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## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

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Item 19.25. of the provisional agenda

**Progress on the development of new UN GTRs  
and of amendments to established UN GTRs  
Proposal for a draft UN GTR durability of after  
treatment devices for two- and three- wheeled motor  
vehicles (Environmental and Propulsion Performance  
Requirements of L-category vehicles)**

### **Request for authorization to develop a new UN GTR on durability of after treatment devices for two- and three- wheeled motor vehicles**

#### **Submitted by the Working Party on Pollution and Energy\***

The text reproduced below was adopted by the Working Party on Pollution and Energy (GRPE) at its eighty-second session (ECE/TRANS/WP.29/GRPE/82) and is based on GRPE-82-26-Rev.1 as amended by Annex VII of the session report. It is a request for authorization to develop a new UN GTR on durability of after treatment devices for two- and three- wheeled motor vehicles. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Executive Committee (AC.3) of the 1998 Agreement for consideration at its June 2021 sessions.

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\* In accordance with the programme of work of the Inland Transport Committee for 2021 as outlined in proposed programme budget for 2021 (A/75/6 (part V sect. 20) para 20.51), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



# Request for authorization to develop a new UN GTR on durability of after treatment devices for two- and three-wheeled motor vehicles

## I. Mandate and Objectives

1. In the framework of the 1998 Agreement and under continued work by the informal working group (IWG) on Environmental and Propulsion Performance Requirements of L-category vehicles (EPPR), the main objective of this proposal is to seek authorization for the EPPR IWG to develop a new UN GTR on the topic of *durability of after treatment devices for two- and three- wheeled motor vehicles*.

2. The IWG on EPPR will also consider aligning with the work done by the IWG on Worldwide harmonized Light Vehicles Test Procedure (WLTP) if so is considered advantageous, to ensure harmonization and to avoid any duplication of effort.

## II. Introduction

3. The IWG on EPPR was endorsed by the WP.29 at its November 2012 session (ECE/TRANS/WP.29/1099). The Executive Committee of the 1998 Agreement (AC.3) on its forty-fifth session (10-13 November 2015) adopted ECE/TRANS/WP.29/2015/113 (ECE/TRANS/WP.29/AC.3/36/Rev.1) whereby the European Union proposed changes to the proposal to develop amendments to UN Global Technical Regulation No. 2 and new regulations on environmental and propulsion performance requirements for light vehicles (ECE/TRANS/WP.29/AC.3/36). It was based on informal document WP.29-166-20, distributed at the 166th session (ECE/TRANS/WP.29/1116, para. 109). The mandate of the EPPR IWG was extended until December 2020.

4. The extension to a second working period (until December 2025) was requested by the EPPR IWG to the GRPE by asking for the endorsement of the Terms of Reference and rules of procedure for the informal working group on Environmental and Propulsion Performance Requirements of L-category vehicles (EPPR) (GRPE-81-23-Rev.1). The GRPE endorsed the EPPR IWG ToR in its 81st session (ECE/TRANS/WP.29/GRPE/81).

5. During the first mandate of the IWG on EPPR, the IWG has successfully completed the following technical regulatory texts (UN GTRs):

(a) UN GTR No. 17: "Global technical regulation on the measurement procedure for two- or three- wheeled motor vehicles equipped with a combustion engine with regard to the crankcase and evaporative emissions". Established in the Global Registry on 17 November 2016.<sup>1</sup>

(b) UN GTR No. 18: "Global technical regulation on the measurement procedure for two- or three- wheeled motor vehicles with regard to on- board diagnostics". Established in the Global Registry on 17 November 2016.<sup>2</sup>

(c) UN GTR No. 2: "Global technical regulation on the measurement procedure for two-wheeled motorcycles equipped with a positive or compression ignition engine with regard to the emissions of gaseous pollutants, CO<sub>2</sub> emissions and fuel consumption - Amendment 4". Established in the Global Registry on 13 November 2019.<sup>3</sup>

(d) Amendment 1 to UN GTR No. 18: "Global technical regulation on the measurement procedure for two- or three-wheeled motor vehicles with regard to on-board

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<sup>1</sup> <http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29wgs/wp29gen/wp29registry/ECE-TRANS-180a17e.pdf>

<sup>2</sup> <http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29wgs/wp29gen/wp29registry/ECE-TRANS-180a18e.pdf>

<sup>3</sup> [https://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29wgs/wp29gen/wp29registry/ECE-TRANS-180a2am4e\\_for\\_submission.pdf](https://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29wgs/wp29gen/wp29registry/ECE-TRANS-180a2am4e_for_submission.pdf)

diagnostics". Introduction of OBD II<sup>4</sup>. It was adopted by WP.29 in its 182nd session (November 2020).

6. During the first mandate of the IWG on EPPR, the IWG also started to work on a new UN GTR on Durability testing of pollution control devices for two- and three- wheeled motor vehicles.

### III. Areas of work

7. The EPPR IWG seeks from AC.3 the authorization to develop a new UN GTR on *durability of after treatment devices for two- and three- wheeled motor vehicles*. The IWG will use the initial work performed under the IWG first mandate.

8. The group shall focus its work in the following areas:

(a) Create a first consolidated draft of the UN GTR on durability based upon the European Union Regulation (see below) and incorporating those clauses from other existing regulation to obtain a highly harmonised technical regulation.

(b) The consolidated draft will be reviewed with the following objectives:

(i) Identify areas for further technical improvements;

(ii) Study the areas that need to be reviewed in order to adapt them to reflect regional needs.

(c) Finalising the draft and subsequently to present it for endorsement to the GRPE.

9. The EPPR IWG will keep informed the GRPE on the status of the development of the new GTR, by periodical reports to the GRPE assembly.

### IV. Existing regulations

10. The durability of after treatment devices for two- and three- wheeled motor vehicles is not currently regulated by any UN GTR or UN Regulation. It is known that the ability of components and systems to last is key to minimise the impact on the environment. Therefore, it is necessary to set up harmonised provisions for verifying that the durability requirements are met.

11. European Union regulations on environmental performance of two- or three-wheel vehicles and quadricycles (Reg. (EU) No. 168/2013 and its supplementing regulations<sup>5</sup>, the so-called Euro 5) provide test procedures and requirements for the durability of after treatment devices.

12. Japan addresses durability regulation in its "Enforcement procedure for motor vehicle type certification, Additional rule7: Durability driving enforcement procedure".

<sup>4</sup> ECE/TRANS/WP.29/2020/129 and ECE/TRANS/WP.29/2020/130: Amendment 1 to UN GTR No. 18 (On-Board Diagnostic (OBD) systems for L-category vehicles) and its Technical Report.

<sup>5</sup> COMMISSION DELEGATED REGULATION (EU) No 134/2014 of 16 December 2013 supplementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to environmental and propulsion unit performance requirements and amending Annex V thereof.

13. The United States Environmental Protection Agency addresses durability on its regulations for On Highway Motorcycles and deterioration factor determination with real world drive and emission tests<sup>6</sup>. It also considers durability in the case of light duty vehicles<sup>7</sup>

14. The People’s Republic of China standards include Type V durability test addressing separately motorcycles and mopeds<sup>8</sup>.

15. The California Air Resources Board regulations on durability are contained in California Code of Regulations Title 13 Section 1958(c).

16. In the development of the UN GTR, the EPPR IWG will take into consideration the existing regulations to reach harmonized provisions for test procedures and requirements.

## V. Timeline

17. The timelines proposed below for the new mandate are target timelines. The plan will be regularly reviewed and updated to reflect progress and feasibility of the timeline.

(a) January 2021: EPPR IWG presents timeline and framework for mandate request in GRPE;

(b) June 2021: Request for authorization submitted to AC.3;

(c) January 2021 – June 2021: EPPR IWG continues formulating and drafting UN GTR with elements agreed upon;

(d) June 2021: EPPR IWG provides an update to the June 2021 meeting of GRPE with a first draft (informal document) of the UN GTR for further discussion and recommendations;

(e) June 2021 – October 2021: EPPR IWG conclude the GTR and prepares a formal (working) document of the GTR to be submitted to the GRPE;

(f) January 2022: EPPR IWG presents the UN GTR to GRPE and ask for endorsement for consideration by WP.29 and AC.3.

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<sup>6</sup> 40 CFR Part 86 (86.419, 86.426, 86.427, and 86.432).

<sup>7</sup> Emission Durability Procedures for New Light-Duty Vehicles, Light-Duty Trucks and Heavy-Duty Vehicles”. January 17, 2006. 40 CFR Part 86, 71 FR 2809

<sup>8</sup> GB 14622-2016 “Limits and measurement methods for emissions from motorcycles” and GB 18176-2016 “Limits and measurement methods for emissions from mopeds”