

Before the United States Department of Transportation
Pipeline and Hazardous Materials Safety Administration
Docket No. PHMSA-2012-0082
HM-251
RIN 2137-AE91

**Hazardous Materials: Enhanced Tank Car Standards and
Operational Controls for High-Hazard Flammable Trains**

Comments of the American Chemistry Council

September 30, 2014

The American Chemistry Council (ACC) appreciates this opportunity to comment on the Notice of Proposed Rulemaking (NPRM) issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA) in this significant tank car safety docket. ACC represents the leading companies in the business of chemistry. Our members apply the science of chemistry to provide innovative products and services that make people's lives better, healthier and safer. ACC is committed to enhanced environmental, health and safety performance through Responsible Care®, constructive advocacy designed to address major public policy issues, and health and environmental research and product testing. As an \$812 billion enterprise, the business of chemistry is a key element in the nation's economy. It is also one of the largest exporting sectors, with \$189 billion in 2013 exports that accounted for 12 percent of the U.S. total. Chemistry companies are also among the largest investors in research and development.

Safety is always of primary concern to ACC and its members. We work closely with transportation partners and government agencies to enhance the safe movement of chemicals.

ACC submits these comments on behalf of its members, which ship Class 3 flammable liquids and other chemicals, to offer our views on how the proposed rule could be improved to better and more quickly enhance rail safety.

Executive Summary

Chemicals, which are essential building blocks for the US economy and our way of life, are produced in few places, but needed in many. ACC members therefore depend on railroads and other carriers to transport products safely and efficiently to customer locations. The goals of the regulatory changes adopted in this docket should be to support the safe movement of these vital materials, while not causing unwarranted disruption. ACC's comments emphasize the following:

- Consistent with PHMSA's intent, the requirements should apply only to crude oil and ethanol shipments.

- As written, the proposed rule would effectively impose the same regulatory requirements on every Class 3 tank car.
- The proposal is inconsistent with PHMSA's intent to prioritize tank car standards on the basis of risk.
- Tank car shop capacity is insufficient to meet demand beyond crude oil and ethanol cars.
- If all Class 3 flammable materials are included, PHMSA's analysis dramatically underestimates the likely impacts of the proposed tank car requirements.
- PHMSA must harmonize its tank car standards with those of Transport Canada.
- Proposed speed restrictions would adversely affect rail network efficiency and service for many shippers and their customers.

Background

ACC members depend on the U.S. Department of Transportation's comprehensive Hazardous Materials Regulations, which support safe movement by rail and other modes. The Association of American Railroads (AAR) reports that more than 99.99% of rail hazardous material shipments reach their destination without a release caused by a train accident. Tank cars, which are supplied by shippers – not by railroads – must meet strict standards and undergo regular inspections.

Through ACC's Responsible Care® initiative, our member companies and their carrier partners are committed to continuous improvement in transportation safety. Collectively, ACC member companies have invested billions of dollars in training, technology, and tank car safety. ACC also provides key assistance to emergency responders:

- Around the clock service from ACC's Chemical Transportation Emergency Center, known as CHEMTREC®, and
- Hazardous materials training for the responder community, together with the rail industry and other sectors, by means of the TRANSCAER® initiative.

On December 5, 2013, ACC commented on the Advance Notice of Proposed Rulemaking (ANPRM) in docket HM-251. We advocated a comprehensive approach, because the safe transport of chemical rail shipments involves more factors than tank car design. Stakeholders must address the root causes of rail accidents, and must focus on prevention. Tank car standards and other forms of mitigation must not be seen as substitutes for accident prevention. ACC's ANPRM comments urged PHMSA to:

- “Prioritize the implementation of tank car enhancements in a manner that will most efficiently yield safety benefits.”
- “Initially focus its analysis on the types of equipment that actually represent the largest portion of the on-going construction of new tank cars, namely cars for crude oil and ethanol-related products. Wide-ranging consensus had been developed around the criteria for such new cars.”
- “Recognize that safety benefits will be achieved more efficiently through improving standards for new cars, in comparison to retrofitting or replacement of cars that are already in service.”
- “Conduct the required regulatory impact analysis. Additional information is needed to assess the potential safety performance improvements and technical feasibility, as well as the relative costs, of potential upgrades.”

While we stand by those earlier comments, we are disappointed to see that many of our suggestions were not included in the NPRM. This is especially true with respect to the proposed rule’s impact on products other than crude oil and ethanol. In addition, these ACC comments from December remain of concern:

- “PHMSA [should] conduct a thorough analysis and prioritize tank car enhancements on the largest portion of the ongoing construction of new tank cars.”
- “[S]afety benefits will be achieved more efficiently through improving standards for new cars, as opposed to retrofitting existing cars, and through full assessment of the safety and feasibility of proposed upgrades. The quickest and best way to for PHMSA to improve safety through this rulemaking is to focus on recommendations that have the support of all transportation stakeholders and employ proven technologies. Specifically, the agency should expedite a federal standard for new tank cars that carry petroleum and ethanol.”

ACC believes that the NPRM has failed to address these crucial points that we made earlier in Docket HM-251. In addition our written comments, ACC has stressed the same fundamental issues in meetings with PHMSA, the Federal Railroad Administration (FRA), and the Office of Management and Budget’s Office of Information and Regulatory Affairs.

As we stated in our comments on the ANPRM:

“PHMSA should initially focus its analysis on the types of equipment that actually represent the largest portion of the on-going construction of new tank cars. The first reason, as detailed above, is that wide-ranging consensus had been developed around the criteria for such new cars, largely through the work conducted under TCC Docket T87.6. Equally important is that the most immediate safety benefits can be achieved through design changes that are set by regulation for tank cars that have yet to be constructed. ACC certainly recognizes that railroad operating practices and many other factors play

important roles in preventing derailments and in reducing the potential for the release of hazardous materials. Tank car design is also one of the important components in the comprehensive approach that is necessary when assessing the safe transportation of hazardous materials in railroad service. In general, safety improvements are achieved more efficiently through improving standards for new cars, in comparison to retrofitting or replacement of cars that are already in service. Those existing cars would have to be cleaned and taken out of service, would have to undergo considerable physical changes, and would have fewer years of service remaining over which to spread such costs. In fact, even without regulatory action by PHMSA, what have come to be called ‘CPC-1232 compliant’ new tank cars have been and are being built in accordance with the recommendations arising from Petition P-1577, TCC Docket T87.6, etc. That is where the consensus was developed, and that is where safety could be most directly and immediately enhanced by Federal action in a manner that is acceptable to all stakeholders, including the Government and the public.”

Tank car safety enhancements should be prioritized on the basis of risk

ACC understands and appreciates the importance of hazard classification, which forms the basis of the Federal regulatory system under which our member companies ship hazardous materials to their customers by rail and other modes. Single tank cars of different Class 3 materials that are in the same Packing Group do pose a comparable hazard during transportation. However, risk is different than hazard. Scarce resources should be carefully applied in a way that reduces the overall level of risk. For this reason, flammable liquid chemicals that move in tank cars were not the focus of PHMSA’s analysis and thus should not be included within the scope of the final rule that will be issued.

The Regulatory Impact Analysis for this docket is based on crude oil and ethanol

It is our understanding that the NPRM’s definition of “High-Hazard Flammable Trains” (HHFTs) was based on this statement on page 45040 of the August 1 Federal Register: “only crude oil and ethanol shipments would be affected by the limitations of this rule as they are the only known Class 3 (flammable liquid) materials transported in trains consisting of 20 cars or more.”

ACC agrees with that objective, but advises PHMSA that a wide array of other Class 3 flammable liquids – including chemicals produced and shipped by ACC members – would in fact be affected. Those products should therefore be excluded from the scope of the final rule.

The commodities at the heart of this rulemaking are indeed crude oil and ethanol. As shown in the July 2014 Regulatory Impact Analysis (RIA), those two products together accounted for about two-thirds of all Class 3 tank car originations in 2012. Crude oil and ethanol have experienced extraordinary production growth in recent years, and both move with high numbers of tank cars traveling in individual trains.

An extremely significant passage on page 24 of the RIA looks at “derailments of HHFTs” and declares:

“There are many unique features to the operation of unit trains to differentiate their risk. The trains are longer, heavier in total, more challenging to control, and can produce considerably higher buff and draft forces which affect train stability. In addition, these [unit] trains can be more challenging to slow down or stop, can be more prone to derailments when put in emergency braking, and the loaded tank cars are stiffer and do not react well to track warp, which when combined with high buff/draft forces can increase the risk of derailment.”

ACC notes that flammable liquid chemicals are not shipped in unit trains. For that reason, the overly broad HHFT definition does not align with the increased risk of derailment that is associated with unit trains. Because we believe that PHMSA’s intention was to focus on crude oil and ethanol, we urge that the scope be clarified so that the final rule will truly apply to crude oil unit trains, in accordance with the statement on page 45040 of the NPRM.

Class 3 chemical products are not shipped in unit trains or as large blocks of tank cars

As noted above, the focus should be on unit trains. This is not consistent, however, with the NPRM’s much broader proposal, on page 54075 of the August 1 Federal Register, that “HHFT” be defined in 49 C.F.R. §171.8 as follows:

“*High-hazard flammable train* means a single train carrying 20 or more carloads of a Class 3 flammable liquid.”

Having “20 or more carloads” on a train is certainly not the definition of a “unit” train. The RIA discusses how the risk of derailment is associated with certain types of operational and safety characteristics that are said to be “unique” to unit trains. In the rail industry, a unit train consists of approximately 100 essentially identical cars loaded with the same freight, all tendered to the railroad as a single “unit” by one shipper at one origin for movement to one destination.

In sharp contrast, ACC members tender their Class 3 flammable liquids to railroads in much smaller volumes, for movement in “manifest” trains together with cars containing various other types of freight (not necessarily even hazardous materials), on different routes, and for delivery to diverse destinations. Once again, those Class 3 chemical products should therefore not be included.

PHMSA’s focus has been on crude oil, ethanol, and what has been described as the “many unique features to the operation of unit trains [that] differentiate their risk.” But ACC members do not ship Class 3 products in unit trains and the proposed HHFT definition is entirely inconsistent with the findings in the RIA.

- One significant part of the higher level of risk is the large number of cars that typically make up a unit train. This is different from how ACC member companies ship Class 3 hazardous materials, because they tender smaller numbers of tank cars to rail carriers.

Having more flammable liquid tank cars together in a unit train obviously increases the risk.

- However, beyond the number of cars in a unit train and the “unique features” relating unit train dynamics, there is a further risk factor: the number of “turns” or trips that each tank car is able to make during a year. Each trip by a loaded tank car from origin to destination involves some risk of a significant accident and a potential release. Tank cars shipped by ACC members tend not to achieve as many turns as do tank cars that are operated in unit train service.

The conclusion is obvious: Products that do not move in unit train service pose less risk – not only because there are fewer such cars in each train, but also because those cars each tend to make fewer loaded trips per year.

For these risk-based reasons, ACC respectfully suggests that PHMSA must conduct research that would be specific to Class 3 materials other than crude oil and ethanol. It would be inappropriate to include those other flammable liquids in the rule without assessing how and in what quantities they are shipped, and what risks are associated with their transportation. On the basis of what has been assessed to date in this docket, the final rule in Docket HM-251 should apply only to crude oil and ethanol. Further, it should apply to those products only when they are truly shipped in unit trains, or possibly in very large blocks of cars that all move together from one shipper at the same facility to a single destination. (Individual companies may prefer more uniformity within their own fleets, and could choose to acquire the same type of tank cars for use in unit trains or in other shipping arrangements. But that outcome should be a private decision, rather than a Federal mandate.) PHMSA may not have intended – and certainly should not impose – a definition of HHFTs that would encompass trains on which relatively small numbers of flammable liquid tank cars happen to have been tendered to a rail carrier by various shippers.

PHMSA’s proposed definition of a “High-Hazard Flammable Train” is unworkable

Of great concern is the way that the NPRM ties the HHFT definition of “20 or more carloads of a Class 3 flammable liquid” to the “key train” concept that is embodied in AAR Circular No. OT-55-N, “Recommended Railroad Operating Practices for Transportation of Hazardous Materials” (page 45040 of the August 1 Federal Register.). ACC is familiar with AAR Circular No. OT-55-N and applauds FRA’s use of “20 or more carloads” in addressing the securement of unattended equipment, we oppose the application of that same number of carloads to the HHFT definition in this docket. AAR Circular No. OT-55-N deals with how carriers move hazardous materials, and it defines “key trains” in order to enhance the safety of rail operations. But the “key train” definition in AAR Circular No. OT-55-N should not create or affect tank car design standards. All such standards, of course, are hazardous materials packaging regulations that must be adopted by PHMSA under Federal notice-and-comment rulemaking procedures.

In practice, the HHFT definition of “a single train carrying 20 or more cars of a Class 3 flammable liquid” will put every Class 3 tank car into the same category as those that are used for the transportation of crude oil and ethanol. Rail carrier operations would be unduly

complicated if each “manifest” train were to be limited to no more than 19 such cars. Likewise, shipper and receiver facilities would be unduly disrupted if carriers were to attempt to take such an approach to handling “manifest” trains with flammable liquids. The railroads (rather than the Federal rule itself) are likely to require shippers to tender all Class 3 products in tank cars that meet the new criteria that PHMSA appears to believe would apply only to crude oil and ethanol, or would apply only to Class 3 products that do move in unit trains. Perhaps this element of the NPRM was not intended to have such consequences, but there is no sound and risk-based reason for PHMSA to create problems that would make it more difficult for the crude oil and ethanol fleets to be upgraded on the aggressive schedule that has been envisioned in the NPRM.

We therefore respectfully request that the rule be revised to remove the proposed HHFT definition of “20 or more carloads.” To achieve the greatest risk reduction, priority must be given to the tank cars that are moved in the highest-volume train arrangements, and make the most trips per year, such as crude oil unit trains. To summarize our position, the adoption of the HHFT definition in the NPRM would very likely have several adverse effects:

- It could complicate railroad operations at a time when the carriers are dealing with significant resources shortages and other severe service challenges across their systems.
- It would force more shippers to seek simultaneously to acquire new cars or to retrofit existing ones, which would unnecessarily put further strains on the already strained capacity of the tank car supply sector.
- It could frustrate PHMSA’s stated objective of enhancing flammable liquid tank car safety, by interfering with the smooth and effective implementation of this very rule.

For the reasons given above, and because the NPRM and the RIA provide no clear connection between the proposed rule and tank cars that carry products other than crude oil and ethanol and move in manifest trains, ACC urges PHMSA to abandon the proposed HHFT definition.

Tank car shop capacity will not support PHMSA’s regulatory timeline

There is already a substantial backlog in tank car orders, which has been variously reported by some ACC members as causing waits of approximately two years from when a tank car is ordered until it will be delivered. The Railway Supply Institute reports that the current order backlog is about 53,000 cars. Shippers, of course, also have continuing needs for new tank cars to transport hazardous materials that are not within Class 3. Furthermore, as PHMSA and FRA know, approximately 40,000 existing tank cars will have to go through requalification during each year from 2016 through 2019. Without conducting an essential and specific risk assessment, it would be unfortunate if PHMSA were to issue a final rule that would inadvertently and unnecessarily force the shippers of flammable liquids other than crude oil and ethanol into a highly congested market for new tank cars and retrofitting services.

In fact, these were among the concerns that led ACC to support Petitions P-1595 and P-1612, which both advocated prioritizing the use of tank car manufacturing resources for the

construction of new equipment for which there was already significant demand. Further supporting our position in those petitions was the industry consensus that had been formed on the characteristics of new tank cars for crude oil and ethanol. We again advocated that risk-based and cost-efficient approach in our December comments on the ANPRM.

PHMSA must harmonize its tank car standards with those of Transport Canada

Tank cars are purchased and operated in North American markets for particular hazardous materials. ACC cannot stress too strongly that PHMSA and Transport Canada must approach carrier operations, tank car standards, which products are to be covered, implementation schedules, and other relevant safety regulations in a highly coordinated manner. Neither the United States nor Canada should be out of step with the other on this important matter.

Proposed speed restrictions would adversely affect all shippers and consumers of many products

The members of ACC are extremely concerned about the possible expansion of railroad speed restrictions to “HHFTs” beyond the speed constraints that are already in place. The NPRM suggests applying a 40 mile per hour limit to trains carrying flammable liquids, with three options for discussion: in all areas; in areas with populations of more than 100,000; or in High Threat Urban Areas.

ACC is aware of the voluntary industry steps that have already been taken with regard to train speeds. The carriers have modeled the ways in which speed restrictions could impair the currently poor fluidity that has been evident on much of the U.S. rail network. As a major shipper industry that depends on rail service to bring in raw materials and to move finished products to customers, the business of chemistry has been experiencing significant rail service problems. The national rail system unfortunately appears to lack the capacity to move freight (and passengers) at the levels needed by various sectors of our economy. In fact, ACC members have been advised by their rail partners that this situation was not limited to last winter’s cold weather, and that it can be expected to persist. ACC has appeared before both the Surface Transportation Board and the U.S. Senate Committee on Commerce Science and Transportation to provide information on the effects that rail service problems are having on the business of chemistry. We caution PHMSA to avoid taking actions – such as speed restrictions – that would further degrade rail service to shippers of flammable liquids, other hazardous and non-hazardous materials on the same trains, and even trains carrying no hazardous materials.

AAR has contacted ACC about the proposed speed restrictions in Docket HM-251. We assure PHMSA and FRA that ACC and AAR are completely aligned with regard to this aspect of the rulemaking.

Other Issues

Tare Weight: Increasing the tare weight of a tank car results in a reduction in the amount of product that can be carried. To offset that lading loss:

- Additional tank cars must be acquired at significant cost to the shipper.
- Such acquisitions will place further demands on the capacity of the tank car suppliers.
- Each additional shipment that merely moves the same amount of product adds risk.

Although ACC recognizes that the NPRM would increase the allowable gross rail load of tank cars, we are not comforted by the assumption, on page 45056 of the NPRM in the August 1 Federal Register, that “Innovation” will bring forth new materials of construction that will reduce the tare weight of the Specification 117 tank car by “at least 9% ... and “increase the load limit (carrying capacity) by 9% without increasing material costs.” ACC is a party to ongoing research on new tank car designs and materials, and we do not believe that such “innovation” will yield results of the type described in the NPRM on anything like the proposed timeline.

Braking Systems: ACC concurs with AAR, which has the greatest expertise on rail braking systems, on the matter of the NPRM’s proposal regarding Electronically Controlled Pneumatic (ECP) brakes.

Conclusion

ACC shares DOT’s goal of enhancing rail safety. We urge DOT to revise the proposed rule to place the greatest priority on shipments of flammable liquids moved in high-volume train configurations.

As explained above, and consistent with the risk-based approach and the intent expressed by PHMSA in this docket, the proposed regulatory requirements should apply only to crude oil and ethanol shipments.

Respectfully submitted,



Thomas E. Schick
Senior Director
American Chemistry Council
700 Second Street, NE
Washington, DC 20002
202-249-6408
Tom_Schick@americanchemistry.com