• Overall, there are 335,000 active tank cars in today’s fleet (pressure and non-pressure), of which 228,000 are DOT-111 tank cars.
• DOT-111s are non-pressure tank cars designed to carry a wide range of products including hazardous and non-hazardous materials.
• Today, roughly 92,000 DOT-111 tank cars are used to move flammable liquids, such as crude and ethanol, with approximately 14,000 of those tank cars built to the latest industry safety standards.
• Over 30 percent of tank cars used to move crude oil today were built to the latest industry approved specifications for tank cars used for hauling flammable liquids.
• Railroads generally do not own tank cars, with the vast majority of tank cars owned or leased by rail customers that use cars built to suit the products they need to transport.

Federal and Industry Tank Car Standards

The U.S. Department of Transportation (DOT), Transport Canada and the Association of American Railroads (AAR) Tank Car Committee issue tank car regulations and standards.

U.S. DOT’s Pipeline and Hazardous Materials Safety Administration (PHMSA), and Transport Canada issue federal tank car regulations, while the AAR Tank Car Committee sets industry standards.

The AAR Tank Car Committee is comprised of the AAR, rail car owners, manufacturers, and rail hazmat customers, with active participation from the U.S. DOT, Transport Canada and the National Transportation Safety Board (NTSB).

The AAR Tank Car Committee works together to develop technical standards for how tank cars, including those used to move hazmat, are designed and constructed.

The Committee’s standards today exceed the federal requirements, with DOT-111 tank cars used for moving crude oil and ethanol ordered after October 2011 being built to the higher AAR-Tank Car Committee standards.

• In 2008, the Tank Car Committee initiated a task force to develop standards for tank cars transporting ethanol. This effort was expanded to include all DOT packing group I and II hazardous materials. Ethanol, as well as some crude oil, is part of packing group I and II materials.
• AAR on behalf of the Tank Car Committee petitioned PHMSA in March 2011 to adopt the Committee’s new standards for packing group I and II hazardous materials.
Given PHMSA action did not seem imminent, AAR in July 2011 adopted the higher standards as requirements for new tank cars transporting crude oil and ethanol, ordered after October 1, 2011.

All DOT-111 tank cars built to transport Packing Groups I and II crude oil and ethanol, ordered since October 2011 adhere to the AAR Tank Car Committee’s latest standards which include:

- a thicker, more puncture-resistant shell or jacket;
- extra protective head shields at both ends of tank car, and
- additional protection for the top fittings.

The Tank Car Committee felt adopting these standards was necessary to ensure that the thousands of new tank cars being built would meet a higher safety standard.

**Railroads Call for Additional Safety Improvements, Aggressive Phase out of Older Cars**

In November 2013, AAR again urged PHMSA to press for improved federal tank car safety by requiring all tank cars used to transport flammable liquids to be retrofitted or phased out, and new cars be built to more stringent standards.

In comments responding to a PHMSA advanced notice of proposed rulemaking, AAR recommended retrofit specifications aimed at significantly decreasing the likelihood of a release of hazardous materials by a tank car involved in an accident.

- Today roughly 92,000 tank cars are moving flammable liquids and approximately 78,000 of those might require retrofitting or phase out based on AAR’s proposal.
- Approximately 14,000 newer tank cars that today comply with higher safety standards also might require some upgrades.

AAR offered the following specific recommendations to PHMSA in determining what federal safety standard improvements should be required for tank cars moving flammable liquids:

- increase federal tank car design standards for new cars to include an outer steel jacket around the tank car and thermal protection, full-height head shields and high-flow capacity pressure relief valves;
- require safety upgrades to those tank cars built since 2011, when the rail industry instituted design standards that today exceed federal requirements, including installation of high-flow-capacity relief valves and design modifications to prevent bottom outlets from opening in the case of an accident;
- aggressively phase out older-model tank cars used to move flammable liquids that cannot be retrofitted to meet new federal requirements, and
• eliminate the option for rail shippers to classify a flammable liquid with a flash point between 100 and 140 degrees Fahrenheit as a combustible liquid.

Previous DOT-111 Safety Recommendations

Following an accident in Illinois in 2009, the NTSB made a number of safety recommendations to both the AAR and PHMSA regarding the DOT-111s.

The AAR Tank Car Committee has, independent of a federal mandate, implemented nearly all of the recommendations made to PHMSA in its design standards for new crude oil and ethanol tank cars ordered after October 2011.

The NTSB also recommended the AAR review the design requirements for attaching center sills or draft sills for all tank cars. The AAR Tank Car Committee has studied the stub sill issue and is in the process of revising those standards.

Railroads Have an Outstanding Track Record in Safely Delivering Hazardous Materials

In 2012, North American railroads safely delivered more than 2.47 million carloads of hazardous materials. (Source: 2012 Bureau of Explosives Annual Report)

Roughly 99.998 percent of hazardous material carloads moving by rail arrive at their destination without a release caused by an accident. (Source: AAR Analysis of FRA Train Accident Database. Carloads from ICC/STB Waybill Sample)

Rail hazmat accident rates have declined 91 percent since 1980. (Source: AAR Analysis of FRA Train Accident Database. Carloads from ICC/STB Waybill Sample)

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