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Progress on the development of new UN Global Technical Regulation (UN GTRs) and of amendments to established UN Global Technical Regulation (UN GTRs) - Gtr No. 2 (Worldwide Motorcycle emission Test Cycle (WMTC))

Request for authorization to develop amendments to gtr No. 2 and new regulations on environmental and propulsion performance requirements for light vehicles

Submitted by the European Union*

The text reproduced below was prepared by the representative of the European Union to request authorization for amending gtr No. 2 as well as to develop new gtrs and Regulations on environmental and propulsion performance requirements for light vehicles. It is based on WP.29-160-18, distributed at the 160th session of the World Forum for Harmonization of Vehicle Regulations (WP.29) (ECE/TRANS/WP.29/1104, paras. 127 and 128). This document, if adopted, shall be appended to the amendment to gtr No. 2 and to the new gtrs in accordance with the provisions of paragraphs 6.3.4.2., 6.3.7. and 6.4. of the 1998 Agreement.

* In accordance with the programme of work of the Inland Transport Committee for 2010–2014 (ECE/TRANS/208, para. 106 and ECE/TRANS/2010/8, 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. Objectives

1. The main objective of this proposal is to establish, in the framework of the 1998 Agreement, an amendment to global technical regulation (gtr) No. 2 on the Worldwide harmonized Motorcycle emissions Certification-test procedure (WMTC) to insert Environmental and Propulsion Performance Requirements (EPPR), currently only applicable for two-wheeled motorcycles. In the case, the scope and the purpose of gtr No. 2 is considered not to be appropriate, an appropriate amend will be proposed or new gtrs will be developed making reference to the relevant parts of gtr No. 2.
2. The objectives are also to:
 - (a) Develop, under the 1998 Agreement, requirements and/or test procedures and to create synergies with the Regulations annexed to the 1958 Agreement. Where possible, develop common requirements in the form of one or more Regulations or gtrs;
 - (b) Exchange information on current and future regulatory EPPR, e.g. for "category 3 vehicles" or "L-category vehicles";
 - (c) Minimize the differences between these regulatory EPPR, with the view to facilitate the development of light vehicles complying with such internationally harmonized requirements;
 - (d) Assess the coherence with other regulatory requirements and groups activities, such as those on Worldwide harmonized Light vehicles Test Procedures (WLTP) and on Electric Vehicles and the Environment (EVE).

II. Introduction

3. The proposal to establish under the Working Party on Pollution and Energy (GRPE) an informal working group (IWG) on EPPR for light vehicles was initiated by the European Union. The European Commission, DG Enterprise and Industry, takes the lead of this activity. The intention of setting up the group was announced during the GRPE meetings in January and June 2012, and during the plenary session of WP.29 in June 2012. A mandate to start the activities of the IWG on EPPR was endorsed by the WP.29 at its November 2012 session. The IWG had its first meeting in January 2013.
4. The IWG was established to create, under both the 1958 and 1998 Agreements, the basis for the possible development of Regulations and gtrs on EPPR. All global partners are invited to join the group and to share their experiences in developing relevant regulatory requirements and market operations.
5. The tasks of the IWG aim at replicating the successful approach of the GRPE informal group on WMTC, which had facilitated successfully an exchange of information among the participants on their domestic regulatory requirements for an emission laboratory test cycle to measure exhaust gas emissions from a motorcycle after cold start. In 2011, a unique event took place in which Contracting Parties endorsed Amendment 2 to gtr No. 2 putting forward global exhaust gas emission limit values for the type I emissions test for motorcycles (WMTC). Building on this success, the process of international collaboration should continue to further harmonize EPPR for the whole range of light vehicles.
6. Furthermore, the IWG will review technical progress of current and near future powertrain technologies, including electrified powertrains and different fuel types, and develop appropriate requirements for adapting the provisions to the technical progress.

III. Areas of work in the IWG

7. The main activities of the IWG shall focus on revising or establishing the following environmental performance verification test types:

- (a) Tailpipe emissions test after cold start;
- (b) Tailpipe emissions test at (increased) idle/free acceleration test;
- (c) Emission test of crankcase gases;
- (d) Evaporative emissions test;
- (e) Durability testing of pollution control devices;
- (f) Cold ambient emissions (this test type is considered out of the scope);
- (g) Measurement of the CO₂ emissions, fuel consumption, electric energy consumption and electric range determination;
- (h) On-board diagnostics environmental verification tests.

8. In addition, the IWG shall assess and develop propulsion performance requirements for conventional vehicles equipped with combustion engines as well as for advanced concepts such as electric and hybrid electric powertrains. The IWG shall also develop and agree on unified rules and test procedures to measure power and torque for this wide range of propulsion technologies fitted on light vehicles as well as on unified measurement method for the maximum design vehicle speed and/or power for restricted light vehicles.

9. For both environmental and propulsion performance requirements, all possible fuels shall be taken into consideration: petrol, petrol-ethanol mixtures, diesel, biodiesel and also gaseous fuels such as Compressed Natural Gas (CNG), Liquefied Petrol Gas (LPG), hydrogen and their blends.

10. The IWG shall also assess whether the "light vehicle" classification can be further optimized and refined.

IV. Existing regulations and directives

11. A stocktake of the regional regulations and directives applicable to L-category vehicles as well as Regulations Nos. 40, 47, 68, 83, 85, 101, gtr No. 2 and the work in progress on WLTP shall be a first step on which the group can base its work.

12. For this purpose, a study is ongoing and the results will be presented and discussed in the EPPR working group.

V. Timeline

13. The plan, based on the draft roadmap, will regularly be reviewed and updated to reflect the latest situation on progress and the feasibility of the timeline.

(a) 4-7 June 2013: In conjunction of the sixty-sixth session of GRPE, informal meeting of the IWG. Presentation of the roadmap and submission of related programme management items to GRPE for consideration and adoption.

(b) 12-15 November 2013: At the 161st session of WP.29, adoption of GRPE decision on the roadmap and related programme management items.

- (c) 2013-2016: regular meetings of the IWG, including progress report to GRPE, WP.29 and the Executive Committee (AC.3) of the 1998 Agreement.
 - (d) January 2016: presentation of the final report to GRPE as an informal document.
 - (e) 2016: possible adoption of Regulation(s) and gtr(s), and respective amendments.
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