Freight railroads safely move large quantities of hazmat critical to our nation's health and quality of life, including fertilizer, ethanol, crude oil and chlorine. However, railroads generally do not own the tank cars they transport; instead, they are often purchased and maintained by shippers or equipment leasing companies. Railroads, as common carriers, must transport any freight, including hazmat, properly tendered on reasonable terms and conditions. The U.S. Department of Transportation (DOT) has indicated that railroads remain the safest above-the-ground mode of transportation for hazmat and therefore has supported the decision to continue the enforcement of this common carrier requirement.

Safely Moving Hazmat

Railroads focus safety efforts on prevention, mitigation and emergency response, working diligently to continue to improve their hazmat operations. As a result of these efforts and other ongoing safety initiatives, rail hazmat accidents have declined by 73% since 2000 and more than 99.9% of rail hazmat shipments reach their destination without a train accident-caused release.

Freight railroads invest heavily in their infrastructure and the development of new technologies to maintain and improve the safety of their operations regardless of what commodity they are hauling. The rail industry also focuses on three critical areas with regard to the safety of hazmat transportation:

- **Prevention**: Stopping accidents before they occur.
- **Mitigation**: Reducing the consequences of accidents that do occur.
- **Emergency Response**: Providing training and other resources to local first responders, including the AskRail app.

Hazmat Transportation Regulations

The transportation of hazmat by rail is subject to rigorous oversight by the Federal Railroad Administration (FRA), the Pipeline and Hazardous Materials Safety Administration (PHMSA), and the Department of Homeland Security (DHS). Railroads work with these and other local, state, and federal entities to ensure safe train movements, including effective tank car designs.
Tank Car Oversight

The current oversight system for rail tank cars is multi-faceted, with federal minimum standards sometimes being exceeded by industry best practices. In this system, the DOT, specifically PHMSA, retains regulatory authority over the safety of rail transportation, including regulations covering product classification, operating rules, and minimum specifications for tank cars.

Due to its technical expertise in safety-critical functions, DOT has delegated its authority on certain tank car safety matters to the Association of American Railroads’ Tank Car Committee (TCC), including technical design review. The TCC comprises representatives from the railroads, shippers, and tank car builders and owners.

Additionally, representatives from the Federal Railroad Administration, PHMSA, the National Transportation Safety Board, Transport Canada, and the Transportation Safety Board of Canada regularly attend and participate in many of the TCC’s quarterly meetings. Separate from this delegated authority, the TCC also reviews and sets industry-wide interchange standards for the design and operation of tank cars in North America under the voluntary agreement of the rail industry. While these interchange standards sometimes require the tank car industry to exceed, or more quickly meet, DOT’s regulations, they can never relax DOT’s minimum requirements or degree of oversight.

This system has ensured that today’s tank cars are built with better thermal protection, higher-grade steel, and better valves and fittings. It has improved tank car safety at an otherwise impossible speed through the traditional regulatory process. For example, to improve the puncture resistance of tank cars carrying crude oil and ethanol, the TCC voluntarily promulgated improved tank car safety interchange standards (CPC-1232) four years before PHMSA published its final rule setting forth similar DOT-117 tank car specifications.

Proper Shipping Labels

Federal law requires rail customers to properly disclose and label hazmat shipments to ensure that appropriate railcars are used and to assist emergency responders in case of an accident. Freight railroads support asking rail shippers to do their part to protect the safety of rail operations by fully and accurately disclosing and labeling hazmat shipments.
Timeline: Hazmat Safety Actions

- **AUG. 2009**: AAR begins to upgrade industry tank car standards that exceed the safety standards of U.S. Department of Transportation (DOT)-111 tank cars.

- **MAR. 2011**: AAR formally petitions the Pipeline and Hazardous Materials Safety Administration (PHMSA) and Transport Canada to implement tougher tank car specifications for DOT-111 tank cars used for crude oil and other hazmat.

- **AUG. 2011**: In the absence of any progress by the DOT and Transport Canada, the AAR Tank Car Committee adopts industry construction specifications for new tank cars, and the stronger CPC-1232 design becomes the standard for all tank cars built after October 2011.

- **AUG. 2013**: The freight rail industry responds to DOT Emergency Order No. 28 and Safety Advisory to further strengthen train operations on mainline tracks or sidings. AAR modifies industry best practices, making trains carrying 20 or more carloads of any hazmat subject to a speed restriction and other enhanced operating practices.

- **NOV. 2013**: AAR again urges DOT to improve federal tank car regulations and require all tank cars transporting flammable liquids, such as crude oil, to be retrofitted or phased out of crude service.

- **FEB. 2014**: The nation’s major freight railroads issue voluntary safety initiatives for the transportation of CBR, including new operating practices, including (1) Speed reductions for trains transporting crude oil, (2) Increased inspections of tracks on crude oil routes, (3) Route risk analysis for trains carrying more than 20 carloads of crude oil (a Key Crude Oil Train), (4) Two-way end of train devices or distributed power for Key Crude Oil Trains to provide faster braking, (5) Additional bearing defect detectors along routes carrying Key Crude Oil Trains, (6) Development of an emergency response inventory along routes carrying Key Crude Oil Trains, and (7) Stepped-up crude oil incident training for first responders. / DOT issues an Emergency Order on the classification and packaging of crude oil.

- **MAY 2014**: AAR forms a joint task force with the American Petroleum Institute (API) to examine components associated with moving CBR. / PHMSA and the Federal Railroad Association (FRA) issue a Safety Advisory discouraging the use of DOT-111 tank cars. DOT issues an Emergency Order requiring railroads to inform first responders about crude oil routes.
• **JUL. 2014:** AAR provides DOT with access to an inventory of emergency response resources available to respond to hazmat accidents. / DOT issues a Notice of Proposed Rulemaking (NPRM) on tank car standards and an Advanced NPRM on oil spill response planning requirements. / A three-day training course for first responders focused exclusively on CBR occurs at the Security and Emergency Response Training Center (SERTC) (an AAR subsidiary) in Pueblo, Colorado. More than 1,500 emergency responders receive classroom and in-field training in 2014 at the world-class facility.

• **SEP. 2014:** In comments to DOT’s proposed rules for regulating crude oil trains, AAR again calls for dramatically improved tank cars that carry crude oil and ethanol and proposes a comprehensive safety package, which includes thicker shells, thermal protection and appropriately-sized pressure relief devices. AAR advocates an aggressive retrofit or phase-out program for crude service tank cars.

• **OCT. 2014:** Roll-out begins of the rail industry-developed AskRail mobile app, which is an additional tool for emergency responders to access information about hazardous materials contained in rail cars when responding to an incident.

• **NOV. 2014:** SERTC launches web-based crude oil training for first responders.

• **JAN. 2015:** AAR further modifies industry best practices to increase commodity flow information provided to local emergency response agencies for all hazmat transported through their communities.

• **MAR. 2015:** AAR and API announce a new CBR safety course for first responders. The program, offered through the Transportation Community Awareness and Emergency Response (TRANSCAER) program, is in addition to specialized training offered to thousands of first responders by railroads in local communities at SERTC and through web-based training. AAR enhances the AskRail app.

• **APR. 2015:** PHMSA issues a Safety Advisory on emergency response information; FRA issues an Emergency Order on maximum speeds for CBR moving through certain highly populated areas; and FRA issues a Safety Advisory on brake and mechanical inspections for trains moving crude.

• **MAY 2015:** DOT issues a comprehensive final rule on tank car standards and operations for moving large volumes of flammable liquids by rail. / PHMSA issues Transportation Rail Incident Preparedness and Response (TRIPR) training modules on best practices related to rail incidents involving flammable liquids.

• **JUL. 2015:** FRA further specifies requirements for railroad notifications to State Emergency Response Commissions concerning crude oil.

• **SEP. 2015:** DOT announces $5.9 million in first responder grants specific to crude oil incidents.
• **DEC. 2015**: Congress passes the FAST Act, which includes numerous provisions supported by the freight railroad industry related to rail safety generally, emergency response training and the safe transport of flammable liquids by rail. Among these are requirements for web-based training for emergency responders, emergency preparedness and training grants, specifications for real-time emergency response information, enhanced tank car standards and a mandatory phase-out schedule for older tank cars.

• **FEB. 2016**: The proposed rule on oil spill planning and information sharing for crude oil trains is revised based on FAST Act requirements and sent to the Office of Management and Budget (OMB) for review.

• **MAY 2016**: AAR urges DOT to adopt a thermal protection requirement for flammable liquid cars, which exceeds DOT’s current standard and which all thermal blanket manufacturers currently meet. The new standard would increase the amount of time flammable liquids could survive a pool fire and reduce the chance of thermal tears.

• **JUL. 2016**: DOT rejects AAR’s request to improve the standard for thermal protection based on a technicality.

• **AUG. 2016**: DOT issues a rule requiring thermal protection blankets per the FAST Act, but not requiring that they be as effective as the AAR had requested or manufacturers currently make.

• **SEPT. 2016**: AAR files comments to DOT’s NPRM on oil spill response plans seeking clarification on a variety of issues, including how close to navigable waters does a rail line have to be to require a plan and the definition of environmentally sensitive areas, among others.

• **DEC. 2016**: AskRail upgrades to allow access from any internet-ready device and provides additional information within the app, including DOT car types, the maximum capacity of the locomotive fuel tank and AAR’s Field Guide to Tank Cars.

• **APR. 2017**: AAR files comments to DOT’s advanced NPRM on real-time train consist information asking DOT to accept AskRail as the solution. AskRail provides emergency responders with information about what is in the entire train consist by entering one car or locomotive number.

• **DEC. 2017**: AskRail upgrades to allow a search by container number, GIS/Mapping including points of interest such as schools and hospitals, street-level views and part of the Emergency Response Guidebook.