Economic and Social Council

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations

179th session
Geneva, 12-14 November 2019
Item 4.10.1 of the provisional agenda
1958 Agreement:
consideration of draft amendments to existing
UN Regulations submitted by GRVA

Proposal for the Supplement 2 to the 03 series of amendments to UN Regulation No. 79 (Steering equipment)

Submitted by the experts from the Working Party on Automated/Autonomous and Connected Vehicles*

>   The text reproduced below was adopted by the Working Party on Automated/Autonomous and Connected Vehicles (GRVA) at its second session (see ECE/TRANS/WP.29/GRVA/2, para. 56). It is based on ECE/TRANS/WP29/GRVA/2019/8 as amended by Annex VII of the session report. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee (AC.1) for consideration and vote at their November 2019 sessions.

>   * In accordance with the programme of work of the Inland Transport Committee for 2018–2019 (ECE/TRANS/274, para. 123 and ECE/TRANS/2018/21/Add.1, Cluster 3.1), the World Forum will develop, harmonize and update UN regulations to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

Proposal for the Supplement 2 to the 03 series of amendments to UN Regulation No. 79 (Steering equipments)

Insert a new paragraph 2.3.4.4., to read:

"2.3.4.4. "*Remote Control Manoeuvring (RCM)*" means a function actuated by the driver that provides direct control on steering angle, acceleration, and deceleration for low speed manoeuvring. The actuation is made by remote control in close proximity to the vehicle."

Insert a new paragraph 2.3.4.18., to read:

"2.3.4.18. "*Specified maximum RCM operating range (S_{RCMmax})*" means the maximum distance between the nearest point of the motor vehicle and the remote-control device up to which RCM is designed to operate."

Insert a new paragraph 5.7., to read:

"5.7. Provisions for RCM fitted to vehicles of category M_1 and N_1.

Any RCM shall be subject to the requirements of Annex 6."

Insert a new paragraph 5.7.1., to read:

"5.7.1. Vehicles of category M_1 and N_1 meeting the requirements of Category G[1] may be equipped with RCM provided the system fulfils the following requirements.

5.7.1.1. The system shall be active only after a deliberate action of the driver and if the conditions for operation of the system are fulfilled (all associated functions – e.g. brakes, accelerator, steering, camera/radar/lidar are working properly).

5.7.1.2. A continuous actuation of a dedicated button/switch on the remote control device by the driver is required during the manoeuvre. Another button/switch on the remote control device may be used to control the manoeuvring of the vehicle.

5.7.1.3. Whenever the system becomes operational, this shall be indicated to the driver by an optical signal at least at the remote control device.

5.7.1.4. The system shall only operate until 5 km/h (+1 km/h tolerance).

5.7.1.5. At any time during a manoeuvre that the vehicle becomes stationary, the RCM function shall prevent the vehicle from rolling away.

5.7.1.6. If the continuous actuation is interrupted or the distance between vehicle and remote control device exceeds the specified maximum RCM operating range (S_{RCMmax}) or the signal between remote control and vehicle is lost, the vehicle shall stop immediately.

5.7.1.7. The specified maximum RCM operating range (S_{RCMmax}) shall not exceed 6 m.

5.7.1.8. The system shall be able to be deactivated by the driver at any time.

5.7.1.9. If a door or trunk of the vehicle is opened during the manoeuvre, the vehicle shall stop immediately, and the RCM function shall be deactivated.

5.7.1.10. The system shall be designed to be protected against unauthorized activation or operation of the RCM systems and interventions into the system.

5.7.1.11. System information data

The Following data shall be provided together with the documentation package required in Annex 6 of this Regulation to the Technical Service at the time of type approval:

5.7.1.11.1. The value for the specified maximum RCM operating range (S_{RCMmax});

---

[1] As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.6, para. 2.

5.7.1.11.2. The conditions under which the system can be activated, i.e. when the conditions for operation of the system are fulfilled;

5.7.1.11.3. For RCM systems, the Manufacturer shall provide the technical authorities with an explanation of how the system is protected against unauthorized activation.

5.7.1.12. The RCM system shall be so designed that its activation can only be achieved provided the vehicle is not in any of the following locations:

(a) A public road/highway;

(b) A public car park;

(c) An area designated exclusively for use by pedestrians and/or pedal cyclists.

The system shall be capable of confirming that the vehicle is not located in any of the above locations whilst the RCM function is active and this shall be achieved by at least two independent technical means[2]. If navigation maps are used for this purpose, the RCM function shall be disabled if the map data has not been updated in the previous 12 months.

5.7.1.13. The vehicle shall be equipped with a means to detect an obstacle (e.g. vehicles, pedestrian) in the manoeuvring area and to bring the vehicle immediately to a stop to avoid a collision.

5.7.1.14. If the vehicle stops having detected an obstacle in the manoeuvring area, subsequent operation shall only be possible following confirmation from the driver. The vehicle shall respond to any subsequent objects detected in the manoeuvring area as prescribed in paragraph 5.7.1.13.

5.7.1.15. It shall only be possible to operate the system when drive is provided to at least one front axle and one rear axle simultaneously.

5.7.1.16. The vehicle shall detect if, while the RCM function is active, the vehicle enters any of the locations listed under paragraph 5.7.1.12. In such a case, the vehicle shall stop immediately and the RCM function shall be deactivated.

5.7.1.17. The system shall only operate for a maximum total distance travelled of 100m. This distance may be reset if there is no input on the remote control device for at least 1 minute or if the system has been deactivated and a time period of at least 1 minute has elapsed. The distance shall be subsequently measured from the next point at which the RCM function is operated.

5.7.1.18. The driver shall be issued with a warning signal when the total distance travelled is 75m (+5m tolerance). This shall be fulfilled by the provision of an optical warning signal and either a haptic or acoustic warning signal at least at the remote control device.

5.7.1.19. If the vehicle reaches or exceeds the maximum total distance travelled defined in paragraph 5.7.1.17., the vehicle shall stop immediately and the RCM function shall be deactivated. It shall not be possible to subsequently activate the RCM until a time period of at least 1 minute has elapsed. This shall be indicated to the driver at least at the remote control device.

5.7.1.20. The manufacturer shall provide the Technical Service with documentation and supporting evidence to demonstrate compliance with the provisions of paragraphs 5.7.1.12., 5.7.1.13., and 5.7.1.16. This information shall be subject to discussion and agreement between the Technical Service and vehicle manufacturer."

---

[2] Two different types of map (e.g. navigation and topographical) supplied by two different suppliers are satisfactory for this requirement.