DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Parts 171, 173, 177, 178 and 180

[Docket Nos. HM-183, 183A; Notice No. 85-4]

Requirements for Cargo Tanks; Corrections and Clarifications

AGENCY: Office of Hazardous Materials Transportation, Research and Special Programs Administration (RSPA), Department of Transportation (DOT).

ACTION: Notice of Proposed Rulemaking: Corrections and Clarifications.

SUMMARY: This document corrects and clarifies a notice of proposed rulemaking that appeared beginning at page 37766 in the Federal Register of Tuesday, September 17, 1985 (50 FR 37766). In the proposed rule, RSPA seeks to amend the requirements in the Hazardous Materials Regulation (49 CFR Parts 171–179) pertaining to the manufacture of cargo tanks and the operation, maintenance, repair and requalification of all specification cargo tanks.

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SUPPLEMENTARY INFORMATION: In Docket Nos. HM-183, 183A; Notice No. 85-4, published on September 17, 1985 (50 FR 37766), make the following corrections:

1. On page 37769, second column; the first sentence of the fourth full paragraph should read: "Notwithstanding these marking and manufacturing inconsistencies, each MC 300, 301, 302, 303, 304, 305, 306, 310, 311, and 312 cargo tank has been pressure tested to at least 3 psig."

2. On page 37769, second column, in the penultimate line, the word "shall" should read "shell".

3. On page 37769, third column, in the sixth and twelfth lines of the last paragraph, the term "hazardous wastes" should read "waste materials".

4. On page 37770, third column, in the eighth line of the third full paragraph, the reference "§ 173.24(d)" should read "§ 173.24(e)".

5. On page 37771, second column, in the eleventh line of the first full paragraph, the reference "§ 180.307(a)" should read "§180.407(a)".

6. On page 37771, third column, in the first line of the last paragraph, add "loan/" immediately to precede the word "unload".

7. On page 37772, second column, in the fourth line of the last paragraph, the abbreviation "MIB's" should read "MTB's".

8. On page 37773, second column, in the fifth line of the penultimate paragraph, the reference "§ 180.317" should read "§ 180.417".

9. On page 37773, third column, the last sentence of the last full paragraph should read: "Section 178-337-11 would also require that cable linkages for the internal valves be corrosion resistant."

10. On page 37776, third column, in the fourteenth line from the top, the words, "Non self-closing" should read "Self-closing" and at the end of the paragraph a sentence is added to read: "This section would also require that cable linkages for the internal valves be corrosion resistant."

121. On page 37778, third column, in the seventh line of the third full paragraph, the reference "§ 180.305(g)" should read "§ 180.405(g)".

12. On page 37781, first column, add item 1A to read:

1A. In § 171.2, paragraph (e) would abe added to read as follows:

§ 171.2 General requirements.

* * * * *

(e) When a person performs a function covered by or having an effect on a specification prescribed in Part 178, 179 or 180 of this subchapter, an approval issued under this subchapter, or an exemption issued under Subchapter B of this chapter, that person must perform the function in accordance with that specification, approval or exemption, as appropriate.

13. On page 37781, second column, in proposed § 171.7(d)(1), "December 31, 1984" should read "June 30, 1985".

14. On page 37781, third column, in § 171.8, in the ninth line of the proposed definition for "cargo tank", the word "and" should read "or".

15. On page 37782, first column:

a. The amendatory language in item 9 is corrected to read as follows:

"9. In 173.22; the introductory text to paragraph (a)(2) would be revised to read as set forth below and paragraph (b) would be removed and reserved."

b. 173.22, add the words, "the following" immediately before the colon symbol at the end of paragraph (a)(2) and remove the text of paragraph (b) and insert the word [Reserved].

16. On page 37782, second column, proposed § 173.33(a)(2) should read:

(a) * * *

(2) Two or more materials may not be shipped in the same cargo tank motor vehicle if, as a result of any mixture of the materials (including their vapors), an unsafe condition would occur, such as an explosion, fire, excessive increase in pressure, or the release of toxic vapors.

* * * * *

17. a. On page 37782, second column, in proposed § 173.33, in paragraph (b)(2), add the word "a" immediately to precede the word "hazardous".

b. Paragraph (b)(2)(ii) should read:

* * * * *

(b) * * *

(2) Due to its density, exceeds the maximum weight of lading marked on the specification plate.

* * * * *

18. On page 37782, second column, in the last line of proposed § 173.33(c)(2), the word "of" should read "or".

19. On page 37782, third column, in proposed § 173.33, in the fourth line of paragraph (d)(1), the word "should" should read "may"; add a sentence at the end of paragraph (d)(1) to read: "The requirements in this paragraph do not apply to MC 38 cargo tank motor vehicles transporting a cryogenic liquid or to MC 330, MC 331 and MC 338 cargo tank motor vehicles transporting a material described in part as a refrigerated liquid in § 172.101 of this subchapter"; and remove paragraph (e).

20. On page 37784, first column, proposed § 173.145(a)(7) (i) and (ii) should read:

§ 173.145 Dimethylhydrazine, unsymmetrical, and methylhydrazine.

(a) * * *

(7) * * *

(i) The design pressure of the cargo tank must be at least 25 psig.

(ii) Each cargo tank must be equipped with steel pressure relief valves conforming to § 178.342–10 of this subchapter.

* * * * *

21. On page 37784, second column, proposed § 173.154(a)(4) should read:

§ 173.154 Flammable solids, organic peroxide solids and oxidizers not specifically provided for.

(a) * * *

(4) Specification MC 300, MC 301, MC 302, MC 303, MC 304, MC 305, MC 306, MC 307, MC 310, MC 311, or MC 312 (§§ 178.340, 178.341, 178.342, 178.343 of this subchapter) cargo tank motor vehicle, subject to the following conditions.

(i) Authorized only for sodium perchlorate or magnesium perchlorate, wet, with 10 percent or more water, equally distributed within the cargo tank.

(A) A cargo tank may have heating coils if an inorganic heating medium is used.

(B) Only a Specification MC 304 or MC 307 cargo tank motor vehicle is authorized for transportation by vessel.

(ii) Only a Specification MC 304, MC 307, MC 310, MC 311, or MC 312, cargo tank motor vehicle is authorized for potassium nitrite. Also authorized for ammonium nitrate with 15 percent or more water in solution at a maximum temperature of 240 °F., if the cargo tank is insulated and designed for operation at temperature up to 250 °F. Transportation by vessel is not authorized.

(iii) Bottom outlets must conform to § 178.340–11(a)(1)(i) of this subchapter.

(iv) The pressure relief system must conform to § 178.342–10 of this subchapter, except that the pressure relief valve must be set-to-discharge at the cargo tank design pressure.

* * * * *

22. On page 37784, third column, in proposed § 173.190(b)(4)(ii), add the words "form or equivalent" immediately before the word "insulation".

23. On page 37785, first column, proposed § 173.224(a)(4)(iv) is added to read:

(a) * * *

(4) * * *

(iv) Pressure relief system must conform to § 178.342–10 of this subchapter.

* * * * *

24. On page 37785, first column, in proposed § 173.245(a)(29)(iii), the word "conforming" should read "conform".

25. On page 37786, first column, in the introductory text of proposed § 173.252(a)(4), add", MC 311" immediately before "or MC 312".

26. On page 37787, first column, add a sentence at the end of proposed § 173.266(f)(2)(i) to read: "Additionally, a MC 312 cargo tank may be fabricated of Type 304L, 316 or 316L stainless steel."

27. On page 37788, third column, proposed § 173.294(a)(3)(i) should read:

(a) * * *

(3) * * *

(i) Each tank must be fabricated from, Type 304 or Type 316 stainless steel, 99 percent pure nickel plates, titanium conforming to ASME SA–265, or be suitably lined with nickel or stainless steel.

* * * * *

28. On page 37790, third column, in proposed § 173.374, add paragraph (a)(4)(v) to read:

(a) * * *

(4) * * *

(v) Bottom outlets must conform to § 178.340–11(a)(1)(i) of this subchapter.

* * * * *

29. On page 37791, second column, in proposed § 177.814, the reference "§ 180.317" should read "§ 180–417".

30. On page 37792, second column, in the seventh line from the top in proposed § 178.337–3(b), the word "mast" should read "must".

31. On page 37792, second column, proposed § 178.337–3(b) (7) and (8) should read:

§ 178.337–3 Structural integrity.

* * * * *

(b) * * *

(7) The lateral shear stress due to a lateral accelerative force equal to twice the weight of the fully loaded vehicle applied at the road surface; and

(8) The torsional shear stress due to a lateral accelerative force equal to twice the weight of the fully loaded vehicle applied at the road surface.

* * * * *

32. On page 37792, the formula in the first line of the third column in proposed § 178.377–3(c) should read:

$$S=0.5(Sy+Sx)+[S_s^2+(0.25(Sy-Sx)^2)]^{0.5}$$

33. On page 37793, first column, in the thirteenth line from the top in proposed § 178.337–3(e)(2), the word "paid" should read "pad".

34. On page 37793, first column, the section numbers "§ 178.377–4" and "§ 178.377–6" should read "§ 178.337–4" and "§ 178.337–6" respectively; the section number "§ 178.377–8" should read "§ 178.337–8", and paragraph (a)(2) in that section is added to read:

§ 178.337–8 Outlets.

(a) * * *

(2) With the exception of gauging devices, thermometer wells, and pressure relief valves, each opening in a cargo tank intended for use in transporting a compressed gas (except carbon dioxide, refrigerated liquid) must be—

(i) Closed with a plug, cap or bolted flange;

(ii) Protected with an excess flow valve on product discharge openings or protected with a check valve on product inlet openings; or

(iii) Fitted with an internal self-closing stop valve as specified in § 178.337–11(a).

* * * * *

35. On page 37793, third column, in proposed § 178.337–11 the introductory text in paragraph (a), and paragraphs (a)(1), (a)(1)(i), and the first sentence in (a)(1)(ii) should read:

§ 178.377–11 Emergency discharge control.

(a) *Excess flow valves, back flow check valves and self-closing stop valves.*

(1) When required by § 178.337–8(a)(2):

(i) Each internal self-closing stop valve and excess flow valve must automatically close if any of its attachments are sheared off or if any attached hoses or piping are separated.

(ii) Each self-closing stop valve, excess flow valve, or check valve must be located inside the tank or inside a welded nozzle which is an integral part of the tank. * * *

36. On page 37794, first column, in proposed § 178.337–11, [redesignate paragraphs (a)(1)(vii) and (a)(1)(viii) as new paragraphs (a)(2)(i) and (a)(2)(ii); in paragraph (a)(3) remove the last sentence.

37. On page 37794, second column, in proposed § 178.337–11, in the fifth line in paragraph (b) remove the word "automatic", in the seventh line, the word "outboard" should read "ahead"; and the last sentence should read: "A single so-called "stop-check" or excess flow valve may not be used to satisfy the requirements of this paragraph except as provided in paragraph (c) of this section. "; in the third line of paragraph (c)(1), the word "excessive" should read "excess".

38. On page 37795, first column, proposed § 178.338–3(b) (7) and (8) should read:

§ 178.338–3 Structural integrity.

* * * * *

(b) * * *

(7) The lateral shear stress due to a lateral accelerative force equal to twice the weight of the fully loaded vehicle applied at the road surface; and

(8) The torsional shear stress due to a lateral accelerative force equal to twice the weight of the fully loaded vehicle applied at the road surface.

* * * * *

39. On page 37795, second column, the formula in the third line in proposed § 178.338–3(c) should read:

$$S=0.5(Sy+Sx)+[S_s^2+(0.25(Sy-Sx)^2)]^{0.5}$$

40. On page 37797, second column, in proposed § 178.340–1(i), from the top the word "composes" in the heading, should read "composed".

41. On page 37798, second column, proposed § 178.340–3(b) (7) and (8) should read:

§ 178.340–3 Structural integrity.

* * * * *

(b) * * *

(7) The lateral shear stress due to a lateral accelerative force equal to twice the weight of the fully loaded vehicle applied at the road surface; and

(8) The torsional shear stress due to a lateral accelerative force equal to twice the weight of the fully loaded vehicle applied at the road surface.

* * * * *

42. On page 37798, second column, the formula in proposed § 178.340–3(c) should read:

$$S=0.5(Sy+Sx)+[S_s^2+(0.25(Sy-Sx)^2)]^{0.5}$$

43. On page 37799, first column, proposed § 178.340–5 (b) and (c) should read:

§ 178.340–5 Manhole assemblies.

* * * * *

(b) Unless otherwise provided in the applicable individual specification, each manhole, fill opening and washout assembly must be structurally capable of withstanding, without leakage or permanent deformation, static internal fluid pressures of at least 36 psig, or test pressure, whichever is greater.

(c) Each manhole, filler and washout cover must be fitted with a safety device that prevents the cover from opening fully when internal pressure is present.

* * * * *

44. On page 37799, second column, the section heading in proposed § 178.340–8 should read "Accident damage protection"; in the second line of the introductory text in paragraph (a), the word "values" should read "valves".

45. On page 37800, second column, the last sentence in proposed § 178.340–8(d) should read: "The rear-end tank protection device must have a horizontal dimension at least equal to that of the cargo tank and a vertical dimension of at least 8 inches, and located at a height so as to minimize damage to the cargo tank, and its valves, fittings, or piping which could result in a possible loss of lading."

46. On page 37800, second column, in proposed § 178.340–9, at the end of the second line in paragraph (a) immediately after the word "vehicle", add the words, "that may pressurize the cargo tank"; in the fifth line in paragraph (f), the word "charing" should read "charging".

47. On page 37800, third column, in proposed § 178.340–10, in the fourth line in paragraph (b)(2), the word "value" should read "valve"; in the first line in paragraph (b)(5), the world "of" should read "or".

48. On page 37801, first column, in proposed § 178.340–10(d)(1), in the sixth line the word "value" should read "valve"; in the eight line the word "then" should read "than".

49. On page 37802, third column, in the second line in proposed § 178.340–14(b)(5), the abbreviation "Tem." should read "Temp."

50. On page 37806, second column, the column headings in the table in proposed § 180.405(c) should be reversed in sequence.

51. a. On page 37807, second column, proposed § 180.405(g)(2) is revised to read:

(g) * * *

(2) The owner of 5 or more DOT Specification cargo tanks requiring retrofit of the manhole closure must retrofit at least 20 percent of the affected cargo tanks each year beginning in 198X.

* * * * *

b. In the sixth line in paragraph (i) the reference "§§ 180.313 and 180.307" should read "§§ 180.413 and 180.407".

52. On page 37808, third column, at the bottom of the page, after the last entry which now reads "MC 304, 307", in the table in proposed § 180.407, add a new entry to read:

Specification	Test pressure
* * *	* *
MC 307 (manufactured after the effective date of the final rule or bearing an ASME Code "U" stamp).	1.5 times the design pressure
* * *	* *

53. On page 37809, first column, proposed § 180.407(g)(2)(iii) is revised to read:

(g) * * *

(2) * * *

(iii) Each owner of 5 or more DOT Specification cargo tanks that must be pressure tested every five years must pressure test at least 20 percent of the cargo tanks in his ownership each year beginning in 198X.

54. On page 37809, third column, the paragraph heading in proposed § 180.409(a) should read: *External visual inspection and test, internal visual inspection, lining inspection, and leakage test.*"

55. On page 37811, third column, in proposed § 180.417(c)(1)(ii), the abbreviation "ASEM" should read "ASME".

In addition to these corrections and clarifications, RSPA wishes to clarify the difference between the leakage test, in proposed § 180.407(h), and the pressure test (hydrostatic and pneumatic), in proposed § 180.407(g). The leakage test is used to verify the leak tightness of a cargo tank and may be performed and certified by the owner. The pressure test is used to verify the structure and pressure integrity of a cargo tank and must be witnessed and certified by an Authorized Inspector.

Issued in Washington, DC on November 27, 1985, under the authority delegated in 49 CFR Part 106, Appendix A.

Alan I. Roberts,

Director, Office of Hazardous Materials Transportation.

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