National Transportation Safety Board
Washington, DC 20594

Office of the Chairman

December 5, 2013

US Department of Transportation
Docket Operations, M-30
Ground Floor, Room W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590-0001

Attention: Docket No. PHMSA-2012-0082 (HM-251)

Dear Sir or Madam:

The National Transportation Safety Board (NTSB) has reviewed the Pipeline and Hazardous Materials Safety Administration's (PHMSA) September 6, 2013, advance notice of proposed rulemaking (ANPRM), "Hazardous Materials: Rail Petitions and Recommendations to Improve the Safety of Railroad Tank Car Transportation."[1] In this notice, PHMSA is considering revisions to the Hazardous Materials Regulations (HMR) that are based on eight petitions received from the regulated community and four NTSB safety recommendations. The notice requested public comments on whether the proposed amendments would enhance safety and would revise and clarify the HMR with regard to rail transport. Implementing these recommendations, as well as the other listed petitions in the ANPRM that address tank car design improvements, will significantly improve hazardous materials transportation safety.

Among the proposed amendments to the HMR are enhanced design standards for specification DOT-111 tank cars used to transport Packing Group (PG) I and II hazardous materials. Three of the four NTSB recommendations listed in the ANPRM directly address improving the tank car standards for transporting hazardous liquids. The fourth NTSB recommendation listed in the ANPRM asks PHMSA to improve the hazardous materials documentation and information that is provided to emergency responders.

Based on previous and ongoing NTSB accident investigations, the documented poor accident performance of existing specification DOT-111 tank cars continues to raise serious concerns about the safety of communities, emergency responders, and other individuals who may come in contact with flammable hazardous materials transported in these cars. The NTSB would like to take this opportunity to emphasize the importance of the expeditious implementation of four Safety Recommendations—R-12-5, R-12-6, R-12-7, and reiterated R-07-4—that were issued as a result of the June 19, 2009, derailment of an ethanol unit train of DOT-111 tank cars

[1] *Federal Register* (FR) 78, no. 173 (September 6, 2013): 54849.

in Cherry Valley, Illinois.[2] All four safety recommendations are addressed in the ANPRM. These safety recommendations urge PHMSA to take the following actions:

> Require that all newly manufactured and existing general service tank cars authorized for transportation of denatured fuel ethanol and crude oil in Packing Groups I and II have enhanced tank head and shell puncture resistance systems and top fittings protection that exceeds existing design requirements for DOT-111 tank cars. (R-12-5)
>
> Require that all bottom outlet valves used on newly manufactured and existing non-pressure tank cars are designed to remain closed during accidents in which the valve and operating handle are subjected to impact forces. (R-12-6)
>
> Require that all newly manufactured and existing tank cars authorized for the transportation of hazardous materials have center sill or draft sill attachment designs that conform to the revised Association of American Railroads' design requirements adopted as a result of Safety Recommendation R-12-9. (R-12-7)
>
> With the assistance of the Federal Railroad Administration, require that railroads immediately provide to emergency responders accurate, real-time information regarding the identity and location of all hazardous materials on a train. (R-07-4) (Reiterated)

Recent accidents, such as the July 6, 2013, train accident in Lac-Mégantic, Quebec, Canada, which resulted in 47 fatalities and the destruction of the town center, illustrate the danger posed to the public when transporting flammable liquids under the existing regulations that govern the transportation of hazardous materials in railroad tank cars. This is particularly concerning given that, according to the Federal Railroad Administration (FRA),[3] from 2005 through 2012, crude oil traffic by railroad has increased by a factor of 37, with more than 266,000 car loads in 2012. Ethanol traffic increased by a factor of 4.4 from 2005 to 2011, with about 342,000 car loads per year. Thus, crude oil and ethanol represent the vast majority of hazardous materials shipments on railroads today and deserve special consideration.

Train cars containing flammable liquids, such as DOT-111 tank cars, are assembled in many groups of three or more in the train consist. A more significant hazard results when the entire train is assembled with only crude oil, as was the case in the Lac-Mégantic, Quebec, train derailment, or ethanol tank cars. These so-called "unit trains" are becoming the preferred configuration for moving crude oil by railroad from the production field to the refinery. Regardless of the train configuration, recent railroad accidents have shown that using DOT-111 tank cars to ship flammable liquids creates an unacceptable public risk.

---

[2] National Transportation Safety Board, *Derailment of CN Freight Train U70691-18 With Subsequent Hazardous Materials Release and Fire, Cherry Valley, Illinois, June 19, 2009*, RAR-12/01 (Washington DC: National Transportation Safety Board, 2012).

[3] J.K. Alexy, "Crude Oil and Ethanol Transportation Trends" (presentation to the 49th Railroad Safety Advisory Committee, Washington, DC, August 29, 2013).

In light of the Quebec accident and most recently, the derailment of DOT-111 tank cars in Aliceville, Alabama, on November 7, 2013, that resulted in a large crude oil release and fire, the NTSB urges PHMSA to take immediate action to require a safer package for transporting flammable hazardous materials by rail.

In the Cherry Valley, Illinois, accident report, the NTSB noted that DOT-111 tank cars have a high incidence of tank failures during accidents, and cited several accident investigations dating back to 1991. Since the NTSB issued its report, additional tank car derailment accidents with catastrophic outcomes further demonstrate that improved requirements for rail transportation of flammable liquids is warranted and should be based on sound risk assessment methodology. The NTSB also believes that an aggressive retrofit and/or phase-out program is necessary for existing DOT-111 tank cars to improve rail transportation safety. The NTSB has classified the Cherry Valley, Illinois, safety recommendations as "Open—Acceptable Response" pending completion of the PHMSA rulemaking that satisfies these safety recommendations. The urgency of acting on the NTSB safety recommendations was not fully recognized until the severity of the Lac-Mégantic accident was realized. Accordingly, with the unprecedented volume of flammable liquids currently in rail commerce, the NTSB urges PHMSA to make this rulemaking a priority to avoid future catastrophic accidents.

The NTSB has reviewed the Association of American Railroads (AAR) November 14, 2013, comments to the ANPRM docket, filed jointly with the American Shortline and Regional Railroad Association, that support improving tank car design standards, and the NTSB is encouraged that these two organizations recognize the current regulations governing construction of the DOT-111 tank car are insufficient for ensuring the safe transportation of flammable liquids. The NTSB also is encouraged that the AAR has reconsidered its initial petition, P-1577, and now advocates more comprehensive safety improvements well beyond those it initially proposed to improve accident performance of DOT-111 tank cars.

Regarding Safety Recommendation R-07-4, the NTSB continues to investigate accidents where emergency responders did not receive timely and accurate hazard information from railroad operators. Following the November 30, 2012, derailment of a Conrail freight train with release of vinyl chloride in Paulsboro, New Jersey, the NTSB convened an investigative hearing on July 9–10, 2013. Emergency responders testified at the hearing that their response actions were hindered by the lack of timely and accurate train consist information. The availability of a consist document that conveys the identity and location of hazardous materials on a train involved in an accident is critical to executing a safe emergency response. Important safety decisions that rely on timely hazard communications include determining appropriate isolation distances, deciding whether evacuation or shelter-in-place is appropriate, determining appropriate health and safety protocols for responders and rescuers, and deciding appropriate firefighting tactics.

The NTSB strongly believes that available technologies can and should be used to supplement the paper-based train consist for improving the dissemination of chemical hazard information to emergency responders. However, we are very disappointed that Safety Recommendation R-07-4 has remained open for more than 5 years. The NTSB is encouraged by the PHMSA Hazardous Materials Automated Cargo Communications for Efficient and Safe Shipments program (HM-ACCESS) and notes that PHMSA has instituted a paperless hazard

communication pilot program to evaluate the feasibility and effectiveness of paperless electronic communication systems.[4] Pending completion of the recommended action, the NTSB has classified Safety Recommendation R-07-4 "Open–Acceptable Response."

The NTSB urges PHMSA to promptly move these critical safety initiatives forward by implementing our recommendations and promulgating improved and effective regulations addressing hazardous liquids transportation in the railroad industry.

The NTSB appreciates the opportunity to comment on the notice.

Sincerely,

Deborah A.P. Hersman
Chairman
Approved for Electronic Transmission
No Hard Copy Will Follow

[4] FR 78, no. 139 (July 19, 2013): 43263.