

**§ 179.204 Individual specification requirements applicable to DOT-117 tank car tanks.**

**§ 179.204-1 Applicability.**

Each tank built under these specifications must conform to either the requirements of §§ 179.204-1 through 179.204-10, or the performance standard requirements of § 179.204-11.

**§ 179.204-3 Type.**

(a) *General.* The tank car must either be designed to the DOT 117 specification or conform to the performance specification prescribed in § 179.204-11.

(b) *Approval.* The tank car design must be approved by the Associate Administrator for Railroad Safety/Chief Safety Officer, Federal Railroad Administration, FRA, 1200 New Jersey Ave. SE., Washington, DC 20590, and must be constructed to the conditions of that approval in accordance with § 179.13.

(c) *Design.* The design must meet the individual specification requirements of § 179.204.

**§ 179.204-4 Thickness of plates.**

The wall thickness after forming of the tank shell and heads must be, at a minimum,  $\frac{7}{16}$  of an inch AAR TC-128 Grade B, in accordance with § 179.200-7(b).

**§ 179.204-5 Tank head puncture resistance system.**

The DOT 117 specification tank car must have a tank head puncture resistance system. The full height head shields must have a minimum thickness of  $\frac{1}{2}$  inch.

**§ 179.204-6 Thermal protection systems.**

The DOT 117 specification tank car must have a thermal protection system. The thermal protection system must be designed in accordance with § 179.18 and include a reclosing pressure relief device in accordance with § 173.31 of this subchapter.

**§ 179.204-7 Jackets.**

The entire thermal protection system must be covered with a metal jacket of a thickness not less than 11 gauge

A1011 steel or equivalent; and flashed around all openings so as to be weather tight. The exterior surface of a carbon steel tank and the inside surface of a carbon steel jacket must be given a protective coating.

**§ 179.204-8 Bottom outlets.**

If the tank car is equipped with a bottom outlet, the handle must be removed prior to train movement or be designed with protection safety system(s) to prevent unintended actuation during train accident scenarios.

**§ 179.204-9 Top fittings protection.**

The tank car tank must be equipped per AAR Specifications Tank Cars, appendix E paragraph 10.2.1 (IBR, see § 171.7 of this subchapter).

**§ 179.204-10 DOT 117 design.**

*The following is an overview of design requirements for a DOT Specification 117 tank car.*

DOT specification	Insulation	Bursting pressure (psig)	Minimum plate thickness (inches)	Test pressure (psig)	Bottom outlet
117A100W ...	Optional .....	500	7/16	100	Optional.

**§ 179.204-11 Performance standard requirements.**

(a) *Approval.* Design, testing, and modeling results must be reviewed and approved by the Associate Administrator for Railroad Safety/Chief Safety Officer, Federal Railroad Administration (FRA), 1200 New Jersey Ave. SE., Washington, DC 20590.

(b) *Approval to operate at 286,000 gross rail load (GRL).* In addition to the requirements of paragraph (a) of this section, the tank car design must be approved, and the tank car must be constructed to the conditions of an approval issued by the Associate Administrator for Railroad Safety/Chief Safety Officer, FRA, in accordance with § 179.13.

(c) *Puncture resistance.*

(1) Minimum side impact speed: 9 mph when impacted at the longitudinal and vertical center of the shell by a rigid 12-inch by 12-inch indenter with a weight of 286,000 pounds.

(2) Minimum head impact speed: 17 mph when impacted at the center of the head by a rigid 12-inch by 12-inch indenter with a weight of 286,000 pounds.

(d) *Thermal protection systems.* The tank car must be equipped with a thermal protection system. The thermal

protection system must be designed in accordance with § 179.18 and include a reclosing pressure relief device in accordance with § 173.31 of this subchapter.

(e) *Bottom outlet.* If the tank car is equipped with a bottom outlet, the handle must be removed prior to train movement or be designed with protection safety system(s) to prevent unintended actuation during train accident scenarios.

(f) *Top fittings protection.*

(1) *New construction.* The tank car tank must be equipped per AAR Specifications Tank Cars, appendix E paragraph 10.2.1 (IBR, see § 171.7 of this subchapter).

(2) *Existing tank cars.* Existing tank car tanks may continue to rely on the equipment installed at the time of manufacture.

Issued in Washington, DC, on July 23, 2014, under authority delegated in 49 CFR 1.97.

**Anthony R. Foxx,**

*Secretary of Transportation.*

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**DEPARTMENT OF TRANSPORTATION**

**Pipeline and Hazardous Materials Safety Administration**

**49 CFR Parts 130 and 174**

**[Docket No. PHMSA-2014-0105 (HM-251B)]**

**RIN 2137-AF08**

**Hazardous Materials: Oil Spill Response Plans for High-Hazard Flammable Trains**

**AGENCY:** Pipeline and Hazardous Materials Safety Administration (PHMSA), DOT.

**ACTION:** Advance Notice of Proposed Rulemaking (ANPRM).

**SUMMARY:** PHMSA is issuing this ANPRM in conjunction with a notice of proposed rulemaking (NPRM)—Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains (2137-AE91), which PHMSA is also publishing today. In this ANPRM, PHMSA, in consultation with the Federal Railroad Administration (FRA), seeks comment on potential revisions to its regulations that would expand the applicability of comprehensive oil spill response plans (OSRPs) to high-hazard

flammable trains (HHFTs) based on thresholds of crude oil that apply to an entire train consist.

**DATES:** Comments must be received by September 30, 2014.

**ADDRESSES:** You may submit comments identified by the docket number PHMSA-2014-0105 (HM-251B) by any of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
- *Fax:* 1-202-493-2251.
- *Mail:* Docket Management System; U.S. Department of Transportation, West Building, Ground Floor, Room W12-140, Routing Symbol M-30, 1200 New Jersey Avenue SE., Washington, DC 20590.
- *Hand Delivery:* To the Docket Management System; Room W12-140 on the ground floor of the West Building, 1200 New Jersey Avenue SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*Instructions:* All submissions must include the agency name and docket number for this notice at the beginning of the comment. To avoid duplication, please use only one of these four methods. All comments received will be posted without change to <http://www.regulations.gov> and will include any personal information you provide.

*Docket:* For access to the dockets to read background documents or comments received, go to <http://www.regulations.gov> or DOT's Docket Operations Office located at U.S. Department of Transportation, West Building, Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

*Privacy Act:* In accordance with 5 USC 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, to [www.regulations.gov](http://www.regulations.gov), as described in the system of records notice, DOT/ALL-14 FDMS, accessible through [www.dot.gov/privacy](http://www.dot.gov/privacy). In order to facilitate comment tracking and response, we encourage commenters to provide their name, or the name of their organization; however, submission of names is completely optional. Whether or not commenters identify themselves, all timely filed comments will be fully

considered. If you wish to provide comments containing proprietary or confidential information, please contact the agency for alternate submission instructions.

**FOR FURTHER INFORMATION CONTACT:** Rob Benedict, (202) 366-8553, Standards and Rulemaking Division, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 1200 New Jersey Ave. SE., Washington, DC 20590-0001; Karl Alexy, (202) 493-6245, Office of Safety Assurance and Compliance, Federal Railroad Administration; or Roberta Stewart, (202) 493-1345, Office of Chief Counsel, Federal Railroad Administration.

#### SUPPLEMENTARY INFORMATION:

##### Background

The Federal Water Pollution Control Act (FWPCA) as amended by the Oil Pollution Act of 1990 (OPA), directs the President, at section 311(j)(1)(C) (33 U.S.C. 1321(j)(1)(C)) and section 311(j)(5) (33 U.S.C. 1321(j)(5)), respectively, to issue regulations “establishing procedures, methods, and equipment and other requirements for equipment to prevent discharges of oil<sup>1</sup> and hazardous substances from vessels and from onshore facilities and offshore facilities, and to contain such discharges.” OPA directs the President to issue regulations requiring owners and operators of certain vessels and onshore and offshore oil facilities to develop, submit, update and in some cases obtain approval of OSRPs. 33 U.S.C. 1321(j)(5), Pub. L. 101-380 (1990). The authority to regulate transportation-related onshore facilities (i.e., motor carriers and railways) was later delegated to PHMSA's predecessor agency, the Research and Special Programs Administration (RSPA).

On June 17, 1996, RSPA published a final rule issuing requirements that meet the intent of the FWPCA (61 FR 30533). This rule adopted requirements for packaging, communication, spill response planning, and response plan implementation intended to prevent and contain spills of oil during transportation. Regarding spill response planning, a basic OSRP is required for oil shipments in a packaging having a capacity of 3,500 gallons or more and a comprehensive OSRP is required for oil

shipments in a package containing more than 42,000 gallons (1,000 barrels).

RSPA clarified that the purpose of an OSRP is to ensure that personnel are trained and available and equipment is in place to respond to an oil spill, and that procedures are established before a spill occurs, so that required notifications and appropriate response actions will follow quickly when there is a spill. Neither the basic nor the comprehensive OSRP is required to address response on a vehicle- or location-specific basis. A nationwide, regional or other generic plan is acceptable, provided that it covers the range of spill scenarios that the owner or operator foreseeably could encounter. Thus, scenarios ranging from a minor discharge to a “worst-case discharge,” must be addressed, as well as the range of topographical and climatological conditions the owner or operator may face. The OSRP also must describe the response when the discharge results from, or is accompanied by, a complicating condition, such as explosion or fire. RSPA outlined that a comprehensive OSRP must, at a minimum, address the following:

- (1) Range of response scenarios that foreseeably could occur;
- (2) Qualified individual, the alternate qualified individual, and all other personnel with a role in spill response;
- (3) Training, including drills, required for each of these persons;
- (4) Equipment necessary for response to the maximum extent practicable in each of the identified scenarios;
- (5) Means by which the availability of personnel and equipment will be ensured to respond to a spill to the maximum extent practicable;
- (6) Governmental officials and others to be notified in the event of a spill, and the notification procedure to be followed;
- (7) Means for communicating among responsible personnel and between personnel and officials during a response; and
- (8) Procedures to be followed during a response.

The following table outlines the specific differences between a basic and comprehensive OSRP. The shaded rows of the table indicate requirements that are not part of the basic OSRP, but are included in the comprehensive OSRP.

<sup>1</sup> For purposes of 49 CFR Part 130, *oil* means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse,

and oil mixed with the wastes other than dredged spoil. 49 CFR 130.5. This includes non-petroleum oil such as animal fat, vegetable oil, or other non-

petroleum oil. Ethanol is not included in this definition.

Table 2: Comparison of Basic and Comprehensive OSRPs by Requirement			
Category	Requirement	Type of OSRP	
		Basic	Comprehensive
Preparation	Sets forth the manner of response to a discharge.	Yes	Yes
Preparation	Accounts for the maximum potential discharge of the packaging.	Yes	Yes
Personnel / Equipment	Identifies private personnel and equipment available for response.	Yes	Yes
Personnel / Coordination	Identifies appropriate persons and agencies (including telephone numbers) to be contacted, including the NRC.	Yes	Yes
Documentation	Is kept on file at the principal place of business and at the dispatcher's office.	Yes	Yes
Coordination	Reflects the requirements of the National Contingency Plan (40 CFR Part 300) and Area Contingency Plans.	No	Yes
Personnel / Coordination	Identifies the qualified individual with full authority to implement removal actions, and requires immediate communications between the individual and the appropriate Federal official and the persons providing spill response personnel and equipment.	No	Yes
Personnel / Equipment / Coordination	Identifies and ensures by contract or other means the availability of, private personnel, and the equipment necessary to remove, to the maximum extent practicable, a worst-case discharge (including that resulting from fire or explosion) and to mitigate or prevent a substantial threat of such a discharge.	No	Yes
Training	Describes the training, equipment, testing, periodic unannounced drills, and response actions of personnel, to be carried out under the plan to ensure safety and to mitigate or prevent discharge or the substantial threat of such a discharge.	No	Yes
Documentation	Is submitted (and resubmitted in the event of a significant change), to the Administrator of FRA.	No	Yes

### Request for Public Comment

As discussed above, we believe that most, if not all, of the rail community transporting oil, including crude oil transported as a hazardous material, is subject to the basic OSRP requirement of 49 CFR 130.31(a), based on the understanding that most, if not all, rail tank cars being used to transport crude oil have a capacity greater than 3,500 gallons. However, a comprehensive OSRP for shipment of oil is only required when the oil is in a quantity greater than 42,000 gallons per package. Accordingly, the number of railroads

required to have a comprehensive OSRP is much lower, or possibly non-existent, because a very limited number of rail tank cars in use would be able to transport a volume of 42,000 gallons in a single package.<sup>2</sup>

In setting the current OSRP threshold quantities, RSPA relied on the FWPCA mandate for regulations requiring a comprehensive OSRP to be prepared by an owner or operator of an onshore

<sup>2</sup> The 2014 AAR's Universal Machine Language Equipment Register (UMLER) numbers showed 5 tank cars listed with a capacity equal to or greater than 42,000 gallons, and none of these cars were being used to transport oil or petroleum products.

facility that, "because of its location, could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters, adjoining shorelines, or exclusive economic zone." 33 U.S.C. 1321(j)(5)(C)(iv). For a more detailed discussion of RSPA's codification of the OSRP requirements into the HMR and the corresponding mandates from the FWPCA which were the baseline for such regulations, see the background section of RSPA's June 17, 1996, final rule (61 FR 30532). In that final rule, RSPA discussed a 1,000,000-gallon threshold that would apply to

shipments rather than packages as an option. Specifically, RSPA stated,

Conversely, the 1,000,000-gallon threshold adopted by EPA [Environmental Protection Agency] is contingent on several factors, including restrictive provisions that the facility may not transfer oil over water to or from vessels and that the facility's proximity to a public drinking water intake must be sufficiently distant to assure that the intake would not be shut down in the event of a discharge. Further, the EPA threshold refers to the capacity not of a single fixed storage tank, but of the entire facility, including barrels and drums stored at the facility. In summary, this example also is not analogous to hazards routinely encountered during transportation by railway and highway.

During the June 28, 1993 public meeting, the "substantial harm" threshold was discussed at length, but participants did not agree on what volume of oil reasonably could cause substantial harm to the marine environment. Also, the 42,000-gallon threshold is supported by a number of comments to the docket citing its use by the EPA in related sections of the Code of Federal Regulations. Consequently, RSPA believes its determination to use a threshold value of 42,000 gallons in a single packaging is appropriate and reasonable.

In the past, and in the absence of agreement among participants in the rulemaking process on a volume of oil that could reasonably be expected to cause substantial harm to the environment, we stated that 42,000 gallons in a single packaging is a reasonable quantity of liquid for a finding of substantial harm. As discussed in the June 17, 1996, RSPA final rule, an incident involving the transportation of 1,000,000 gallons of crude oil could cause substantial harm, even if not in a single packaging. This finding is consistent with Facility Response Plans (FRPs) for "substantial harm" sites (see 40 CFR 112.20 and 112.21). FRP facilities require an approved plan for one million gallons or more of oil storage capacity, or transfers of oil over water in vessels that have oil storage capacities of 42,000 gallons or more. While a single tank car is not likely to hold 42,000 gallons of crude oil, the increasing reliance on HHFTs<sup>1</sup> poses a risk that was not considered when RSPA made its determination on that threshold.

The consequences, including environmental impacts, of a derailment of an HHFT have been demonstrated in recent train accidents in Lac Mégantic, Quebec, Canada; Aliceville, AL; and

Casselton, ND.<sup>2</sup> On January 23, 2014, in response to its investigation of the Lac-Mégantic accident,<sup>3</sup> the National Transportation Safety Board (NTSB) issued three recommendations to PHMSA. Of note here is Safety Recommendation (SR) R-14-5,<sup>4</sup> which requested that PHMSA revise the spill response planning thresholds prescribed in 49 CFR Part 130 to require comprehensive OSRPs that effectively provide for the carriers' ability to respond to worst-case discharges resulting from accidents involving unit trains or blocks of tank cars transporting oil and petroleum products. In this recommendation, the NTSB raised a concern that, "Because there is no mandate for railroads to develop comprehensive plans or ensure the availability of necessary response resources, carriers have effectively placed the burden of remediating the environmental consequences of an accident on local communities along their routes." In light of these accidents and NTSB SR R-14-5, PHMSA is now re-examining whether it is more appropriate to consider the train in its entirety when setting the threshold for comprehensive OSRPs.

Considering the typical 30,000-gallon capacity rail tank car used for the transport of crude oil, a 1,000,000-gallon threshold for oil on a train would translate to requiring a comprehensive OSRP for trains composed of approximately thirty-five cars of crude oil; all of the aforementioned train accidents involved train consists<sup>5</sup> with more than 70 tank cars of crude oil, and PHMSA expects the business practices for HHFTs would result in train consists that exceed 35 crude oil cars. Using a 42,000 gallon per train consist threshold, PHMSA expects that a train consist with two crude oil carloads would trigger the requirement for comprehensive OSRPs; PHMSA seeks comment below on what impact that would have on current business practices for shipping crude oil by rail.

In order to inform a potential future NPRM that would adjust threshold quantities to trigger comprehensive OSRP requirements for HHFTs, PHMSA seeks comments on the questions below. The most helpful comments reference a specific portion of the ANPRM, explain

the reason for any recommended change, include supporting data, and explain the source, methodology, and key assumptions of the supporting data.

1. When considering appropriate thresholds for comprehensive OSRPs, which of the following thresholds would be most appropriate and provide the greatest potential for increased safety? What thresholds would be most cost-effective?

- a. 1,000,000 gallons or more of crude oil per train consist;
- b. An HHFT of 20 or more carloads of crude oil per train consist;
- c. 42,000 gallons of crude oil per train consist; or
- d. Another threshold.

2. In exploring the applicability of comprehensive OSRP requirements to trains carrying large volumes of crude oil, are the requirements of comprehensive OSRPs clear enough for railroads and shippers to understand what would be required of them? If not, what greater specificity should be added?

3. In exploring the applicability of comprehensive OSRP requirements to trains carrying large volumes of crude oil, are there elements that should be added, removed, or modified from the comprehensive OSRP requirements? Please consider the regulations covering other modes of transporting crude oil (such as pipelines), and the relevant differences between modes of operation, in your response.

4. What costs might be incurred in developing comprehensive OSRPs and submitting them to FRA for approval? To the extent possible, please provide detailed estimates.

5. What costs might be incurred to procure or contract for resources to be present to remove discharges? In these estimates, what are your assumptions about the placement of equipment along the track, types of equipment, and maximum time to contain a worst-case discharge?

6. What costs might be incurred to conduct training, drills, and equipment testing? To the extent possible, please provide detailed estimates.

7. It is assumed that most railroads and shippers currently have basic OSRPs in place. What, if any, aspects beyond the basic plan requirements do these plans voluntarily address? To what extent do current plans meet the comprehensive OSRP requirements, including procurement or contracting for resources to be present to respond to discharges?

8. To what extent should recent commitments to the Secretary of Transportation's "Call to Action," and other voluntary industry actions, inform the exploration of additional planning requirements for trains carrying large volumes of crude oil? For example, how should voluntary emergency response equipment inventories and hazardous material training efforts be factored into the exploration of additional planning requirements? Should PHMSA require that resources be procured to respond on a per route basis, or at the state/county/city/etc. level? What is the rationale for your response?

<sup>2</sup> For more extensive discussion of recent accidents involving crude oil transportation by rail, please see the NPRM for 2137-AE91, published today.

<sup>3</sup> <http://www.bst-tsb.gc.ca/eng/enquetes-investigations/rail/2013/R13D0054/R13D0054.asp>.

<sup>4</sup> <http://www.nts.gov/doclib/recletters/2014/R-14-004-006.pdf>.

<sup>5</sup> A train consist is considered the rolling stock, exclusive of the locomotive, making up a train.

<sup>1</sup> In today's NPRM 2137-AE91, the proposed definition for an HHFT in section 171.8 is: 20 or more carloads in a single train of a Class 3 flammable liquid. This definition does not include combustible liquids.

9. Should PHMSA require that the basic and/or the comprehensive OSRPs be provided to State Emergency Response Commissions (SERCs), Tribal Emergency Response Commissions (TERCs), Fusion Centers, or other entities designated by each state, and/or made available to the public?

Should other federal agencies with responsibilities for emergency response under the National Contingency Plan (e.g. U.S. Coast Guard, EPA) also review and comment on the comprehensive OSRP with PHMSA?

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**Anthony R. Foxx,**  
*Secretary of Transportation.*

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