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Request for an extension of the mandate for the IWG EMC until the end of 2023

The text reproduced below was prepared by the European Commission with support from the Joint Research Centre and experts from the Netherlands, with the aim to request for a mandate for IWG EMC to carry out an in-depth analysis of UN Regulation No. 10. This document complements ECE/TRANS/WP.29/GRE/2022/12.

I. Proposal

The mandate would permit the members of IWG EMC to overhaul the provisions of UN Regulation No. 10 with respect to:

- the definition of normal conditions of use,
- the definition of the testing method in normal conditions of use at the vehicle level,
- the definition of component level testing method in normal conditions of use, and
- the options to include a risk assessment as a methodology to define the proper test cases.

The proposed timeline:

- Presentation of further research data: January 2023
- Proposal for the definition of normal conditions of use at vehicle and component level: April 2023
- Proposal for testing methods in normal conditions of use at vehicle level: June 2023
- Proposal for testing methods in normal conditions of use at component level: October 2023
- Submission of the draft proposal to GRE: November-December 2023

II. Justification

As a part of the market surveillance activity (Regulation (EU) 2018/858), the European Commission's Joint Research Centre (JRC) demonstrated that certain vehicles with new technologies (e.g. multiple propulsion engines) may have different operation strategies in different normal conditions of use, which may lead to different, occasionally higher than the regulatory threshold of the electromagnetic emission.

For example electric vehicles can have two or more electric propulsion engines and they may follow different operating strategies during driving at constant speed, acceleration and recuperation (deceleration). The result of JRC showed that the different operating strategies of the engines can lead to different disturbances at different normal conditions of use and occasionally passing the threshold of the UN Regulation R10 (e.g. at non constant speed). The results of the inspections also showed that the technology exists on the market which allows to fulfil the regulatory limits in other normal conditions of use.

Although the Regulation requires in e.g. 6.1.1. that "A vehicle and its electrical/electronic system(s) or ESA(s) shall be so designed, constructed and fitted as to enable the vehicle, in **normal conditions of use**, to comply with the requirements of this Regulation" the cross-reference to CISPR 12 requires to test the vehicle only at **constant 40 km/h** speed with no road load. These conditions do not always allow to test all engines and working modes of new vehicle technologies. Furthermore, the number of electrified vehicles on the market increases rapidly and so the number of vehicles without fulfilling the regulatory limits in other than constant 40 km/h driving conditions. Increasing electromagnetic emission may affect the safety of the communication network which is a key for the safe deployment of, for instance connected and automated vehicles and other applications.

Therefore the normal conditions of use and their testing methods need to be clarified in the regulation to allow a comprehensive verification of vehicles and to ensure safety.