DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Part 173

[Docket No. HM-201B; Amdt. No. 173-208]

RIN: 2137-AB39

Shippers; Use Of Tank Car Tanks with Localized Reductions in Shell Thickness

December 28, 1988.

AGENCY: Research and Special Programs Administration (RSPA), (DOT).

ACTION: Final rule.

SUMMARY: RSPA is amending the Hazardous Materials Regulations [HMR; 49 CFR Part 173] to [1] permit the use of railroad tank car tanks with tank shell thicknesses in localized areas less than the minimum specified in the Hazardous Materials Regulations [HMR] and [2] require the measurement of tank car tank thicknesses under certain conditions. This action is necessary to verify that tank repairs do not result in significant decreases in shell thicknesses. The intended effect of this action is to assure that tank repairs do not result in a reduction in the level of safety and to facilitate commerce by allowing the use of tank car tanks, with localized reductions in shell thickness, which have been determined to be safe for the transportation of hazardous materials.

EFFECTIVE DATE: These amendments are effective on June 1, 1989. However, compliance with the regulations as amended herein is authorized as of March 30, 1989.

FOR FURTHER INFORMATION CONTACT: Philip Olekszyk, Deputy Associate Administrator for Safety, Federal

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SUPPLEMENTARY INFORMATION: On December 8, 1987, RSPA published a notice of proposed rulemaking (NPRM) in the Federal Register, under Docket HM-201B, Notice No. 87-11 (52 FR 46511). In Notice 87-11, RSPA and the Federal Railroad Administration (FRA) proposed to (1) permit the use of railroad tank car tanks with tank shell thicknesses in localized areas less than the minimum specified in the Hazardous Materials Regulations (HMR) and (2) require the measurement of tank car tank thicknesses under certain conditions. These actions were based upon the belief of RSPA and FRA that small localized reductions in shell thickness due to tank repairs would not significantly reduce the safety level of tank car tanks and upon the observation of FRA that some repair facilities were not recording tank car tank thickness measurements on repair records. The interested reader is directed to Notice No 87-11 for additional background information concerning this rulemaking.

In response to the NPRM, RSPA received 17 comments concerning the reductions in shell thickness and one comment concerning the tank car tank measurement issue. Several commenters suggested that there is not or should not be any requirement for minimum tank car shell thicknesses after a tank car has been built. These commenters further suggested that the periodic hydrostatic tests should be sufficient to ensure the continued safety of the afffected tank car tanks. RSPA and FRA disagree with this position. RSPA's and FRA's position is that, under the current HMR, if for any reason a package, including a tank car tank, does not meet the applicable specification under which it was constructed, the specification markings on the package must be removed or rendered illegible thereby removing its certification as a specification package. This docket would modify that general rule for certain special situations.

All commenters who responded to the thin shell issue supported the concept that tank car tanks which have small localized reductions of shell thickness due to tank repairs should be allowed to continue in service. However, the Association of American Railroads (AAR) had four reservations on the specific proposals in Notice No. 87-11. The AAR comments were endorsed by seven other commenters.

The AAR proposed to limit the use of thin shell tank car tanks to so called "pressure tank car tanks" and to class DOT 111 tank car tanks. The AAR noted that some class DOT 103 tank car tanks have a minimum shell thickness of as low as 7/16 inches. RSPA and FRA agree that allowing 1/16 inch reductions in shell thickness on some "non-pressure" tank car tanks could pose an unacceptable risk. Therefore, RSPA is limiting the scope of this rulemaking to classes DOT 105, 109, 111, 112, and 114 tank car tanks.

The AAR also proposed to limit the use of thin shell tank car tanks to tanks constructed of carbon steel. The AAR did not elaborate on their reasons for this limitation. However, the research report discussed in Notice No. 87-011 was limited to an analysis of carbon steel tank car tanks. Therefore, RSPA is limiting the scope of this rulemaking to carbon steel tanks.

The AAR also proposed to limit the use of thin shell tank car tanks to those tanks which are attached to car structures which conform with section 6.2 (Design Loads and Stresses) of the AAR Specifications for Tank Cars. The AAR did not elaborate on their reasons for this limitation. However, RSPA and FRA believe that there might be an unacceptable reduction in safety if thin shell tank car tanks were permitted to be used in combination with older car structures that do not conform with 6.2 of the AAR Specifications for Tank Cars. Therefore, RSPA is limiting the scope of this rulemaking to tank car tanks that are attached to car structures conforming with section 6.2.

The AAR further posposed to limit localized reductions in shell thickness areas to no more than 2 feet in perimeter. It is not clear whether the AAR intended that the 2 foot perimeter restriction apply for each reduction in shell thickness or was a cumulative requirement for all reductions in shell thickness on a tank car tank. The AAR did not elaborate on its reasons for proposing a more stringent limitation on the allowable reductions in shell thickness areas, but RSPA and FRA believe that, for a reduction in shell thickness with an irregular shape, it will be considerably easier to determine the perimeter of a reduction in shell thickness than the area of a reduction in shell thickness. Furthermore, the use of a perimeter-based reduction in shell thickness criteria could preclude certain potentially unsafe reduction in shell thicknesses. For example, the area limitation in Notice No. 87-11 would allow a reduction in shell thickness, 60 feet in length and 3/8 inches in width, whereas the AAR area limitation would not allow such an extreme situation. However, RSPA and FRA believe that the AAR proposal to limit the maximum reduction in shell thickness perimeter to 2 feet is unduly restrictive. Therefore, RSPA is amending § 173.31(a)(11)(ii) to require that the total cumulative surface perimeter of the reduction in shell thickness on each tank car tank does not exceed six feet. For reductions in shell thickness that are square or cylindrical there is little difference between the provisions contained in proposed §§ 173.31(a)(11) (i), and 173.31(a)(11) (ii) as adopted in this final rule, but the AAR proposal is considerably more restrictive than either version. For example, for a tank with a single reduction in shell thickness, the AAR proposal would allow a square reduction in shell thickness with sides of no more than 0.5 feet or a circular reduction in shell thickness with a diameter of no more than 0.6 feet; Notice No. 87-11 would allow a square reduction in shell thickness with sides of no more than 1.4 feet or a circular reduction in shell thickness to have a diameter of no more than 2.5 feet; and this final rule allows a square reduction in shell thickness with sides of no more than 1.5 feet or a circular reduction in shell thickness with a diameter of no more than 1.9 feet. However, for long, narrow reductions in shell thickness this final rule is considerably more restrictive than Notice No. 87-11 but is less restrictive than the AAR proposal. For example, for a tank with a single reduction in shell thickness, the AAR proposal would allow a long narrow reduction in shell thickness with a length of no more than one foot; Notice No. 87-11 would allow a long narrow reduction in shell thickness extending the entire length of the tank car tank; and this final rule allows a long narrow reduction in shell thickness to have a length of no more than three feet.

All commenters who responded to the thin shell issue suggested that the relief proposed in Notice 87-11 should be broadened to additional situations, such as (1) reductions in shell thickness resulting from causes other than repair operations, such as corrosion; (2) reductions in shell thickness on ethylene oxide tank car tanks; (3) reductions in shell thickness on the lower half of any tank car tank head; (4) reductions in shell thickness greater than 7/16 inches in depth; (5) reductions in shell thickness with a total cumulative surface area in excess of two square feet; and (6) reductions in shell thickness on cargo tanks. RSPA and FRA believe that additional relief may be justified in some or all of the above situations, as well as for tanks constructed of materials other than carbon steel, for classes DOT 103, 104,

and 115 tanks, for AAR specification tank car tanks, and for tank car tanks that are attached to car structures conforming with section 6.2 of the AAR Specifications for Tank Cars. However, RSPA and FRA believe that there was insufficient information presented in the comments to justify additional relief at this time, and some of the issues raised are beyond the scope of this rulemaking. The AAR noted that it is sponsoring two studies on the thin shell issue. When the results of those studies are available, RSPA and FRA will consider the results and evaluate that information, and information from other sources to determine the need for future rulemaking.

One commenter, who responded to the proposed requirement for the measurement and recording of tank car tank thickness after certain repairs, disagreed with the assertion in Notice 87–11 that these measurements and recording of measurements are already implicitly required by the HMR. However, no substantive arguments were advanced by this commenter to support this position. RSPA and FRA believe that performing these measurements is essential to ensure that tank car tank repairs result in the "reconstruction of a tank to its original design" and are required under the current HMR. The only purpose of the proposed change to § 173.31(f) was for clarity. However, upon review, RSPA and FRA have determined that there is no need to record these measurements because the tank shell (before and after the repair) must be within the established limits set forth in part 179, and the amendments to this rulemaking for localized thin spots. Therefore, by not requiring that these measurements be recorded, RSPA and FRA will reduce the information collection burden previously imposed on the repair facilities. Lastly, in this final rule RSPA is amending § 173.31(f) to require that tank shell thickness measurements be performed only when there is a possible *reduction* in the tank thickness. Several commenters pointed out a typographical error in proposed § 173.31(a)(11)(v) which prohibited the use of any tank car tank with scores, gouges, or other areas of stress concentration. In the final rule that paragraph is amended to require that *no reduction in shell thickness* may have any scores, gouges, or other areas of stress concentration.

In § 173.31, RSPA is revising paragraph (a)(11) to clarify that allowing the use of tank car tanks with localized reductions in shell thickness also applies to tank car tanks made and maintained to the specifications of the Canadian Transport Commission and used to transport hazardous materials within the United States. Paragraph (f) is revised to clarify that the requirements contained in § 173.31 also apply to tank car tank conversions.

Administrative Notices

The RSPA has determined that this rulemaking (1) is not "major" under Executive Order 12291; (2) is not "significant" under DOT's regulatory policies and procedures (44 FR 11034); (3) will not affect not-for-profit enterprises or small governmental jurisdictions; and (4) does not require an environmental impact statement under the National Environmental Policy Act (40 U.S.C. *et seq.*) A regulatory evaluation is available for review in the Docket.

Based on limited information concerning the size and nature of entities likely to be affected by this final rule, I certify that this regulation will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. I have reviewed this regulation in accordance with Executive Order 12612 ("Federalism"). It has no substantial direct effects on States, on the Federal-State relationship or on the distribution of power and responsibilities among levels of government. Thus, this regulation contains no policies that have Federalism implications as defined in Executive Order 12612 and, therefore, no Federalism Assessment has been prepared.

A regulatory information number (RIN) is assigned to each regulatory action listed in the Unified Regulatory Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross reference this action with the Unified Regulatory Agenda.

List of Subjects in 49 CFR Part 173

Hazardous materials transportation, Packaging and containers.

In consideration of the foregoing, 49 CFR Part 173 is amended as follows:

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

1. The authority citation for Part 173 continues to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1805, 1806, 1807, and 1808, 49 CFR Part 1, unless otherwise noted.

2. In § 173.31, the introductory phrase of the first sentence in paragraph (a)(1) is revised, a new paragraph (a)(11) is added, and paragraph (f)(1) is revised to read as follows:

§ 173.31 Qualification, maintenance, and use of tank cars.

(a) * * *

(1) Except as otherwise provided in paragraph (a)(11) of this section, * * *

(11) A tank car tank which, as a result of a tank repair, has one or more localized areas where the thickness of the tank is less than that prescribed in Part 179 of this subchapter, may be used to transport hazardous materials provided that—

(i) The tank is constructed of carbon steel;

(ii) The tank meets either the applicable specifications of Part 179 of this subchapter for class DOT 105, 109, 111, 112, or 114 tank car tanks or the corresponding specifications of the Railway Transport Committee of the Canadian Transport Commission for CTC class 105, 109, 111, 112, or 114 tank car tanks;

(iii) The difference between the required minimum thickness of the tank car tank and the actual minimum thickness of the tank car tank does not exceed one-sixteenth of an inch;

(iv) The total cumulative surface perimeter of the reductions in shell thickness on each tank car tank does not exceed six feet;

(v) If the tank car tank is used to transport ethylene oxide, the bursting pressure (see § 179.100–5 of this subchapter) of the tank is at least 750 psig;

(vi) There are no reductions in shell thickness on the lower half of any tank car tank head;

(vii) No reductions in shell thickness may have any scores, gouges or other areas of stress concentration; and

(viii) The tank car tank is attached to a car structure conforming with section 6.2 of the AAR Specifications for Tank Cars.

* * * * *

(f) *Repairs, alterations, or conversions.* (1) For procedures to be followed in making repairs, alterations, or conversions to all tank car tanks and securing approval therefor, see Appendix R, Association of American Railroads Specifications for Tank Cars. After repairs, alterations, or conversions of a tank car tank that result in a possible reduction in the tank thickness at any point, the thickness of the tank car tank shall be measured in the affected area to verify that the tank

thickness meets the requirements of the applicable tank specification, except as provided in § 173.31(a)(11). If a tank car tank is built to one test pressure, but is authorized to be stenciled to a lower test pressure, the applicable tank specification shall be the higher test pressure specification. If an existing pressure tank car tank is permanently converted to a lower pressure specification in accordance with § 173.31(c)(7), the applicable tank specification shall be that of the lower pressure specification.

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Issued in Washington, DC on February 23, 1989 under authority delegated in 49 CFR Part 1.

M. Cynthia Douglass,

Administrator, Research and Special Programs Administration.

[FR Doc. 89-4639 Filed 2-27-89; 8:45 am]

BILLING CODE 4910-60-M