



U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

Administrator

1200 New Jersey Ave., S.E.
Washington, DC 20590

March 16, 2016

The Honorable Christopher A. Hart
Chairman
National Transportation Safety Board
490 L'Enfant Plaza, SW
Washington, DC 20594

Dear Chairman Hart:

This letter responds to the National Transportation Safety Board (NTSB) Safety Recommendations R-14-18 through R-14-21, and the reiteration of R-07-4. The NTSB issued these four recommendations to the Pipeline and Hazardous Materials Safety Administration (PHMSA) following an investigation into a Consolidated Rail Corporation (Conrail) train derailment in Paulsboro, NJ on November 30, 2012. The train was carrying a Division 2.1 flammable gas, vinyl chloride, which is a regulated hazardous material. The train's derailment resulted in the spillage of approximately 20,000 gallons of vinyl chloride into Mantua Creek, medical attention for the train's crew and first responder team, and approximately \$30 million for the emergency response and remediation. The NTSB's recommendations and PHMSA's responses are as follows:

R-14-18

Take action to ensure that emergency response information carried by train crews is consistent with and is at least as protective as existing emergency response guidance provided in the Emergency Response Guidebook [ERG].

The PHMSA does not concur in part based on our understanding of the construct of the safety recommendation that it would entail a regulatory action to satisfy the recommendation and that such an action would leave the ERG as a de facto regulation rather than as a guidebook. The PHMSA has reservations about taking such a course of action. The PHMSA reminds NTSB that 49 CFR Subpart G of Part 172 of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) specifies the requirements to provide and maintain emergency response information (ERI), which is defined as information that can be used in the mitigation of an incident involving hazardous materials. Specifically, section 172.602(a) states that it must include, at a minimum, the following information: 1) The basic description and technical name of the hazardous material; 2) Immediate hazards to health; 3) Risks of fire and explosion; 4) Immediate precautions to be taken in the event of an accident or incident; 5) Immediate methods for handling fires; 6) Initial methods for handling spills or leaks in the absence of fire; and 7) Preliminary first aid measures. The HMR require that this information be presented on

a shipping paper or in a document other than a shipping paper that includes the information in section 172.602(a), such as, a material safety data sheet. The ERG is one form of guidance that can be used to satisfy this requirement. The PHMSA does agree with NTSB that providing emergency responders with accurate and accessible ERI is critical in transportation safety. However, we have concerns with taking regulatory action to ensure that emergency response information is as protective as the ERG.

First, it is important to note that the ERG is a tool to help emergency responders, not necessarily a national standard, even if viewed as such by NTSB or the public. The ERG is a guide to be relied upon in the absence of any other information. Although it may be a good starting point, the ERG cannot account for every variable that a carrier may encounter in transportation. The PHMSA relies on the shipper or carrier's ability to provide accurate emergency response information based on the specific material, the amount of material being transported, and other route-related variables. Ultimately we support giving flexibility to shippers and carriers to prepare emergency response information based on their own unique scenario.

Furthermore, while part of the ERG is based on scientific data, it may not always be the only correct way to respond to an incident. For instance, a shipper or carrier may use a different evacuation distance based on his or her own analysis using a source other than the ERG. The result may be equally or more effective for initial emergency response. This allowance explains why differences can exist between the ERG and sources like the Association of American Railroads (AAR) Bureau of Explosives Hazardous Materials Shipping Descriptions and Emergency Response database (HAZMAT database). For example, prior to the 2012 ERG publication, AAR contacted PHMSA to address the differences in the guidance for chlorine spillage in Tables 1 and 3; questioning the estimates and usability. The PHMSA recognized that there may be differences, but nonetheless, chose to publish the isolation and protective action distances based on research to support the ERG. However, to date, there is no published evidence, in the NTSB report or otherwise to indicate AAR's guidance on chlorine emergency response as unsafe. The PHMSA does, however, acknowledge NTSB's concerns as expressed via conference calls to discuss this recommendation that the information provided by shippers in accordance with section 172.602(a) is often not verified or validated. That is, there is no supporting data or analysis for the ERI provided by the shipper.

For vinyl chloride, the AAR HAZMAT database recommended, “[i]f material leaking (not on fire) consider evacuation from downwind area based on the amount of material spilled, location, and weather conditions.” This type of guidance allows for a more specific response without causing unnecessary evacuation for the surrounding community. A properly trained emergency responder should be able to respond appropriately, based on the size of the spill, location, and weather conditions. In some cases, the emergency responder may conclude that the isolation and protective action distances prescribed by the ERG are not necessary. Moreover, making the ERG a minimum requirement could have unintended consequences for the emergency response community. We are concerned that this could eventually lead to enforcement actions taken against emergency responders who choose not to follow what is prescribed in the ERG. We support allowing emergency responders to properly assess the

situation and respond using their discretion, without fear that their actions will result in a penalty for not following what was provided to them.

Additionally, there is insufficient evidence to suggest that emergency responder actions would have been different had the train consist had ERI that was consistent with the ERG. In the NTSB accident report, it states, “[i]t is uncertain whether this inconsistent information influenced the emergency responder actions on the day of the accident”¹ and further states that, “the train consist and emergency response information were not provided to the incident command for more than three hours. However, during the first hour of the emergency response, the Conrail director of risk management recommended a 0.5-mile evacuation, similar to what is suggested in the ERG.” To conclude, at this time we plan no regulatory action regarding this safety recommendation with respect to the ERG, however, we will initiate action (e.g., an internal working group) to consider an alternative means to provide assurances to the public that ERI provided by train crews is valid. The PHMSA will also take into consideration the results of the Government Accountability Office (GAO) study regarding ERI carried by train crews, in accordance with section 7303 of the Fixing America’s Surface Transportation Act (FAST Act).²

R-14-19

Require railroads transporting hazardous materials to develop, implement, and periodically evaluate a public education program similar to Title 49 Code of Federal Regulations Parts 192.616 and 195.440 for the communities along railroad hazardous materials routes.

The PHMSA concurs with this NTSB recommendation to require railroads to implement a public education program. In response, the Office of Hazardous Materials Safety (OHMS) is engaging our counterparts in the Office of Pipeline Safety (OPS), the Federal Railroad Administration (FRA), and TRANSCAER³, to explore ways for railroads to provide effective outreach and information to the communities along hazmat routes. This engagement will explore targeted Hazardous Materials Emergency Preparedness (HMEP) funding criteria, regional survey-based commodity flow studies, and community outreach resource templates, along with other possibilities, to respond to the NTSB recommendation. This may also include providing resources to communities to help them understand what information is needed to appropriately plan for and respond to rail hazmat incidents and whom to contact for this information.

Engaging rail carriers in a public awareness program with requirements similar to those outlined under 49 CFR §§ 192.616 and 195.440 for pipeline operators, in a voluntary manner, is a considerable undertaking. We note that the American Petroleum Institute (API)

¹ Pg. 36, Conrail Freight Train Derailment with Vinyl Chloride Release; Paulsboro, New Jersey; November 30, 2012

² Section 7303 of the FAST Act directs the GAO to conduct a study to determine whether limitations or weaknesses exist in the ERI carried by train crews operating trains transporting hazardous materials.

³ TRANSCAER is a voluntary national outreach effort that focuses on assisting communities to prepare for and to respond to possible hazardous materials transportation incidents.

Recommended Practice RP 1162, *Public Awareness Programs for Pipeline Operators* (API 2003), can help guide public awareness programs that help communities understand how to prevent and respond to emergencies. However, its focus on pipeline emergencies, and the codified requirements for pipeline operators limit its application to a voluntary program for rail carriers.

The Department of Transportation (DOT) and PHMSA continue to engage the emergency response community to improve preparedness and emergency response training associated with the transport of crude oil and other Class 3 flammable liquids by rail. Over the past year, PHMSA has met with subject matters experts from the emergency response community, railroad industry, and other Federal agencies to capture lessons learned and best practices for responding to rail incidents involving crude oil. This engagement led to the publication of the *Lessons Learned Roundtable Report* and the *Commodity Preparedness and Incident Management Reference Sheet for Petroleum Crude Oil*. These documents provide emergency responders with an incident management framework, based on pre-incident planning and response best practices, for responding to a rail incident involving flammable liquids, such as crude oil and ethanol.

The PHMSA used the Commodity Reference Sheet as a baseline to develop the web-accessible *Transportation Rail Incident Preparedness and Response* (TRIPR) training resource modules. These modules provide emergency responders with critical information on best practices related to rail incidents involving hazard Class 3 flammable liquids. The TRIPR offers a flexible approach to training first responders and emergency services personnel on pre-incident planning and response. The curriculum consists of nine training modules that focus on key response functions and incorporates three animated training scenario videos to facilitate informative tabletop discussions.⁴ In addition to the crude oil-specific initiatives above, PHMSA awards over \$21 million in grants on an annual basis through its HMEP grant program to States, Territories, and Tribes to carry out hazardous materials planning and training activities. These funds ensure state and local emergency responders are properly prepared and trained to respond to hazmat transportation incidents. Eligible activities under this grant include conducting hazmat commodity flow studies, drafting and updating hazmat transportation operations plans, funding emergency response exercises, and offering NFPA-472⁵ related training.

In September 2015, PHMSA awarded its first Assistance for Local Emergency Response Training (ALERT) grants. This competitive grant opportunity used recovered funds from prior years and awarded non-profit organizations that have the ability to provide direct or web-based hazardous materials training for volunteer or remote emergency responders. This grant was prioritized for emergency response activities related to the transportation of crude oil, ethanol and other Class 3 flammable liquids by rail. The International Association of Fire Chiefs, the Center for Rural Development, and the University of Findlay (All Hazards Training Center) were recipients of this grant.

⁴ The TRIPR modules, along with the Lessons Learned Roundtable Report and the Commodity Preparedness and Incident Management Reference Sheet for Petroleum Crude Oil, can be found on our PHMSA website.

⁵ The National Fire Protection Association's Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents

R-14-20

Collaborate with the Federal Railroad Administration and the American Short Line and Regional Railroad Association to develop a risk assessment tool that addresses the known limitations and shortcomings of the Rail Corridor Risk Management System software tool.

R-14-21

Collaborate with the Federal Railroad Administration and the American Short Line and Regional Railroad Association to conduct audits of short line and regional railroads to ensure that proper route risk assessments that identify safety and security vulnerabilities are being performed and are incorporated into a safety management system program.

The PHMSA concurs. As noted in a November 11, 2014 letter from FRA Administrator Joseph C. Szabo, FRA has funded the development and beta testing of the Hazmat Transportation Risk Analytical Model (H-TRAM) web-based software tool. This tool is for short line and regional railroads to perform safety and security risk analyses in accordance with the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180), specifically, § 172.820. The tool uses railroad operating information and route attributes to assess the 27 key risk factors list in Part 172, Appendix A—Rail Risk Analysis Factors, with particular emphasis on population density. The FRA funded an independent verification and validation of the tool and findings of this study (primarily “ease of use” issues and process documentation) are being addressed. Currently, H-TRAM is used by 14 railroad companies. The FRA has requested funding to continue the project.

Furthermore, PHMSA and FRA met recently with the Association of American Railroads (AAR) for a demonstration on the use of the Rail Corridor Risk Management System (RCRMS) software tool for when a railroad only has one route. Similar to H-TRAM, RCRMS provides calculated risk scores based on the 27 key risk factors for each route input into the system. Various visualization tools and reports are available for analysts to use to assess individual routes. Additionally, a railroad can look at the risk profile of a single route and can change a factor like track class or operating speed to reduce the risk associated with the given route. Therefore, PHMSA believes that RCRMS can still be a useful risk assessment tool for short line and regional railroads that only have one route available to assess. The PHMSA recommends that NTSB reach out to AAR for a similar demonstration on the capabilities of RCRMS in reconsideration of its view that the tool has “limitations and shortcomings.”

Regarding the recommendation to conduct audits of short line and regional railroads, FRA has an established program to audit compliance with § 172.820 visiting most, if not all, of the Class I railroads as well as a select number of short line and regional railroads annually. The audits reflected carriers are operating in compliance with the regulations. Specifically, regional and short line railroads that do not use RCRMS or H-TRAM have developed their own methodology to analyze the safety and security risks along required routes.

Furthermore, FRA has collaborated with the American Short Line and Regional Railroad Association (ASLRRA) and presented at the March 2015 ASLRRA conference in Orlando, Florida to promote the importance of performing a complete and thorough route analysis. The FRA, jointly with Countermeasure Assessment & Security Experts (CASE), the developers of H-TRAM, provided an overview of the use of H-TRAM as well as detailing FRA's expectations during audits. They also highlighted the ongoing system improvements and the creation of a web-based training program for railroads. We note that FRA also met with short line conglomerates (Genesee and Wyoming; WATCO; and Omni-Trax) to discuss various hazardous materials regulatory compliance matters with their subsidiary railroads during the same month.

The FRA, as the rail modal arm of DOT, and primarily acting in an enforcement capacity for the transportation of hazardous materials by rail, has taken the lead on actions to address these recommendations. The FRA has the expertise and oversight to complete the actions stated above (i.e., final roll out of the H-TRAM software tool and continuation of audits of short line and regional railroads) for Safety Recommendations R-14-20 and R-14-21. Therefore, we plan no further action beyond providing support and assistance to FRA on these actions as necessary. Moreover, given that NTSB has issued the exact same recommendations under Safety Recommendations R-14-16 and R-14-17 to FRA, we see no safety reason for the duplication of safety recommendations issued to FRA and PHMSA, as Safety Recommendations R-14-16 and R-14-17 require the same collaboration among the relevant parties as Safety Recommendations R-14-20 and R-14-21.

R-07-04

Work together to develop regulations requiring that railroads immediately provide to emergency responders accurate, real-time information about the identity and location of all hazardous materials on a train.

The PHMSA concurs. The pilot tests of the Hazardous Materials Automated Cargo Communication for Efficient and Safe Shipments (HM-ACCESS) program have been completed. Volpe has completed its draft of the feasibility and assessment report and the target transmission date to Congress is the end of December 2015. Furthermore, Section 7302 of the FAST Act mandates PHMSA to issue regulations to require Class I railroads transporting hazmat to generate accurate, real-time electronic train consist information, no later than 1 year from the date of enactment of the Act. Additionally, the mandate requires that the railroads to provide fusion centers with secure access to the train consist information; and to require fusion centers⁶ to share this information with State and local first responders, emergency response officials, and other personnel involved in response to or investigation of a rail incident or emergency. Accordingly, PHMSA has initiated a rulemaking to adopt the Section 7302 FAST Act mandates and expects to publish a notice of proposed rulemaking in the July 2016 timeframe.

⁶ Fusion centers are information sharing centers, jointly created by the U.S. Department of Homeland Security and the Office of Justice Programs in the U.S. Department of Justice where some are affiliated with Emergency Operations Center that responds in the event of a disaster.

If we can be of further assistance or answer any additional questions, please do not hesitate to contact Stephen Domotor, Chief Safety Officer, by phone at 202-366-7530 or by e-mail at Stephen.Domotor@dot.gov.

Sincerely,

A handwritten signature in black ink, reading "Marie Therese Dominguez". The signature is written in a cursive style with a large, looped "M" and "D".

Marie Therese Dominguez