4910-06-P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Safety Advisory 2014-01]

Pipeline and Hazardous Materials Safety Administration

[Docket No. PHMSA-2014-0049; Notice No. 14-07]

RECOMMENDATIONS FOR TANK CARS USED FOR THE TRANSPORTATION OF PETROLEUM CRUDE OIL BY RAIL

AGENCY: Federal Railroad Administration (FRA) and Pipeline and Hazardous Materials Safety Administration (PHMSA), Department of Transportation (DOT).

ACTION: Notice of Safety Advisory.

SUMMARY: This safety advisory provides notice to all persons who offer for transportation, or transport, in tank cars by rail in commerce to, from or within the United States, a bulk quantity of UN 1267, petroleum crude oil, Class 3, that originates in or is sourced from the Bakken formation in the Williston Basin (Bakken crude oil). The purpose of this advisory is to encourage offerors and rail carriers to take additional precautionary measures to enhance the safe shipment of bulk quantities of Bakken crude oil by rail throughout the United States. Specifically, in light of recent accidents involving the shipment of Bakken crude oil by rail, the Federal Railroad Administration (FRA) and the Pipeline and Hazardous Materials Administration (PHMSA) urge offerors and carriers of Bakken crude oil by rail tank car to select and use the railroad tank car designs with the highest level of integrity reasonably available within their fleet for shipment of these hazardous materials by rail in interstate commerce. Further, FRA and

PHMSA advise offerors and carriers of Bakken crude oil to avoid the use of older, legacy DOT Specification 111 or CTC 111 tank cars for the shipment of such oil to the extent reasonably practicable.

FOR FURTHER INFORMATION CONTACT: Karl Alexy, Staff Director, FRA Hazardous Materials Division, 1200 New Jersey Ave. SE, Washington, DC 20590–0001, telephone (202) 493-6245 or Charles Betts, Director, Standards and Rulemaking Division, telephone (202) 366-8553, Pipeline and Hazardous Materials Safety Administration.

SUPPLEMENTARY INFORMATION:

Changes in railroad operations over the last several years, including increased rail traffic, higher in-train forces due to the transportation of hazardous materials tank cars at higher gross rail loads, and the likelihood of individual tank cars accumulating more miles annually, have resulted in tank car design changes to accommodate these increased stresses and to significantly reduce the chances of a catastrophic failure (i.e., the sudden and total failure of the tank resulting in a release of the tank's contents). Design changes include new tank car steel and improvements of structural features. Older "legacy" tank cars, however, without more modern construction and design enhancements, continue to be used to transport hazardous materials, including Bakken crude oil. Petroleum crude oil (including petroleum crude oil from the Bakken) is a hazardous material subject to regulation under 49 CFR 172.101 of the Hazardous Materials Regulations (HMR; 49 CFR parts 171 to 180).

While the overall number of railroad accidents and derailments has actually decreased over the past several years, the number and type of railroad accidents involving

Bakken crude oil that have occurred during the last year has increased, and the quantity of petroleum crude oil released as a result of those accidents is higher than past precedents. Due to the volume of Bakken crude oil currently being offered for rail transportation resulting in the demonstrated recent propensity for rail accidents involving trains transporting Bakken crude oil to occur, and the subsequent releases of large quantities of such oil, FRA and PHMSA recommend that offerors and carriers of Bakken crude oil select and use the tank car designs with the highest level of integrity reasonably available within their fleet.

The United States has experienced a rapid growth in the quantity of petroleum crude oil being shipped by rail in recent years. The growth has largely been sparked by developments in North Dakota, where the Bakken formation in the Williston Basin (the Bakken) has become a major source of petroleum crude oil in the United States. Much of the Bakken crude oil is shipped via rail to refineries located near the U.S. Gulf Coast or to pipeline connections, most notably to connections located in Oklahoma.[1]

Shipping hazardous materials is inherently dangerous. Transporting petroleum crude oil can be problematic if released into the environment because it is flammable. This risk of ignition is compounded in the context of rail transportation because petroleum crude oil is commonly shipped in unit trains that consist of over 100 loaded tank cars. With the rising demand for rail carriage of Bakken crude oil[2] throughout the United States, the risk of rail incidents increases.

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[1] See Association of American Railroads' (AAR) December 2013 paper "Moving Crude Oil by Rail", available online at: https://www.aar.org/keyissues/Documents/Background-Papers/Crude-oil-by-rail.pdf.
[2] In 2011 there were 65,751 originations of tank car loads of crude oil. In 2012, there were 233,811 originations. AAR, *Moving Crude Petroleum by Rail*, https://www.aar.org/keyissues/Documents/Background-Papers/Moving%20Crude%20Petroleum%20by%20Rail%202012-12-10.pdf (December 2012).

In light of the above discussion, and in an effort to maintain the safety of the Nation's rail system and the communities through which trains transporting Bakken crude oil travels, FRA and PHMSA recommend that offerors and carriers of Bakken crude oil by rail select and only use the tank car designs with the highest level of integrity reasonably available within their fleet. The features that offerors should consider in assessing tank car integrity include, without limitation, tank shell jacket systems, head shields, and top fittings protection. Further, FRA and PHMSA advise offerors and carriers of Bakken crude oil to avoid the use of older, legacy DOT Specification 111 or CTC 111 tank cars for the shipment of such oil to the extent reasonably practicable.

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