DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Parts 173, 178 and 180

[Docket No. HM–183C; Amdt. Nos. 173–240, 178–105 and 180–7]

RIN 2137–AC37

Cargo Tanks; Miscellaneous Requirements; Revisions and Response to Petitions for Reconsideration

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

ACTION: Final rule; response to petitions for reconsideration.

SUMMARY: This document amends a final rule published on November 3, 1994, and concerns manufacture, qualification, and maintenance of DOT specification cargo tank motor vehicles. In response to petitions for reconsideration, RSPA is revising design loading requirements for MC 331 cargo tank motor vehicles and making other minor editorial and technical changes for clarity. The changes made in this document are intended to ease certain regulatory requirements where there will be no adverse effect on safety.

DATES: *Effective:* May 22, 1995.

Compliance date: Compliance with the regulations, as amended herein, is authorized as of April 5, 1995.

FOR FURTHER INFORMATION CONTACT: Ronald Kirkpatrick, telephone (202) 366–4545, Office of Hazardous Materials Technology, 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 November 3, 1994, RSPA published in the **Federal Register** a final rule, under Docket No. HM–183C (59 FR 55162), amending certain requirements for the manufacture, qualification and maintenance of cargo tank motor vehicles. Changes were made to relax the requirements for structural integrity, accident damage protection, welding and design quality control procedures, and pressure relief based on comments from industry. Changes were also made to require facilities repairing cargo tanks stamped as meeting the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) to have a Certificate of Authorization for use of an ''R'' stamp from the National Board of Boiler and Pressure Vessel Inspectors (National Board) Code .

RSPA received five petitions for reconsideration of certain aspects of the final rule. These petitions were submitted by the Cargo Tank Manufacturers Association (CTMA), Cargo Tank Concepts, Ltd. (CTCL), Truck Trailer Manufacturers Association (TTMA), National Propane Gas Association (NPGA), and the Compressed Gas Association, Inc. (CGA).

CTMA opposed several provisions adopted in the final rule. First, CTMA petitioned RSPA to reconsider its position on how the design stress calculations, in 49 CFR 178.345–3(c), should be applied to cargo tank loading conditions. Except for the loadings prescribed in paragraph (c)(i), CTMA stated:

> [T]he loads are extreme loads that will be experienced rarely if at all during the life of a cargo tank and [the] ASME Code allowable stresses should be based on the stress increase allowed for wind and seismic loads which are also experienced rarely if at all in the life of stationary vessels. Per UG–23 of the ASME Code, this increase is 20 percent. CTMA believes that the loads specified in building codes [are] applicable to pressure vessels in the same manner. Using ASME allowable stresses for these load conditions is too conservative since margins of safety are pyramided if rarely occurring extreme loads cannot be resisted by emergency stresses as recommended by CTMA.

As noted by RSPA in the preamble to the final rule (59 FR 55165), discussions have been ongoing for a number of years on how to combine the loadings in calculating the structural integrity requirements. The concept of separating structural loadings into two categories, *normal operating loading* and *extreme dynamic loading,* was proposed by several cargo tank motor vehicle designers at a public meeting in February 1994 and more fully developed later. In *normal* operations, a cargo tank can be expected to routinely experience relatively low dynamic forces; these forces are to be considered to occur simultaneously. Under *extreme dynamic* loadings, the cargo tank experiences relatively high forces which occur rarely, if at all, during the life of a cargo tank; these forces are considered to act independently, one at a time. This approach has received wide acceptance and is the foundation for new recommended practices under development by a TTMA engineering committee.

RSPA does not believe the calculations for ''stress increase'' referred to by CTMA necessarily apply to dynamic loads experienced either in normal operations or in extreme loading conditions experienced by cargo tank motor vehicles. Two provisions for increased allowable stresses are prescribed in the ASME Code, Section VIII, Division 1, UG–23. In paragraph (c) of UG–23, a factor of 1.5 is discussed for ''combined maximum primary membrane stress plus primary bending stress across the thickness.'' Evidently, the 20 percent factor referred to by CTMA is associated with the factor discussed in paragraph (d) for the ''combination of earthquake loading, or wind loading with other loadings in UG–22,'' with the stipulation that earthquake and wind loadings need not be considered to act simultaneously. RSPA believes the many years of experience accumulated by cargo tank motor vehicle manufacturers support the approach adopted in the final rule. The reference in the CTMA petition to other ''loads specified in building codes'' may or may not pertain to this matter. CTMA did not identify those codes and provided no information on whether or how they have any application to cargo tank structural integrity or accident damage protection. Therefore, CTMA's request is denied.

Second, CTMA opposed the 2 ''g'' design load for rollover damage protection devices specified in § 178.345–8(c)(1). CTMA stated that the loads on rollover devices, in the case of longitudinal sliding, would be limited by the coefficient of sliding friction of the metal rollover devices on the ground or pavement and, in the case of lateral rollover, would be limited even further by the lateral force leading to continued overturn of the tank. RSPA discussed commenters' requests to reduce the 2 ''g'' design load for rollover protection at length in the preamble of the final rule (59 FR 55166). RSPA recognizes that new designs may be necessary to gain significant benefits in safety.

RSPA also recognizes that the amount of force currently imposed in the horizontal plane is a simplification of many potential variables which can come into play during an overturn accident. Many scenarios are possible: the impact surface may be smooth or rough, horizontal or sloping, as hard as concrete or as soft as sand or damp earth; the vehicle may roll over an obstacle such as a guard rail; the cargo tank may receive an impact over its entire length or on only a small part of its exposed surface; etc. CTMA's comments on use of the coefficient of sliding friction might be appropriate for overturn on a smooth, hard highway surface, but would impose relatively moderate loads in comparison to other rollover scenarios. Accident scenarios where the rollover damage protection devices plow through earth or strike

roadside obstacles impose much greater loadings on the devices. Therefore, CTMA's petition for a reduction in the safety performance of rollover damage protection is denied.

Third, CTMA repeated its position that it is difficult to design rear-end protection devices in compliance with the loads prescribed in § 178.345–8(d), particularly devices which are offset from the load path. CTMA repeated its belief previously expressed in comments that the intent of the regulation is for the loads to be transmitted to the tank structure and absorbed without exceeding the permitted stresses anywhere along the load path. CTMA offered no new information to support this position. The revised requirements were discussed in the preamble of the final rule (59 FR 55167). RSPA believes that the revised requirements for the DOT 400-series cargo tanks allow engineers more freedom in the design of rear-end protection, including approaches involving energy dissipation and dampening. Therefore, CTMA's petition is denied.

Finally, CTMA commented on the suitability of applying ASME Code standards to the cargo tank industry while not recognizing other ''alternative quality control program(s).'' This issue was fully discussed in the preamble of the final rule (59 FR 55162). In addition, this subject was addressed in previous notices and public meetings under Docket HM–183 extending over a period of nearly ten years. CTMA provided no additional data or information to support changing the final rule. Therefore, RSPA's position remains unchanged and requirements for using procedures established under the ASME Code and the National Board of Boiler and Pressure Vessel Inspectors (National Board) Code are retained, and CTMA's petition is denied.

CTCL petitioned RSPA to reconsider amendments allowing a small release of certain types of ladings from the pressure relief system, in overturn accidents, before reclosing to a leak-tight position. CTCL stated that it has designed a vent which releases vapors instead of lading in an overturn accident situation, and that this information was not presented RSPA earlier because the technology had not yet been developed. RSPA welcomes the development by industry of improved valve designs. RSPA solicited information during the HM–183C rulemaking proceeding on the existence of reclosing pressure relief devices capable of reseating with no loss of lading and not subject to clogging and sticking during field service. However, RSPA believes CTCL has not provided sufficient information to support excluding the use of other valve designs at this time, and CTCL's petition is denied.

TTMA petitioned RSPA to continue allowing a cargo tank manufacturer holding an ASME ''U'' stamp to make repairs to ASME stamped cargo tanks. TTMA stated that an ASME ''U'' stamp holder should not be required to obtain an ''R'' stamp from the National Board and there is no reason why the National Board cannot continue to inspect repairs made by a ''U'' stamp holder. Furthermore, the National Board Inspection Code allows repairs to be made on ASME stamped cargo tanks by a facility holding an ''R'' stamp or by a facility working within an individual governmental jurisdiction where that jurisdiction has issued authorization for the facility to perform repairs.

RSPA explained in the preambles of the notice of proposed rulemaking (March 3, 1993; 58 FR 12316) and the final rule (59 FR 55170) that the National Board has control over the quality of work performed by an ''R'' stamp holder. Jurisdictional authorization is recognized only within the governmental boundaries where the repair facility is located. This type of authorization may be appropriate for work performed on stationary vessels, but not for mobile systems such as cargo tank motor vehicles. RSPA believes it is essential to apply a nationally recognized consensus standard in a uniform manner regardless of jurisdiction. Therefore, the requirement that repairs on DOT specification cargo tanks certified to the ASME Code must be performed only by a facility holding a valid ''R'' stamp is retained and TTMA's petition is denied.

CGA petitioned RSPA to remove the word ''internal'' in the first sentence in § 178.338–11(c) specifying that each filling and discharge line for liquids must be provided with a remotely controlled internal self-closing stop valve. CGA pointed out that the word ''internal'' did not appear in the provision in the notice of proposed rulemaking and that requiring internal valves would bring the cryogenic flammable lading industry to a standstill because of the inner tank/outer jacket configuration of these cargo tanks. RSPA agrees. It was not RSPA's intent to require an ''internal'' self-closing valve on these tanks, but to broaden the requirement to include all flammable ladings. Therefore, the word ''internal'' is removed.

NPGA asked RSPA to reconsider its decision in the final rule that a future rulemaking would address design loading requirements for MC 331 specification cargo tanks. The preamble to the final rule (59 FR 55163) noted NPGA's recommendation for uniformity in design loading requirements for all DOT specification cargo tanks. In its petitions, NPGA asked RSPA to extend, until March 1, 1997, the compliance date for construction of MC 331 cargo tank motor vehicles conforming to the structural integrity requirements contained in § 178.337–3. It also urged RSPA to make resolution of stress analysis a priority project.

RSPA has reviewed the report previously submitted by NPGA and found that NPGA's proposed loadings for the MC 331 cargo tank are very similar to the loadings adopted for the DOT 400-series cargo tanks. This supports NPGA's position that cargo tank motor vehicles encounter similar loadings regardless of whether the cargo tank is used to transport a liquid or gas lading. Therefore, for greater consistency, RSPA is amending the structural integrity requirements in § 178.337–3 by adopting the same loadings as specified for the DOT 400-series cargo tank specifications. In view of this change, a new paragraph (f) is added in § 178.23 to provide for a MC 331 specification cargo tank conforming to the structural integrity requirements contained in § 178.337–3 or to the corresponding requirements in effect at the time of manufacture. However, the material thickness may not be less than that required by the ASME Code.

Based on comments received from CGA that design loadings specified for MC 338 cargo tanks should not be revised for consistency with the MC 331 specification, RSPA is not making any change to § 178.338–3. CGA has advised it is developing a document to provide additional guidance to its members on the design and construction of MC 338 cargo tanks.

The amendment to § 178.337–3 eliminates any need for a delay in the compliance date for construction of MC 331 cargo tank motor vehicles conforming to the structural integrity requirements, and this part of NPGA's petition is denied.

Additionally, CGA petitioned RSPA to allow modifications on cryogenic cargo tanks originally authorized by exemption prior to introduction of the MC 338 specification. In accordance with § 180.405(d), such cargo tanks must be marked ''DOT MC 338–E'' followed by the exemption number. CGA contends that modifications such as adding a manhole may require removal of the outer jacket and installation of a new shell course to the inner vessel; only local reinforcement of the inner vessel was required

previously. After further consideration, RSPA agrees with CGA. In establishing the MC 338 specification, the final rule (June 16, 1983; 48 FR 27674) stated ''[T]his grandfathering of existing tanks is necessary to avoid potential severe economic consequences to some exemption holders and can be justified from a safety point of view because of the thorough technical review involved in the exemption process, notwithstanding the fact that certain aspects of certain exemptions may differ from this final rule.'' Nothing in subsequent rulemakings has changed this premise. Therefore, in this final rule, in § 180.413, in paragraph (d)(3), the introductory text is revised, and a new paragraph (v) is added to allow MC 338 cargo tanks authorized under § 180.405(d) to be structurally modified provided that no reduction in structural integrity is incurred and that any modification is in accordance with the ASME Code or with the MC 338 specification.

Finally, RSPA has made the following editorial revisions for clarity: In § 178.345–3, in paragraphs (c)(1)(iii)(B) and (c)(2)(iii)(B), in the second sentence, the wording ''horizontal pivot of the tractor'' is revised to read ''horizontal pivot of the truck tractor''. In § 178.345–14, in paragraph (b)(3), the wording ''Tank MAWP'' is revised to read ''Tank maximum allowable working pressure (MAWP)''. In § 180.403, a sentence is added to the definition of modification. In § 180.405, in paragraph (h)(2), reference to 40 CFR 60.601 is deleted. In § 180.407, in the table in paragraph (c), under the subheading ''Thickness Test'' in the first column, the wording ''in corrosive service, except'' is revised to read ''transporting lading corrosive to the tank, except''; and paragraphs (d)(1)(i) and (ii) are revised to remove duplicative language. In § 180.413, paragraphs (b)(6) and (d)(10) are revised to clarify that a repair or modification affecting the structural integrity of a pressure cargo tank, with respect to pressure, must be determined by testing required by the specification or by § 180.407(g)(1)(iv).

Rulemaking Analyses and Notices

1. Executive Order 12866 and DOT Regulatory Policies and Procedures

This final rule is not considered a significant regulatory action under section 3(f) of Executive Order 12866 and was not reviewed by the Office of Management and Budget. The rule is not considered significant under the Regulatory Policies and Procedures of the Department of Transportation (44 FR 11034). This amendment imposes no new requirements on affected persons. The final regulatory evaluation for the November 1994 final rule is available for review in the docket. Changes in this final rule did not warrant revision of the regulatory evaluation.

2. Executive Order 12612

This final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 12612 (''Federalism''). Federal law expressly preempts State, local, and Indian tribe requirements applicable to the transportation of hazardous material that cover certain subjects and are not ''substantively the same'' as the Federal requirements. 49 U.S.C. 5125(b)(1). These covered subjects are:

(A) The designation, description, and classification of hazardous material;

(B) The packing, repacking, handling, labeling, marking, and placarding of hazardous material;

(C) The preparation, execution, and use of shipping documents related to hazardous material and requirements respecting the number, contents, and placement of those documents;

(D) The written notification, recording, and reporting of the unintentional release in transportation of hazardous material; or

(E) The design, manufacturing, fabricating, marking, maintenance, reconditioning, repairing, or testing of a packaging or a container which is represented, marked, certified, or sold as qualified for use in transporting hazardous material.

This final rule addresses the design, manufacturing, and certain other requirements for packages represented as qualified for use in the transportation of hazardous material. Therefore, this final rule preempts State, local, or Indian tribe requirements that are not ''substantively the same'' as Federal requirements on these subjects. Section 5125(b)(2) of Title 49 U.S.C. provides that when DOT issues a regulation concerning any of the covered subjects after November 16, 1990, DOT must determine and publish in the **Federal Register** the effective date of Federal preemption. The effective date may not be earlier that the 90th day following the date of issuance of the final rule and no later than two years after the date of issuance. RSPA has determined that the effective date of Federal preemption of this final rule will be July 5, 1995.

Because RSPA lacks discretion in this area, preparation of a federalism assessment is not warranted.

3. Regulatory Flexibility Act

I certify that this final rule will not have a significant economic impact on a substantial number of small entities. This rule applies to manufacturers, shippers, carriers, and owners of cargo tanks, some of which are small entities. There are no direct or indirect adverse economic impacts for small units of government, businesses, or other organizations.

4. Paperwork Reduction Act

This amendment imposes no changes to the information collection and recordkeeping requirements contained in the June 12, 1989 final rule, which were approved by the Office of Management and Budget (OMB) under the provisions of 44 U.S.C. chapter 35 and assigned control number 2137–0014.

5. Regulation Identifier Number (RIN)

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified 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 Agenda.

List of Subjects

49 CFR Part 173

Hazardous materials transportation, Packaging and containers, Radioactive materials, Reporting and recordkeeping requirements, Uranium.

49 CFR Part 178

Hazardous materials transportation, Motor vehicles safety, Packaging and containers, Reporting and recordkeeping requirements.

49 CFR Part 180

Hazardous materials transportation, Motor carriers, Motor vehicle safety, Packaging and containers, Reporting and recordkeeping requirements.

In consideration of the foregoing, title 49, chapter I of the Code of Federal Regulations, is amended as set forth below:

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

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

Authority: 49 U.S.C. 5101–5127, 49 CFR 1.53.

2. In § 173.23, a new paragraph (f) is added to read as follows:

§ 173.23 Previously authorized packaging.

* * * * *

(f) An MC 331 cargo tank motor vehicle must conform to structural integrity requirements in § 178.337–3 or to corresponding requirements in effect at the time of manufacture.

PART 178—SPECIFICATIONS FOR PACKAGINGS

3. The authority citation for part 178 continues to read as follows:

Authority: 49 U.S.C. 5101–5127, 49 CFR 1.53.

4. In § 178.337–3, paragraph (c) is revised to read as follows:

§ 178.337–3 Structural integrity.

* * * * *

(c) *Shell design.* Shell stresses resulting from static or dynamic loadings, or combinations thereof, are not uniform throughout the cargo tank motor vehicle. The vertical, longitudinal, and lateral normal operating loadings can occur simultaneously and must be combined. The vertical, longitudinal and lateral extreme dynamic loadings occur separately and need not be combined.

(1) *Normal operating loadings.* The following procedure addresses stress in the tank shell resulting from normal operating loadings. The effective stress (the maximum principal stress at any point) must be determined by the following formula:

$$S = 0.5(S_y + S_x) \pm [0.25(S_y - S_x)^2 + S_s^2]^{0.5}$$

Where:

(i) S = effective stress at any given point under the combination of static and normal operating loadings that can occur at the same time, in psi.

(ii) S_y = circumferential stress generated by the MAWP and external pressure, when applicable, plus static head, in psi.

(iii) S_x = The following net longitudinal stress generated by the following static and normal operating loading conditions, in psi:

(A) The longitudinal stresses resulting from the MAWP and external pressure, when applicable, plus static head, in combination with the bending stress generated by the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall;

(B) The tensile or compressive stress resulting from normal operating longitudinal acceleration or deceleration. In each case, the forces applied must be 0.35 times the vertical reaction at the suspension assembly, applied at the road surface, and as transmitted to the cargo tank wall through the suspension assembly of a trailer during deceleration; or the horizontal pivot of the truck tractor or converter dolly fifth wheel, or the drawbar hinge on the fixed dolly during acceleration; or anchoring and support members of a truck during acceleration and deceleration, as applicable. The vertical reaction must be calculated based on the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall. The following loadings must be included:

(*1*) The axial load generated by a decelerative force;

(*2*) The bending moment generated by a decelerative force;

(*3*) The axial load generated by an accelerative force; and

(*4*) The bending moment generated by an accelerative force; and

(C) The tensile or compressive stress generated by the bending moment resulting from normal operating vertical accelerative force equal to 0.35 times the vertical reaction at the suspension assembly of a trailer; or the horizontal pivot of the upper coupler (fifth wheel) or turntable; or anchoring and support members of a truck, as applicable. The vertical reaction must be calculated based on the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall.

(iv) S_s = The following shear stresses generated by the following static and normal operating loading conditions, in psi:

(A) The static shear stress resulting from the vertical reaction at the suspension assembly of a trailer, and the horizontal pivot of the upper coupler (fifth wheel) or turntable; or anchoring and support members of a truck, as applicable. The vertical reaction must be calculated based on the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall;

(B) The vertical shear stress generated by a normal operating accelerative force equal to 0.35 times the vertical reaction at the suspension assembly of a trailer; or the horizontal pivot of the upper coupler (fifth wheel) or turntable; or anchoring and support members of a truck, as applicable. The vertical reaction must be calculated based on the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall;

(C) The lateral shear stress generated by a normal operating lateral accelerative force equal to 0.2 times the vertical reaction at each suspension assembly of a trailer, applied at the road surface, and as transmitted to the cargo tank wall through the suspension assembly of a trailer, and the horizontal pivot of the upper coupler (fifth wheel) or turntable; or anchoring and support members of a truck, as applicable. The vertical reaction must be calculated based on the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall; and

(D) The torsional shear stress generated by the same lateral forces as described in paragraph (c)(1)(iv)(C) of this section.

(2) *Extreme dynamic loadings.* The following procedure addresses stress in the tank shell resulting from extreme dynamic loadings. The effective stress (the maximum principal stress at any point) must be determined by the following formula:

$$S = 0.5(S_y + S_x) \pm [0.25(S_y - S_x)^2 + S_s^2]^{0.5}$$

Where:

(i) S = effective stress at any given point under a combination of static and extreme dynamic loadings that can occur at the same time, in psi.

(ii) S_y = circumferential stress generated by MAWP and external pressure, when applicable, plus static head, in psi.

(iii) S_x = the following net longitudinal stress generated by the following static and extreme dynamic loading conditions, in psi:

(A) The longitudinal stresses resulting from the MAWP and external pressure, when applicable, plus static head, in combination with the bending stress generated by the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the tank wall;

(B) The tensile or compressive stress resulting from extreme longitudinal acceleration or deceleration. In each case the forces applied must be 0.7 times the vertical reaction at the suspension assembly, applied at the road surface, and as transmitted to the cargo tank wall through the suspension assembly of a trailer during deceleration; or the horizontal pivot of the truck tractor or converter dolly fifth wheel, or the drawbar hinge on the fixed dolly during acceleration; or the anchoring and support members of a truck during acceleration and deceleration, as applicable. The vertical reaction must be calculated based on the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall. The following loadings must be included:

(*1*) The axial load generated by a decelerative force;

(*2*) The bending moment generated by a decelerative force;

(*3*) The axial load generated by an accelerative force; and

(*4*) The bending moment generated by an accelerative force; and

(C) The tensile or compressive stress generated by the bending moment resulting from an extreme vertical accelerative force equal to 0.7 times the vertical reaction at the suspension assembly of a trailer, and the horizontal pivot of the upper coupler (fifth wheel) or turntable; or the anchoring and support members of a truck, as applicable. The vertical reaction must be calculated based on the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall.

(iv) S_s = The following shear stresses generated by static and extreme dynamic loading conditions, in psi:

(A) The static shear stress resulting from the vertical reaction at the suspension assembly of a trailer, and the horizontal pivot of the upper coupler (fifth wheel) or turntable; or anchoring and support members of a truck, as applicable. The vertical reaction must be calculated based on the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall;

(B) The vertical shear stress generated by an extreme vertical accelerative force equal to 0.7 times the vertical reaction at the suspension assembly of a trailer, and the horizontal pivot of the upper coupler (fifth wheel) or turntable; or anchoring and support members of a truck, as applicable. The vertical reaction must be calculated based on the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall;

(C) The lateral shear stress generated by an extreme lateral accelerative force equal to 0.4 times the vertical reaction at the suspension assembly of a trailer, applied at the road surface, and as transmitted to the cargo tank wall through the suspension assembly of a trailer, and the horizontal pivot of the upper coupler (fifth wheel) or turntable; or anchoring and support members of a truck, as applicable. The vertical reaction must be calculated based on the static weight of the fully loaded cargo tank, all structural elements, equipment and appurtenances supported by the cargo tank wall; and

(D) The torsional shear stress generated by the same lateral forces as described in paragraph (c)(2)(iv)(C) of this section.

* * * * *

§ 178.338–11 [Amended]

5. In § 178.338–11, in paragraph (c) introductory text, in the first sentence, the wording ''remotely controlled internal self-closing stop valve'' is revised to read ''remotely controlled self-closing shut-off valve''.

§ 178.345–3 [Amended]

6. In § 178.345–3, in paragraphs (c)(1)(iii)(B) and (c)(2)(iii)(B), in the second sentence, the wording ''horizontal pivot of the tractor'' is revised to read ''horizontal pivot of the truck tractor''.

§ 178.345–14 [Amended]

7. In § 178.345–14, in paragraph (b)(3), the wording ''Tank (MAWP)'' is revised to read ''Tank maximum allowable working pressure (MAWP)''.

PART 180—CONTINUING QUALIFICATION AND MAINTENANCE OF PACKAGINGS

8. The authority citation for part 180 continues to read as follows:

Authority: 49 U.S.C. 5101–5127, 49 CFR 1.53.

9. In § 180.403, the introductory text in the definition for ''modification'' is revised to read as follows:

§ 180.403 Definitions.

* * * * *

Modification means any change to the original design and construction of a cargo tank or a cargo tank motor vehicle which affects its structural integrity or lading retention capability. Any modification which involves welding on the cargo tank wall also must meet all requirements for ''Repair'' as defined in this section. * * *

* * * * *

§ 180.405 [Amended]

10. In § 180.407, in paragraph (h)(2), in the second sentence, the reference ''40 CFR 60.501 and 60.601'' is revised to read ''40 CFR 60.501''.

11. In § 180.407, paragraphs (d)(1)(i) and (ii) are revised to read as follows:

§ 180.407 Requirements for test and inspection of specification cargo tanks.

* * * * *

(d) * * *

(1) * * *

(i) Visual inspection is precluded by internal lining or coating, or

(ii) The cargo tank is not equipped with a manhole or inspection opening.

* * * * *

§ 180.407 [Amended]

11a. In addition, in § 180.407, in the table in paragraph (c), under the subheading ''Thickness Test'' in the first column, the wording ''in corrosive service, except'' is revised to read ''transporting material corrosive to the tank, except''.

12. In § 180.413, paragraphs (b)(6), ((d)(3) introductory text and (d)(10) are revised, and a new paragraph (d)(3)(v) is added to read as follows:

§ 180.413 Repair, modification, stretching, or rebarrelling of cargo tanks.

* * * * *

(b) * * *

(6) The suitability of any repair affecting the structural integrity of the cargo tank must be determined by the testing required either in the applicable manufacturing specification, or in § 180.407(g)(1)(iv).

* * * * *

(d) * * *

(3) Except as provided in paragraph (d)(3)(v) in this section, all new material and equipment, and equipment affected by modification, stretching or rebarrelling must meet the requirements of the specification in effect at the time such work is performed, and must meet the applicable structural integrity requirements (§§ 178.337–3, 178.338–3, or 178.345–3 of this subchapter). The work must conform to the requirements of the applicable specification as follows:

* * * * *

(v) For Specification MC 338 cargo tanks, the provisions of specification MC 338. However, structural modifications to MC 338 cargo tanks authorized under § 180.405(d) may conform to applicable provisions of the ASME Code instead of specification MC 338, provided the structural integrity of the modified cargo tank is at least equivalent to that of the original cargo tank.

* * * * *

(10) The suitability of any modification affecting the structural integrity of the cargo tank, with respect to pressure, must be determined by the testing required either in the applicable manufacturing specification, or in § 180.407(g)(1)(iv).

* * * * *

§ 180.413 [Amended]

13. In addition, in § 180.413, the following changes are made:

a. In paragraph (d)(3)(iii), at the end of the paragraph, the word ''and'' is removed.

b. In paragraph (d)(3)(iv), at the end of the paragraph, the period is removed and ''; and'' is added in its place.

Issued in Washington, DC on March 30, 1995, under authority delegated in 49 CFR Part 1.

Ana Sol Gutiérrez,

Deputy Administrator, Research and Special Programs Administration.

[FR Doc. 95–8349 Filed 4–4–95; 8:45 am]

BILLING CODE 4910–60–P