

May 10, 2018

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Docket Management Facility
U.S. Department of Transportation
1200 New Jersey Avenue, SE
West Building, Room W12-140
Washington, D.C. 20590

RE: Docket No. FMCSA-2018-0037

The Truck and Engine Manufacturers Association (“EMA”) hereby submits comments on the *Request for Comments Concerning Federal Motor Carrier Safety Regulations (FMCSRs) Which May Be a Barrier to the Safe Testing and Deployment of Automated Driving Systems-Equipped Commercial Motor Vehicles on Public Roads* (“Notice”) that the Federal Motor Carrier Safety Administration (“FMCSA” or the “Agency”) recently had published in the Federal Register. See, 83 Fed. Reg. 12,933 (March 26, 2018).

EMA is the trade association that represents the world’s leading manufacturers of heavy-duty engines and Commercial Motor Vehicles (“CMVs”). EMA member companies design and manufacture highly customized medium- and heavy-duty vehicles that perform a wide variety of commercial functions, including line-haul interstate trucking, regional freight shipping, local parcel pickup and delivery, refuse hauling, and construction. EMA members have for years deployed advanced driver assistance systems (“ADAS”) for commercial vehicles, and they are now building on those technologies to develop automated driving systems (“ADSs”). The ADS technologies that are addressed in the Notice are capable of performing part or all of the driving task. Since human error is a factor in almost all motor vehicle crashes, ADS technology shows great promise in reducing driver error and improving CMV safety.

We appreciate the Department of Transportation’s (“DOT’s”) and FMCSA’s leadership in identifying and addressing potential regulatory barriers to the testing and deployment of ADS-equipped CMVs. The trucking industry serves as the lifeblood of the United States economy, and CMVs are manufactured and sold in a nationwide marketplace. Further, as products that operate in interstate commerce, CMVs demand coordinated policies and regulations from DOT agencies, including the National Highway Traffic Safety Administration (“NHTSA”), the Federal Highway Administration (“FHWA”), and FMCSA. An effective federal framework will

speed the development and deployment of ADS technology on CMVs by avoiding the barriers created by a patchwork of incompatible state regulations, and it will ensure that commercial vehicles can operate efficiently nationwide. Accordingly, FMCSA should develop policies and best practices that provide guidance to states that are considering controlling the testing and deployment of ADS-equipped vehicles.

FMCSA earlier concluded that the existing FMCSRs required a trained driver behind the wheel at all times, regardless of the level of ADS on the CMV. See, DOT, *Automated Driving Systems 2.0: A Vision for Safety*, September 12, 2017, page 2. However, the Notice pointed out that the absence of specific regulatory text requiring a driver behind the wheel of a CMV was causing the Agency to reconsider its views on the issue. See, 83 Fed. Reg. 12,935. Taking into account that apparent flexibility, we support the Agency's efforts to clarify how the existing regulations may apply when an ADS is performing the driving functions. Please note that CMV drivers serve many roles in addition to the actual driving tasks. CMV drivers are the face of their trucking business, they conduct critical pre-trip vehicle inspections, they secure the load being transported, they manage and report on the logistics of delivering the load, and they guard against theft of the vehicle and freight. Accordingly, we see a role for the CMV driver in the foreseeable future.

Medium- and heavy-duty vehicles are highly customized to suit each particular fleet's commercial needs, and as such each vehicle configuration is sold in relatively low volumes. Based on the high customization and low sales volumes, heavy-duty vehicles have extended product life cycles – with some models in production for twenty to thirty years. Considering those long product life cycles, we currently anticipate ADS being deployed on existing, conventional, heavy-duty vehicle platforms. We note that the FMCSRs in 49 C.F.R. Part 393, *Parts and Accessories Necessary for Safe Operation*, establish minimum safety standards for CMVs. Since the FMCSRs in Part 393 define the design and performance of vehicles, they are of significant concern to truck manufacturers and therefore are the focus of these comments. While ADS may be added to a conventional vehicle platform without changing most of the equipment designs, the study commissioned by FMCSA and referenced in the Notice concludes that Part 393 FMCSRs present potential barriers to the deployment of ADS with full automation capability, even on conventional CMVs. See, DOT/Volpe, *Review of the Federal Motor Carrier Safety Regulations for Automated Commercial Vehicles: Preliminary Assessment of Interpretation and Enforcement Challenges, Questions, and Gaps*, FMCSA-RRT-17-013, Summary Report – March 2018 (“Volpe Study”), page 31. Accordingly, those FMCSRs will require scrutiny to identify and address the potential barriers to ADS deployment.

To address the potential barriers in Part 393 to the deployment of ADS-equipped CMVs, including the seven different operating concepts identified in the Volpe Study, a thorough examination of each FMCSR is warranted. We recommend that FMCSA consider the type of in-depth analysis that NHTSA is undertaking to evaluate the Federal Motor Vehicle Safety Standards (“FMVSS”). That study, titled *Assessment, Evaluation, and Approaches to Technical Translations of FMVSS that may Impact Compliance of Innovative New Vehicle Designs Associated with Automated Driving Systems*, is currently being conducted for NHTSA by the Virginia Tech Transportation Institute (“VTTI”). EMA is a stakeholder the VTTI study, and we believe that such a thorough examination of every relevant regulatory section would be an

effective way to accurately identify all the barriers to ADSs in the existing FMCSRs, and to develop proposed regulatory solutions. Accordingly, we encourage FMCSA to look to NHTSA's FMVSS study by VTTI to determine how best to examine the FMCSRs.

One example of an FMCSR that may present a barrier to the deployment of ADS-equipped CMVs is the prohibition against mounting devices on the interior of the windshield that would obstruct in the driver's field of view. *See*, 49 C.F.R. § 393.60(e). The prohibition provides an exemption for certain vehicle safety technologies and includes specific dimensional requirements within which those devices may be mounted on the interior of a windshield. *See, Id.* at § 393.60(e)(ii). The vehicle safety technologies included in the exemption utilize cameras and other forward-looking devices that perform best when mounted on the interior of the windshield, within the area swept by the windshield wipers. The exempted ADAS safety technologies include automatic emergency braking systems, lane departure warning systems, and active cruise control. *See, Id.* at § 393.5. We believe that FMCSA should expand the exempted safety technologies to include cameras, LIDAR, RADAR and other devices utilized by ADSs.

Additionally, the FMCSR's dimensional requirements for mounting vehicle safety technologies on the interior of the windshield provide specific distances from the upper and lower edges of the area swept by the windshield wipers within which the devices may be mounted. However, windshield sizes and wiper designs vary from vehicle to vehicle, and therefore in certain cases the FMCSR requirements present unreasonable restrictions regarding where manufacturers are permitted to mount the safety devices. Moreover, those prescriptive dimensional limitations do not take into account the size of the device or its impact on the driver's visibility. Accordingly, we recommend that FMCSA reevaluate 49 C.F.R. § 393.60(e)(ii) to make the requirements work better for all vehicles and safety devices. The modified standard should allow truck manufacturers the ability to locate factory-installed safety devices in the best location on the interior of the windshield for each particular vehicle. By optimizing the location for each vehicle configuration, the manufacturer could maximize the driver's view of components on the vehicle, such as rear-view mirrors, while at the same time positioning the device outside the driver's sight lines to the road ahead, traffic, road signs, and traffic signals.

We appreciate the opportunity to provide these comments and look forward to working collaboratively with FMCSA to assess and modify the FMCSRS to address barriers to automated commercial vehicles. In the meantime, if you have any questions, or if there is any additional information we could provide, please do not hesitate to contact Timothy Blubaugh at (312) 929-1972, or tblubaugh@emamail.org.

Respectfully submitted,

TRUCK & ENGINE
MANUFACTURERS ASSOCIATION