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Monday  
September 14, 1992

# FAST TRACK

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**Part III**

**Department of  
Transportation**

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**Research and Special Programs  
Administration**

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**49 CFR Parts 174 and 177  
Tank Cars and Cargo Tank Motor  
Vehicles: Attendance Requirements;  
Proposed Rule**

*HM-212*

**DEPARTMENT OF TRANSPORTATION****Research and Special Programs Administration****49 CFR Parts 174 and 177**

[Docket No. HM-212, Notice No. 92-9]

RIN 2137-AC24

**Tank Cars and Cargo Tank Motor Vehicles: Attendance Requirements****AGENCY:** Research and Special Programs Administration (RSPA), DOT.**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** RSPA is proposing to amend the Hazardous Materials Regulations to allow the use of signalling systems (sensors, alarms, electronic surveillance equipment, e.g., television monitors and video cameras) to satisfy the attendance requirements for unloading tank cars and for loading cargo tank motor vehicles. In addition, RSPA is proposing to completely revise the tank car unloading requirements in its regulations to remove obsolete and unnecessary provisions and to allow tank cars containing hazardous materials to remain standing with unloading connections attached when no product is being transferred. The intended effect of this action is to improve the regulations for clarity and to recognize recent technological innovations and to improve safety during the loading/unloading of bulk quantities of hazardous materials.

**DATES:** Comments must be received by December 14, 1992.

**ADDRESSES:** Address comments to the Dockets Unit (DHM-30), Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590-0001. Comments should identify the docket and notice number and be submitted in five copies. Persons wishing to receive confirmation of receipt of their comments should include a self-addressed stamped post card. The Dockets Unit is located in room 8421 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 p.m., Monday through Friday.

**FOR FURTHER INFORMATION CONTACT:** Diane LaValle or Jennifer Karim, (202) 366-4488, Office of Hazardous Materials Standards, Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590-0001.

**SUPPLEMENTARY INFORMATION:** On January 28, 1992, President Bush announced a 90-day moratorium and review of regulations to identify

unnecessary and burdensome government regulations. In response to the President's announcement, DOT published, on February 7, 1992, Docket RR-1, Notice 92-1 (57 FR 4744), soliciting public comments on the DOT's regulatory programs. Comments addressing the HMR were requested to be submitted to RSPA's Dockets Unit. In response to that notice, RSPA received over 40 comments. Many comments addressed notices of proposed rulemaking that have not been finalized and issues raised in petitions for reconsideration. Those comments will be given full consideration along with all other comments prior to taking final action under those dockets. Comments addressing certain other issues are under review for consideration in future rulemaking actions.

In response to RR-1, The Fertilizer Institute and two other commenters requested that RSPA revise §§ 174.67(i) and 177.834(i) of the HMR to allow the use of signalling systems (sensors, alarms, electronic surveillance equipment, e.g., television monitors and video cameras) to satisfy the attendance requirements during the unloading of tank cars and the loading of cargo tank motor vehicles. Section 174.67 requires that rail tank car unloading operations must be performed by a reliable person who has been properly instructed in unloading hazardous materials and attended by the unloader until unloading is completed. Section 177.834 requires that a cargo tank motor vehicle be attended by a qualified person (usually the driver) at all times while it is being loaded or unloaded. The purpose of the attendance requirements in §§ 174.67 and 177.834 is to ensure the safe loading or unloading of hazardous materials and that, in the event of an emergency, such processes can be quickly halted. The person designated to perform the attendance function must be familiar with the nature and properties of the material being loaded or unloaded, be instructed in the procedures to be followed during the loading or unloading operation, and in the event of an emergency, have the ability to immediately take emergency action.

RSPA agrees with the commenters that provisions should be included in the HMR on the use of signalling systems, where safety conditions are met. RSPA previously has responded to requests for clarification on the use of signalling systems to satisfy the attendance requirements. In addition, on February 28, 1990, RSPA published in the Federal Register (55 FR 6758) a notice making available to the public several formal interpretations of the HMR issued by RSPA's Chief Counsel, one of which (Int.

No 87-4-RSPA) pertained to the attendance requirements in §§ 174.67(i) and 177.834(i). These interpretations generally allow.

**Railroad Tank Cars**

The use of a signalling system if (1) The equipment provides on-site or at a remote location, surveillance capability of that equal to a human observer; (2) in the event of an emergency, the system is capable of immediately halting the flow of product or alerting the unloader; (3) in the event of known equipment malfunction, human observation of the unloading is instituted immediately, and (4) the person responsible for unloading has the capability to halt the flow of product immediately.

**Cargo Tank Motor Vehicles**

The use of television monitors could satisfy the attendance requirements with regard to loading if: (1) The monitors are operable and continuously manned; (2) the operator is within 25 feet of the loading operation with an unobstructed view; and (3) the operator is able to immediately stop the loading operation from the monitoring location.

In some rail operations, the hazardous material is unloaded from the tank car directly into the process system. In these situations, the unloading process may take several days of intermittent or continuous flow to unload the tank car. Section 174.67(i) requires that throughout the entire period of the unloading, and while a tank car is connected to the unloading device, the car must be attended by the unloader. Under § 174.67(j), a tank car may not be left standing with the unloading connections attached after unloading is completed. RSPA has issued about 30 exemptions from the requirements in § 174.67 to authorize tank cars to stand with unloading connections attached during intermittent unloading when a signalling system is used. RSPA also has issued several exemptions to authorize the use of signalling systems to satisfy the attendance requirements in § 177.834 when loading cargo tank motor vehicles.

In this notice, we propose to amend the requirements in § 174.67 pertaining to unloading of tank cars and § 177.834(i) pertaining to the loading of cargo tanks to allow the use of signalling systems to meet the attendance requirements. In addition, § 174.67 would be revised to allow a tank car containing hazardous materials to remain standing with the unloading connections attached when no product is being transferred, provided the attendance and other safety conditions are met. A detailed discussion of the

changes proposed to this section is contained in the section-by-section review. In § 177.834, the requirement that the attendant must be within 25 feet of the cargo tank motor vehicle would be removed if the signalling system is equipped with television monitors and video cameras that are operable, the operator maintains surveillance of the monitors and is able to immediately stop the loading operation from the area where the monitors are located.

Under these proposed changes, a single individual, using signalling systems with features such as electronic surveillance, sensors, alarms, and remote control or automatic shut-down systems, could attend the loading of multiple cargo tanks or the unloading of multiple tank cars. By reducing the number of persons involved in the loading or unloading operation, these changes could result in significant savings to industry by reducing injuries and allowing the more efficient use of human resources. RSPA solicits specific information concerning the expected benefits and cost savings that would be derived from finalizing this proposed rule.

#### Section by Section Review

##### Section 174.67

Few changes have been made to the current requirements contained in this section since their adoption during the early 1920's. These requirements contain numerous obsolete and unnecessary provisions; therefore, this section would be completely revised.

The current requirement in paragraph (a) prescribes that a tank car must be unloaded by a "reliable" person. This requirement is unnecessary because all hazardous material employers are required to properly train their hazardous materials employees in accordance with 49 CFR part 172, subpart H (57 FR 20944, May 15, 1992) and, therefore, it would be removed. The requirements that the tank car brakes must be set, the wheels blocked, and a caution sign placed to give necessary warning would be moved to proposed § 174.67(c). The requirement to relieve the tank internal pressure before opening the manhole or outlet valves would be moved to proposed § 174.67(e). A new paragraph (a) would contain requirements that must be met by a rail facility operator. A facility operator would be defined as any person who engages in the unloading of tank cars containing hazardous material, on private tracks or carrier-owned tracks.

Current paragraphs (a)(4) and (b) contain detailed requirements on the removal of manhole covers. These

requirements for opening manhole covers would be more appropriately addressed in written safety procedures by each facility operator and, therefore, would be removed. New proposed paragraph (b) would contain certain requirements that must be met by facility operators. These requirements would require facility operators to designate an employee who will be responsible for the unloading-function, restrict access to tank cars intended for unloading, and maintain written safety procedures.

Current paragraph (c) prescribes requirements for adjusting a manhole cover when a tank car is unloaded through the bottom outlet. The requirements specify that when unloading hazardous materials through the bottom outlet of a tank car, the manhole must be blocked open with a non-metallic block. These requirements are obsolete and inconsistent with the Environmental Protection Agency's regulations implemented under the Clean Air Act on the release of hazardous materials into the environment and, therefore, would be removed. New proposed paragraph (c) would contain conditions that must be met prior to connecting unloading equipment to a tank car, including safety procedures that must be followed by a designated employee.

Current paragraph (d) contains requirements for top unloading of tank cars. Historically, these requirements were intended to prevent explosions and fires caused by cinders and sparks coming from steam locomotives during the unloading of flammable liquids from tank cars. These requirements are obsolete because steam locomotives are no longer used and because of restrictions on the release of hazardous materials into the environment. Therefore, they would be removed. Proposed paragraph (d) would contain safety requirements for certain tank car closures.

Current paragraph (e) requires that the contents may not be spilled over the tank car and that seals and other matter must not be thrown into the tank car. Current industry standards more appropriately address this issue and, therefore, these provisions would be removed. Proposed paragraph (e) would contain a safety requirement on the opening of closures on tank cars.

The requirement in current paragraph (f) that the valve outlet in the bottom of a tank car must be properly seated before opening the valve cap would be revised for clarity and moved to proposed § 174.67(d). New proposed paragraph (f) would contain requirements on shut-off valves.

Several provisions in current paragraph (g) on the removal of the valve cap or the reducer are obsolete and would be removed. The remaining provisions on bottom outlets would be revised for clarity and certain safety requirements for unloading tank cars through bottom outlets would be added.

Current requirements in paragraph (h) addressing the securing of tank car unloading connections would be revised for clarity and moved to proposed paragraph (e). New proposed paragraph (h) would contain attendance requirements that are now addressed in paragraph (i). The current provisions would be broadened to address the use of signalling systems to satisfy the attendance requirements for unloading tank cars and to allow tank cars to remain attached to unloading equipment when no product is being transferred. These requirements are consistent with exemptions authorizing the use of video cameras, process control gauges, flow gauges, and monitors to observe the unloading of tank cars, and authorizing tank cars to remain standing with unloading connections attached when no product is being transferred. Requirements for tank car loading, prescribed in § 173.31, do not address the attachment of loading connections when no product is being transferred and, therefore, are not addressed in this proposed rule. The procedures in current paragraph (k) for tightening and securing all valves and closures on tank cars after unloading has been completed would be moved to proposed paragraph (i).

Paragraph (j) requires all unloading connections to be disconnected if unloading is discontinued. This provision is unnecessarily burdensome without a commensurate safety benefit and, therefore, would be removed. Proposed paragraph (j) would require the protective measures contained in proposed § 174.67(b) to remain in place until the unloading equipment has been removed and all closures have been tightened.

Finally, requirements pertaining to the removal of railroad defective cards in paragraph (l), the covering of oil and gasoline dripped on the ground with dry sand or dirt in paragraph (m), and keeping tools used in connection with unloading free of oil and dirt in paragraph (n), are more appropriately addressed in current industry standards and, therefore, would be removed.

##### Section 177.834

Paragraphs (i)(1) and (i)(2) prescribes that a cargo tank must be attended by a qualified "person" at all times during

loading and unloading, respectively. Paragraph (a)(4) prescribes that a person "qualified" if he has been made aware of the nature of the hazardous material, which is to be loaded or unloaded, and he has been instructed on the procedures to be followed in emergencies. As stated in the preamble discussion to § 174.67, these provisions are redundant with the training requirements contained in 49 CFR part 172, subpart H (57 FR 20944, May 15, 1992). Therefore, the word "qualified" appearing immediately before the word "person" in paragraphs (i)(1) and (i)(2) and that portion of the requirements referring to a "qualified" person in paragraph (i)(4) would be removed. The remaining requirement in paragraph (i)(4) that the person in attendance must be authorized to move the cargo tank and that he has the means to do so would be moved to paragraph (j)(3). The provisions for loading cargo tank motor vehicles, in paragraph (j)(3), would be expanded to permit the use of signalling systems to satisfy the attendance requirements. These requirements are consistent with exemptions authorizing the use of video cameras and monitors to observe the loading of cargo tank motor vehicles. The unloading of a cargo tank motor vehicle would still require human attendance within 25 feet of the cargo tank to provide immediate action if a problem develops with regard to any aspect of the cargo tank motor vehicle or during the unloading process. RSPA and FHWA have no information to indicate that signalling systems are being used to attend the unloading of cargo tanks that are still in transportation. That is, we are not aware of cases when the power unit is attached to the cargo tank. Therefore, the unloading process is not included in this proposed rule. RSPA solicits information on whether there is a need to provide for the use of signalling systems to satisfy the attendance requirements during the unloading of cargo tanks in transportation, and, if needed, the means employed for terminating the unloading process in emergencies.

#### Regulatory Analyses and Notices

##### A. Executive Order 12291 and DOT Regulatory Policies and Procedures

RSPA has determined that this proposed rule is not major under Executive Order 12291 and is not significant under DOT's regulatory policies and procedures (44 FR 11034; February 26, 1979). A regulatory evaluation is available for review in the docket. RSPA estimates the total cargo tank motor vehicle fleet to be over 100,000 vehicles. There are an estimated

100,000 rail tank cars in hazardous materials service and about 1.2 million tank car shipments of hazardous materials annually.

##### B. Regulatory Flexibility Act

I certify that this proposal will not, if promulgated, have a significant economic impact on a substantial number of small entities. There are no direct or indirect economic impacts for small units of government, businesses, or other organizations.

##### C. Executive Order 12612

This proposed action has been analyzed in accordance with the principles and criteria in Executive Order 12612, and based on the information available at this time, RSPA does not believe that the proposed rule would have sufficient Federalism implications to warrant the preparation of a Federalism Assessment.

The Hazardous Materials Transportation Act contains an expressed preemption provision (49 app U.S.C. 1804(a)(4)) that preempts State and local requirements on certain covered subjects (including the handling of hazardous materials) unless the State or local requirement is "substantively the same" (56 FR 20424, May 13, 1992) as the Federal requirement on that subject. Thus, RSPA lacks discretion in this area.

##### D. Paperwork Reduction Act

The required written procedures in the proposed rule would not impose any additional recordkeeping requirements on the affected rail facility operators handling bulk quantities of hazardous materials because these facilities are already required to develop and maintain written safety procedures by the Department of Labor's Occupational Safety and Health Administration (OSHA), 29 CFR parts 1910.119 and 1910.120. Emergency response information as required under subpart G of part 172 is approved under OMB Approval Number 2137-0580.

##### E. National Environmental Policy Act

RSPA has concluded that this proposed rule would have no significant impact on the environment and does not require the preparation of an environmental impact statement under the National Environmental Policy Act.

##### List of Subjects

###### 49 CFR Part 174

Hazardous materials transportation, Radioactive materials, Railroad safety.

###### 49 CFR Part 177

Hazardous materials transportation, Motor carriers, Radioactive materials,

Reporting and recordkeeping requirements.

In consideration of the foregoing, parts 174 and 177 of title 49, Code of Federal Regulations, would be amended to read as follows.

#### PART 174—CARRIAGE BY RAIL

1. The authority citation for part 174 would continue to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1808, 49 CFR Part 1.

2. Section 174.67 would be revised to read as follows:

##### § 174.67 Tank car unloading.

(a) *General requirements.* For purposes of this section, a facility operator is any person who engages in the unloading of tank cars containing hazardous material, on private tracks or carrier-owned tracks. Each facility operator shall comply with the requirements contained in this section.

(b) *Facility operators' requirements.* Each facility operator shall:

(1) Designate one or more employees who will be responsible for the unloading functions and ensure that each designated employee is familiar with emergency procedures and, in the event of an emergency, has the ability to take necessary corrective actions;

(2) Install a derail device in an effective location (at least 50 feet when possible) from the end of the equipment to be protected by the caution sign. The derail device must be capable of restricting access to the portion of the track within the area on which tank cars intended for unloading are located; and

(3) Maintain written safety procedures and make them immediately available to the designated employees (such as the Department of Labor's Occupational Safety and Health Administration requirements in 29 CFR 1910.119 and 1910.120). These written procedures must, at a minimum, address the following safety issues:

(i) Continual monitoring of the tank car unloading process;

(ii) Use and securing of protective equipment including caution sign, derail, switch locks, tank car brakes and wheel blocks;

(iii) Operational procedures for the safe unloading of the tank car;

(iv) Emergency response procedures including employee safety and emergency notification;

(v) Movement of rail equipment in the vicinity of the tank car unloading area; and

(vi) Preparation of the tank car after unloading and prior to offering for transportation.

(c) *Pre-unload conditions.* Prior to connecting unloading equipment to a tank car or opening any closure of a tank car, except heating coil cap plugs, the designated employee shall:

(1) Set the brakes and block one wheel on the tank car to be unloaded to prevent movement in any direction;

(2) Align any manually-operated switch providing access to the track on which the tank car is located against movement and lock the switch with an effective locking device operable only by the facility operator;

(3) Lock the derail device, specified in paragraph (b)(2) of this section, in the derailing position with an effective locking device operable only by the facility operator; and

(4) Place caution signs on the track or tank cars to give necessary warning to persons approaching the cars from the open end of the track. The signs must be of metal or other durable material, rectangular, at least 30.48 cm. (12 inches) high by 38.10 cm. (15 inches) wide in size, and bear the words, "STOP TANK CAR CONNECTED" or "STOP MEN AT WORK." The word "STOP" must appear in letters at least 10.16 cm (4 inches) high and the other words in letters at least 5.08 cm. (2 inches) high. The letters must be white on a blue background.

(d) *Tank car closures.* Prior to the removal of a secondary closure on the tank car, e.g., a valve cap plug, the designated employee must ensure that the primary closure is secured properly.

(e) *Opening of closures.* Before any discharge valves are opened on tank cars, the unloading equipment must be securely attached to the tank car. When unloading hazardous material from a non-pressure tank car, the designated employee shall ensure that any internal pressure is adequately relieved prior to opening the dome cover.

(f) *Shut-off valves.* The shut-off valve must be located as close as practicable to the point of connection between the hose of the facility and the tank car, in a manner that will minimize the release of product in the event of hose rupture or separation. The facility operator must take appropriate steps to prevent rupture of transfer hoses due to product expansion (e.g., the use of liquid expansion chambers or hoses with an increased minimum burst pressure rating).

(g) *Bottom unloading requirements.* When a tank car is unloaded through the bottom outlet:

(1) The designated employee must take appropriate precautions to prevent excessive internal vacuum which may cause the tank car to collapse. The tank

car's vacuum relief device may not be relied upon to satisfy this requirement; and

(2) A containment device shall be placed under the bottom outlet valve to collect any product which may be in the outlet chamber.

(h) *Attendance requirements.*

Throughout the entire period of unloading and while a tank car has unloading equipment attached, a designated employee must attend the tank car and unloading process to ensure safety. The attendance requirement may be met by:

(1) Physical on-site attendance of the tank car by a designated employee who is awake and has an unobstructed view of the unloading operation;

(2) A signalling system that includes surveillance equipment (e.g., television monitors and video cameras) and remote shut-off equipment. The surveillance equipment must be monitored either in the immediate area of the tank car or from a remote location within the facility, such as a control room.

(i) The surveillance equipment must provide an unobstructed view of all loading valves, hoses, domes, and safety relief devices;

(ii) The signalling system must provide immediate notification of a system malfunction or other emergency so that if warranted the product flow may be immediately halted.

(iii) In the event of any malfunction of the signalling system, physical attendance is required as specified in paragraph (h)(1) of this section; or

(3) A signalling system that includes sensors which upon detection of any system malfunction (e.g., pressure reduction, leakage, breakage of a hose or line, and detection of minute levels of fumes or vapors) will immediately shut down the unloading process or sound an alarm to provide immediate notification to the designated employee, or both. In the event of any malfunction of the signalling system, physical attendance is required as specified in paragraph (h)(1) of this section.

(i) *Post-unloading requirements.* After completion of the unloading, the designated employee must secure all primary closures on the tank car, remove the unloading equipment, and secure all other closures on the tank car.

(j) *Removal of protective measures.* The safety and caution measures required by paragraph (c) of this section must remain in place until all unloading equipment has been removed from the tank car and all closures have been made tight.

## PART 177—CARRIAGE BY PUBLIC HIGHWAY

3. The authority citation for part 177 would continue to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1805, 49 CFR Part 1

4. In § 177.834, paragraphs (i)(1) and (i)(2) would be amended by removing the word "qualified" each place it appears, paragraph (i)(4) would be removed and reserved, and paragraph (i)(3) would be revised to read as follows:

### § 177.834 General requirements.

\* \* \* \* \*

(i) \* \* \*

(3) A person "attends" the loading or unloading of a cargo tank if, throughout the process, the person is awake and has an unobstructed view of the cargo tank, the person is authorized to move the cargo tank and has the means to do so. The attendance requirements may be met by:

(i) Physical attendance by a designated employee who is within 7.62 meters (25 feet) of the cargo tank; or

(ii) For loading a cargo tank, a signalling system that includes surveillance equipment (e.g., television monitors and video cameras) and remote shut-off equipment. The surveillance equipment must be monitored either in the immediate area of the cargo tank or from a remote location within the facility, such as a control room.

(A) The surveillance equipment must provide an unobstructed view of all loading valves, hoses, manholes, and pressure relief devices.

(B) The signalling system must have the capability to provide immediate notification to the designated employee of any system malfunction or other emergency so that, if warranted, the product flow may be immediately halted.

(C) In the event of any malfunction of the signalling system, physical attendance is required as specified in subparagraph (i)(3)(i) of this section.

(4) (Reserved)

\* \* \* \* \*

Issued in Washington, DC on September 8, 1992, under authority delegated in 49 CFR part 106, appendix A.

Alan I. Roberts,  
Associate Administrator for Hazardous  
Materials Safety

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