



Law Commission Consultation on Remote Driving Issues

Response from the British Motorcyclists Federation

Submitted: September 2nd 2022

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The BMF is a lobbying group with 64,000 individual and club members that campaigns to pursue, promote and protect the interests of riders.

We welcome the opportunity to respond to the consultation.

To begin, the BMF proposes that certain principles should apply to all vehicles equipped for connected and/or automated driving.

General principles for remote driving and automated driving

1. Any vehicle capable of moving on public roads without having a human driver in control must be equipped with systems similar to those specified in UNECE Regulation 157 for Automated Lane Keeping Systems, Section 7 Object and Event Detection and Response (OEDR).

While UNECE Regulation 157 specifies that detectable collisions must result in certain behaviour and be reported it does not actually specify any parameters for a detectable collision. While there are specified tests for detecting motorcycles approaching from the lanes on the left or right there are no tests where the motorcycle is filtering. The requirements for OEDR should go a long way to reducing the likelihood and severity of collisions but cannot negate them completely. Any self- or remotely-driven vehicle should be capable of detecting low-impact collisions to the front, rear **and** sides of the vehicle; for example, the impact from a bicycle or motorcycle filtering alongside. Even a low-speed/low-impact collision can destabilise a two-wheeler, possibly resulting in injury to the rider.

The above should be included in construction and use regulations, together with the test parameters for detecting low-impact collisions.

2. Any vehicle capable of moving on public roads without having a human driver in control must be equipped with data recording systems as described in the

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government's Code of Practice for automated vehicle trialling. Safety systems such as AEB must also be standard equipment.

3. Any vehicle relying on connectivity to manage its movement must be limited to Operational Design Domains with really reliable connectivity. This is by far from being a given in large parts of the UK at present and is unlikely ever to be true for all parts of the UK. With respect to remote driving in particular, high latency should be considered equivalent to complete connectivity failure; delays in the remote driver receiving views or other feedback, or in instruction being received by the vehicle are not acceptable and will be dangerous.
4. With respect to remote driving in particular any vehicle being driven remotely must be able to provide the operator with appropriate views of the driving environment. In the context of use on public roads this must include forward, rear and side views.

The future

There is considerable pressure to develop greater and greater automation in vehicles, all the way to fully autonomous vehicles. The plan is also to move away from internal combustion engines, defaulting in the main to electric vehicles at present. It seems likely that there will also be more and more dependency on connectivity.

Currently we have issues around power generation and it is unclear how well future supply will meet future demand.

Imagining a future where a high proportion of vehicles are electrically powered and reliant on connectivity perhaps it is time to consider e.g. what happens to traffic in the event of a power failure or what happens if connectivity fails over wide area?

Some thought given to this sooner rather than later might suggest just how we would want highly automated vehicles to behave in such scenarios and consider how risks can be mitigated.

Consultation Questions

Q1: *Do you agree with the following tentative definitions? (1) A driver is an individual who performs all or any of the following tasks: (a) steering (lateral control); (b) braking, removing a brake, or accelerating (longitudinal control); or (c) monitoring the driving environment with a view to responding to objects or events by exercising lateral or longitudinal control (provided that this activity is safety critical).*

(2) A remote assistant is not a driver if they do not exercise direct longitudinal or lateral control, but only advise an automated driving system to undertake a manoeuvre.

(3) For the purposes of this project, a "remote driver" is a driver who is outside the vehicle and who uses some form of wireless connectivity to control the vehicle (covering both in or beyond line of sight).

Yes.

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3.82 **Q2:** *Do uncertainties surrounding construction and use provisions cause difficulties in practice? We are particularly interested in whether uncertainties over regulations 104, 107 or 110 are delaying trials or making it more difficult to obtain insurance.*

Not qualified to answer this question directly but uncertainty is never a good thing.

Q3: *Are the various exemptions easy to navigate, or do they put any unnecessary obstacles in the way of trialling new forms of vehicle?*

Not qualified to answer.

Q4: *We seek views on whether any particular construction and use provisions should be maintained in the interests of safety, even for trials and demonstrations.*

Additional provision should be made to include General Principles 1 & 2 above.

Q5: *Is remote driving likely to cause victims undue delay and expense in claiming compensation; or could it defeat claims altogether?*

That is likely to depend on how clearly remote driving is regulated.
A clear definition of where responsibility lies is required, e.g. who is responsible for roadworthiness, safe loading etc.

Q6: *We have identified that any system to regulate beyond line-of-sight driving needs to consider the following:*

- (1) the adequacy of the communication network;*
- (2) cybersecurity;*
- (3) workstation layouts;*
- (4) staff training;*
- (5) staff health, fitness and vetting;*
- (6) staff attention and rest periods; and*
- (7) incident protocols.*

Apart from the above, are there any additional challenges to consider?

With regard to operating practices it is probably worth looking at the regulations for air traffic control, particularly relating to attention and rest periods.

Q7: *If remote driving fails (through loss of connectivity, for example), how sophisticated would a risk mitigation system need to be? Would it effectively need to be an automated driving system, and regulated as such?*

Yes, if one expects a remotely driven vehicle to be used in every possible road environment.

If remote driving fails the vehicle effectively becomes autonomous. It must therefore at least be capable of a minimum risk manoeuvre appropriate for the driving environment. A vehicle capable of being driven remotely in all types of road environment would effectively have to be very close to being a completely autonomous vehicle – in which case why would it be driven remotely?

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Should remote driving be limited to specific ODDs?

Yes. See General Principles 3.

The requirements for vehicles carrying passengers could be different from those which are empty, e.g. an empty vehicle should always prioritise the safety of any other road user.

Q8: *We welcome views on how the problems raised by remote driving from outside the jurisdiction can be addressed.*

Don't try.

Q9: *Should remote driving on roads in Great Britain from outside the UK be prohibited?*

Yes.

There could be considerable issues around liability and accountability. The UK might set standards for guaranteeing connectivity, working conditions, driver qualifications etc. but how can these be policed outside UK jurisdiction? Making compensation claims would be much harder.

Q10: *We would be grateful if stakeholders could inform us about their experience of how remote driving is regulated abroad.*

No comment

Q11: *Should the Road Vehicles (Authorisation of Special Types) (General) Order 2003 be amended? In particular, we welcome views on whether amendments should:*

(1) specify that regulation 104 is satisfied if the driver of a special vehicle has a view of the road ahead through a screen, provided that appropriate steps have been taken to ensure safety;

(2) specify that regulation 107 is satisfied by remote supervision, provided that the user has taken appropriate steps to prevent interference with the vehicle;

(3) make any exemptions contingent on the user obtaining written consent from the road authority to use the vehicle on a particular road; and

(4) permit trials and demonstrations with a commercial element to them?

- 1) The driver should have views of the road ahead, behind and to the sides as appropriate to the locality.
- 2) The remote driver must be able to determine the status of the vehicle, e.g, has the parking brake been applied.
- 3) Yes
- 4) No. If this means what I think it means a commercial element might encourage some risk-taking.

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Q12: *Should any provisions of the CCAV Code of Practice relating to remote driving be added to the Highway Code?*

The Highway Code is intended for reading by the general public and adding further guidance for what is likely to be a fairly small audience is not necessarily appropriate. Aspects of the current CCAV CoP should undoubtedly constitute guidance for full road use, not just trials, but perhaps statutory guidance for ERDOs would be a better place for it.

Q13: *Are changes needed to construction and use regulations to enable the safe introduction of remote driving?*

See General Principles.

Q14: *To distinguish clearly between organisational and individual responsibilities, should the organisation behind remote driving be referred to with new terminology, as an Entity for Remote Driving Operation (or ERDO)?*

Yes

Q15(1): *Should primary legislation make it an offence to drive (or cause or permit a person to drive) a vehicle beyond line of sight unless the vehicle is overseen by a licensed ERDO?*

Yes

Q15(2): *For these purposes, is it appropriate to define a “beyond line-of-sight” driver as one who relies on connectivity to see all or part of the driving environment?*

Yes

Q16: *To obtain a licence, should an ERDO be required to show that it:*

- (1) is of good repute;*
- (2) has appropriate financial standing;*
- (3) conducts its operation within Great Britain; and*
- (4) is professionally competent to run the service?*

Yes, though perhaps there should be a definition of what constitutes good repute.

(Are we talking about operations in England and Wales, Great Britain or the United Kingdom?)

Q17: *Should an ERDO be required to submit a safety case to show how it will operate remotely driven vehicles safely?*

Yes. This could be a condition of the approval process. It should include measures to ensure safe loading, roadworthiness etc. before the vehicle starts its journey. Perhaps consideration should be given to the conditions which should apply if a remote driver is required to take over control from a human driver, though perhaps this should not occur while the vehicle is moving.

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Q18: *Should an ERDO face criminal offences where misrepresentations and non-disclosure in the safety case have implications for safety?*

Certainly there should be heavy penalties. The BMF is not qualified to determine if this should be judged in civil or criminal courts.

Q19: *Should an ERDO be under a duty:*

(1) to ensure that the driver is able to drive safely by: (a) taking reasonable care that connectivity is suitable;

(b) ensuring that in the absence of connectivity or driver input, the vehicle comes to a safe stop;

(c) providing suitable work-stations; and

(d) maintaining suitable training, vetting, health checks, working hours and breaks;

(2) to maintain the vehicle (including software updates and cybersecurity);

(3) to check that any load is safe and secure before that journey starts, and ensure that the number of passengers does not overload the vehicle;

(4) to insure the vehicle;

(5) following an incident, to provide information to other road users, the police and the regulator;

(6) not to impede traffic flow by (for example) ensuring that vehicles are not left in inappropriate places;

(7) to check the route and pay any tolls and/or charges;

(8) to respond to the regulator's requests for information about the safety of remote driving; and

Yes to all the above. 1) should include ensuring that the remote driver is licensed to drive on UK roads. Remote driving is not a video game.

(9) any other duties not mentioned above?

Ensure any child passengers are seated correctly.

Q20: *To claim compensation should a person:*

(1) have a right to claim compensation from the ERDO for injuries caused by a breach of the first three ERDO duties outlined above, subject to the normal law of contributory negligence?

(2) Alternatively, should an insurer be liable irrespective of where the fault lies (in a similar way to the Automated and Electric Vehicles Act 2018)?

2) is preferable, subject to the normal law of contributory negligence.

Q21: *Should the regulator have power to impose a range of sanctions on an ERDO, including improvement notices, civil penalties and (in serious cases) withdrawal of licence?*

Yes.

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Q22: *Should the regulator have powers to inspect remote operation centres, both in the event of a problem and more generally?*

Yes.

Q23: *Should the law provide individuals who drive beyond line of sight with:*

- (1) *an immunity from being prosecuted for any issues concerned with roadworthiness, loading and seat belts which are beyond the driver's knowledge and control; and*

Not automatically, perhaps in exceptional circumstances.

Remote drivers must not perform the driving task where there are indications that roadworthiness, loading etc. have been compromised. Some of the above issues can already be checked by in-vehicle systems and procedures should be in place to ensure that, for example, a vehicle is correctly loaded before the remote driver begins a journey. Such procedures might be part of the safety case made by the ERDO.

NB: use of seat belts is the responsibility of the individual adult passenger, not the driver.

An example of an exceptional case might be where a vehicle has been involved in a collision and a remote driver can move the vehicle off the road so as to be out of the way. But given that the extent of any damage cannot truly be known the vehicle should not continue its journey.

- (2) *a defence to a driving charge if a competent and careful driver in the same circumstances could not have avoided the offence?*

Yes

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