquefied petroleum gas fuel tanks exterior to the vehicle body may have their valves closed and disconnected from the fuel feed lines instead of being emptied or removed.

(2) *Exception for certain automatic temperature control equipment.*—A flammable liquid or a flammable gas may be transported in a vehicle equipped with automatic temperature control equipment, if (i) the lading space is equipped with no electrical apparatus or electrical apparatus of the nonsparking or explosion-proof type, (ii) no combustion apparatus is in the lading space; and (iii) there is no connection for return of air from the lading space to any combustion apparatus. The heating system must prevent heating of any part of the lading to a temperature of more than 130°F. and must conform to the requirements of § 393.77, of this title.

(3) *Explosives.*—An explosive must not be loaded into a truck body or trailer which contains a combustion heater or is equipped with operable automatic temperature control equipment. For the purposes of this paragraph, catalytic heaters are combustion heaters. All fuel tanks for a heater or automatic temperature control equipment with which a truck body or trailer is equipped must be drained. All automatic heating or refrigeration machinery must be rendered inoperative by disconnection of the automatic controls and sources of power for its operation.

(B) In § 177.835, paragraph (c)(1) would be deleted as follows:

§ 177.835 Explosives.

• • • • •

(e) • • • • •

(1) [deleted].

• • • • •

PROPOSAL E

ATTENDANCE OF TANK MOTOR VEHICLES DURING LOADING AND UNLOADING OPERATIONS

The Hazardous Materials Regulations Board is considering amendment of § 177.834 to clarify the meaning of "attendance" as it pertains to a tank motor vehicle being loaded or unloaded.

The Board has found that several dangerous incidents have occurred during the loading or unloading of tank motor vehicles which could have been avoided, if there had been someone near the cargo

tank to take corrective or precautionary action. The Board feels that there may be some confusion as to the intent of the term "attendance" as it is used in § 177.834(i).

In consideration of the foregoing, it is proposed to amend 49 CFR Part 177 as follows:

In § 177.834, paragraph (i) would be revised as follows:

§ 177.834 General requirements.

(i) Tank motor vehicles must be attended during loading and unloading.—Each tank motor vehicle must be attended at all times by its driver or a qualified representative of the motor carrier that operates it during the loading or unloading of the tank motor vehicle. For the purposes of this subsection—

(1) A tank motor vehicle is attended when the person in charge of the vehicle is awake and not in a sleeper berth, and is within 25 feet of the tank motor vehicle and has it within his unobstructed field of view;

(2) A "qualified representative" of a motor carrier is a person who has been designated by the carrier to attend the vehicle, is aware of the nature of the hazardous material contained in the tank motor vehicle he attends, has been instructed on the procedures he must follow in emergencies, is authorized to move the vehicle, and has the means to do so; and

(3) The delivery hose, when attached to the tank motor vehicle, is a part of the vehicle.

PROPOSAL F

OPENINGS ON CARGO TANKS TO BE CLOSED DURING TRANSPORTATION

The Hazardous Materials Regulations Board is considering amendment of § 177.839 by adding a requirement that internal valves and manholes be in a closed and secured position during transportation. A similar provision was added during recent rule making pertaining to the transportation of compressed gases, and the Board now proposes to add similar requirements for the transportation of flammable liquids, poisons and corrosive materials in cargo tanks. In consideration of the foregoing, it is proposed to amend 49 CFR Part 177 as follows:

(A) In § 177.837, paragraph (e) would be added to read as follows:

§ 177.837 Flammable liquids.

(e) Manholes and valves closed.—A person shall not drive a tank motor vehicle and a motor carrier shall not require or permit a person to drive a tank motor vehicle containing a flammable liquid unless—

(1) All manhole closures on the cargo tank are closed and secured; and

(2) All valves and other closures on liquid discharge openings are closed and free of leaks.

(B) In § 177.839, paragraph (d) would be added to read as follows:

§ 177.839 Corrosive liquids.

(d) Cargo Tanks.—A person shall not drive a tank motor vehicle and a motor carrier shall not require or permit a person to drive a tank motor vehicle containing a corrosive liquid unless—

(1) All manhole closures on the cargo tank are closed and secured; and

(2) All valves and other closures on liquid discharge openings are closed and free of leaks.

(C) In § 177.841, paragraph (d) would be added to read as follows:

§ 177.841 Poisons.

(d) Poisons in cargo tanks.—A person shall not drive a tank motor vehicle and a motor carrier shall not require or permit a person to drive a tank motor vehicle containing poisons unless—

(1) All manhole closures on the cargo tank are closed and secured; and

(2) All valves and other closures on liquid discharge openings are closed and free of leaks.

PROPOSAL G

REPAIRS AND MAINTENANCE TO MOTOR VEHICLES CONTAINING HAZARDOUS MATERIALS

The Hazardous Materials Regulations Board is considering amendment of § 177.854 of the Department's Hazardous Materials Regulations to authorize repairs to a motor vehicle containing hazardous materials in a closed garage.

This proposal is based, in part, on a petition from Consolidated Freightways Corp. of Delaware. Petitioner states that "minor repairs as adjustment of brakes, changing of tires, replacing burned out lamps, etc., would necessarily have to be made in the open or under a shed-type building... this rule causes undue hardship on our, or any motor carrier's operation, especially during the hours of darkness and also inclement weather."

The Board has concluded that the petitioner's request may have merit. A carrier faced with the prohibition in § 177.854(g) might well choose to delay making necessary, though perhaps minor, repairs until after the vehicle has reached its destination and has been emptied. By doing so, a greater hazard may exist than the potential hazard posed by the making of repairs in a garage, especially since many repairs do not involve any particular risk of explosion or fire.

However, the Board believes that the prohibition should be removed only if adequate safeguards against explosion are maintained. The safeguards proposed include protecting the vehicle from open flames or welding devices in use, and requiring every vehicle to have a means of motive power while it is in the garage.

In consideration of the foregoing, it is proposed to amend 49 CFR Part 177 as follows:

In § 177.854, paragraph (g) would be revised to read as follows:

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

(g) Repairs and maintenance to vehicles.—(1) No maintenance or repair using open flame or any type of welding may be performed on vehicles containing hazardous materials.

(2) When a vehicle containing hazardous materials is inside a building for repairs or other reasons—

(i) There must be no flame-producing or welding devices in operation within the same enclosed area of the building; and

(ii) The vehicle must have an operable means of motive power or must be connected to an operable truck or tractor to facilitate its quick removal from the building.

PROPOSAL H

WARNING DEVICES FOR STOPPED VEHICLES

The Hazardous Materials Regulations Board is considering editorial changes to §§ 177.854, 177.856, and 177.859 to reflect recent changes to the Motor Carrier Safety regulations (49 CFR Parts 390-397) pertaining to warning devices for stopped vehicles.

In consideration of the foregoing, it is proposed to amend 49 CFR Part 177 as follows:

(A) In § 177.854, the last sentence in paragraph (a) and the entire subparagraph (f) (1) would be amended to read as follows:

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

(a) Sections 392.22, 392.24, and 392.25 of this title for signals required to be displayed on the highway.

(f) For motor vehicles other than cargo tank motor vehicles used for the transportation of flammable liquids or flammable compressed gases and not transporting explosives, Class A, or Class B, flares (pot torches), fuses, red electric lanterns, red emergency reflectors, red emergency reflective triangles, or red flags must be set out in the manner prescribed by §§ 392.22, 392.24, and 392.25 of this title.

(B) In § 177.865, the second sentence in paragraph (d) would be amended to read as follows:

§ 177.856 Accidents; flammable liquids.

(d) In such cases red electric lanterns, red emergency reflectors, red emergency reflective triangles, or red flags must be set out in the manner prescribed by §§ 392.22, 392.24, and 392.25 of this title.

(C) In § 177.859, the third sentence in paragraph (b) would be amended to read as follows:

§ 177.859 Accidents; compressed gases.

* * * * *
(b) * * * Red electric lanterns, red emergency reflectors, red emergency reflective triangles, or red flags must be set out in the manner prescribed in §§ 392.22, 392.24, and 392.25 of Chapter III of this title. * * *
* * * * *

Interested persons are invited to give their views on these proposals. Communications should identify the docket number and be submitted in duplicate to the Secretary, Hazardous Materials Regulations Board, Department of Transportation, Washington, D.C. 20590. Communications received on or before October 30, 1973, will be considered before final action is taken on these proposals.

All comments received will be available for examination by interested persons at the Office of the Secretary, Hazardous Materials Regulations Board, Room 6215, Buzzards Point Building, Second and V Streets SW., Washington, D.C., both before and after the closing date for comments.

This proposal is made under the authority of sections 831-835 of title 18, United States Code, and section 9 of the Department of Transportation Act (49 U.S.C. 1657).

Issued in Washington, D.C., on August 21, 1973.

ROBERT A. KAYE,
Board Member for the
Federal Highway Administration.

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