DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Parts 171, 172, 173, 174, 178, and 179

[Docket No. HM–216; Amdt Nos. 171–144, 172–148, 173–252, 174–83, 178–115, 179–52]

RIN 2137–AC66

Transportation of Hazardous Materials by Rail; Miscellaneous Amendments

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

ACTION: Final rule.

SUMMARY: This final rule amends the Department's Hazardous Materials Regulations (HMR) to incorporate a number of changes to rail requirements based on rulemaking petitions from industry and RSPA initiatives. This action is necessary to update the regulations and to respond to petitions for rulemaking. The intended effect of these regulatory changes is to improve safety and reduce costs to offerors and transporters of hazardous materials.

DATES: *Effective date:* The effective date of these amendments is October 1, 1996.

Compliance date: Voluntary compliance with the regulations, as amended herein, is authorized June 30, 1996.

Incorporation by reference: The incorporation by reference of certain publications listed in these amendments has been approved by the Director of the Federal Register as of October 1, 1996.

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SUPPLEMENTARY INFORMATION:

I. Background

On December 19, 1995, RSPA issued a notice of proposed rulemaking (NPRM) under Docket HM–216 [60 FR 65492]. The NPRM proposed miscellaneous changes to rail requirements contained in the HMR, based on petitions for rulemaking submitted in accordance with 49 CFR 106.31 or agency initiative.

RSPA received 22 comments in response to the proposed rule. Comments were submitted by chemical manufacturing companies, trade associations, emergency response organizations, and rail carriers. Commenters were uniformly supportive of RSPA's and FRA's efforts to respond to petitions for rulemaking and to reduce regulatory burdens by simplifying or updating existing regulations. Several commenters suggested other amendments to the HMR as part of this initiative. These suggestions are incorporated into this final rule where possible, but many are beyond the scope of the rule and should be proposed in a future rulemaking action to ensure adequate opportunity for public notice and comment.

This rule is consistent with the goals of President Clinton's Regulatory Reinvention Initiative. The President directed Federal agencies to review all agency regulations and eliminate or revise those that are outdated or in need of reform. A notice issued April 4, 1995 by RSPA requested comments on regulatory reform (Docket HM–222; 60 FR 17049) and announced a comprehensive review of the HMR to identify provisions that are candidates for elimination, revision, clarification, or relaxation. Certain changes in this document reflect the results of this review.

II. Summary of Regulatory Changes by Section

Listed below is a section-by-section summary of changes and, where applicable, the assigned petition number.

Part 171

Section 171.7

Various American Society for Testing and Materials (ASTM) standards are updated to reflect the most current version. Other ASTM standards that no longer would be referenced in revised § 179.12 are removed. In the NPRM, RSPA did not propose any changes to ASTM A 285 and proposed an update to ASTM A 515; however, because these standards are no longer applicable, they are removed in this final rule.

Part 172

Section 172.101; The Hazardous Materials Table

Several entries in the Hazardous Materials Table are revised as proposed. For the entry ''Dimethylhydrazine, unsymmetrical'', assigned Special Provisions B74 and B79, Special Provision B79 is removed. Special Provision B74 requires the use of a tank car conforming to a Class 105S, 106, 110, 112J, or 114J. Special Provision B79 requires each tank car to have a tank head puncture system if the tank was constructed prior to April 1, 1989. Because Special Provision B74 requires all tank cars to meet the requirements of B79, referencing Special Provision B79 is unnecessary. For the entry for Calcium carbide, Special Provision B59 is added for both Packing Group I and II entries. This special provision will authorize the continued use of Class AAR 207 tank cars for the transportation of calcium carbide after October 1, 1996.

Sections 172.101 (The Hazardous Materials Table) and 172.330

In the Hazardous Materials Table, RSPA proposed to revise 29 entries by removing Special Provision B12 assigned to those entries in Column (7). This special provision requires the marking of tank cars with the proper shipping name or common name of the material. As part of the proposal to provide relief from this marking requirement, RSPA proposed to consolidate marking requirements currently contained in § 172.102 special provisions and in Parts 173 and 179 into § 172.330 and limit its applicability to certain materials which pose very high risks in transportation. RSPA proposed in the NPRM that the requirement to mark the proper shipping name or common name of a hazardous material on a tank car be limited to: Division 2.1 and 2.3 materials; Division 2.2 materials in Class DOT 107 tank cars; anhydrous ammonia; ammonia solutions with more than 50% ammonia; bromine and bromine solutions; hydrogen cyanide; chloroprene; and refrigerant or dispersant gases, as defined in § 173.115. A majority of commenters supported this proposal, but several suggested that other commodities should be considered for inclusion in the proposed list of commodities requiring marking. Two emergency response organizations, the International Association of Fire Fighters (IAFF) and the International Association of Fire Chiefs (IAFC), strongly opposed elimination of the marking requirement. The IAFF claimed that fewer cars would have information providing instant confirmation of the contents, thereby delaying rescue actions while shipping papers are researched. The IAFC agreed, stating that the inability to promptly identify contents of a car involved in an incident or accident would increase the hazard to fire and emergency service responders. Very little cost or effort is involved to stencil the product or proper shipping name on the car, the IAFC added. One chemical manufacturer questioned the safety rationale of removing this requirement and stated that use of a proper shipping name is preferable for loaders/unloaders, repair and cleaning

facility personnel, and emergency responders, rather than depending only on the four-digit identification number. Based on views expressed by emergency response organizations and after careful consideration of all comments on this issue, RSPA and FRA have decided to retain the requirement for marking tank cars with the proper shipping name for all commodities currently assigned B12, but to move these requirements to § 172.330. Accordingly, this rule provides a list of these commodities in § 172.330(a)(1). RSPA and FRA believe that a future revision of this list may be warranted because certain high hazard materials currently are not subject to this marking requirement, while other hazardous materials posing less risk appear on the list. Interested readers are invited to submit suggestions as to what proper shipping names should be removed, retained or added to the list.

Section 172.102

Special Provisions B4 and B10 are revised as proposed to remove a prohibition on the use of Association of American Railroads (AAR) 206 tank cars. In the § 172.101 Hazardous Materials Table (HMT), each commodity assigned this special provision must be in a packaging authorized in § 173.243, which does not allow an AAR 206 tank car. Special Provision B5 is revised as proposed to authorize use of tank cars, constructed from other than aluminum plate, for ammonium nitrate fertilizer. Special Provision B12 is removed, as discussed above.

Changes to Special Provisions B42, B65, B71, B72, B74, and B76 are adopted as proposed. These provisions are revised to clarify that any class tank car with a higher test pressure than authorized also may be used. Special Provisions B42, B65, and B76 also are revised to authorize the optional marking of the tank to a lower pressure specification. All but one commenter addressing this issue supported the proposed change. Commenters agreed that the proposed option allows flexibility for safety valve settings for certain classes of pressure cars and allows the originally designed tank pressure to also remain marked on the car. One commenter believed that confusion would arise if there is an option to mark the tank with either the tank test pressure rating or a lower pressure rating, required to coincide with the pressure relief device start-to-discharge pressure. RSPA and FRA do not believe that either the current requirement or the new option will cause confusion. The option adopted in this final rule simply removes the mandatory link between marked test pressure and the safety valve start-to-discharge settings.

RSPA is removing a requirement in Special Provision B57 that the shipping name CHLOROPRENE must be marked on a tank car. This marking requirement is included in the revision of § 172.330(a)(1). Based on a comment, RSPA is revising Special Provision B57 to specify a safety vent with a minimum diameter of 305 mm (12 inches) with a rupture disc pressure of not more than 45 psi. RSPA also is revising the first sentence of Special Provision B78 to specify the test pressure and to clarify which rail cars are authorized.

As pointed out by a commenter, RSPA proposed the addition of a new class DOT 120A, but overlooked the need to add corresponding special provisions. Therefore, authorizations for use of Class DOT 120A tank car tanks are added to Special Provisions B71, B74, B76, and B78.

Section 172.203

Currently, rail carrier shipping paper requirements are contained in both Parts 172 and 174. In this final rule, RSPA is moving the shipping paper requirements in Part 174 to Part 172. Commenters supported the consolidation of shipping paper requirements in Part 172. Paragraph (e)(2) is revised as proposed to replace references with a specific requirement to precede the basic shipping description with the wording ''RESIDUE, LAST CONTAINED.'' Paragraph (g)(1) also is revised to adopt a requirement to identify a rail car, freight container, transport vehicle, or portable tank that contains a hazardous material by reporting mark and number. Several commenters requested that RSPA clarify in the final rule that annotating a reporting mark and number on a shipping paper applies only to those shipments which are assigned reporting marks. RSPA agrees and is limiting this requirement to those rail cars, transport vehicles, freight containers and portable tanks displaying a reporting mark.

Section 172.205

This section is revised as proposed. RSPA received unanimous support for its proposal to revise paragraph (f) for consistency with Environmental Protection Agency (EPA) hazardous waste manifest requirements for transportation by rail contained in 40 CFR 263.20(f).

Section 172.330

Paragraph (a)(1) is revised to clarify marking requirements for tank cars. See preamble discussion under §§ 172.101 and 172.330.

Section 172.510

Paragraph (a) is revised to require the placement of each placard on a white square background on each class DOT 113 tank car used to transport a Division 2.1 (flammable gas) material. This change will enhance compliance with switching requirements for rail cars by communicating to railroad switching crews, through a white square background, that a class DOT 113 tank car transporting a Division 2.1 material may not be cut off while in motion. (See § 174.83(b).) Commenters generally supported this proposed change; however, one rail carrier opposed it, claiming that such placards require special attention and imposing the requirement on class DOT 113 tank cars containing flammable gas would dilute the meaning of the square white background and be more confusing than helpful. RSPA does not agree and believes a white square background will more effectively communicate to rail crews the presence of flammable gases, such as liquid hydrogen.

Several commenters pointed out an unintended change in wording which would broaden the requirement for a placard with a square white background to all Hazard Zone A materials, including those in a class or division other than Division 2.3 or Division 6.1. RSPA is revising the proposed wording to limit the requirement for a placard on a square white background to Hazard Zone A materials in Divisions 2.3 and 6.1. However, after reviewing these comments, RSPA believes this requirement should be broadened to apply to all Hazard Zone A materials (with corresponding changes in § 174.83) and may propose such a change in a future rulemaking action.

Sections 172.510 and 172.526

The NPRM proposed the removal of provisions for the specifications for and use of RESIDUE placards. The majority of commenters to this issue supported RSPA's and FRA's proposal to eliminate these requirements. These commenters cited standardization among all transportation modes, enhanced regulatory understanding and compliance, and harmonization with NAFTA and international regulations. One chemical manufacturer noted that its emergency response personnel were not aware of any incident where the RESIDUE placard has made a difference in the outcome of the incident. This commenter maintained that eliminating this placard would result in considerable savings to the company.

Several other commenters, including the Chemical Manufacturers Association, believed that the determination of what constitutes ''residue'' is arbitrary and stated that some residue tank cars could have a significant amount of product remaining in the tank. One rail carrier indicated that a common deficiency is the failure of an offeror to completely reverse all placards applied to a tank car. Thus, loaded tank cars will often have a RESIDUE placard as one of the four placards displayed, or conversely, residue tank cars will still have the original loaded placard in one of the holders.

Only four commenters—the IAFC, two chemical manufacturers and a government safety inspector—opposed removing the requirement for the use of a RESIDUE placard. The IAFC believed the information is crucial to fire and emergency responders because it communicates whether a tank car is full or just has residue left in the tank. The IAFC claimed the 22,000 occasions cited in the NPRM were due to poor compliance and inadequate enforcement. The commenter further stated that eliminating the RESIDUE placard may significantly increase the hazard or risk to fire or emergency response personnel. Not knowing the amount of product in a car will force responders to treat all tank cars as if they were full, which may result in unnecessary and potentially expensive actions.

RSPA and FRA disagree with the opinion expressed by IAFC that the 22,000 occasions cited in the NPRM were due both to poor compliance and inadequate enforcement since they were discovered as a result of FRA's enforcement efforts. As noted by one commenter, RSPA and FRA are aware of many ''residue'' tank cars which have remaining product that may contain as much as 1,000 gallons or more of hazardous material. Moreover, FRA has discovered that some shipments of liquefied compressed gases in pressure tank cars that are unloaded through equalization of pressure retain as much as one-third of the original load. In a fire, a partially-filled tank car can rupture as violently as a full tank car, thereby presenting a similar hazard to emergency responders. In fact, a partially-filled tank car exposed to fire in some circumstances may rupture in less time than a full tank car, because a partially-filled tank car has less thermal mass. Clearly, a residue placard may lead to a false sense of security. Further, RSPA and FRA believe that the primary purpose of placards is to convey the presence of a hazardous material, a ''trigger'' to emergency response personnel that more needs to be known about the contents of bulk packages of hazardous materials before entering a potential danger zone. By obtaining a copy of the shipping papers or freight car movement documents, emergency response personnel will gain basic information on the hazards present and the shipper's emergency response telephone number, resulting in better informed decisions about any precautions or evacuation measures needed to secure the incident site. One chemical manufacturer expressed concern that the removal of the residue placard will mandate the use of permanent pressure-sensitive placards to general service rail tank cars and, where the commodities change frequently, increase the possibility of misidentification of the commodity being transported. Nothing in the proposed rule would require the use of pressure-sensitive placards. Shippers and carriers may continue to use ''tag board'' placards placed within placard holders. Based on consideration of all comments received, RSPA is removing all provisions applying to the specifications for and use of RESIDUE placards.

Part 173

Section 173.24b

Commenters uniformly supported this proposal to add a mid-range temperature for calculating outage and filling limits for certain thermally protected and jacketed tank cars. This proposal was based on a petition for rulemaking submitted by the Propane Gas Association of Canada [P–1251] in cooperation with Transport Canada. Paragraph (a) of the proposed rule included provisions for anhydrous ammonia currently contained in Note 2 following the § 173.314(c) table. In this final rule, RSPA is adopting a mid-range temperature calculation for anhydrous ammonia by revising Note 2 of the § 173.314(c) table.

Section 173.29

Paragraph (f) is removed, consistent with the removal of § 172.510(c).

Sections 173.240 through 173.244

RSPA is adding an authorization for the use of Class 120A tank car tanks in each of these sections.

Section 173.314

Paragraph (b)(5), which contains provisions for marking the proper shipping name of certain Class 2 materials on tank cars, is removed because these provisions also appear in § 172.330. Paragraph (b)(6) is redesignated (b)(5) and amended to revise requirements for heat-resistant gaskets. Commenters expressed concern as to the difficulty of obtaining suitable heat-resistant materials because of the scarcity of materials (other than asbestos) that are capable of withstanding temperatures of 230°C that are also compatible with the lading. Besides temperature and compatibility, the selection of a proper gasket must include consideration of many factors, such as the mating of the gasket to its seating surfaces, fluid media, operating pressure, flange design, bolting data, and size. RSPA and FRA agree with those comments that, because of numerous factors involved, criteria for the selection of a suitable gasket material is too technically complex for resolution at this time. Therefore, this final rule does not define a minimum temperature for heat-resistant gaskets, but identifies criteria which a shipper must consider in selecting a proper gasket. In addition, in analyzing comments to this section, RSPA and FRA discovered that when this provision was moved from § 179.102–3(a)(3) to § 173.314 under changes adopted in Docket HM–181, certain words were inadvertently removed. RSPA is restoring this wording to refer to ''gaskets for manway cover plates.''

In the paragraph (c) table, several entries are amended to add an authorization for use of a Class DOT 120A tank car tank.

RSPA also is authorizing Class DOT 112J and 112T specification tank cars for the transportation of dimethyl ether, as proposed. Currently, only the use of a DOT 105A300W tank car is authorized. This is based on an exemption issued to Aeropres Corporation (DOT–E 11000) and a petition for rulemaking [P–1253].

RSPA also is revising Note 2 in paragraph (c) of the table. This note is assigned to the entry ''Ammonia, anhydrous or ammonia solutions >50 percent ammonia'' and the revision will allow shippers to calculate outage and filling limits for tank cars based on corresponding changes adopted in § 173.24b.

In addition, RSPA is removing paragraph (i), which currently provides alternate settings for safety relief valves on tank car tanks used for certain commodities, because pressure relief device requirements are being consolidated in § 179.15.

Part 174

Section 174.3

This section prohibits a shipment of a hazardous material not prepared in accordance with Parts 171, 172, and 173

from being offered for transportation or transported by rail. The section is revised as proposed to be consistent with language contained in Parts 175, 176 and 177 for unacceptable hazardous materials shipments.

Section 174.8 through 174.10

Inspection requirements currently contained in §§ 174.8, 174.9 and 174.10 are consolidated into § 174.9 to clarify a railroad's inspection duties at points of origination, interchange points and other locations where rail cars must be inspected. Sections 174.8 and 174.10 are removed. Section 174.9 requires a railroad to inspect each rail car for compliance with the HMR and other conditions that may make the car unsafe for transportation.

The final rule further clarifies that a railroad employee may perform inspections at ''ground level.'' One commenter, a chemical manufacturer, opposed this proposed change because inspections would be limited to leaks detectable at ground level. Another commenter representing a chemical manufacturing company recognized the practicality of ground level inspections, and believed that shippers and carriers must work together to ensure proper securement and compliance with hazard communication standards. A commenter supporting this revision noted that requirements for above ground inspections raise substantial safety concerns, are extremely burdensome, and significantly impair efficiency. RSPA and FRA believe that ground level inspections provide an adequate level of safety and this provision is adopted with an editorial revision to clarify provisions for train crew inspection.

Section 174.11

Section 174.11 is removed as proposed because it merely references § 171.12a for transportation of Canadian shipments or packagings by rail car within the U.S.

Section 174.18

Section 174.18 concerning the handling of astray packages of hazardous materials is obsolete; therefore this section is removed as proposed.

Section 174.24

Shipping paper requirements for rail carriers in Part 174 are moved to Part 172. Revised § 174.24 cross-references shipping paper requirements in Part 172. One commenter expressed concern that the proposed wording of this section would allow origin carriers to accept hazardous materials without first receiving shipping papers. The commenter believed that documentation shows the offer and acceptance affiliation between shipper and carrier and proves that a shipper offered hazardous material for transportation prior to acceptance by a carrier. RSPA agrees that the wording in this section should be revised to clarify that a carrier may not accept or transport a hazardous material by rail unless the carrier receives a properly prepared shipping document from the shipper.

Numerous commenters urged RSPA to address electronic transmission of a shipper certification. Commenters claimed that adopting a provision in § 172.204 to recognize electronic data interchange (EDI) or other electronic transmission of shipping paper certifications could eliminate the need for an existing exemption, DOT–E–7616. RSPA and FRA agree with commenters that this issue should be addressed, but believe that adopting new certification provisions for electronic transmissions is beyond the scope of this final rule.

Section 174.25

RSPA is removing the ''placard notation'' requirement since it is outdated for emergency response communication. RSPA also is removing the requirement for a ''placard endorsement'' placed on a waybill near the reporting mark of each rail car, freight container, transport vehicle, or portable tank that contains a hazardous material when transported by rail. Commenters supporting these proposals cited improved hazard communication requirements and technological advancements as reasons to eliminate these outdated provisions. The only commenter to oppose these proposals, IAFF, claimed that a placard notation ''allows the company officer to instantly make an initial diagnosis regarding a 'go/no go' decision for imminent rescue'' and ''* * * offers a point of quick confirmation of the basic hazard.'' IAFF further noted that ''* * * removing the placard endorsement cripples the ability of the incident commander to make quick and correct decisions when life safety is at stake.'' RSPA and FRA disagree with IAFF. Hazard communication requirements in the HMR (e.g., proper shipping name, hazard class, identification number, packing group and emergency response information) are the principal tools that emergency response personnel should use to assess the emergency. Because the current placard notation is repetitive of other hazard communication requirements and generally restates the hazard class of the material, it is considered unnecessary for making a ''go/no go'' decision. Removing this requirement also makes requirements for railroad transportation consistent with other modes. Accordingly, this final rule removes requirements for the placard notation and endorsement.

Other shipping paper requirements in this section, including those for tank cars containing the residue of a hazardous material, are removed or moved to Part 172.

Section 174.26

Amendments to this section are adopted as proposed. Paragraph (a) is removed because, if a carrier complies with paragraph (b), the carrier also is complying with paragraph (a). Paragraphs (b) and (c) are redesignated paragraphs (a) and (b), respectively. Newly designated paragraph (b) is revised to reference shipping paper requirements of Part 172 and specify use of other forms of car movement documents.

Sections 174.47 and 174.48

As proposed, the provisions in these sections are consolidated into revised § 174.50 to prescribe requirements for forwarding shipments in violation of the HMR and damaged or leaking packages.

Section 174.49

This section is removed as proposed because open-flame lanterns are no longer used.

Section 174.50

This section is revised by consolidating requirements of §§ 174.47, 174.48, and 174.50 and by removing all obsolete provisions. As proposed, packages other than tank cars would have to be repaired, reconditioned, or overpacked prior to subsequent movement. Tank cars would have to be repaired or be moved under conditions approved by FRA's Associate Administrator for Safety.

RSPA and FRA have recently learned that at least one business entity has interpreted existing § 174.47(b) to permit the ongoing movement of noncomplying tank cars once their ''in-violation'' status was reported. Neither FRA nor RSPA agree with this interpretation. Both agencies believe that the HMR have, even before these amendments, clearly prohibited such movement. FRA has consistently taken enforcement action against the movement of tank cars that are in violation of the HMR. The amendment removes any doubt that the old language might have created on the part of one shipper, and provides a method for relief where repairs cannot be made without further movement. For instance,

a tank car found en route with missing placards or markings is typically ''repaired'' by corrective action on the spot. In more serious situations, it may not be possible to conduct an on-site repair, such as repair of a tank car with its thermal protection system torn or abraded so that it no longer meets a specification. A tank car in this condition may only be moved under the authority of an exemption.

Commenters generally believed the proposed changes will promote safety, simplify the process, and enable the shipper or carrier to take quicker action. Several commenters recommended that the proposed section be modified to authorize use of a telephone, fax, or electronic mail for notification and FRA approval, with written confirmation to be provided within a specified number of days. RSPA and FRA agree with this recommendation and are revising the section accordingly.

The Iowa Department of Transportation asked RSPA to expand the proposed provision which would allow a leaking tank car to be switched to ''a location distant from habitation and highways'' to include ''streams'' and ''pipelines within the railroad rights of way.'' The Iowa DOT cited a National Transportation Safety Board report on activities within railroad rights of way that may disturb pipelines. This commenter expressed concern that corrosives or other chemicals could pose either an immediate risk or a long-term effect on pipelines that would not be readily apparent, with corresponding potential effects on water quality and the environment. RSPA and FRA agree in principle with the commenter, and this final rule is broadened, not just to include streams or pipelines within railroad rights of way, but to authorize limited movement of a leaking tank car to reduce or eliminate any immediate risk to human health or the environment.

Section 174.55

Proposed changes to this section were intended to clarify and streamline requirements for loading and securing packages of hazardous materials. Of the 22 comments submitted in response to the NPRM, only three commenters suggested changes to the proposed revision of this section. One commenter noted that lading securement requirements should apply to both ''transport vehicles'' (as stated in the NPRM) and ''freight containers'' (as provided in the current regulations). RSPA agrees, and the final rule reflects this change.

The NPRM contained a proposal to streamline requirements by eliminating the need to seek DOT approval for lading restraint systems that permit ''limited movement.'' RSPA and FRA believe it is not the slight movement of hazardous materials packages that creates a safety hazard, but their unsecured movement.

All three commenters believed the proposed requirement that lading ''be secured'' was too vague; two favored a return to the term ''blocked and braced'' and the other suggested requiring ''lading restraint systems.'' While RSPA and FRA do not agree that the proposal was too vague, RSPA is replacing the word ''secured'' in proposed § 174.55(a) with language requiring that a package containing a hazardous material must be loaded in the transport vehicle or freight container so that it cannot fall and must be safeguarded in such a manner that other freight cannot fall onto or slide into it. This is a performance standard which acknowledges that all packages in a vehicle or container may move to a limited degree during transportation without adversely affecting their structural and containment integrity.

The performance standard adopted in this final rule provides rail shippers and carriers maximum flexibility in meeting regulatory requirements and is consistent with requirements for other modes of transportation. At times, damage-free transportation can be achieved by loading packages so tightly within a vehicle or freight container that each package is protected by those around it and the total load does not exceed the design strength of the walls or doors. For such loads, no additional equipment or material is necessary. With other load configurations, material in addition to the packages is necessary to create a tight load.

In response to concerns expressed by commenters, this final rule explicitly mandates blocking and bracing (i.e., a lading restraint system), when the required protection cannot be achieved through use of other freight.

Section 174.67

The shipping community uses interior heater coils to improve the ability of a solid or viscous product to flow and thereby reduce tank car unloading times. The interior coils consist of a series of longitudinally arranged and manifolded welded pipe so that one to four inlet and outlet pipe connections allow circulation of a heating medium, usually steam or hot oil, throughout the entire system. The current regulations require that, after a tank equipped with interior heater coils is unloaded, the inlet and outlet pipe connections must be left open for drainage and to prevent the potential collapse of the coils from the vacuum otherwise created from condensing vapors. This requirement applies whether or not the coils were actually used to heat the commodity from the tank.

Comments on this issue were split between supporters and those who opposed removal of the requirements. Several commenters thought that if steam were used, drainage of the condensate would inhibit corrosion. RSPA and FRA believe it unlikely that keeping the inlet and outlet pipe caps off will actually inhibit corrosion of the coils because heater coils become bent and often water remains trapped in pipe valleys. Further, because interior heater coils may exceed 700 feet in length there is inadequate air flow within the coils to dry them completely. In FRA's experience, the single most common failure of interior heater coils is not corrosion or collapse but failure of coil anchors. When the anchor fails, the coils move, creating stresses. Fatigue cracks may occur in these high stress areas and create the potential for a hazardous material release, RSPA has, within the last two years, issued 29 exemptions allowing the transportation of tank cars containing the residue of a hazardous material with the heater coil pipe caps on the heater coil pipes.

After considering the comments received, RSPA and FRA conclude that coil failures are usually the result of poor maintenance or operational practices, both of which should be reviewed by the industry. This final rule makes optional the current requirement that the inlet and outlet pipe connections must remain open.

Section 174.85

Corresponding changes in §§ 172.510 and 172.526 remove provisions for a RESIDUE placard. Two commenters noted that proposed paragraph (c) referenced ''rail car'' rather than ''tank car'', which would expand current provisions. RSPA agrees and is revising paragraph (c) to reference a tank car containing a residue of a hazardous material.

Part 178

Section 178.337–2

Two ASTM references are updated in paragraphs (b)(2)(i) and (ii).

Part 179

The following sections are revised by updating certain ASTM specifications and deleting others that are no longer used, based on a petition [P–1023] from AAR: §§ 179.100–7, 179.100–10, 179.100–20, 179.102–1, 179.102–2, 179.200–7, 179.200–24, 179.201–5, and 179.300–7.

Sections 179.12 through 179.12–7

Sections 179.12–1 through 179.12–7 are removed and § 179.12 is revised by incorporating provisions from §§ 179.12–1 and 179.12–5. The design and materials of construction for interior heater coils require AAR approval. This final rule removes the DOT specification requirements and allows AAR greater flexibility in approving heater system designs.

Section 179.15

This section is added to consolidate pressure relief device requirements currently contained in §§ 173.314, 179.100–15, 179.200–18, 179.201–7 and 179.220–19 and adopt provisions to: (1) increase the start-to-discharge pressure of pressure relief devices for certain low pressure tanks while allowing the continued use of existing cars; (2) allow for a reduced orifice in the upstream nozzle of a pressure relief device to accommodate pressure surges; (3) increase the rupture disc burst pressure for cars so equipped; (4) standardize the start-to-discharge pressure setting for all commodities and tank car specifications; and (5) align the start-to-discharge pressure for tank cars with a setting prescribed by the ASME code for pressure vessels.

Most commenters endorsed RSPA's proposed addition of this section, with minor editorial clarifications, stating that this was a worthwhile change in the regulations that would enhance overall safety and benefit a number of shippers and carriers. CMA stated that proposed provisions in this new section would allow shippers to establish pressure relief device settings that are more directly related to the product requirements, rather than arbitrarily relating the settings to the tank test pressure.

The AAR and the Railway Progress Institute (RPI) suggested that RSPA include the ''mid-range'' temperature proposed in § 173.24b for the calculation of outage and filling limits into pressure relief device setting requirements. RSPA proposed a mid-range temperature of 43°C (110°F) for certain thermally protected and jacketed tank cars. RSPA and FRA agree, and a mid-range temperature requirement is added in paragraph (b)(1).

Several commenters suggested that RSPA adopt a range for the burst pressure, as opposed to a set burst pressure (e.g., from 20 to 33 percent of the tank burst pressure for DOT 111A60W tank cars). Other commenters suggested an extension of the proposed one-year period because development of rupture discs that are designed to the dimensions of the rupture disc holder may take longer than one year and thus would not be commercially available. The commenters claimed that if this requirement were adopted and made effective within one year, the current inventory of rupture discs would become worthless.

RSPA and FRA believe the need to increase the burst pressure of a rupture disc installed in a nonreclosing pressure relief device is warranted because of the number of premature rupture disc failures in transportation which have resulted in railroad employee injuries. Of the 5,406 reported hazardous materials releases by rail from 1990 through 1994, RSPA received reports of 1,716 rupture disc failures (an average of 343 each year). RSPA also received 418 reports of railroad employee injuries as a result of a release of hazardous materials (all sources of release for an average of 84 each year). Because rupture disc failures account for nearly 32 percent of the total number of releases by rail during this study period, RSPA and FRA believe that there will be a considerable decrease in the number of premature rupture disc failures as a result of increasing the burst pressure of the rupture disc.

This final rule adopts a rupture disc burst pressure of 33 percent of the tank burst pressure because such pressures can reduce premature failures in the transportation system. Rupture discs are required to be manufactured with a tolerance of +0 to −15 percent of the burst pressure marked on the rupture disc. (See A5.02 of the AAR Tank Car Manual.) In addition, in response to concerns expressed by commenters, RSPA is extending the proposed one-year transition period in paragraph (f) to October 1, 1998. This extension will minimize cost impacts in implementing new designs and will facilitate depletion of existing inventory of rupture discs.

One commenter suggested that RSPA incorporate a requirement for a ''means of inspection of the disc without releasing clamping pressure on the disc,'' similar to A4.07(d) in the AAR Specifications for Tank Cars. Many safety vent devices in use today have such features, including hinged covers and screw plugs, for the inspection of a rupture disc. While these devices are designed to meet the requirements of the AAR specifications, RSPA and FRA believe that in order to fully inspect a rupture disc, the disc must be removed from the safety vent device. It is important that a careful inspection (both top and bottom of the disc) be conducted for corrosion and damage because it has been FRA's experience that a rupture disc may appear normal on the top side, but be severely damaged or corroded on the bottom side. For these reasons, RSPA recently amended the regulations under Docket HM–201 to require a careful inspection of the rupture disc. See § 173.31(d)(1)(vi), effective July 1, 1996 (60 FR 49048, 49073).

In addition, the following editorial changes are made to provisions proposed in the NPRM: paragraph (b)(4) is revised by removing the word ''valve''; paragraph (e)(2) is revised by replacing the word ''fail'' with ''burst'' and by adding the wording ''at not greater than'' before ''95''; a new paragraph (e)(3) is added to base the vapor tight pressure and the start-to-discharge tolerance on the discharge setting of the reclosing pressure relief device; in paragraph (f), paragraph ''(b)(4)'' is added after paragraph ''(a)''; and paragraph (g) is revised to require each pressure relief device to communicate with the vapor space above the lading as near as practicable on the longitudinal centerline and center of the tank.

Sections 179.100–15, 179.200–18, 179.201–7, and 179.220–19

These sections contain provisions for safety relief devices. Because requirements for safety relief devices are consolidated in § 179.15, RSPA is removing these sections from the HMR.

Sections 179.101–1 and 179.201–1

Individual specification requirements for pressure tank cars and non-pressure tank cars are revised. These revisions correct many typographical errors and remove several special references that are no longer applicable. RSPA also is adding a new class ''DOT 120A'' specification tank car and a new ''DOT 111A60W6'' specification tank car in the table based on two petitions for rulemaking [P–1044 and P–1119] from AAR. One commenter correctly noted that if the DOT 120A tank car is adopted, RSPA should assign packaging authorizations in Part 173 and § 172.102. The commenter also requested that this car be authorized in § 173.314 for ''Division 2.2 not specifically identified in this table''. RSPA agrees and is adding authorizations for a DOT120A tank car to appropriate sections. RSPA is removing certain entries from the table since these provisions are currently found in the text proceeding the table (see for example §§ 179.200–11, 179.200–14, and 179.200- 16). An editorial revision is made to a reference in the § 179.201–1 table for DOT

111A100W4, based on a commenter's suggestion.

Section 179.102–4

Paragraph (d), which specifies at least one pressure relief valve on a tank car tank used to transport vinyl fluoride, inhibited, is removed, consistent with the consolidation of safety relief device provisions in § 179.15. In addition, paragraphs (b) and (c) are redesignated paragraphs (a) and (b), paragraphs (e) through (k) are redesignated paragraphs (c) through (i), and reserved paragraph (l) is removed.

Section 179.103–5

Paragraph (b)(2) is revised as proposed to adopt requirements for the attachment of unloading connections for bottom outlets on pressure tank cars. This revision reflects existing requirements for bottom outlets on non-pressure tank cars.

Section 179.200–7

In addition to the revision of the paragraph (b) table discussed previously, certain ASTM specifications are revised to remove references to outdated publications. The entry for ASTM B 209–70, Alloy 6061 is removed, as are footnotes 4 and 5 associated with that entry. Footnote 2 following the paragraph (d) table is revised to reference Practice A of ASTM A 262–85, which is a definitive, rapid method of identifying, by simple etching, those specimens free of susceptibility to intergranular attack.

Section 179.200–14

The first sentence of paragraph (a) and the first sentence of paragraph (b) are revised to recognize the new outage and filling limits for tank cars adopted in Docket HM–181.

Section 179.200–16

RSPA is revising the first sentence in paragraph (d) to require an outage scale visible through the manway opening when using a gauging device. RSPA is adopting a commenter's suggested alternative wording because it clarifies this provision.

Section 179.200–24

Based on a commenter's suggestion to indicate the grade of material for the entry ''Material'', the reference to ''ASTM A 285C'' is revised to read ''ASTM A 516–GR 70''.

Section 179.201–4

This section is adopted as proposed to refer to Footnote 2 of § 179.200–7(d) rather than the AAR Specifications to specify material requirements for fittings, tubes, castings, projections, and closures.

Sections 179.220–7 and 179.300–7

References to ASTM A 515 and ASTM A 285 are removed from the table following paragraph (b) in § 179.220–7 and the table following paragraph (a) in § 179.300–7, because these specifications no longer are authorized for new construction.

Section 179.221–1

RSPA is revising the class DOT 115A specification table as noted in the discussion of §§ 179.101–1 and 179.201–1.

Sections 179.222, 179.222–1, and 179.500–17

These sections are removed because identical provisions are contained elsewhere in the HMR.

III. Rulemaking Analyses and Notices

A. 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 therefore, was not reviewed by the Office of Management and Budget. The rule is not considered a significant rule under the Regulatory Policies and Procedures of the Department of Transportation [44 FR 11034].

The economic impact of this rule is expected to result in only minimal costs to certain persons subject to the HMR and may result in modest cost savings to a small number of persons subject to the HMR and to the agency. Because of the minimal economic impact of this rule, preparation of a regulatory impact analysis or a regulatory evaluation is not warranted.

B. 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 Federal requirements. 49 U.S.C. 5125(b)(1). These subjects are:

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

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

(3) The preparation, execution, and use of shipping documents pertaining to hazardous material, and requirements respecting the number, content, and placement of such documents;

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

(5) The design, manufacturing, fabrication, marking, maintenance, reconditioning, repairing, or testing of a package or container which is represented, marked, certified, or sold as qualified for use in the transportation of hazardous material.

This final rule preempts State, local, or Indian tribe requirements concerning these subjects unless the non-Federal requirements are ''substantively the same'' (see 49 CFR 107.202(d)) as the Federal requirements.

Federal law (49 U.S.C. 5125(b)(2)) provides that if 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 than the 90th day following the date of issuance of the final rule and not later than two years after the date of issuance. RSPA has determined that the effective date of Federal preemption for these requirements will be October 1, 1996. Thus, RSPA lacks discretion in this area, and preparation of a federalism assessment is not warranted.

C. Regulatory Flexibility Act

This final rule responds to petitions for rulemaking and agency review. It is intended to provide clarification of the regulations and relax certain requirements. Therefore, I certify that this final rule will not have a significant economic impact on a substantial number of small entities.

D. Paperwork Reduction Act

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid OMB control number. Information collection requirements in 49 CFR parts 172 and 174 pertaining to shipping papers are currently approved under OMB control number 2137–0051. A requirement to annotate a reporting mark and number on shipping documents for certain rail shipments reflects a current rail carrier operating requirement and insignificantly increases the amount of burden imposed by this collection. Some provisions adopted in this final rule, such as elimination of requirements for placing placard endorsements and placard notations on shipping documents, will result in a minor reduction in the amount of burden imposed by this collection. RSPA believes that these changes in burden are not sufficient to warrant

revision of the currently approved information collection.

E. 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 171

Exports, Hazardous materials transportation, Hazardous waste, Imports, Incorporation by reference, Reporting and recordkeeping requirements.

49 CFR Part 172

Hazardous materials transportation, Hazardous waste, Labels, Markings, Packaging and containers, Reporting and recordkeeping requirements.

49 CFR Part 173

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

49 CFR Part 174

Hazardous materials transportation, Radioactive materials, Railroad safety.

49 CFR Part 178

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

49 CFR Part 179

Hazardous materials transportation, Incorporation by reference, Railroad safety, Reporting and recordkeeping requirements.

In consideration of the foregoing, 49 CFR Chapter I is amended as follows:

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1. The authority citation for Part 171 continues to read as follows:

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

2. In the § 171.7(a)(3) Table, under the entry *American Society for Testing and Materials,* 9 entries are removed and 9 new entries are added in alphabetical order, to read as follows:

§ 171.7 Reference material.

(a) *Matter incorporated by reference* * * *

(3) *Table of material incorporated by reference.* * * *

Source and name of material	49 CFR reference
* * * * * * *	
American Society for Testing and Materials	
* * * * * * *	
[Remove]	
ASTM A 20–81 Standard Specification for General Requirements for Steel Plates for Pressure Vessels, Revision C	178.337; 179.102–17
* * * * * * *	
ASTM A 240–82 Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Fusion-Welded Unfired Pressure Vessels, Revision A.	178.57; 178.358; 179.100; 179.200; 179.201; 179.220; 179.400.
* * * * * * *	
ASTM A 262–68 Recommended Practices for Detecting Susceptibility to Intergranular Attack in Stainless Steels	179.100; 179.200.
* * * * * * *	
ASTM A 302–78 Pressure Vessel Plates, Alloy Steel, Manganese-Molybdenum and Manganese-Molybdenum Nickel.	179.100; 179.200; 179.220.
* * * * * * *	
ASTM A 370–77 Standard Methods and Definition for Mechanical Testing of Steel Products	179.102–4 and 179.102–17
* * * * * * *	
ASTM A 516–79b Standard Specification for Pressure Vessel Plates, Carbon Steel, for Moderate and Lower-Temperature Service.	178.337; 179.100; 179.102; 179.200 179.220
ASTM A 537–80 Standard Specification for Pressure Vessel Plates, Heat-Treated, Carbon-Manganese-Silicon Steel.	179.100; 179.102.
* * * * * * *	
ASTM B 162–69 Nickel Plate, Sheet, and Strip	179.200.
ASTM B 209–69 Aluminum Alloy Sheet and Plate	179.100; 179.200; 179.220
* * * * * * *	
[Add]	
ASTM A 20/A 20M–93a Standard Specification for General Requirements for Steel Plates for Pressure Vessels	178.337–2; 179.102–4; 179.102–17.
* * * * * * *	
ASTM A 240/A 240M–94b Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels.	178.57; 178.358–5; 179.100–7; 179.100–10; 179.102–1; 179.102–4; 179.102–17; 179.200–7; 179.201–5; 179.220–7; 179.400–5.

Source and name of material	49 CFR reference
* * * * * * *	
ASTM A 262–93a Standard Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels.	179.100–7; 179.200–7; 179.201–4.
* * * * * * *	
ASTM A 302/A 302M–93 Standard Specification for Pressure Vessel Plates, Alloy Steel, Manganese-Molybdenum and Manganese-Molybdenum Nickel.	179.100–7; 179.200–7; 179.220–7.
* * * * * * *	
ASTM A 370–94 Standard Test Methods and Definitions for Mechanical Testing of Steel Products	179.102–1; 179.102–4; 179.102–17.
* * * * * * *	
ASTM A 516/A 516M–90 Standard Specification for Pressure Vessel Plates, Carbon Steel, for Moderate and Lower- Temperature Service.	178.337–2; 179.100–7; 179.100–20; 179.102–1; 179.102–2; 179.102–4; 179.102–17; 179.200–7; 179.220–7.
ASTM A 537/A 537M–91 Standard Specification for Pressure Vessel Plates, Heat-Treated, Carbon-Manganese-Silicon Steel.	179.100–7; 179.102–4; 179.102–17.
* * * * * * *	
ASTM B 162–93a Standard Specification for Nickel Plate, Sheet, and Strip	179.200–7.
ASTM B 209–93 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate	179.100–7; 179.200–7; 179.220–7.
* * * * * * *	

* * * * *

§ 171.7 [Amended]

3. In addition, § 171.7, in the paragraph (a)(3) table, the following changes are made:

a. Under American Society for Testing and Materials, the following entries are removed: ASTM A 53–69a, ASTM A 178–70, ASTM A 192–69, ASTM A 269–69, ASTM A 285–78, ASTM A 312–70a, ASTM A 515–69, ASTM B 161–70, ASTM B 210–70, ASTM B 221–76, ASTM B 241–76.

b. Under Association of American Railroads, for the entry ''AAR Manual of Standards and Recommended Practices, Section I, Specially Equipped Freight Car and Intermodal Equipment, 1988'' in Column (2), a reference ''174.55;'' is added as the first reference.

c. Under Association of American Railroads, for the entry ''AAR Manual of Standards and Recommended Practices, Section C—Part III, Specifications for Tank Cars, Specification M–1002, September 1992'' in Column (2), a reference ''179.15;'' is added in numerical order.

PART 172—HAZARDOUS MATERIALS TABLE, SPECIAL PROVISIONS, HAZARDOUS MATERIALS COMMUNICATIONS, EMERGENCY RESPONSE INFORMATION, AND TRAINING REQUIREMENTS

4. The authority citation for Part 172 continues to read as follows:

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

§ 172.101 [Amended]

5. In § 172.101, in the Hazardous Materials Table, the following changes are made:

a. For the following entries, in Column (7), Special Provision ''B12,'' is removed:

Acrolein, inhibited;
Bromine *or* Bromine solutions;
Bromine chloride;
Dinitrogen tetroxide, liquefied;
Formic acid;
Hydrocyanic acid, aqueous solutions *or* Hydrogen cyanide, aqueous solutions *with not more than 20 percent hydrogen cyanide;*
Hydrocyanic acid, aqueous solutions *with less than 5 percent hydrogen cyanide;*
Hydrofluoric acid, solution, *with more than 60 percent strength;*

Hydrofluoric acid, solution, *with not more than 60 percent strength;*
Hydrogen cyanide, stabilized *with less than 3 percent water;*
Hydrogen fluoride, anhydrous;
Hydrogen peroxide and peroxyacetic acid mixtures, stabilized *with acids, water and not more than 5 percent peroxyacetic acid;*
Hydrogen peroxide, aqueous solutions *with more than 40 percent but not more than 60 percent hydrogen peroxide (stabilized as necessary);*
Hydrogen peroxide, aqueous solutions *with not less than 20 percent but not more than 40 percent hydrogen peroxide (stabilized as necessary);*
Hydrogen peroxide, stabilized *or* Hydrogen peroxide aqueous solutions, stabilized *with more than 60 percent hydrogen peroxide;*
Motor fuel anti-knock mixtures;
Nitric acid *other than red fuming, with more than 70 percent nitric acid;*
Nitric acid *other than red fuming, with not more than 70 percent nitric acid;*
Nitric oxide;
Nitric oxide and dinitrogen tetroxide mixtures *or* Nitric oxide and nitrogen dioxide mixtures;
Perchloryl fluoride;
Phosphorus, amorphous;
Phosphorus, white dry *or* Phosphorus, white, under water *or* Phosphorus, white, in solution *or* Phosphorus, yellow dry or Phosphorus, yellow, under water *or* Phosphorus, yellow, in solution;
Phosphorous white, molten;
Potassium nitrate and sodium nitrite mixtures;
Sulfur trioxide, inhibited; and
Sulfur trioxide, uninhibited.

b. For the entry ''Calcium carbide'', for Packing Groups I and II, in Column (7), Special Provision ''B59,'' is added immediately following ''B55,'' each place it appears.

c. For the entries ''Carbon dioxide, solid *or* Dry ice'' and ''Potassium permanganate'', in Column (7), Special Provision ''B12'' is removed.

d. For the entry ''Dimethylhydrazine, unsymmetrical'', in Column (7), Special Provision ''B79,'' is removed.

6. In § 172.102, in paragraph (c)(3), Special Provisions B12 and B79 are removed and Special Provisions B42, B57, B65, B71, B72, B74, B76 and the first sentence of B78 are revised to read as follows:

§ 172.102 Special provisions.

* * * * *

(c) * * *

(3) * * *

Code/Special Provisions

* * * * *

B42 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105J. Each tank car must have a safety relief device having a start-to-discharge pressure of 10.34 Bar (150 psig). The tank car specification may be marked to indicate a test pressure of 13.79 Bar (200 psig).

* * * * *

B57 Class 115A tank car tanks used to transport chloroprene must be equipped with a safety vent of a diameter not less than 305 mm (12 inches) with a maximum rupture disc pressure of 45 psi.

* * * * *

B65 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105J. Each tank car must have a safety relief device having a start-to-discharge pressure of 15.51 Bar (225 psig). The tank car specification may be marked to indicate a test pressure of 20.68 Bar (300 psig).

* * * * *

B71 Tank cars must have a test pressure of 20.68 Bar (300 psig) or greater and conform to Class 105, 112, 114 or 120.

B72 Tank cars must have a test pressure of 34.47 Bar (500 psig) or greater and conform to Class 105J, 106, or 110.

B74 Tank cars must have a test pressure of 20.68 Bar (300 psig) or greater and conform to Class 105S, 106, 110, 112J, 114J or 120S.

B76 Tank cars must have a test pressure of 20.68 Bar (300 psig) or greater and conform to Class 105S, 112J, 114J or 120S. Each tank car must have a safety relief device having a start-to-discharge pressure of 10.34 Bar (150 psig). The tank car specification may be marked to indicate a test pressure of 13.79 Bar (200 psig).

* * * * *

B78 Tank cars must have a test pressure of 4.14 Bar (60 psig) or greater and conform to Class 103, 104, 105, 109, 111, 112, 114 or 120. * * *

* * * * *

§ 172.102 [Amended]

7. In addition, in § 172.102, in paragraph (c)(3), the following changes are made:

a. For Special Provision B4, the wording ''AAR 206 tank car tanks and'' is removed.

b. For Special Provision B5, the wording ''DOT 103 ALW, 111A60 ALW tank car tanks and'' is removed.

c. For Special Provision B10, the wording ''AAR 206 tank car tanks,'' is removed.

8. In § 172.203, paragraphs (e)(2) and (g) are revised to read as follows:

§ 172.203 Additional description requirements.

* * * * *

(e) * * *

(2) The description on the shipping paper for a tank car containing the residue of a hazardous material must include the phrase, ''RESIDUE: LAST CONTAINED * * *'' before the basic description.

* * * * *

(g) *Transportation by rail.* (1) A shipping paper prepared by a rail carrier for a rail car, freight container, transport vehicle or portable tank that contains hazardous materials must include the reporting mark and number when displayed on the rail car, freight container, transport vehicle or portable tank.

(2) The shipping paper for each DOT–113 tank car containing a Division 2.1 material or its residue must contain an appropriate notation, such as ''DOT 113'', and the statement ''Do not hump or cut off car while in motion.''

(3) When shipments of elevated temperature materials are transported under the exception permitted in § 173.247(h)(3) of this subchapter, the shipping paper must contain an appropriate notation, such as ''Maximum operating speed 15 mph.''.

* * * * *

9. In § 172.205, paragraph (f) is revised to read as follows:

§ 172.205 Hazardous waste manifest.

* * * * *

(f) *Transportation by rail.* Notwithstanding the requirements of paragraphs (d) and (e) of this section, the following requirements apply:

(1) When accepting hazardous waste from a non-rail transporter, the initial rail transporter must:

(i) Sign and date the manifest acknowledging acceptance of the hazardous waste;

(ii) Return a signed copy of the manifest to the non-rail transporter;

(iii) Forward at least three copies of the manifest to:

(A) The next non-rail transporter, if any;

(B) The designated facility, if the shipment is delivered to that facility by rail; or

(C) The last rail transporter designated to handle the waste in the United States; and

(iv) Retain one copy of the manifest and rail shipping paper in accordance with 40 CFR 263.22.

(2) Rail transporters must ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification and signatures) and, for exports, an EPA Acknowledgment of Consent accompanies the hazardous waste at all times. Intermediate rail transporters are not required to sign either the manifest or shipping paper.

(3) When delivering hazardous waste to the designated facility, a rail transporter must:

(i) Obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

(ii) Retain a copy of the manifest or signed shipping paper in accordance with 40 CFR 263.22.

(4) When delivering hazardous waste to a non-rail transporter, a rail transporter must:

(i) Obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and

(ii) Retain a copy of the manifest in accordance with 40 CFR 263.22.

(5) Before accepting hazardous waste from a rail transporter, a non-rail transporter must sign and date the manifest and provide a copy to the rail transporter.

* * * * *

10. In § 172.330, paragraph (a)(1) is revised to read as follows:

§ 172.330 Tank cars and multi-unit tank car tanks.

(a) * * *

(1) In a tank car unless the following conditions are met:

(i) The tank car must be marked on each side and each end as required by § 172.302 with the identification number specified for the material in the § 172.101 Table; and

(ii) A tank car containing any of the following materials must be marked on each side with the key words (including words such as ''stabilized'', ''inhibited'', ''compressed'', or ''liquefied'') of the proper shipping name specified for the material in the § 172.101 Table, or with a common name authorized for the material in this subchapter (e.g., ''Refrigerant Gas''):

Acrolein, inhibited
Ammonia, anhydrous, liquefied
Ammonia solutions (more than 50% ammonia)
Bromine *or* Bromine solutions
Bromine chloride
Chloroprene, inhibited
Dispersant gas *or* Refrigerant gas (as defined in § 173.115 of this subchapter)
Division 2.1 materials
Division 2.2 materials (in Class DOT 107 tank cars only)
Division 2.3 materials
Formic acid
Hydrocyanic acid, aqueous solutions
Hydrofluoric acid, solution
Hydrogen cyanide, stabilized (less than 3% water)
Hydrogen fluoride, anhydrous
Hydrogen peroxide, aqueous solutions (greater than 20% hydrogen peroxide)
Hydrogen peroxide, stabilized
Hydrogen peroxide and peroxyacetic acid mixtures
Nitric acid (other than red fuming)
Phosphorus, amorphous
Phosphorus, white dry *or* Phosphorus, white, under water *or* Phosphorus white, in solution, *or* Phosphorus, yellow dry or Phosphorus, yellow, under water *or* Phosphorus, yellow, in solution
Phosphorus white, molten
Potassium nitrate and sodium nitrate mixtures
Potassium permanganate
Sulfur trioxide, inhibited
Sulfur trioxide, uninhibited

* * * * *

11. In § 172.510, paragraph (a) is revised, paragraphs (b) and (c) are removed, and paragraphs (d) and (e) are redesignated as paragraphs (b) and (c), respectively, to read as follows:

§ 172.510 Special placarding provisions: Rail.

(a) *White square background.* The following must have the specified placards placed on a white square background, as described in § 172.527:

(1) Division 1.1 and 1.2 (explosive) materials which require EXPLOSIVES 1.1 or EXPLOSIVES 1.2 placards affixed to the rail car;

(2) Materials classed in Division 2.3 Hazard Zone A or 6.1 Packing Group I Hazard Zone A which require POISON GAS or POISON placards affixed to the rail car, including tank cars containing only a residue of the material; and

(3) Class DOT 113 tank cars used to transport a Division 2.1 (flammable gas) material, including tank cars containing only a residue of the material.

* * * * *

§ 172.526 [Removed and Reserved]

12. Section 172.526 is removed and reserved.

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

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

Authority: 49 U.S.C. 5102–5127; 49 CFR 1.53.

14. In § 173.24b, paragraph (a)(3) is removed and paragraph (a)(1) is revised to read as follows:

§ 173.24b Additional general requirements for bulk packagings.

(a) *Outage and filling limits.* (1) Except as otherwise provided in this subchapter, liquids and liquefied gases must be so loaded that the outage is at least five percent for materials poisonous by inhalation, or at least one percent for all other materials, of the total capacity of a cargo tank, portable tank, tank car (including dome capacity), multi-unit tank car tank, or any compartment thereof, at the following reference temperatures—

(i) 46 °C (115 °F) for a noninsulated tank;

(ii) 43 °C (110 °F) for a tank car having a thermal protection system, incorporating a metal jacket that provides an overall thermal conductance at 15.5 °C (60 °F) of no more than 10.22 kilojoules per hour per square meter per degree Celsius (0.5 Btu per hour/per square foot/ per degree F) temperature differential; or

(iii) 41 °C (105 °F) for an insulated tank.

* * * * *

§ 173.29 [Amended]

15. In § 173.29, paragraph (f) is removed and reserved.

§ 173.240 [Amended]

16. In § 173.240, in paragraph (a), the wording ''or 115 tank car tanks;'' is revised to read ''115, or 120 tank car tanks;''.

§ 173.241 [Amended]

17. In § 173.241, in paragraph (a), the wording ''or 115 tank car tanks;'' is revised to read ''115, or 120 tank car tanks;''.

§ 173.242 [Amended]

18. In § 173.242, in paragraph (a), the wording ''or 115 tank car tanks;'' is revised to read ''115, or 120 tank car tanks;''.

§ 173.243 [Amended]

19. In § 173.243, in paragraph (a), the wording ''or 115 fusion-welded tank car tanks;'' is revised to read ''115, or 120 fusion-welded tank car tanks;''.

§ 173.244 [Amended]

20. In § 173.244, in paragraph (a), the wording ''or 114 fusion-welded tank car tanks;'' is revised to read ''114, or 120 fusion-welded tank car tanks;''.

21. In § 173.314, as amended at 60 FR 49074, effective July 1, 1996, paragraph (b)(5) is removed, paragraph (b)(6) is redesignated as paragraph (b)(5) and revised, Note 2 following the paragraph (c) table is revised, and paragraph (i) is removed and reserved, to read as follows:

§ 173.314 Compressed gases in tank cars and multi-unit tank cars.

* * * * *

(b) * * *

(5) Each tank car used for the transportation of anhydrous ammonia or any material that meets the criteria of Division 2.1 or 2.3 must have gaskets for manway cover plates and for mounting

of fittings designed (for temperature, application, media, pressure, and size) to create a positive seal so that, under conditions normally incident to transportation, there will not be an identifiable release of the material to the environment. The use of sealants to install gaskets is prohibited.

(c) * * *

Notes:

* * * * *

2. The liquefied gas must be so loaded so that the outage is at least two percent of the total capacity of the tank at the reference temperature of 46 °C (115 °F) for a noninsulated tank; 43 °C (110 °F) for a tank having a thermal protection system incorporating a metal jacket that provides an overall thermal conductance at 15.5 °C (60 °F) of no more than 10.22 kilojoules per hour per square meter per degree Celsius (0.5 Btu per hour/per square foot/per degree F) temperature differential; or 41 °C (105 °F) for an insulated tank.

* * * * *

§ 173.314 [Amended]

22. In addition, in § 173.314, as amended at 60 FR 49074, effective July 1, 1996, the following changes are made:

a. In the paragraph (c) table, in Column 3, the wording ‘‘, 120A’’ is added in numerical order for the following entries:

Ammonia, anhydrous, or ammonia solutions > 50 percent ammonia
Ammonia solutions with > 35 percent ammonia, but ≤ 50 percent ammonia by mass
Division 2.1 materials not specifically provided in this table
Division 2.2 materials not specifically identified in this table
Division 2.3 Zone B materials not specifically identified in this table
Division 2.3 Zone C materials not specifically identified in this table
Division 2.3 Zone D materials not specifically identified in this table
Ethylamine

b. In the paragraph (c) table, in Column 3, for the entry ‘‘Dimethyl ether’’, the class designations ‘‘, 112, 114, 120’’ are added in appropriate numerical order.

PART 174—CARRIAGE BY RAIL

23. The authority citation for Part 174 continues to read as follows:

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

24. Section 174.3 is revised to read as follows:

§ 174.3 Unacceptable hazardous materials shipments.

No person may accept for transportation or transport by rail any shipment of hazardous material that is not in conformance with the requirements of this subchapter.

§ 174.8 [Removed]

25. Section 174.8 is removed.

26. Section 174.9 is revised to read as follows:

§ 174.9 Inspection and acceptance.

At each location where a hazardous material is accepted for transportation or placed in a train, the carrier shall inspect each rail car containing the hazardous material, at ground level, for required markings, labels, placards, securement of closures and leakage. This inspection may be performed in conjunction with inspections required under parts 215 and 232 of this title.

§ 174.10 [Removed]

27. Section 174.10 is removed.

§ 174.11 [Removed]

28. Section 174.11 is removed.

§ 174.18 [Removed]

29. Section 174.18 is removed.

30. Section 174.24 is revised to read as follows:

§ 174.24 Shipping papers.

A carrier may not accept or transport a hazardous material by rail unless the carrier receives a shipping paper on which the hazardous material is properly described in the manner prescribed in part 172 of this subchapter. An originating carrier must retain a copy of the shipping paper that bears the shipper’s certification as required by § 172.204 of this subchapter. This section does not apply to a material that is excepted from shipping paper requirements as specified in § 172.200 of this subchapter.

§ 174.25 [Removed]

31. Section 174.25 is removed.

32. In § 174.26, paragraph (a) is removed, paragraphs (b) and (c) are redesignated as paragraphs (a) and (b), respectively, and newly redesignated paragraph (b) is revised to read as follows:

§ 174.26 Notice to train crews of placarded cars.

* * * * *

(b) A member of the train crew of a train transporting a hazardous material must have a copy of a document for the hazardous material being transported showing the information required by part 172 of this subchapter.

§§ 174.47 and 174.48 [Removed]

33. Sections 174.47 and 174.48 are removed.

§ 174.49 [Removed]

34. Section 174.49 is removed.

35. Section 174.50 is revised to read as follows:

§ 174.50 Nonconforming or leaking packages.

Leaking packages other than tank cars may not be forwarded until repaired, reconditioned, or overpacked in accordance with § 173.3 of this subchapter. Except as otherwise provided in this section, a tank car that no longer conforms to this subchapter may not be forwarded unless repaired or approved for movement by the Associate Administrator for Safety, Federal Railroad Administration. Notification and approval must be furnished in writing, or through telephonic or electronic means with subsequent written confirmation provided within two weeks. For the applicable address and telephone number, see part 107, subpart B, Appendix A, of this chapter. A leaking tank car containing a hazardous material may be moved without repair or approval only so far as necessary to reduce or eliminate an immediate threat of harm to human health or the environment when it is determined its movement would provide greater safety than allowing the car to remain in place. In the case of a liquid leak, measures must be taken to prevent the spread of the liquid.

36. Section 174.55 is revised to read as follows:

§ 174.55 General requirements.

(a) Each package containing a hazardous material being transported by rail in a freight container or transport vehicle must be loaded so that it cannot fall or slide and must be safeguarded in such a manner that other freight cannot fall onto or slide into it under conditions normally incident to transportation. When this protection cannot be provided by using other freight, it must be provided by blocking and bracing. For examples of blocking and bracing in freight containers and transport vehicles, see Bureau of Explosives Pamphlet Nos. 6 and 6C.

(b) Each package containing a hazardous material bearing package orientation markings prescribed in § 172.312 of this subchapter must be loaded within a transport vehicle or freight container to remain in the correct position indicated by those markings during transportation.

(c) The doors of a freight container or transport vehicle may not be used to secure a load that includes a package containing a hazardous material unless the doors meet the design strength

requirements of Specification M–930 (for freight containers) and M–931 (for trailers) in the AAR's Manual of Standards and Recommended Practices and the load is also within the limits of the design strength requirements for the doors.

§ 174.67 [Amended]

37–38. In § 174.67, in paragraph (k), the wording '', except that heater coil inlet and outlet pipes must be left open for drainage'' is removed.

39. Section 174.85 is amended by revising paragraph (c) to read as follows:

§ 174.85 Position in train of placarded cars, transport vehicles, freight containers, and bulk packagings.

* * * * *

(c) A tank car containing the residue of a hazardous material must be separated from a locomotive or occupied caboose by at least one non-placarded rail car.

* * * * *

PART 178—SPECIFICATIONS FOR PACKAGINGS

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

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

§ 178.337–2 [Amended]

41. In § 178.337–2, the following changes are made:

a. In paragraph (b)(2)(i), the wording ''A–516–72'' is revised to read ''A 516''.

b. In paragraph (b)(2)(ii) the wording ''A–20–72a'' is revised to read ''A 20''.

PART 179—SPECIFICATIONS FOR TANK CARS

42. The authority citation for Part 179 continues to read as follows:

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

43. Section 179.12 is revised to read as follows:

§ 179.12 Interior heater systems.

(a) Interior heater systems shall be of approved design and materials. If a tank is divided into compartments, a separate system shall be provided for each compartment.

(b) Each interior heater system shall be hydrostatically tested at not less than 13.79 bar (200 psi) and shall hold the pressure for 10 minutes without leakage or evidence of distress.

§§ 179.12–1 through 179.12–7 [Removed]

44. Sections 179.12–1 through 179.12–7 are removed.

45. Section 179.15 is added to read as follows:

§ 179.15 Pressure relief devices.

Except for DOT Class 106, 107, 110, and 113 tank cars, tanks must have a pressure relief system that conforms to the following requirements:

(a) *Performance standard.* Each tank must have a pressure relief system having sufficient flow capacity to prevent pressure build-up in the tank to no more than the flow rating pressure of the pressure relief device in fire conditions as defined in Appendix A of the Association of American Railroads Specifications for Tank Cars.

(b) *Settings for pressure relief valves.* (1) Except as provided in paragraph (b)(2) of this section, a reclosing pressure relief valve must have a minimum start-to-discharge pressure equal to the sum of the static head and gas padding pressure and the lading vapor pressure at the following reference temperatures:

(i) 46 °C (115 °F) for noninsulated tanks;

(ii) 43 °C (110 °F) for tanks having a thermal protection system incorporating a metal jacket that provides an overall thermal conductance at 15.5 °C (60 °F) of no more than 10.22 kilojoules per hour per square meter per degree Celsius (0.5 Btu per hour/per square foot/per degree F) temperature differential; and

(iii) 41 °C (105 °F) for insulated tanks.

(2)(i) The start-to-discharge pressure may not be lower than 5.17 Bar (75 psig) or exceed 33 percent of the minimum tank burst pressure.

(ii) Tanks built prior to October 1, 1997 having a minimum tank burst pressure of 34.47 Bar (500 psig) or less may be equipped with a reclosing pressure relief valve having a start-to-discharge pressure of not less than 14.5 percent of the minimum tank burst pressure but no more than 33 percent of the minimum tank burst pressure.

(3) The vapor tight pressure of a reclosing pressure relief valve must be at least 80 percent of the start-to-discharge pressure.

(4) The flow rating pressure must be 110 percent of the start-to-discharge pressure for tanks having a minimum tank burst pressure greater than 34.47 Bar (500 psig) and from 110 percent to 130 percent for tanks having a minimum tank burst pressure less than or equal to 34.47 Bar (500 psig).

(5) The tolerance for a reclosing pressure relief valve is ±3 psi for valves with a start-to-discharge pressure of 6.89 Bar (100 psig) or less and ±3 percent for valves with a start-to-discharge pressure greater than 6.89 Bar (100 psig).

(c) *Flow capacity of pressure relief systems.* The total flow capacity of each reclosing and nonreclosing pressure relief device must conform to Appendix A of the Association of American Railroads Specifications for Tank Cars.

(d) *Flow capacity tests.* The manufacturer of any reclosing or nonreclosing pressure relief device must design and test the device in accordance with Appendix A of the Association of American Railroads Specifications for Tank Cars.

(e) *Combination pressure relief systems.* A nonreclosing pressure relief device may be used in series with a nonreclosing pressure relief valve. The pressure relief valve must be located outboard of the nonreclosing pressure relief device.

(1) When a breaking pin device is used in combination with a reclosing pressure relief valve, the breaking pin must be designed to fail at the start-to-discharge pressure specified in paragraph (b) of this section, and the reclosing pressure relief valve must be designed to discharge at not greater than 95 percent of the start-to-discharge pressure.

(2) When a rupture disc is used in combination with a reclosing pressure relief valve, the rupture disc must be designed to burst at the start-to-discharge pressure specified in paragraph (b) of this section, and the reclosing pressure relief valve must be designed to discharge at not greater than 95 percent of the start-to-discharge pressure. A device must be installed to detect any accumulation of pressure between the rupture disc and the reclosing pressure relief valve. The detection device must be a needle valve, trycock, or tell-tale indicator. The detection device must be closed during transportation.

(3) The vapor tight pressure and the start-to-discharge tolerance is based on the discharge setting of the reclosing pressure relief device.

(f) *Nonreclosing pressure relief device.* In addition to paragraphs (a), (b)(4), (c), and (d) of this section, a nonreclosing pressure relief device must conform to the following requirements:

(1) After October 1, 1998, a nonreclosing pressure relief device must incorporate a rupture disc designed to burst at 33 percent of the tank burst pressure.

(2) The approach channel and the discharge channel may not reduce the required minimum flow capacity of the pressure relief device.

(3) The nonreclosing pressure relief device must be designed to prevent interchange with other fittings installed on the tank car, must have a structure that encloses and clamps the rupture disc in position (preventing any distortion or damage to the rupture disc

when properly applied), and must have a cover, with suitable means of preventing misplacement, designed to direct any discharge of the lading downward.

(4) The nonreclosing pressure relief device must be closed with a rupture disc that is compatible with the lading and manufactured in accordance with Appendix A of the AAR Specifications for Tank Cars. The tolerance for a rupture disc is +0 to −15 percent of the burst pressure marked on the disc.

(g) *Location of relief devices.* Each pressure relief device must communicate with the vapor space above the lading as near as practicable on the longitudinal center line and center of the tank.

(h) *Marking of pressure relief devices.* Each pressure relief device and rupture disc must be permanently marked in accordance with the Appendix A of the Association of American Railroads Specifications for Tank Cars.

46. In § 179.100–7, the table in paragraph (a) is revised to read as follows:

§ 179.100–7 Materials.

(a) * * *

Specifications	Minimum tensile strength (p.s.i.) welded condition[1]	Minimum elongation in 2 inches (percent) welded condition (longitudinal)
AAR TC128, Gr. B	81,000	20
ASTM A 302, Gr. B	80,000	19
ASTM A 516	70,000	20
ASTM A 537, Class 1	70,000	23

[1] Maximum stresses to be used in calculations.

* * * * *

§ 179.100–7 [Amended]

47. In addition, in § 179.100–7, the following changes are made:

a. In the table in paragraph (b), the last entry ''ASTM B 209–70, Alloy 6061[4]'' is removed and, in the first column, the wording ''209–70'' is revised to read ''209'' each place it appears.

b. In the footnotes to the paragraph (b) table, Footnotes 4 and 5 are removed and Footnote 6 is redesignated as Footnote 4.

c. In the table in paragraph (c)(1), the wording ''A240–70'' is revised to read ''A 240'' each place it appears.

d. In paragraph (c)(2)(i), the wording ''A262–68'' is revised to read ''A 262'', the word ''Recommended'' is revised to read ''Standard'', and the word ''Austenitic'' is added immediately before ''Stainless Steel''.

§ 179.100–10 [Amended]

48. In § 179.100–10, in paragraph (c), the wording ''ASTM A240–70'' is revised to read ''ASTM A 240''.

§ 179.100–15 [Removed]

49. Section 179.100–15 is removed and reserved.

§ 179.100–20 [Amended]

50. In § 179.100–20, in the paragraph (a) table, for the entry ''Material'', in the second column, the wording ''ASTM A515–70'' is revised to read ''ASTM A 516''.

51. Section 179.101–1 is revised to read as follows:

§ 179.101–1 Individual specification requirements.

In addition to § 179.100, the individual specification requirements are as follows:

DOT specification	Insulation	Bursting pressure (psi)	Minimum plate thickness (inches)	Test pressure (psi)	Manway cover thickness	Bottom outlet	Bottom washout	Reference (179.***)
105A100ALW	Yes	500	5/8	100	[2] 2 1/2	No	No.	
105A200ALW	Yes	500	5/8	200	[2] 2 1/2	No	No.	
105A300ALW	Yes	750	5/8	300	[2] 2 5/8	No	No.	
105A100W	Yes	500	[3] 9/16	100	2 1/4	No	No.	
105A200W	Yes	500	[3] 9/16	200	2 1/4	No	No.	
105A300W	Yes	750	[1] 11/16	300	[7] 2 1/4	No	No.	
105A400W	Yes	1,000	[1] 11/16	400	[7] 2 1/4	No	No.	
105A500W	Yes	1,250	[1] 11/16	500	2 1/4	No	No	102–1, 102–2.
105A600W	Yes	1,500	[1] 11/16	600	2 1/4	No	No	102–4, 102–17.
109A100ALW	Optional	500	5/8	100	[2] 2 1/2	No	Optional.	
109A200ALW	Optional	500	5/8	200	[2] 2 1/2	No	Optional.	
109A300ALW	Optional	750	5/8	300	[2] 2 5/8	No	Optional.	
109A300W	Optional	500	[1] 11/16	300	2 1/4	No	Optional.	
112A200W	Optional[4]	500	[3 5] 9/16	200	2 1/4	No	No.	
112A340W	Optional[4]	850	[1] 11/16	340	2 1/4	No	No.	
112A400W	Optional[4]	1,000	[1] 11/16	400	2 1/4	No	No.	
112A500W	Optional[4]	1,250	[1] 11/16	500	2 1/4	No	No.	
114A340W	Optional[4]	850	[1] 11/16	340	[6]	Optional	Optional	103.
114A400W	Optional[4]	1,000	[1] 11/16	400	[6]	Optional	Optional	103.
120A200ALW	Yes	500	5/8	200	[2] 2 1/2	Optional	Optional	103.
120A100W	Yes	500	[3] 9/16	100	2 1/4	Optional	Optional	103.
120A200W	Yes	500	[3] 9/16	200	2 1/4	Optional	Optional	103.
120A300W	Yes	750	[1] 11/16	300	2 1/4	Optional	Optional	103.
120A400W	Yes	1,000	[1] 11/16	400	2 1/4	Optional	Optional	103.
120A500W	Yes	1,250	[1] 11/16	500	2 1/4	Optional	Optional	103.

[1] When steel of 65,000 to 81,000 p.s.i. minimum tensile strength is used, the thickness of plates shall be not less than 5/8 inch, and when steel of 81,000 p.s.i. minimum tensile strength is used, the minimum thickness of plate shall be not less than 9/16 inch.

[2] When approved material other than aluminum alloys are used, the thickness shall be not less than 2 1/4 inches.

[3] When steel of 65,000 p.s.i. minimum tensile strength is used, minimum thickness of plates shall be not less than 1/2 inch.

[4] Tank cars not equipped with a thermal protection or an insulation system used for the transportation of a Class 2 (compressed gas) material must have at least the upper two-thirds of the exterior of the tank, including manway nozzle and all appurtenances in contact with this area, finished with a reflective coat of white paint.

[5] For inside diameter of 87 inches or less, the thickness of plates shall be not less than 1/2 inch.

[6] See AAR specifications for tank cars, Appendix E, E4.01 and § 179.103–2.

[7] When the use of nickel is required by the lading, the thickness shall not be less than two inches.

§ 179.102–1 [Amended]

52. In § 179.102–1, in paragraph (a)(1), the following changes are made:

a. In the first sentence, the wording ''A516–79b'' is revised to read ''A 516''.

b. At the end of the third sentence, the wording ''A370–77'' is revised to read ''A 370''.

c. In the last sentence, the wording ''A240–79'' is revised to read ''A 240''.

§ 179.102–2 [Amended]

53. In § 179.102–2, in paragraph (a)(1), the wording ''A516–70a'' is revised to read ''A 516'' and the wording ''TC–128–70'' is revised to read ''TC–128''.

§ 179.102–4 [Amended]

54. In § 179.102–4, the following changes are made:

a. Paragraph (d) is removed.

b. Paragraphs (b) and (c) are redesignated as paragraphs (a) and (b), respectively.

c. Paragraphs (e) through (k) are redesignated as paragraphs (c) through (i), respectively.

d. Paragraph (l) is removed.

55. In § 179.103–5, in paragraph (a)(3), the word ''valve'' is removed, and paragraph (b)(2) is revised to read as follows:

§ 179.103–5 Bottom outlets.

* * * * *

(b) * * *

(2) To provide for the attachment of unloading connections, the discharge end of the bottom outlet nozzle or reducer, the valve body of the exterior valve, or some fixed attachment thereto, shall be provided with one of the following arrangements or an approved modification thereof. (See appendix E. Fig. E17 of the AAR Specifications for Tank Cars for illustrations of some of the possible arrangements.)

(i) A bolted flange closure arrangement including a minimum 1-inch NPT pipe plug (see Fig. E17.1) or including an auxiliary valve with a threaded closure.

(ii) A threaded cap closure arrangement including a minimum 1-inch NPT pipe plug (see Fig. E17.2) or including an auxiliary valve with a threaded closure.

(iii) A quick-coupling device using a threaded plug closure of at least 1-inch NPT or having a threaded cap closure with a minimum 1-inch NPT pipe plug (see Fig. E17.3 through E17.5). A minimum 1-inch auxiliary test valve with a threaded closure may be substituted for the 1-inch pipe plug (see Fig E17.6). If the threaded cap closure does not have a pipe plug or integral auxiliary test valve, a minimum 1-inch NPT pipe plug shall be installed in the outlet nozzle above the closure (see Fig. E17.7).

(iv) A two-piece quick-coupling device using a clamped dust cap must include an in-line auxiliary valve, either integral with the quick-coupling device or located between the primary bottom outlet valve and the quick-coupling device. The quick-coupling device closure dust cap or outlet nozzle shall be fitted with a minimum 1-inch NPT closure (see Fig. E17.8 and E17.9).

* * * * *

56. Section 179.200–7 is amended by revising the table in paragraph (b) to read as follows:

§ 179.200–7 Materials.

* * * * *

(b) * * *

Specifications	Minimum tensile strength (p.s.i.) welded condition [1]	Minimum elongation in 2 inches (percent) weld metal (longitudinal)
AAR TC 128, Gr. B	81,000	19
ASTM A 516, Gr. 70	70,000	20

[1] Maximum stresses to be used in calculations.

* * * * *

§ 179.200–7 [Amended]

57. In addition, in § 179.200–7, the following changes are made:

a. In the table in paragraph (c), the last entry ''ASTM B 209–70, Alloy 6061 [4]'' is removed, and in the first column, for each entry, the wording ''209–70'' is revised to read ''209''.

b. In the paragraph (c) table, Footnotes 4 and 5 are removed and Footnote 6 is redesignated as Footnote 4.

c. In the table in paragraph (d), in the first column, for each entry, the wording ''240–70'' is revised to read ''240''.

d. In Footnote 2 in the paragraph (d) table, the wording ''the following procedures in ASTM Specification A 262–68 titled, 'Recommended Practices for Detecting Susceptibility to Intergranular Attack in Stainless Steels,' and must exhibit corrosion rates not exceeding the following:'' is revised to read ''Practice A of ASTM Specification A 262 titled, 'Standard Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels.' If the specimen does not pass Practice A, Practice B or C must be used and the corrosion rates may not exceed the following:''.

e. In the table in paragraph (e), in the first column, the wording ''162–692'' is revised to read ''1622''.

f. In the table in paragraph (f), in the first column, the wording ''302–69a'' is revised to read ''302''.

58. In § 179.200–14, the first sentence of paragraph (a) and the first sentence of paragraph (b) are revised to read as follows:

§ 179.200–14 Expansion capacity.

(a) Tanks shall have expansion capacity as prescribed in this subchapter. * * *

(b) For tank cars having an expansion dome, the expansion capacity is the total capacity of the tank and dome combined. * * *

* * * * *

59. In § 179.200–16, the first sentence in paragraph (d) is revised to read as follows:

§ 179.200–16 Gauging devices, top loading and unloading devices, venting and air inlet devices.

* * * * *

(d) When using a visual gauging device on a car with a hinged manway cover, an outage scale visible through the manway opening shall be provided. * * *

* * * * *

§ 179.200–18 [Removed]

60. Section 179.200–18 is removed.

§ 179.200–24 [Amended]

61. In § 179.200–24, in the paragraph (a) table, for the entry ''Material'' , in the second column, the wording ''ASTM A285 C'' is revised to read ''ASTM A 516–GR 70''.

62. Section 179.201–1 is revised to read as follows:

§ 179.201–1 Individual specification requirements.

In addition to § 179.200, the individual specification requirements are as follows:

DOT Specification [1]	Insulation	Bursting pressure (psi)	Minimum plate thickness (inches)	Test pressure (psi)	Bottom outlet	Bottom washout	References (179.201 - ***)
103A–ALW	Optional	240	½	60	No	Optional.	

DOT Specification [1]	Insulation	Bursting pressure (psi)	Minimum plate thickness (inches)	Test pressure (psi)	Bottom outlet	Bottom washout	References (179.201 - ***)
103AW	Optional	240	179.201–2	60	No	Optional.	
103ALW	Optional	240	½	60	Optional	Optional	6(a).
103ANW	Optional	240	179.201–2	60	No	Optional	6(d).
103BW	Optional	240	179.201–2	60	No	No	6(b), 3.
103CW	Optional	240	179.201–2	60	No	No	6(c), 4,5.
103DW	Optional	240	179.201–2	60	Optional	Optional	6(a), 6(c), 4, 5.
103EW	Optional	240	179.201–2	60	No	Optional	6(c), 4, 5.
103W	Optional	240	179.201–2	60	Optional	Optional	6(a).
104W	Yes	240	179.201–2	60	Optional	Optional	6(a).
111A60ALW1	Optional	240	½	60	Optional	Optional	6(a).
111A60ALW2	Optional	240	½	60	No	Optional.	
111A60W1	Optional	240	7/16	60	Optional	Optional	6(a).
111A60W2	Optional	240	7/16	60	No	Optional.	
111A60W5	Optional	240	7/16	60	No	No	3, 6(b).
111A60W6	Optional	240	7/16	60	Optional	Optional	4, 5, 6(a), 6(c).
111A60W7	Optional	240	7/16	60	No	No	4, 5, 6(a).
111A100ALW1	Optional	500	⅝	100	Optional	Optional	6(a).
111A100ALW2	Optional	500	⅝	100	No	Optional.	
111A100W1	Optional	500	7/16	100	Optional	Optional	6(a).
111A100W2	Optional	500	7/16	100	No	Optional.	
111A100W3	Yes	500	7/16	100	Optional	Optional	6(a).
111A100W4	Yes (see 179.201–11).	500	7/16	100	No	No	6(a), 8, 10.
111A100W5	Optional	500	7/16	100	No	No	3.
111A100W6	Optional	500	7/16	100	Optional	Optional	4, 5, 6(a) and 6(c).
111A100W7	Optional	500	7/16	100	No	No	4, 5, 6(c).

[1] Tanks marked ''ALW'' are constructed from aluminum alloy plate; ''AN'' nickel plate; ''CW,'' ''DW,'' ''EW,'' ''W6,'' and ''W7'' high alloy steel or manganese-molybdenum steel plate; and those marked ''BW'' or ''W5'' must have an interior lining that conforms to § 179.201–3.

§ 179.201–4 [Amended]

63. In § 179.201–4, at the end of the paragraph, the wording ''AAR Specifications for Tank Cars, appendix M, M3.03(b) and M4.05(d)'' is revised to read ''ASTM Specification A 262''.

§ 179.201–5 [Amended]

64. In § 179.201–5, in paragraphs (a) and (b), the wording ''ASTM A240–70'' is revised to read ''ASTM Specification A 240'' each place it appears.

§ 179.201–7 [Removed]

65. Section 179.201–7 is removed.

66. In § 179.220–7, the table in paragraph (b) is revised to read as follows:

§ 179.220–7 Materials.

* * * * *

(b) * * *

Specifications	Minimum tensile strength (p.s.i.) welded condition [1]	Minimum elongation in 2 inches (percent) weld metal (longitudinal)
AAR TC 128, Gr. B	81,000	19
ASTM A 516, Gr. 70	70,000	20

[1] Maximum stresses to be used in calculations.

* * * * *

§ 179.220–7 [Amended]

67. In addition, in § 179.220–7, the following changes are made:

a. In the table in paragraph (c), the last entry ''ASTM B 209–70, Alloy 6061 [4]'' is removed, and the wording ''ASTM B 209–70'' is revised to read ''ASTM B 209'' each place it appears.

b. In the table in paragraph (d), the wording ''ASTM 240–70'' is revised to read ''ASTM 240'' each place it appears.

c. In the table in paragraph (e), the wording ''ASTM A 302–70a'' is revised to read ''ASTM A 302''.

§ 179.220–19 [Removed]

68. Section 179.220–19 is removed.

69. Section 179.221–1 is revised to read as follows:

§ 179.221–1 Individual specification requirements.

In addition to § 179.220, the individual specification requirements are as follows:

DOT specification [1]	Insulation	Bursting pressure (psi)	Minimum plate thickness (inches)	Test pressure (psi)	Bottom outlet	Bottom washout	Reference (179.221–***)
115A60ALW	Yes	240	3/16	60	Optional.	Optional	
115A60W1	Yes	240	⅛	60	Optional	Optional	1
115A60W6	Yes	240	⅛	60	Optional	Optional	1

[1] Tanks converted to DOT–111A series from existing forge-welded specification, DOT–105A 300, 490, or 500 tanks, by modification using conversion details complying with DOT–111A specification requirements, shall be stenciled by substituting the letter ''F'' for the letter ''W'' in the specification designation.

§ 179.222 [Removed]

70. Section 179.222 is removed.

§ 179.222–1 [Removed]

71. Section 179.222–1 is removed.

§ 179.300–7 [Amended]

72. In § 179.300–7, the following changes are made:

a. In the table at the end of paragraph (a), the entries for ''ASTM A 285–69'' and ''ASTM A 515–69'' are removed.

b. Paragraph (b) is removed and reserved.

§ 179.500–17 [Amended]

73. In § 179.500–17, paragraph (a)(7) is removed.

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Rose A. McMurray,

Acting Deputy Administrator, Research and Special Programs Administration.

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