



January 15, 2010

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

Re: Comments on Docket Nos. PHMSA – 2009-0126 (HM-215K); Harmonization With the United Nations Recommendations on the Transport of Dangerous Goods Model Regulations, International Maritime Dangerous Goods Code, International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air, and Transport Canada's Transport of Dangerous Goods Regulations; Advanced 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 supports PHMSA's ongoing efforts to harmonize the HMR with international regulations based on the United Nations Model Regulations. We appreciate PHMSA's effort to implement these changes in a timely manner in order to avoid disharmony between the HMR and international requirements. We appreciate the opportunity to offer comments in advance of PHMSA proposing harmonized requirements. DGAC offers the following comments on the ANPRM:

1. Classification of Sour Crude. DGAC actively participated in the Sub-Committee discussion on this topic and submitted two documents (ST/SG/AC.10/C.3/2008/96 and UN/SCETDG/34/INF.27). While recognizing that the Sub-Committee decision was a compromise, DGAC recommends against requiring domestic use of the two new proper shipping names for sour crude oil with a division 6.1 subsidiary risk. DGAC recommends that use of the new UN shipping names only be required for international transport purposes.

Transport of crude oil is largely limited to domestic transport with carriers normally transporting crude oil 100 miles or less from a well to a central collection point where it is refined or piped to a refinery. There is no need to adversely affect the large number of domestic crude oil shipments through the adoption of the new UN requirements. Only crude oil samples are likely to be transported internationally and these could be accommodated by including the new UN entries in the 172.101 table with and "I" in column (1).

The new UN shipping names would introduce impracticalities into the collection and transport of crude oil, particularly for operations where cargo tank trucks retrieve crude oil from multiple wells with differing propensities to evolve hydrogen sulfide (H₂S) gas. Crude oil carriers, who currently use flammable liquid placards displaying UN 1267 and who typically use permanent shipping

papers, would now be required to assess the inhalation hazard of each crude oil batch they transport and switch to other placards and shipping papers based on their assessment. In addition, §173.244 would suggest that some of these crude oils with a Division 6.1 subsidiary risk would be required to be transported in higher integrity bulk packagings. We consider this highly inappropriate.

DGAC in its UN Sub-Committee documents noted some of the issues surrounding the assignment of an inhalation hazard to sour crude oil. From a classification perspective we noted, “The evolution of H₂S from the breakdown of sulphur compounds in crude oil depends on the complex interaction of a number of physical and chemical factors including the nature of the sulphur-containing compounds, the extent to which bacteria are present, the temperature of the lading, the duration of the transport journey, and transport conditions which affect the extent to which oxygen is dissolved in the crude oil, including the type of packaging used, the packaging’s liquid surface area, and the amount of sloshing that takes place in transport.” The concentration of H₂S in the liquid crude oil phase under classification conditions will not predict the H₂S concentration in the headspace during transport. It is not possible to use existing UN classification criteria for division 6.1 in classifying crude oils as inhalation hazard substances or assigning the packing group.

We also noted that classification on the basis of the possible evolution of H₂S vapors is unprecedented and that there are other substances with the potential to evolve hydrogen sulfide vapors. Other hydrocarbon mixtures, asphalt, sulfur, waste streams with high sulfur content and even some well waters have the potential to evolve hydrogen sulfide gas. To better appreciate the prevalence of H₂S in both hazardous and nonhazardous materials, we refer you to <http://www.osha.gov/dts/sltc/methods/inorganic/id141/id141.html>.

The transportation risk of H₂S vapors from crude oil is limited. Unlike shipments of pure H₂S gas, the H₂S hazard in crude oil is generally limited to the amount of H₂S gas in the vapor space. In a loaded tank truck this amounts to 5% of the tank volume. The vapor space gas would generally be dissipated before the arrival of emergency responders arriving on the scene of an incident involving a cargo tank truck breach. Any subsequent release of H₂S from the crude oil liquid would occur over an extended period of time and would likely be dissipated rapidly in the event of an incident. Furthermore, we note that the North American Emergency Response Guide Book already recommends the use of protective breathing apparatus when approaching an incident scene involving UN1267, Petroleum Crude Oil, so that little to no addition benefit is gained by the inclusion of a Division 6.1 subsidiary risk identified through a UN number on a placard or on a shipping paper. In addition, we would expect that emergency responders located in oil production areas would appreciate any unique hazards of crude oil produced in their area. As such, the new entries are not expected to produce a significant safety benefit.

Exposure to high concentrations of H₂S is most likely when the cargo tank truck is opened or when a tank is reloaded, displacing the cargo tank vapors. The hazard is essentially a work place hazard. For this reason DGAC had proposed in UN/SCETDG/34/INF.27 that the UN Subcommittee adopt requirements specific to the safety of these operations. These measures reflect current best practices and provide a higher degree of safety than would result from adopting the new UN shipping names (i.e., taking effect at vapor concentrations as low as 10 ppm as opposed to 1/5th the LC₅₀ value). For purposes of the HMR, DGAC recommends limiting the provisions to cargo tank truck operations. These could be introduced by adopting a new special provision against UN 1267 reading as follows:

“XXX – For a crude oil with the potential of evolving dangerous concentrations of hydrogen sulfide in the vapor space of a cargo tank truck, the following requirements must be met:

- a) The driver engaged in loading or unloading a transport tank must wear a H₂S monitoring device alarming at a concentration of 10 ppm or less;
- b) Respiratory protection should be immediately available to the driver when engaged in loading or unloading;
- c) Warning signs should be placed at the tank manhole and in the vicinity of the loading/unloading area.”

2. Classification of Explosives. DGAC is not convinced there is a well defined safety basis for applying the new Series 6(d) test to selected explosive devices currently classified as Division 1.4S. Nevertheless, in the interest of uniform internationally harmonized classification criteria, we recommend that the test be included in the HMR and that the test be applicable to articles already approved. Whenever possible PHMSA should allow existing articles to be reclassified on the basis of analogy and on documented (video taped) tests carried out by either the manufacturer or an approved laboratory. Delays in the issuance of approvals must not pose a detriment to industry efforts to update these classifications. With these qualifications, we consider the anticipated HM-215K mandatory effective date of 1 January 2012 to provide sufficient lead time for transitioning to the new test series.

3. IBC Rebottling. DGAC supports adopting the new UN definition of “Repaired IBCs.” The new definition limits repair to the replacement of a rigid inner receptacle in a composite IBC with an inner receptacle conforming to the original design type from the same manufacturer. We would expect that a mandatory effective date of January 1, 2012 would give users and remanufacturers sufficient time to implement the UN provisions, along with their global counterparts.

4. Limited Quantities and Consumer Commodities. DGAC supports UN changes with respect to limited quantities to the extent that they do not affect existing HMR requirements for ORM-D consumer commodities. The internationally agreed limited quantity package marking should be introduced into the HMR as part of HM-215K consistent with international implementation dates. We support the elimination of shipping paper requirements for limited quantities of hazardous materials that are transported by rail or highway.

We are opposed to PHMSA eliminating existing provisions for ORM-D materials as part of HM-215K and recommend that a separate rulemaking consider possible changes to ORM-D provisions. We note some items eligible for ORM-D classification are not permitted as limited quantities (e.g., small arms ammunition). In addition, we note that ORM-D provisions in §173.156 important to retail sale of consumer commodities are not applicable to limited quantities of hazardous materials. We also note that the US Postal Service regulations allow some ORM-D materials to be transported by mail. Eliminating ORM-D provisions could adversely impact use of the mail for packages of some ORM-D materials (e.g., recycling of small spent fuel cell devices).

5. Metal Hydride Storage Systems in Conveyances. DGAC supports adoption of the applicable UN provisions.

6. In vitro Testing for Corrosivity. DGAC supports adoption of the OECD In vitro methods. DGAC notes that OECD 430 and 431 include provisions whereby negative results for skin irritation

may be taken as a basis for concluding a substance is not corrosive. DGAC urges PHMSA to adopt these provisions as part of the incorporation by reference of OECD 430 and 431.

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

Sincerely,

A handwritten signature in black ink that reads "Michael Morrissette". The signature is written in a cursive, slightly slanted style.

Mike Morrissette
President