

# Dangerous Goods Advisory Council

Suite 740 ♦ 1100 H Street NW ♦ Washington DC 20005 ♦ 202/289-4550 ♦ Fax 202/289-4074 ♦ www.dgac.org



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Ground Floor, Room W12-140  
1200 New Jersey Avenue, SE  
Washington, DC 20590-0001

## **Re: Comments on Docket No. FRA – 2006-25169; Hazardous Materials: Improving the Safety of Railroad Tank Car Transportation of Hazardous Materials; Notice of Proposed Rulemaking**

DGAC is a non-profit educational organization that promotes hazmat transportation safety by providing classroom training, seminars and conferences, and participation in domestic and international regulatory activities in its promotion of not only safe, but also efficient transportation of hazardous materials/dangerous goods in commerce. DGAC members include shippers who offer toxic by inhalation (TIH) materials by rail and rail carriers that transport them.

DGAC agrees that the safety of TIH transport by rail should be kept under review and that the level of safety should be incrementally increased over time with advances in technology, operating systems and improved understanding of accident scenarios. DGAC appreciates the comprehensive evaluations undertaken by both government and industry leading up to the issuance of this NPRM, and offers the following comments on the NPRM

### **The Need for Coordination between DOT and DHS/TSA**

In addition to efforts to enhance the safety of TIH transport by rail, there are also extensive efforts by both PHMSA and TSA to enhance the security of their transport. On December 21, 2006, DHS/TSA in Docket No. 06-26514 published an NPRM on rail transportation security addressing the security of TIH by rail; and on April 16, 2008, PHMSA published in Docket No.2004-18730 an interim final rule on enhancing rail transportation security. The contents of these two rulemakings actions are interrelated with the content of this NPRM. While the FRA NPRM addresses TIH rail transport from a safety perspective, there is little evidence that security concerns have also been taken into account comprehensively. Currently DHS/TSA has studies on-going related to tank car resistance to ballistic penetration and IED's. Considering the high cost associated with implementing the changes proposed in this rulemaking, it is imperative that safety and security concerns are integrated into any tank car construction changes that are developed in order to avoid further costly changes in the future. In addition, the proposal to limit TIH rail tank cars to a speed of 30 mph when traversing dark territory has security implications. Reducing train speed for TIH shipments will likely increase the time they are vulnerable to attack. At present rail carriers are already taking steps to reduce dwell time as one of the many TSA "Voluntary Action Items". In addition, a consequence of the proposed speed limit is that rail carriers may stage TIH shipments so that there may be fewer trains transporting them, with those that

do, hauling larger numbers of TIH tank cars. Such trains could pose an increased security risk. DGAC strongly recommends DHS/TSA be an equal partner in this rulemaking effort to ensure any further rulemaking in this area comprehensively addresses both safety and security concerns.

### **The Proposed Performance Criteria**

The proposed performance criteria are based primarily on assumptions made and modeling carried out by Volpe. Those criteria may not represent observed accident conditions and may result in requirements for designs which do not address the actual accident situation. A Volpe tank car concept represented as meeting the new performance criteria has not been validated. We are concerned that FRA may be advancing performance criteria that may not be practicable. For example, analysis of designs considered in relation to the Next Generation Rail Tank Car Project, a project FRA has actively participated in, will not meet the FRA proposed head shield performance criteria. Further, we believe that before taking further regulatory action to adopt the new performance criteria, a design based on the criteria should be validated through service trial testing.

### **The Ability of Rail Lines and Chemical Facilities to Handle 286,000 GRL Tank Cars**

The proposed rule would allow the use of tank cars with up to 286,000 pounds gross rail load in order to permit heavier tank cars meeting the new performance criteria without reducing the currently permitted cargo amount. We are concerned that many chemical facilities and branch rail lines leading to those facilities will not be able to handle the increased load. Consequently, the proposal has the potential for requiring that new TIH rail tank cars carry less cargo. This will in turn require the use of more rail tank cars, and result in increased congestion and increased exposure to malevolent acts.

### **The Proposal's Detrimental Impact on Replacement of the Existing Tar Car Fleet**

Rail tank cars capable of meeting the proposed performance standards are not currently available; and it will take considerable time to design and develop such rail tank cars. Under the proposal, tank cars built to existing designs would be phased out within eight years from the effective date of the rule. As such, shippers with a need to replace existing rail tank cars but not wishing to invest in rail tank cars with a limited useful life are faced with a dilemma. This situation could be detrimental to safety in that it would tend to encourage the continued use of older cars that would otherwise be phased out through attrition. DGAC strongly recommends that FRA provide shippers with practical guidance so that they may expect a reasonable rate of return on newly acquired rail tank cars.

### **Timeline for Implementation**

The phase out period of existing rail tank cars within eight years of the effective date of the rule is not cost effective and is unjustifiable from a cost benefit perspective. Such a short phase-out time for existing bulk packagings is unprecedented. In addition, the time provided to develop rail tank car designs, to evaluate their effectiveness through analytical and full scale testing and to operate a limited number in service trial tests is inadequate. Rushing into a costly endeavor such as this is imprudent and has the potential for increased costs and could be detrimental to safety due to failure to fully assess designs.

## **Additional Deficiencies in the Basis of the NPRM**

DGAC notes the following deficiencies in the basis for the NPRM:

1. The Volpe design, in order to keep the tank car weight down, uses a tank designed to withstand 300 psi. While we recognize that the choice of 300 psi is based on a regulatory requirement, it does not reflect current design practice in that most chlorine rail tank cars are designed for 500 psi. We believe that a tank able to withstand a lesser pressure than that currently in common usage may in some respects reduce transport safety. While the proposed exterior sandwich panels provide effective impact resistance in the case of blunt impact loads, they are considerably less effective against sharper objects. As such, the Volpe 300 psi tank design with its lower pressure rating and thinner walls could be more prone to puncture by sharp objects than existing tank cars.
2. The rulemaking does not consider the characteristics of all TIH materials. For example, many are highly flammable and will ignite very close to a ruptured car instead of the vapors forming a toxic cloud and spreading downwind. The consequences of releasing these types of materials are likely to be significantly different from other TIH materials studied. DGAC recommends that FRA take a rationalized approach in assigning tank car performance requirements, matching the degree of integrity required with the degree of risk posed by the substances to be transported.
3. The Volpe Study is based on the assumption all TIH materials are transported at a pressure of 100 psig. This of course is not the case. For example, ethylene oxide is transported in a 105J300W tank car fitted with a 75 psig pressure relief device. We believe the study results should be refined taking into account the pressures under which individual TIH materials are transported.

DGAC believes that a collaborative (enterprise) effort between industry and government in reaching mutually agreeable steps toward increasing TIH rail tank car safety and security is a far more effective means of reaching a satisfactory solution than that being taken through this NPRM and urges FRA and PHMSA to continue their dialogue with the affected industries in a nonregulatory setting.

The Dangerous Goods Advisory Council (DGAC) appreciates the opportunity to comment on this NPRM.

Sincerely,



Mike Morrisette  
President