NHTSA Publishes Two Automated Driving System Petitions

Today the DOT's National Highway Transportations Safety Administration (NHTSA) published two notices in the Federal Register (84 FR 10172-10182 and 84 FR 10182-10191) requesting public comments on petitions for exemptions from Federal Motor Vehicle Safety Standards (FMVSS) for two fully-automated-driving vehicles. The first is for an autonomous delivery vehicle from Nuro, Inc. The second is for a driverless passenger vehicle from General Motors.

Nuro Petition

The Nuro petition is for a low-speed delivery vehicle without human occupants. It requests exemption from the following FMVSS standards:

• FMVSS #500 – exemption from rear view mirror requirements;
• FMVSS #250 – exemption from windshield requirements;
• FMVSS #111 – exemption from back-up camera requirements.

The petition is limited in scope because the intended Nuro vehicle is already exempt from most FMVSS standards for a normal passenger vehicle because it is a low-speed vehicle as defined under 49 CFR 571.3.

GM Petition

The GM petition is for a passenger vehicle in limited service. It would have no provisions for an occupant to take control of the vehicle during operation. It requests exemption from the following FMVSS standards:

• FMVSS #101 – exemption from motor vehicle controls, telltales and indicators requirements;
• FMVSS #102 – exemption from transmission shift position sequence, starter interlock, and transmission braking effect requirements;
• FMVSS #108 – exemption from headlamp switch requirements;
• FMVSS #111 – exemption from rearview mirror requirements;
• FMVSS #114 – exemption from parking brake, service brake or transmission gear selection test requirements;
• FMVSS #124 – exemption from return of the throttle to the idle position requirements;
• FMVSS #126 – exemption from driver loss of directional control requirements;
• FMVSS #135 – exemption from human breaking control requirements;
• FMVSS #138 – exemption from tire pressure warning requirements;
• FMVSS #141 – exemption from gear shift selector test requirements;
• FMVSS #203, #204, and #207 – exemption from steering wheel impact test requirements;
• FMVSS #208 and #214 – exemption from drivers position crash-test requirements; and
• FMVSS #226 – exemption from airbag indicator requirements;

Public Comments

NHTSA is soliciting public comments on the petitions. Comments are required to be submitted by May 20ᵗʰ, 2019. Comments may be submitted via the Federal eRulemaking Portal (www.Regulations.gov; Docket # NHTSA-2019-0017, Nuro petition; and NHTSA-2019-0016, GM petition).

Commentary

An interesting component of both of these petitions is that they are for electric vehicles. That does not seem to matter much except that both petitions include reference to regulatory exemptions for 'low emission vehicles'. Congress gave DOT authority (49 USC 30113) to ease the introduction of 'low-emission vehicles' by providing temporary exemptions to vehicle safety standards. Both petitions are using the argument from §30113(b)(3)(B)(iii) that "the exemption would make easier the development or field evaluation of a new motor vehicle safety feature providing a safety level at least equal to the safety level of the standard"; the new 'motor vehicle safety feature' being the autonomous operation system.

While avoiding the well known and documented safety problems associated with human drivers, autonomous vehicle operating systems are going to present their own problems. Both petitioners are making the point that to be able to identify (the necessary precursor to fixing) problems of their systems in real-world operations is the only way to move these systems into full-scale production. In many ways, this seems to be a valid argument, except….

The big problem missing from the discussion in either petition is the cybersecurity of their operating systems. A major reason for this is that NHTSA (and at base, Congress) have failed to explicate how they expect developers to protect these systems. With no federal regulatory requirements in existence, neither applicant is under any obligation to provide information on how (or even if) they are addressing the cybersecurity issue. This does not provide me with a warm fuzzy feeling.

The current crop of autonomous vehicles undergoing real-world testing still have the capability of human intervention to overcome software issues of malware or bad code. Granted that oversight has not been perfect by any stretch of the imagination, but it is there. These two proposals specifically and graphically have removed that intervention; a necessary next-step in the development of truly autonomous vehicles. The question, however, is are we ready to take that next step when we do not yet have a definition of the cybersecurity requirements for these systems, or a way to evaluate the efficacy of the cybersecurity systems put into play (whatever they are). Before we take the next step, we need to have a handle on, or at least a definition of the cybersecurity of these systems.