March 4, 2026

Docket Management System
U.S. Department of Transportation
Dockets Operations, M–30
Ground Floor, Room W12–140
1200 New Jersey Avenue SE
Washington, DC 20590

RE: Docket Number: PHMSA–2024–0064 (HM–266)
Hazardous Materials: Modernizing Regulations To Facilitate Transportation of Hazardous Materials Using Highly Automated Transportation Systems

The Commercial Vehicle Safety Alliance (CVSA) respectfully submits the following comments in response to the Pipeline and Hazardous Materials Safety Administration's (PHMSA) request for stakeholder feedback on potential revisions to the Hazardous Materials Regulations (HMR) to facilitate the safe transportation of hazardous materials using highly automated transportation systems, docket number PHMSA-2024-0064 (HM266).

CVSA is a nonprofit organization comprised of local, state, provincial, territorial and federal commercial motor vehicle (CMV) safety officials and industry representatives. The Alliance aims to prevent commercial motor vehicle crashes, injuries and fatalities and believes that collaboration between government and industry improves road safety and saves lives. Our mission is to improve commercial motor vehicle safety and enforcement by providing guidance, education and advocacy for enforcement and industry across North America.

CVSA commends PHMSA for seeking feedback from stakeholders regarding how deployment of highly automated transportation systems, including fully autonomous commercial motor vehicles, sometimes referred to as automated driving systems (ADS), will impact transportation of hazardous materials. In particular, it is critical that the agency consider how the HMR may need to be amended to incorporate this evolving technology. The Alliance strongly supports policies that encourage development of ADS-related technology that can prevent or mitigate the severity of crashes. Recognizing the potential safety benefits of ADS-equipped motor vehicles, it is critical that stakeholders have the opportunity to provide the agency with feedback and recommendations on how best to update the HMR to ensure their safe integration into roadways.

While PHMSA's notice focuses on a broad range of applications of highly automated transportation systems across multiple modes, CVSA's comments will focus on areas that relate to highway transportation of hazardous

materials. As such, the comments below provide specific feedback related to deployment of commercial motor vehicles equipped with ADS for the agency's consideration in response to the 'Questions' section of the notice.

A. General Questions

1. *How should PHMSA address the transportation of hazardous materials using highly automated transportation systems (e.g., revisions to the HMR, corresponding guidance, other resources)?*

   In order to prepare for full deployment of ADS-equipped commercial motor vehicles transporting hazardous materials, significant revisions to the HMR will be necessary, as the regulations were written assuming a human operating the transport vehicle. CVSA recommends PHMSA conduct a comprehensive review of the HMR and identify all instances where the regulation assumes a human operator and propose revised language that allows for autonomous operations, where appropriate, similar to activities being conducted by the National Highway Traffic Safety Administration and the Federal Motor Carrier Safety Administration (FMCSA). However, this review and the necessary regulatory process to complete the revisions will take considerable time. In the interim, CVSA recommends PHMSA use Special Permits to allow for motor carriers to transport hazardous materials with an ADS-equipped commercial motor vehicle. Not only will utilizing the Special Permit process allow for quicker deployment of this safety technology, but it would also allow the agency to gather critical data that could inform the final regulatory revisions. PHMSA has used this approach in the past to evaluate other emerging technologies, such as the Special Permit issued to the United Parcel Service (UPS) to implement and test electronic shipping papers.

2. *Should PHMSA consider specific automation use cases when revising the HMR? Or should requirements be scoped to various system automation use cases and performance capabilities remain with the appropriate modal administration?*

   Any changes to the regulations considered by PHMSA for adoption of ADS-equipped commercial motor vehicles should be specific to the safe transportation of hazardous materials, leaving the broader performance capabilities to the appropriate modal administrations. Multiple agencies attempting to regulate the same issues and portions of the regulations results in inconsistent, confusing and even conflicting regulations at times. However, CVSA encourages PHMSA to coordinate closely with the other modal administrations, as appropriate, to ensure that consideration is being given to the safe transportation of hazardous materials.

3. *What specific safety concerns do you foresee with the use of highly automated transportation systems for hazardous materials? What specific safety benefits do you foresee with the use of highly automated transportation systems for hazardous materials?*

   Deployment of ADS-equipped commercial motor vehicles provides significant opportunity for improved safety when transporting hazardous materials. ADS-equipped commercial motor vehicles have significantly more advanced crash detection and avoidance technologies, allowing the vehicles to make quicker decisions to avoid a collision. In addition, risky behaviors and factors associated with a human driver do not apply to an ADS-equipped commercial motor vehicle – the ADS driver cannot become fatigued, impaired or distracted. In addition, if PHMSA and ADS developers are able to identify an effective

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

and reliable mechanism for the ADS technology to communicate with emergency response personnel when an incident occurs, ADS-equipped commercial motor vehicles may also provide potentially faster communications of critical information when an incident does occur, such as providing necessary information regarding the type of hazardous materials being transported to the 911 call center prior to the arrival of emergency response personnel. There is also the possibility of advancements in automated loading and unloading technology, as well as the possibility of the development of technology that provides continuous monitoring of cargo for package failure, leaks or spills, as well as real time notification when a leak does occur. This real time awareness of the load security becomes even more important, as there will not be a driver present to monitor the load en route.

While there are a number of areas where deployment of ADS-equipped commercial motor vehicles could provide significant improvements to the safe transportation of hazardous materials, there are also several areas where additional consideration will be needed in order to avoid any reductions in safety. For example, without a human driver present, how will motor carriers monitor load integrity during transport, identify en route spills and/or package failures, and communicate hazards present to first responders in the case of an incident in a timely manner? It is imperative that PHMSA work with the ADS developer community to identify these gaps and work to address them prior to moving forward with deployment of ADS-equipped commercial motor vehicles transporting hazardous materials. In particular, consideration must be given to the protocols for an ADS-equipped commercial motor vehicle transporting hazardous materials when an issue is identified en route.

4. *How should PHMSA and modal administrations evaluate and mitigate risks associated with these systems?*

   As noted above, deployment of ADS-equipped commercial motor vehicles has the potential to significantly improve the safe transportation of hazardous materials, but only if they are incorporated in a thoughtful manner and all potential risks and concerns are adequately addressed. An example would be the scenario presented in response to Question 3 above - without a human driver present, how will motor carriers monitor load integrity during transport, identify en route spills and/or package failures, and communicate hazards present to first responders in the case of an incident in a timely manner?

   To ensure these issues are identified and addressed, CVSA recommends that PHMSA engage with the developers of the highly automated transportation systems, including the ADS community, to understand how the technology works. In addition, the agency should engage with motor carriers and the enforcement community on an ongoing basis to identify the potential risks and possible solutions to mitigate and address them. Finally, PHMSA should engage with the other modal administrations to coordinate efforts to avoid potential conflicts.

5. *Are there existing regulations that you believe adequately address the use of highly automated transportation systems for hazardous materials? If not, what new regulations or amendments would you recommend?*

   No, the HMR currently does not adequately address the deployment of ADS-equipped commercial motor vehicle for transportation of hazardous materials, as the regulations were written assuming a human

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

operating the transport vehicle. CVSA recommends that PHMSA establish a process requiring motor carriers to obtain a permit to transport hazardous materials using ADS-equipped commercial motor vehicles. This will allow for the necessary enhanced oversight of this new technology as PHMSA considers its deployment. Using a permitting process will ensure that PHMSA is aware of all instances where hazardous materials are being transported by ADS-equipped CMVs and allow the agency to monitor and analyze their safety performance.

In addition, CVSA recommends that PHMSA establish requirements surrounding how ADS-equipped commercial motor vehicles transporting hazardous materials will be inspected and maintained by motor carriers. The agency should establish a definition for a position responsible for conducting these inspections and should establish training standards and requirements for those who wish to conduct inspections of ADS-equipped commercial motor vehicles transporting hazardous materials for a motor carrier. These inspectors should be added to the definition of a hazardous materials employee as well.

Finally, CVSA recommends establishing a requirement that motor carriers who want to operate ADS-equipped commercial motor vehicles to transport hazardous materials apply for a permit that has more stringent minimum operating requirements. This requirement could be modeled on the FMCSA safety permit requirements in 49 CFR Part 385 Subpart E in the Federal Motor Carrier Safety Regulations. CVSA also encourages the agency to consider whether enhanced marking/placarding should be required for ADS-equipped commercial motor vehicles transporting hazardous materials.

6. *How can PHMSA support innovation while ensuring safety and compliance?*

   As noted previously, leveraging the Special Permit program would enable PHMSA to allow for measured, controlled deployment of ADS-equipped commercial motor vehicles transporting hazardous materials, while also providing the agency with the critical oversight and monitoring infrastructure needed to evaluate the safety performance of those vehicles.

7. *Are current packaging requirements in 49 CFR parts 173 and 178 adequate for highly automated transportation systems? If not, in what ways are they not adequate, and what new regulations or amendments would you recommend?*

   Currently, CVSA anticipates that the packaging requirements in 49 CFR parts 173 and 178 should be adequate for application of highly automated transportation systems in the commercial motor vehicle industry. Unlike the technologies emerging in other modes, such as unmanned aircraft systems, that may differ significantly from current manned technologies, ADS-equipped commercial motor vehicles will likely be the same as or very similar to the commercial motor vehicles currently being used to transport hazardous materials operated by human drivers. However, PHMSA should continue to monitor this and be prepared to revise packaging requirements as necessary in the future.

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

8. *Are current packaging exceptions in 49 CFR part 173 adequate for highly automated transportation systems? If not, in what ways are they not adequate, and what new exceptions or amendments would you recommend?*

   As noted above in response to Question 7, ADS-equipped commercial motor vehicles will likely be the same as or very similar to the commercial motor vehicles currently being used to transport hazardous materials operated by human drivers. As a result, CVSA anticipates that the packaging exceptions in 49 CFR parts 173 should be adequate for application of highly automated transportation systems in the commercial motor vehicle industry.

9. *Are there hazard classes, packing groups, amounts, or specific commodities that should not be authorized for transportation in highly automated transportation systems?*

   Yes, as PHMSA is exploring whether it is appropriate to allow ADS-equipped commercial motor vehicles to transport hazardous materials, CVSA recommends taking a phased approach regarding which types of hazardous materials may be transported using these emerging technologies. Taking a phased approach would allow PHMSA to evaluate the risks and safety benefits of the technology while retaining oversight of the deployment. This will enable the agency to make fully informed decisions regarding which types of hazardous materials may be transported. CVSA also recommends the agency consider using a permitting approach. As noted previously, leveraging the Special Permit program would enable PHMSA to allow for measured, controlled deployment of ADS-equipped commercial motor vehicles transporting hazardous materials, while also providing the agency with the critical oversight and monitoring infrastructure needed to evaluate the safety performance of those vehicles. CVSA recommends beginning with smaller amounts of hazardous materials, while excluding materials such as Table 1 materials, Class 7 materials, Poison Inhalation Hazards, and quantities of hazardous materials that require placarding until use of ADS-equipped commercial motor vehicles to transport the lower risk commodities has been fully evaluated. Using this phased approach would allow PHMSA to support innovation and deployment of these emerging safety technologies, while maintaining and equivalent or improved level of safety and compliance.

10. *How should PHMSA and the modal administrations evaluate the hazards and risks of certain hazard classes or divisions with the varying use cases and performance capabilities of highly automated transportation systems?*

    As noted above, CVSA recommends using a phased approach, starting with smaller amounts of lower risk hazardous materials, such as limited quantities and Table 2 materials that do not require placards found in § 172.504(e). PHMSA could leverage the Special Permit program to begin evaluating the safety performance of ADS-equipped commercial motor vehicles transporting hazardous materials, identifying risks and possible adjustments that may be necessary to accommodate deployment of these emerging technologies. This approach would enable PHMSA to allow for measured, controlled deployment of ADS-equipped commercial motor vehicles transporting hazardous materials, while also providing the agency with the critical oversight and monitoring infrastructure needed to evaluate the safety performance of those vehicles. CVSA recommends using this phased, special permit approach on a case-by-case until the data supports broader regulatory adoption.

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

11. *Are there other types of highly automated transportation systems not mentioned in this ANPRM that PHMSA should consider (particularly technologies that are under development or being tested)?*

    CVSA is not aware of any additional highly automated transportation systems in the commercial motor vehicle industry.

12. *What performance-based regulations need to be modified or clarified for highly automated transportation systems? Are there any prescriptive requirements in the HMR that should become more performance-based? Are there any requirements in the HMR that are not appropriate for highly automated transportation systems?*

    CVSA encourages PHMSA to collaborate with FMCSA to develop a safety permit program for ADS-equipped commercial motor vehicles transporting hazardous materials, similar to the current Hazardous Materials Safety Permit requirements in 49 CFR Part 385 Subpart E. PHMSA should replicate the requirements as appropriate, including the requirements in § 385.407, which establish the conditions a motor carrier must meet in order to qualify for a permit. CVSA also recommends establishing a process to require a hazardous materials registration with an endorsement for ADS-equipped commercial motor vehicles. This would allow PHMSA to effectively identify motor carriers utilizing ADS-equipped commercial motor vehicles to transport hazardous materials and would make the associated data more easily identified for analysis.

13. *The HMR references "conditions normally incident to transportation." How should this term evolve to account for highly automated transportation systems that introduce different conditions on packages from the more traditional transportation systems?*

    As noted above in response to Question 7, ADS-equipped commercial motor vehicles will likely be the same as or very similar to the commercial motor vehicles currently being used to transport hazardous materials operated by human drivers. As a result, CVSA does not anticipate this impacting highly automated transportation systems in the commercial motor vehicle industry. However, as noted above, without a driver present to monitor load securement and watch for leaks, there is an increased risk that a load securement issue or leak develops en route. Currently, a driver may stop to check load securement and integrity following a hard braking event or particularly jarring bump. PHMSA should work with ADS developers to ensure mechanisms are in place to monitor for load shifting or leaks en route when hazardous materials are being transported by an ADS-equipped commercial motor vehicle.

14. *What responsibilities should operators have to communicate the expected conditions of transport via a highly automated transportation system to shippers and freight forwarders?*

    The communications requirements currently in place are sufficient at this time. CVSA does not anticipate that PHMSA will need to establish additional requirements.

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

15. *What additional requirements might be necessary to protect hazardous materials packages from being exposed to the effects of highly automated transportation systems failure (e.g., transport vehicle battery fire, crash)?*

    As noted above in response to Question 7, ADS-equipped commercial motor vehicles will likely be the same as or very similar to the commercial motor vehicles currently being used to transport hazardous materials operated by human drivers. As a result, CVSA does not anticipate that additional requirements to protect hazardous materials packages from being exposed to the effects of highly automated transportation systems' failure will be necessary. However, PHMSA should continue to monitor this and be prepared to revise packaging requirements as necessary in the future.

16. *Are there any current industry standards specific to highly automated transportation systems that would help PHMSA and modal administrations evaluate potential requirements or exceptions of the HMR?*

    In collaboration with the commercial motor vehicle inspectors and state highway patrols, inspection and enforcement experts, motor carrier representatives, the autonomous trucking development community, state and local government officials, and FMCSA, CVSA has developed the Enhanced Commercial Motor Vehicle (CMV) Inspection Program, an inspection standard and procedure designed to govern inspections of ADS-equipped commercial motor vehicles.

    Currently, for driver-operated commercial motor vehicles, a driver conducts a pre-trip inspection prior to starting a trip and a post-trip inspection at the end of the trip. Along the driver's route, the driver may be required to drive through a weigh/inspection station and/or be stopped at roadside and may be subject to a CVSA North American Standard Inspection. However, roadside inspection/weigh station environments are challenging for ADS-equipped vehicles and those commercial motor vehicles are not compatible with today's roadside enforcement inspections, which rely on assistance from the driver. The Enhanced CMV Inspection Program establishes a no-defect, point-of-origin inspection program for ADS-equipped commercial motor vehicles. The program includes an enhanced inspection standard and procedure for motor carriers operating ADS vehicles and a 40-hour CVSA training course and exam for motor carrier personnel who will be conducting the inspections.

    CVSA's Enhanced Inspection Program may provide PHMSA with insight into areas where ADS-equipped commercial motor vehicles differ from standard commercial motor vehicles operated by humans, as well as potential areas that may impact inspector and hazardous materials employee training and qualifications.

17. *Are there international or country-specific regulatory frameworks that stakeholders recommend PHMSA consider harmonizing with? If so, why?*

    It is critical that PHMSA continue its current practice of harmonizing with international regulatory standards as the agency explores how to amend the HMR to allow for the deployment of ADS-equipped commercial motor vehicles.

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

18. *How can the HMR support efficient and effective hazardous materials communication (e.g., marks, labels, shipping papers) for highly automated transport systems?*

    To ensure clear, consistent communications of critical information between ADS-equipped commercial motor vehicles transporting hazardous materials and enforcement personnel and/or first responders when an incident occurs, CVSA recommends PHMSA consider establishing enhanced marking and placarding requirements for these vehicles. PHMSA should also work with ADS developers to establish a way for the ADS-equipped commercial motor vehicles to provide real-time incident information (e.g. shipping papers and emergency response information) to 911 centers and other emergency dispatch centers. Finally, PHMSA should prohibit the use of the 'Dangerous' placard due to the absence of an on-scene representative and the limited information available roadside, if they were transporting multiple Table 2 hazardous materials listed in § 172.504(e).

19. *How do unmanned highly automated transportation systems (e.g., absence of passengers, crewmembers, drivers) affect the current level of safety of the HMR?*

    While the use of ADS technology offers a number of potential safety benefits, such as faster response times and more effective collision avoidance and mitigation, removing the human driver from commercial motor vehicles transporting hazardous materials does present several possible risks as well. These risks should be considered as PHMSA explores how to amend the HMR to allow for the transportation of hazardous materials by ADS-equipped commercial motor vehicles.

    For example, unmanned systems do not allow for on-scene incident mitigation/management by trained hazardous materials employees, nor is there a system in place to provide shipping paper and emergency response information to emergency responders prior to their arrival at the scene of the incident. While this may limit the exposure risk to the hazardous materials employee (driver) currently responsible for those communications, it may also increase the risk to on-scene responding personnel and any civilians present. In addition, this lack of an established communication system may hinder the notification of and communication with responsible parties (i.e., the motor carrier or shipper). Access to materials for compliance checks or hazard mitigation would be limited until a representative from the ADS developer or motor carrier arrives on the scene of the incident or responds to provide remote access to the vehicle. To address this, as noted above, it is imperative that PHMSA work with the ADS developers to establish a way for the ADS-equipped commercial motor vehicles to provide real-time incident information (e.g. shipping papers and emergency response information) to 911 centers and other emergency dispatch services.

C. <u>Specific HMR Questions</u>

1. *What incident reporting requirements should be added or modified in §§ 171.15 and 171.16 to account for highly automated transportation systems (e.g., new triggers for reporting, new data points)?*

    To ensure accurate incident reporting while deployment of ADS-equipped commercial motor vehicles transporting hazardous materials, CVSA recommends that PHMSA amend the HMR to include any crash involving an ADS-equipped commercial motor vehicle transporting any hazardous materials, as well as

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

any release of hazardous materials from a load being transported by an ADS-equipped commercial motor vehicle, as a reportable incident under § 171.16. PHMSA should ensure that these reportable incidents can be identified as involving an ADS-equipped commercial motor vehicle, for data collection and analysis purposes.

2. *How should PHMSA ensure that highly automated transportation systems comply with the intent of shipping paper requirements in part 172, subpart C (e.g., hazard communication documentation that provides appropriate information to appropriate personnel, including emergency responders)?*

   As noted previously, the lack of an established communication system in the event of an incident involving an ADS-equipped commercial motor vehicle transporting hazardous materials is one major concern that will need to be addressed before this technology is permitted to deploy. It is imperative that PHMSA work with the ADS developers to establish a way for the ADS-equipped commercial motor vehicles and associated support teams to provide real-time incident information (e.g. shipping papers and emergency response information) to 911 centers and other emergency dispatch services. PHMSA should require that either the motor carrier or the ADS developer establish a process for the ADS monitoring centers to provide shipping paper and emergency response information directly to a 911 dispatch center/emergency responders following an incident. In addition, CVSA recommends that PHMSA require that a paper copy of the required shipping papers be maintained on the ADS-equipped commercial motor vehicle in a standard location with other physical documentation. This will ensure responders have swift access to critical information on-site and do not lose time or suffer from increased exposure risk while searching for the necessary documents. For example, PHMSA could require that all trailers being used to transport hazardous materials by an ADS-equipped commercial motor vehicle carry a secure container affixed to the trailer to hold a copy of the shipping paper, similar to the requirement in § 172.606(b), or PHMSA could consider requiring the vehicles have the ability to securely transmit the information electronically without approaching the transport vehicle, using non-cellular technology (e.g., block chain, Bluetooth, ID numbers, QR code, etc.).

3. *How should PHMSA ensure that highly automated transportation systems comply with the intent of emergency response information requirements in part 172, subpart G?*

   As noted in the response above, PHMSA should work with the ADS developers to establish a way for the ADS-equipped commercial motor vehicles and associated support teams to provide real-time incident information (e.g. shipping papers and emergency response information) to 911 centers and other emergency dispatch services. In addition, PHMSA should consider methods to ensure the information is available physically on-site in the event of an incident, either through requirements for standardized location of the documents on the vehicle or through secure, electronic transmission of the information.

   CVSA also encourages PHMSA to explore the AskRail system, developed for the railroad industry. AskRail is free mobile app designed for emergency responders that provides critical hazardous materials information in real time.

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

4. *How can highly automated transportation systems effectively implement the intent of hazard communication requirements, including labeling, marking, and placarding, as specified in part 172, subpart D, E, and F, respectively?*

   The existing package labeling, marking, and placarding requirements for the hazardous materials are likely sufficient. However, CVSA recommends PHMSA consider requiring that all ADS-equipped commercial motor vehicles transporting hazardous materials be subject to an enhanced level of hazardous materials communications, such as requiring the display of ID numbers and placards for all materials transported, regardless of any existing exceptions.

5. *What specific part 172, subpart H training requirements should PHMSA establish or clarify to account for highly automated transportation systems?*

   CVSA recommends that PHMSA amend Part 172, Subpart H by expanding the definition of a hazardous materials employee to include both employees who conduct an inspection of the ADS-equipped commercial motor vehicle prior to dispatch and employees responsible for monitoring the ADS-equipped commercial motor vehicle during transport. PHMSA should also establish function specific training requirements for these employees, similar to a registered inspector, as defined in § 171.8, with additional qualification requirements. For example, PHMSA should provide guidance on whether these employees should be required to be trained only on material types that they will handle, or if their training should be more comprehensive and include the entirety of the HMR, similar to a certified hazardous materials roadside inspector.

   CVSA also encourages PHMSA to identify who is responsible for compliance with the HMR in the absence of a driver and amend the HMR to ensure that the inspection of an ADS-equipped commercial motor vehicle transporting hazardous materials is considered a pre-transportation function in § 171.1(b) to ensure regulatory applicability.

6. *Should PHMSA update its current hazardous materials employee training requirements to address the transportation of hazardous materials using highly automated transportation systems? If so, what types of safety assurance and certification systems should PHMSA and modal administrations consider (i.e., routine safety assurance and continued monitoring equivalent to initial and recurrent hazardous materials training)?*

   CVSA recommends PHMSA consider establishing more rigorous hazardous materials employee training requirements for those personnel who will be responsible for inspecting and monitoring ADS-equipped commercial motor vehicles transporting hazardous materials. CVSA encourages PHMSA to consider the training and certification requirements in the Alliance's Enhanced CMV Inspection Program. Specifically, due to the evolving nature of ADS technology and the need to mitigate any potential safety risks, CVSA recommends that employees who conduct an inspection on an ADS-equipped commercial motor vehicle prior to dispatch be required to recertify annually.

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

7. *Should PHMSA revise the applicability of security plan requirements to address any significant security threats in highly automated transportation systems? If so, how should PHMSA revise the security plan applicability?*

   Yes, CVSA strongly encourages PHMSA to work with the ADS developers and the appropriate information security experts to establish requirements that will protect against cybersecurity threats. In addition, CVSA recommends either requiring motor carriers who use ADS-equipped commercial motor vehicles to transport hazardous materials to comply with the safety and security plan requirements in 49 CFR Part 172 Subpart I or, if more appropriate, the agency may consider creating a new subpart that establishes a separate safety and security plan specific to ADS-equipped commercial motor vehicles.

8. *How should PHMSA consider any cybersecurity concerns created by the use of highly automated transportation systems? Who should PHMSA consult regarding these concerns?*

   As noted previously, CVSA recommends PHMSA begin allowing for deployment of ADS-equipped commercial motor vehicles transporting hazardous materials through the Special Permits program, to allow for the necessary oversight and data collection. To address cybersecurity concerns, PHMSA could require motor carriers applying for a Special Permit to operate an ADS-equipped commercial motor vehicle to address cybersecurity in their permit application. In addition, CVSA recommends that PHMSA either require motor carriers who use ADS-equipped commercial motor vehicles to transport hazardous materials to comply with the safety and security plan requirements in 49 CFR Part 172 Subpart I or, if more appropriate, create a new subpart that establishes a separate safety and security plan specific to ADS-equipped commercial motor vehicles. Motor carriers would be required to address cybersecurity concerns as part of the required plans.

9. *The HMR have multiple sections related to definitions, including §§ 105.5, 107.1, 109.1, and 171.8. Does PHMSA need to add new definitions in these sections that are explicitly related to highly automated transportation systems? If so, what definitions are needed? Are there definitions in other Federal laws, Federal regulations, or international regulations the HMR should be consistent with or incorporate?*

   Yes, there are likely several additional definitions that will be needed related to highly automated transportation systems. First, the term 'highly automated transportation system' should be clearly defined and that definition should be reviewed and updated as appropriate going forward. In addition, as noted previously, CVSA recommends that PHMSA amend Part 172, Subpart H by expanding the definition of a hazardous materials employee to include both employees who conduct an inspection on an ADS-equipped commercial motor vehicle prior to dispatch and employees responsible for monitoring the ADS-equipped commercial motor vehicle during transport. When establishing new terminology and amending existing definitions, CVSA encourages PHMSA to engage with the other modal administrations to the extent possible to harmonize definitions. This will help reduce instances of inconsistent and conflicting definitions in the federal regulations.

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

10. *Should additional information be required of a Special Permit applicant for highly automated transportation systems? Or should additional information continue to be requested by PHMSA and modal administrations on an ad hoc basis?*

    Yes, there are a number of additional requirements that PHMSA should establish for motor carriers applying for a Special Permit to operate an ADS-equipped commercial motor vehicle. PHMSA should require these motor carriers to explain how the ADS-equipped commercial motor vehicles and associated support teams will provide real-time incident information (e.g. shipping papers and emergency response information) to 911 centers and other emergency dispatch centers. In addition, the motor carriers should be required to provide a detailed plan addressing cybersecurity concerns in their permit application.

G. <u>Highway-Specific Questions</u>

1. *How should PHMSA ensure highly automated transportation systems comply with the general requirements for the transportation of hazardous materials by highway as outlined in § 177.800?*

    To ensure compliance with the general requirements for the transportation of hazardous materials by highway found in § 177.800, initially CVSA recommends PHMSA use Special Permits to allow for motor carriers to transport hazardous materials with an ADS-equipped commercial motor vehicle. Not only will utilizing the Special Permit process allow for quicker deployment of this safety technology, but it would also allow the agency to gather critical data that could inform the final regulatory revisions. CVSA also recommends establishing an ADS-specific registration requirement, so PHMSA can readily identify all motor carriers using ADS-equipped commercial motor vehicles to transport hazardous materials. PHMSA may want to consider establishing an audit program, conducted by federal and/or state investigators with knowledge of the particular mode of transport to ensure full compliance.

2. *When hazardous materials are transported using highly automated transportation systems, should PHMSA revise the requirements in § 177.817(e) that state that "[a] driver of a motor vehicle containing hazardous material, and each carrier using such a vehicle, shall ensure that the shipping paper required by this section is readily available to, and recognizable by, authorities in the event of accident or inspection?" If so, how?*

    There are a number of options for PHMSA to address this requirement. The agency could establish a national registry/repository that motor carriers and shippers could use to upload shipping papers and display a corresponding shipment identification number on the transport vehicle to enable access to the necessary information. Alternatively, motor carriers could implement their own registry/repository to provide shipping papers to emergency responders, similar to the Special Permit issued to UPS. CVSA also recommends that PHMSA consider requiring ADS developers to establish a mechanism for ADS monitoring centers to provide shipping paper and emergency response information directly to 911 centers and other similar emergency centers in the event of a hazardous materials incident.

99 M Street, SE, Suite 1025 | Washington, DC 20003 | 202-998-1002 | www.cvsa.org

3. *How would the implementation of highly automated transportation systems affect compliance with 49 CFR part 177, which includes specific operational requirements for hazardous materials transported by highway (e.g., loading/unloading, attendance, and incident reporting)?*

   As noted in several sections above, the regulations will need to be updated to accommodate transportation of hazardous materials by an ADS-equipped commercial motor vehicle. Many functions identified in the regulations will likely be addressed by remote personnel or automated systems. For example, monitoring of the hazardous materials load may be conducted via camera systems and remote oversight. PHMSA should work with the ADS community to identify exactly which functions will be performed by the ADS and which will require support from a human and then revise the HMR accordingly. To address much of this, PHMSA should consider amending the definition of the term 'person' in the HMR to include ADS technology.

4. *Are there specific provisions in 49 CFR part 177 that would be particularly burdensome for small businesses using highly automated transportation systems for the transportation of hazardous materials?*

   CVSA is not in a position to speak to the impacts of provisions in 49 CFR part 177 on small businesses using highly automated transportation systems for the transportation of hazardous materials.

5. *What specific highway segregation requirements should be adopted by highly automated transportation systems to comply with § 177.848?*

   To comply with the requirements in § 177.848, PHMSA should define the terms 'separation' and 'segregation'. In addition, PHMSA should consider limiting use of ADS-equipped commercial motor vehicles to transport hazardous materials to loads that have no restrictions in the separation/segregation table or limiting transportation to one class/division of material. Finally, CVSA recommends that PHMSA prohibit any materials with an "O" in the segregation table in § 177.848(d) from being transported together by an ADS-equipped commercial motor vehicle.

CVSA works to closely monitor, evaluate and identify potentially unsafe transportation processes and procedures as well as to help facilitate and implement best practices for enhancing safety on our highways. Commercial motor vehicle safety continues to be a challenge and we need the involvement of all affected parties to help us better understand these issues and put into place practical solutions. We appreciate the opportunity to comment on this proposal and the agencies' commitment to safety and stakeholder involvement.

If you have further questions or comments, please do not hesitate to contact me at 202-998-1008 or collin.mooney@cvsa.org.

Respectfully,

Collin B. Mooney, MPA, CAE
Executive Director
Commercial Vehicle Safety Alliance