eCASE
Geomatics

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Commentary with respect to National Highway Traffic Safety Administration document:

"Removing Regulatory Barriers for Vehicles With Automated Driving Systems"

Docket ID: **NHTSA-2019-0036**

eCASE Geomatics is a consulting company that devises use cases and test cases regarding Autonomous Vehicles. We are working with various state and national agencies to assure that law enforcement agencies and regulators have a say in the definition and testing of short- and long-term aspects of the evolution of these vehicles. Crash avoidance is a key area of focus in this document and the results of testing needs to be shared with the law enforcement community so that they can understand how the differences from today's "normal" vehicle performance can be determined.

With that requirement in mind, there are several specific points that we will comment on:

5. With respect to any single approach or combination of approaches, could it be ensured that the compliance of all makes and models across the industry is measured by the same yard stick, *i.e.,* that all vehicles are held to the same standard of performance, in meeting the same FMVSS requirement?

eCASE Geomatics comment: from a law enforcement perspective, this is an imperative. It would be unwieldy to review test result data that has differing parameters

8. For compliance testing methods involving adjusting current test procedures to allow alternative methods of controlling the test vehicle during the test (normal ADS-DV function, TMPE, TMEC), or to allow the use of a surrogate vehicle:

b. If NHTSA were to incorporate the test method into its test procedures, would NHTSA need to adjust the performance requirements for each standard (in addition to the test procedures) to adequately maintain the focus on safety for an ADS-DV?

eCASE Geomatics comment: It would seem sensible to adjust these standards so that they were as strict as possible. The public is already wary of AVs and a proclamation that testing was done with the utmost in thoroughness and standards would ease some concerns that exist today.

14. Will all ADS-DVs without traditional manual controls be capable of receiving and acting upon simple commands not consisting of a street address based destination, such as "drive forward or backwards a distance of 10 feet and stop"; "shift from park to drive and accelerate to 25 mph"; "drive up onto a car hauler truck trailer"; etc.? Please explain projected challenges for ADS-DVs without traditional manual controls to complete discrete driving commands and tasks.

eCASE Gepmatics comment: This type of command is essential. Please consider that in today's environment, there are various times when a law enforcement officer needs for a vehicle to come to a stop when the driver receives a command to do so. Example one: the vehicle is in a line of vehicles

that have slowed to a crawl and a law enforcement officer is checking the registration of each. The officer must be able to have the AV come to a complete stop so that the visual check can be accomplished. So some sort of audible commands be a human are absolutely essential. Example two: the AV is suspected to be carrying contraband and the officer needs to be able to instruct the vehicle to come to a stop at the road side.

15. How would NHTSA ensure that the performance of the ADS-DV during testing is consistent with how the vehicle would perform during actual normal use?

eCASE Geomatics comment: This point has much the same response as point 14 above. Law enforcement personnel must have the same ability to stop and investigate AVs similar to what they can accomplish with today's vehicles, and the testing results must prove that.

25. Is it reasonable to assume a common (universal) interface, translator, and/or communication protocol between an external controller and any ADS-DV will be developed?

eCASE Geomatics comment: It goes without saying that all aspects of external controllers must be standardized so that law enforcement can either interact on their own volition with an AV or have a common mechanism or methodology that can produce the same outcome via some other agency such as the manufacturer or remote owner of the vehicle.

Respectfully submitted,

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