



**1301 Winchester
Suite 13
Lexington, KY 40505
(502) 792-9003**

FMCSA Comment period for Docket No. FMCSA-2018-0037-0131
Re: Safe integration of ADS CMVs

In response to the posted questions, I would like to address them in order, so here we go.

1.1 Yes, the FMCSA should make a rule prohibiting an ADS equipped CMV from operating outside it's dedignated ODD.

1.2 What the manufacturers and motor carriers are planning, as far as rolling out the level 4 and 5 ADS trucks, is to get them rolling and in widespread use as quickly as possible. This presents several challenges to those currently operating CMVs.

First is how to coexist with these vehicles on already congested roadways. Second, the massive displacement of current human operators will cause havoc in the economy, not just the transportation sector. This will be seen and felt by a wide range of economic sectors.

1.3 There should be language added to distinguish between the types of operators, yes.

The potential for confusion and/or misinterpretation by law enforcement as well as civilian saftey people is very high without that seperation.

2.1 Yes, the operator of an ADS equipped CMV should have been trained to the same level as a regular CMV operator, by learning a CDL, as well as any required endorsements for specialty operations. Hazmat, tanker, multiple trailer, and passenger endorsement rules should still apply.

2.2 Knowledge and skills test should be on par with those of a traditional CDL test, with the added elements essential to operating an ADS CMV. The skills needed do not diminish due to the technology involved, in fact, there may actually be a whole seperate level of difficulty in dealing with a vehicle primarily controlled by other than a human operator.

2.3 State SDLA examiners would need to be familiar with the requirements of testing a CDL applicant for the operation of ADS CMVs. The unique nature of these vehicles and their control systems should be taken into account by the SDLAs when drafting rules for testing operator applicants.

**1301 Winchester
Suite 13
Lexington, KY 40505
(502) 792-9003**

SDLAs will have to do their due diligence when determining what changes or modifications to license class structure, as well as license restrictions, would be applicable under each States unique legal structure, and their public code.

2.4 The unique nature of operations involving ADS equipped CMVs would demand an extra level of operator training. Whether it's a remote control (drone type) operator, or someone riding in the CMV as a human safety device, the operators will be facing separate and unique situations, not currently addressed in by most training systems.

To maintain the general safety of those in close proximity to these vehicles, the operators should receive additional training focusing on the system they will be operating.

2.5 Yes the FMCSA should limit the number of units operated by any one remote operator. These are still 80,000 lbs vehicles on a public highway, and an operators attention should not be divided between multiple units. Remember, anything can, and often does happen at any given time, no matter how thoroughly they are programmed, these units cannot foresee every possible eventuality.

2.6 Yes, any operator of any type of CMV, whether ADS or not, should be subject to the driver qualifications in place regarding CMV operators.

3.1 Any operator of any CMV, which travels on a public highway, be it ADS or not, should be subject to the current HOS rules. Just because it's a machine doing the work doesn't change the fact that a human operator will need food, rest, etc, to combat fatigue.

3.2 Yes, they both should be subject to HOS.

3.3 If the human operator is not in control of the vehicle, HOS should be recorded similarly to how a trainer is required to record them when overseeing the operation of a trainee. Essentially, they are performing similar duties.

4.1 The physical qualifications of those remotely monitoring or potentially controlling an ADS CMV should be similar to the operator of a traditional CMV, including a biannual physical.

4.2 See the answer to **4.1**

4.3 If the ADS technology can assist an otherwise physically impaired human driver, the FMCSA would need to determine, if the ADS fails, will that driver be able to safely control the vehicle. Even redundant control systems

**1301 Winchester
Suite 13
Lexington, KY 40505
(502) 792-9003**

have failed in the past, just ask NASA. They're well experienced in that field.

5.1 A distracted operator, is a distracted operator. It doesn't matter if they're physically in the unit, or via a remote link. Distractions cause delayed reactions, and delayed reactions in a CMV costs lives. What price are you willing to pay using that currency.

6.1 Safe operation isn't up for debate. If the systems cannot operate in a safe manner, than they should not be allowed to operate at all. Human or machine controlled doesn't matter at that point.

6.2 Of course.

6.3 Human or computer controlled, every CMV should comply with appropriate operational rules.

7.1 The qualifications of an individual performing a safety inspection should be the same, irregardless of who actually operates the vehicle,

7.2 Records should be kept of the overall reliability of the ADS system, as well as the practical driving data currently collected from non ADS CMVs. As far the inspections, they should be the same, if not more stringent, given the absence of real time feedback (smells, vibrations, odd noises) that would indicate to a human operator that there is some sort of problem. These are still, large heavy trucks with parts that wear out eventually.

7.3 Yes, ADS equipped CMVs should be on a different schedule of "annual" inspections, given the lack of constant, realtime tactile feedback.

7.4 Theres an argument to be made for either schedule, depending on the type of equipment and it's programmed tasks. Long haul trucks could be milage based, other more vocational vehicles could be hours or time based, again, depending on the tasks they perform.

7.5 Yes, absolutely

7.6 The FMCSA could endure compliance by requiring notice of upgrades from the software companies, as well as having maintenance personnel document the implementation of the applicable upgrades.

8.1 Yes, as well as mark a "driverless" unit in a manner to alert the general public, similar to the requirements imposed on railroads operating remote controlled or autonomous trains.



**1301 Winchester
Suite 13
Lexington, KY 40505
(502) 792-9003**

8.2 By listing that vehicle on their fleet data as autonomous, as well as submitting a quarterly list of their driverless vehicles similar to IFTA records.

8.3 If said vehicle does not require a human operator, then they should be marked in a manner similar to an oversize load, with a decal stating "this truck operated without a human driver" prominently displayed.

8.4 If there is a chance the indicator is correct. Yes.

8.5 Absolutely

8.6 This should be a standard requirement, based on CFR regulations, requiring occasionally testing the accuracy and capability of the unit. As far as cost, that's an issue that each carrier would have to determine. But no exemptions should be based on cost. Either the system can perform this task, or it's not roadworthy.

8.7 Observation, and inspection

8.8 Systems could be utilized to indicate a fault to enforcement personnel.

9.1 Cybersecurity is always going to be a large concern with any of these vehicles. Hacking, cloning control frequencies to cause a terrorist incident, cargo theft, all are within the realm of possibility.

9.2 Regulations should require a minimum level of security, and frequent inspections of the systems for attempted intrusion, or other means of pirating control from the carrier.

10.1 A safety reporting system similar to CSA, or another construct to report safety data without compromising proprietary data can be used for this purpose.

10.2 Yes

10.3 No changes required.

Thank you for allowing stakeholders a chance to have an input on this subject.

Any further questions please feel free to contact us directly.

Thank you,

Jim Bardsley
Executive Director
Kentucky Drivers Ass