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Economic Commission for Europe**Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****Working Party on Brakes and Running Gear****Seventy-ninth session**

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Item 12(b) of the provisional agenda

Other business – Consolidated Resolution on the Construction of Vehicles (R.E.3)**Proposal for amendments to Annex 5 to the Consolidated Resolution on the Construction of Vehicles (R.E.3)****Submitted by the experts from Japan ***

The text reproduced below was prepared by the expert from Japan, introducing amendments to the Remote Controlled Parking System at Annex 5 to the Consolidated Resolution on the Construction of Vehicles (R.E.3). It is based on Informal document GRRF-78-22. The modifications to the existing text of the Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Insert a new subparagraph in paragraph 2 (Scope), to read:

"2. Scope

ADAS can be classified into three categories: information provision, warning, and control. Guidelines for limiting driver distraction from in-vehicle information systems have already been established and are used on a self-commitment basis. Regarding warnings,...

This document discusses control systems that support and assist the driver's driving operations. Systems covered include those that involve a certain interaction (transfer of control) between the driver and the system,...

In this document, we discuss systems that are used during normal driving, such as ACC (Advanced Cruise Control system),

... regulated, but we include them in our discussion because they involve the transfer of control between the driver and the system.

Additionally, the "Remote Controlled Parking" system (RCP), including pulling out of parking space" with state-of-the-art technologies related to automated driving is also included.

The present principles are applicable mainly to passenger cars (M1),..."

Insert new line to the table, to read:

"3. Existing regulations

There are existing regulations which are most relevant to the principles in this document.

UN Regulation No. 131	Advanced Emergency Braking Systems (AEBS)
UN Regulation No. 79	Steering equipment

"

Insert a new subparagraph to the paragraph 4, to read:

"4. Control principles

The principles are divided into four sections:

Control elements;

Operational elements;

Display elements; and

Supplementary elements.

...

In this document, normal driving refers to situations that do not require immediate responses from the driver and/or vehicle to avoid a collision. Critical driving refers to situations that do require immediate responses from the driver and/or vehicle to avoid or mitigate a collision.

Additionally, the specific guidelines for RCP are introduced into paragraph 4.5."

Insert new paragraphs 4.5. and 4.5.1., to read:

- "4.5. The RCP system shall be designed so that its automatic manoeuvring for parking and/or pulling out of parking space the vehicle can be:**
- (a) activated as long as the off-board driver who monitors the circumstances around the vehicle, continuously indicates the intention to keep it active by operating the remote controller, e.g. the automatic manoeuvring continues only while the activation button of the remote controller is pushed by the off-board driver and it stops safely when the button is released, and**
 - (b) safely terminated when such intention is no longer indicated.**
- 4.5.1. The owner's manual of the vehicle shall contain an instruction regarding the caution of its remote operation that the driver shall monitor safety of circumstances around of the vehicle by driver's own immediate perception from an appropriate distance."**

II. Justification

1. Current UN Regulations do not consider the "Remote Controlled Parking" system (RCP) with which the driver can remotely parking control and/or pulling out of parking space while the driver is off-board (outside the vehicle). With state-of-the-art technologies related to automate driving, such a system is considered as technically feasible and driver accepted. On the other hand, if the requirements to keep the safety would not exist, the system cannot be stopped safely in an emergency situation and such systems may cause critical problems. However, it is not preferable to give an excessive design restriction to the new technology which has not been commercialized yet. Therefore, for ensuring a road safety, it is appropriate to establish the adequate guidelines for such a new system.

2. The necessary guidelines for the "RCP" is mentioned as follows:

- (a) The driver shall monitor safety of circumstances around of the vehicle by their own immediate perception from an appropriate distance, e.g. not exceeding 10m.

However, actually, since it would be difficult to restrict the distance of wireless communication transmission accurately from their current technical point of view, it is reasonable that the owner's manual indicates the caution as vehicle construction guidelines.

- (b) The system must have the function to terminate safely the parking system control by the remote controller.
- (c) The secure and reliable communication between the vehicle and the controller to ensure the emergency termination of the operation.