

**A report by the  
Public Utilities Commission of Ohio**

Regulations and protocols pertaining to the transportation  
of hazardous materials and hazardous waste

October 2, 2023

## Introduction

The Public Utilities Commission of Ohio (PUCO), in collaboration with the Ohio Environmental Protection Agency, has compiled this report as required in §749.10 of the Amended Substitute House Bill 23. This report will examine state and federal regulations regarding hazardous materials and hazardous waste transportation, and details of disclosure surrounding the transportation of hazardous materials and hazardous waste. It will also provide suggestions to strengthen requirements for the transportation of hazardous materials and hazardous waste.

Hazardous materials (HM)<sup>1</sup> and hazardous waste (HW)<sup>2</sup> transportation regulations and protocols are complex and involve a patchwork of federal and state agencies. The following paragraphs will outline the organizations who have a part in regulating HM and HW in transportation and then the various components of HM/HW regulations and controls will be examined. It is important to note that while in some instances HM and HW are treated differently, they are generally treated in a similar manner in terms of regulation in transportation.

## Organizations involved in HM/HW transportation regulation

- **Public Utilities Commission of Ohio (PUCO) & Ohio State Highway Patrol (OSHP)**

The PUCO is the designated lead agency for the enforcement of transportation safety and hazardous materials regulations in the state of Ohio.<sup>3</sup> Both railroad and highway modes of transportation are jurisdictional to PUCO. The Ohio State Highway Patrol (OSHP) Licensing and Commercial Standards Unit also conducts roadside HM and HW inspections of commercial motor vehicles and is a subrecipient of the Federal Motor Carrier Safety Administration's (FMCSA) Motor Carrier Safety Assistance Program (MCSAP) grant.

The PUCO inspects commercial motor vehicles and general freight network trains in transportation and documents violations that are reported to the FMCSA, the Pipeline and Hazardous Materials Safety Administration (PHMSA), or the Federal Railroad Administration (FRA). The motor carrier violations, including those found by OSHP, are subject to fines which are levied by the PUCO. Rail violations are not subject to state level fines. Although PUCO rail inspectors are federally certified to write violations, the FRA administers civil forfeitures.

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<sup>1</sup> 49 U.S.C. 5102(2); See also, 49 C.F.R. §105.5

<sup>2</sup> 42 U.S.C. 6903(5)

<sup>3</sup> See R.C. 4923.06 and R.C. 4923.09

PUCO is currently the only state in the country to participate in the PHMSA's hazardous materials safety inspection shipper review program. In this program, companies that offer HM and HW for transportation (i. e. shippers) are audited to ensure they are following proper packaging, closure, and HM communication regulations. Through the FRA inspection program PUCO rail inspectors can inspect rail shippers. All of the above-mentioned programs are funded by grants from the FMCSA MCSAP grant, PHMSA, and FRA to conduct inspections and investigations.

The PUCO responds to rail and roadway commercial motor vehicles incidents involving HM and HW. If a release of HM or HW is present at the incident, PUCO staff will investigate to determine a root cause. If the incident investigation requires, PUCO investigators will coordinate with other state and federal assets as needed to complete the investigation. If the PUCO discovers circumstances indicative of systemic negligence, the carrier will be considered for an in-depth overall federal compliance review. This review would involve a thorough examination of their operations with a focus on all safety aspects of the federal and state regulations.

The PUCO stops and inspects all high-level radioactive shipments entering the state of Ohio by highway. PUCO inspectors also escort the shipments to their final destination.

- **Pipeline and Hazardous Materials Safety Administration (PHMSA)**

PHMSA is the primary federal regulatory agency for the offering of and transportation of HM in the US. PHMSA promulgates the HM regulations found in 49 CFR 100-200 and regulates and investigates all HM package manufacturers and shippers of HM. PHMSA also provides regulatory interpretations and special permits or variances. PHMSA administers the Hazardous Materials State Inspection (HMSI) grant. PUCO receives \$400,000 annually from this grant to conduct shipper investigations described above. <https://www.phmsa.dot.gov/about-phmsa/working-phmsa/grants/hazmat/hazardous-materials-safety-inspection-hmsi>

- **Federal Railroad Administration (FRA)**

The FRA regulates operations throughout the nation's railroad industry to enable safe, reliable, and efficient rail transportation. FRA has regulatory and inspection responsibility over all freight railroads and shippers who provide HM to the rail industry. FRA also investigates major rail incidents and administers the state inspection program. This federal program, codified in 49 CFR Part 212, allows a state agency with appropriate regulatory authority (i.e., PUCO) to have personnel enter an apprenticeship program in which they learn 1 of 6 rail inspection disciplines. Ohio currently has FRA certified hazardous materials discipline inspectors. These inspectors enforce all federal regulations on railroads and exercise the same jurisdiction as federal inspectors.

<https://railroads.dot.gov/railroad-safety/divisions/partnerships-programs/state-safety-participation-program>

- **Federal Motor Carrier Safety Administration (FMCSA)**

The FMCSA regulates interstate commercial motor vehicle trucking operations in the US. The primary mission of the FMCSA is to reduce crashes, injuries and fatalities involving large trucks and buses. FMCSA adopts and enforces the safety regulations on the trucking industry found in 49 CFR 300-399. They also conduct investigations into highway transportation incidents as well as motor carrier safety operations.

FMCSA administers the MCSAP grant. As mentioned above, the PUCO is the lead state agency for MCSAP in Ohio. In federal fiscal year 2023 (FFY23) Ohio received \$15,556,972 to conduct inspections and investigations. In FFY23 PUCO sub-granted 58.15% of MCSAP money to the OSHP to conduct commercial motor vehicle inspections.

<https://www.fmcsa.dot.gov/grants/mcsap-basic-incentive-grant/motor-carrier-safety-assistance-program-mcsap-grant>

- **United States Environmental Protection Agency (US EPA)**

The US EPA regulates the transportation, storage, and disposal of HW. They issue tracking numbers to waste generators, transporters, and treatment facilities. US EPA regulates and documents the HW through a uniform HW manifest. They also regulate the disposal of solid waste.

- **Ohio Environmental Protection Agency (OEPA)**

Ohio EPA protects the environment and public health by establishing and enforcing standards for air, water, waste management and cleanup of sites contaminated with hazardous substances. Ohio EPA's Office of Emergency Response coordinates with federal, state and local responders to minimize and abate the environmental impact of leaks and spills of HM during transportation incidents.

## **Regulations and requirements of transporting hazardous materials and hazardous waste**

- **Hazardous materials vs hazardous waste regulation in transportation**

A "hazardous material" is any substance that the US DOT has determined capable of posing an unreasonable risk to health, safety, and property when transported in commerce and that the US DOT has designated as hazardous. See, 49 U.S.C §5102(2); see also, 49 CFR §105.5 "Hazardous waste" refers to discarded material that meets certain statutory criteria to be considered hazardous. 42 U.S.C. §6903(5). A material may also be

designated a “hazardous substance” under various federal environmental protection laws. 42 U.S.C. §9601(14). PHMSA’s regulations apply to HM, HW, and hazardous substances transported interstate, intrastate, and in foreign commerce. 49 CFR part 171-180. There are also regulations issued by the US EPA regarding transportation of HW, including some that adopt the PHMSA regulations. 40 CFR part 263. The PUCO enforces all applicable federal regulations.

- **Licensing and Insurance**

The transportation of HM and HW requires motor carriers to be registered with FMCSA, PHMSA, US EPA and PUCO. Individual CMV drivers must have a commercial driver’s license with a HM endorsement if transporting placarded amounts of HM. There are additional insurance requirements of between \$1 and \$5 million which must be on file with the agencies. See 49 CFR Part 387 and Ohio Administrative Code (OAC) 4901:2-13 and 4901:2-21.

- **Training**

There are minimum recurrent training requirements for CMV industry employees who handle and transport HM, as described in 49 CFR Parts 172 and 177 incorporated by reference in OAC. See OAC 4901:2-5-03. This training must be custom tailored to encompass the specific mode of transportation, specific HM being transported, and specific operations being conducted. US EPA also has training requirements for handlers of HW in title 40 of the Code of Federal Regulations. An example of this training is the Occupational and Safety Health Administration’s (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER.)

- **Marking**

PHMSA’s HM regulations describe how materials must be marked when transported. See 49 CFR part 172, subpart D. Many HM also require the vehicle to display warning placards on all four sides of the vehicle. See, 49 CFR, part 172, subpart F. Under some situations, it is also required to display a 4-digit identification number on all four side sides of the vehicle or rail container. See, 49 CFR, part 172, subpart D. These hazard communications are to assist emergency responders in the immediate response to an incident involving HM.

- **Container and package standards**

The design, manufacturing, marking, and testing of packages for hazardous materials is regulated by PHMSA in accordance with 49 CFR parts 178 and 180.

- **Records**

Shippers and carriers of HM must maintain and produce records on demand for enforcement and emergency response personnel. These include shipping papers or manifests, hazardous materials registrations and carrier documentation and registration paperwork as detailed in 49 CFR part 172 subpart C and 40 CFR §262.20.

- **Civil Forfeitures**

Under Ohio Adm.Code 4901:2-5-03(A), the PUCO adopted certain provisions of the federal motor carrier safety rules, specifically, 49 C.F.R. Sections 40, 367, 380, 382, 383, 385, 386, 387, and 390-397, to govern the transportation of persons or property in intrastate commerce within Ohio. Through the same rule, the PUCO also adopted those portions of the regulations contained in 49 C.F.R. 107, Subparts F and G, and 49 C.F.R. 171 to 180, as are applicable to transportation of HM by motor vehicle.

Ohio Adm.Code 4901:2-5-03(C) requires all motor carriers engaged in interstate commerce in Ohio to operate in conformity with all federal regulations that have been adopted by the PUCO. Further, R.C. 4923.99 authorizes the PUCO to assess a civil forfeiture of up to \$25,000 per day, per violation, against any person who violates the safety rules adopted by the PUCO when transporting persons or property, in interstate commerce in or through this state.

## **Required Hazardous Materials and Hazardous Waste Disclosures**

- **High Hazard Flammable Train notification to states**

On May 1, 2015, jointly promulgated FRA and PHMSA regulations became effective which required railroads to give advanced notification to state emergency response commissions (and similar organizations) when high hazard flammable trains (HHFT) would move through their jurisdictions. 49 CFR §174.312. The regulation does not require individual notification of each shipment of HHFT but allows for a general estimate of HHFT traffic over a week in the affected area. Further notification is only required if there is a 25% departure from the previous notification, up or down. An overview of the HHFT rule can be found at:

[https://railroads.dot.gov/sites/fra.dot.gov/files/fra\\_net/14509/HHFT%20Final%20Rule%20Summary%20Document%20FINAL.pdf](https://railroads.dot.gov/sites/fra.dot.gov/files/fra_net/14509/HHFT%20Final%20Rule%20Summary%20Document%20FINAL.pdf)

- **Ask Rail Application**

Launched in 2014, the Ask Rail application was the result of a collaborative effort among the emergency response community and all North American Class I railroads. The app provides more than 35,000 first responders from all 50 states and eight Canadian

provinces, with immediate access to accurate, timely data about what type of HM a railcar is carrying so they can make an informed decision about how to respond to a rail emergency.

- **Highway Route Controlled Quantity (HRCQ) Shipment Notifications**

The shipper of a HRCQ shipment must notify Ohio Emergency Management Agency (OEMA) seven days prior to the entry of Ohio. See, 10 CFR §71.97. OEMA then immediately notifies the PUCO and other appropriate state agencies within 24 hours of shipment to coordinate escort and inspections. See, ORC §4163.07.

- **Manifest and Waybills**

With few exceptions for small quantities shippers, carriers of HM must maintain and provide shipping papers detailing at a minimum the UN identification number, proper shipping name, hazard classification and packing group of the HM they are transporting. See, 49 CFR part 172 subpart C and 40 CFR §262.20. These are only maintained in the shipper and carrier records and in the vehicle during transportation.

- **Placards and Labels**

Most shipments of HM over 1,000 pounds total on the vehicle require the outside of the vehicle to display 10 x 10-inch diamond shaped placards to warn emergency responders of the hazardous material on the vehicle. See, 49 CFR 172.519 Each individual package of HM requires a small label to be affixed which identifies the hazard classification, UN identification number, and proper shipping name for the hazardous material in the package. See, 49 CFR part 172, subpart E.

[https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/docs/Hazardous\\_Materials\\_Markings\\_Labeling\\_and\\_Placarding\\_Guide\\_508CLN.pdf](https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/docs/Hazardous_Materials_Markings_Labeling_and_Placarding_Guide_508CLN.pdf)

## **Recommendations for methods to strengthen Ohio's safety requirements for HM and HW transportation**

- **Continue PUCO PHMSA Grant Shipper Reviews**

Due to the established expertise and advanced levels of hazardous materials training PUCO inspectors receive, Ohio was selected as the pilot state for the PHMSA shipper review grant. Currently the PUCO is assisting and encouraging other states in developing their shipper review program as well as working with PHMSA to expand the program. This grant program plays an important role in hazardous materials transportation safety and should be encouraged at the federal level to continue in Ohio and across the country.

- **Cargo tank recertification facility jurisdiction for PUCO.**

Currently, the PUCO inspects cargo tanks during roadside inspections and following HM incidents for compliance with PHMSA regulations. See, 49 CFR 137. Violations identified during these inspections are assigned to the shipper and/or motor carrier and addressed through the PUCO's civil forfeiture process. The PUCO has documented cases of cargo tank test recertification facilities improperly conducting or failing to conduct required tests. Cargo tank recertification facilities are outside the PUCO's jurisdiction under Ohio law. Expanding the PUCO's jurisdiction to permit inspections of cargo tank recertification facilities when the cargo tank is being used in the transportation of HM would allow the PUCO to be more proactive in addressing cargo tank incidents.

- **Revise the statutory limitation on PUCO HazMat Training Fund Reimbursements**

ORC §4921.21 requires the PUCO to annually use \$800,000 of civil forfeitures from HM violations collected under ORC §4923.99 to reimburse first responders, educational institutions, and localities for transportation HM training. In 2023 the PUCO awarded 21 applicants enough funds to train 1,600 emergency response personnel.

Over the past 5 years, the total average amount requested from applicants each year has been \$1.4 million. Increasing the reimbursement ceiling would be used to assist and fund additional hazardous materials training for first responders.

- **PUCO civil forfeiture penalties and enforcement should continue**

The PUCO recommends continuing the existing criminal and civil penalties and enforcement mechanisms, as outlined above. The state of Ohio is fortunate to have robust regulatory oversight over the transportation of hazardous materials and hazardous waste. This regulatory oversight should be maintained.

## **Conclusion**

The PUCO takes seriously its role in regulating the transportation of hazardous materials and waste as they move throughout the state. The PUCO would like to thank the members of the General Assembly for their continued guidance in directing the agency to review the transportation of hazardous materials and waste through the state as well as offer recommendations on how to strengthen Ohio's existing requirements.