



UNECE GRPE Informal Group on Environmental and Propulsion Performance Requirements of L-cat Vehicles (EPPR L-cat)

State of Play

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EPPR meetings in 2019/2020

Face-to-face meetings:

- 08-09 Jan 2019: EPPR 26th (GRPE Geneva summary; GTR2 & OBD2)
- 19-22 Feb 2019: EPPR 27th (JRC Ispra; GTR2 & OBD2)
- 26-29 Mar 2019: EPPR 28th (Geneva; GTR2 & OBD2)
- 21-22 May 2019: EPPR 29th (Geneva; GTR2 & OBD2)
- 15-18 Oct. 2019: EPPR 31st (CARB; OBD2 & Durability)
- 14-15 Jan. 2020: EPPR 33rd (Geneva; OBD2 & Durability)
- **12-13 Mar 2020: EPPR 34th (NL; OBD2 & Durability)**
- **October 2020: EPPR 38th (?; Durability)**

Web conferences:

- 20 Sept. 2019: EPPR 30th (OBD2 & Durability)
- 04 Dec. 2019: EPPR 32nd (OBD2 & Durability)
- 12-13 March 2020: EPPR 34th (OBD2 & Durability)
- 30 April 2020: EPPR 35th (OBD2 & ToR)
- 03-04 June 2020: EPPR 36th (OBD2 & ToR)
- **16 June 2020: EPPR 37th (Durability)**



Amendment of UN GTR 18 to include OBD II

- GTR 18 " Global technical regulation on the measurement procedure for two- or three-wheeled motor vehicles with regard to on-board diagnostics" (ECE/TRANS/180/Add.18)
- It deals mainly with electric continuity:
 - "The OBD stage I system shall monitor for any electric circuit and electronics failure of the vehicle's control system"
- This amendment introduces OBD II: functional aspects



Amendment 1 of UN GTR 18 to include OBD II

History*

- GRPE-76-29: Introduction of the work methodology for the drafting of the amendment to UN GTR 18 to include OBD II; defining two work phases (9-12 January 2018)
- GRPE-77-25: Progress report of the work on OBD2 – phase 1 (6-8 June 2018)
- GRPE-78-26: Progress report of the work on OBD2 – phase 1 nearly completed (7-11 January 2019)
- GRPE-79-23: Submitted for info the consolidated draft amendment (phase 1) to UN GTR No. 18 to include OBD 2 (21-24 May 2019)
- GRPE-80-32: Submitted the Draft Amendment 1 to UN GTR 18: OBD2 (14-17 January 2020)
- ***ECE/TRANS/WP.29/GRPE/2020/17 - Proposal for 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 diagnostics). March 2020.
- **GRPE-81-24:** Informal document addressing editorial changes and closing few open points (Monitoring of the catalytic converter deterioration. Introduction of OTL1 and OTL2 and Access to OBD information)



* The development of this draft has been in parallel to the work of amendment 4 to UN GTR 2



Amendment of UN GTR 18 to include OBD II

Purpose:

- prescribes the requirements for On-Board Diagnostic (OBD) systems to detect, record and/or communicate failures of specific vehicle and engine systems that affect the environmental performance of these systems
- specifies the elements concerning the OBD system to facilitate the diagnosis, efficient and effective repair and maintenance of specific vehicle and engine systems without containing mandatory prescriptions for this purpose.



Amendment of UN GTR 18 to include OBD II

Scope and application

- Two- and three-wheeled vehicles of category 3 equipped with a propulsion unit in accordance to:

Propulsion unit and fuel type			Functional OBD	Test type VIII
Vehicle with PI engine	Mono-fuel	Petrol	Yes	Yes
Vehicle with CI engine	Mono-fuel	Diesel	Yes	Yes



Amendment of UN GTR 18 to include OBD II

- Based upon the European EURO5 regulation
- Introduces some flexibilities reflecting the different needs of the CP/world regions:
 - Catalytic converter monitoring
 - Separation of environmental performance related functions and functional safety ('limp-home' operating mode which significantly reduces engine torque). Making the latter one a CP option.
 - Contracting Parties may either introduce OTL 2 directly or after the introduction of OTL 1.
- **Request for GRPE endorsement of the Amendment 1 to UN GTR 18 for its transmission to the Nov 2020 session of the WP29 for its eventual adoption.**



EPPR IWG – Terms of Reference (ToR)

GRPE-81-23

Background

- WP.29 at its November 2012 session (ECE/TRANS/WP.29/1099) endorsed the start of activities of the IWG on EPPR.
- The mandate of the EPPR IWG was extended until December 2020 by AC.3 on its forty-fifth session (10-13 November 2015) [ECE/TRANS/WP.29/AC.3/36/Rev.1]
- The goal of the informal group is to prepare and propose to GRPE draft texts of UN GTR's concerning L-category vehicles, including suggestions for the organization of future work. The IWG will also work on the transposition of the UN GTRs under its realm into UN Regulation under the 1958 agreement when appropriate.



EPPR IWG – Terms of Reference (ToR)

Since its first meeting in January 2013 the IWG has successfully completed the following technical regulatory texts (UN GTR):

- UN GTR 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.
- UN GTR 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.
- UN GTR 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, CO2 emissions and fuel consumption - Amendment 4”. Established in the Global Registry on 13 November 2019



EPPR IWG – Terms of Reference (ToR)

The IWG is currently working on these issues:

- Proposal for 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 diagnostics”. Eighty-first session of the Working Party on Pollution and Energy (9-12 June 2020).
Introduction of OBD II
- Proposal for a new UN GTR on Durability testing of pollution control devices for L-category vehicles.



EPPR IWG – Terms of Reference (ToR)

- There is still work to be done by the IWG in order to advance in the harmonisation of technical regulations concerning several aspects of L-category vehicles, as well as the conversion of these Global Technical Regulations into UN ECE Regulations under the 1958 Agreement.
- **It is therefore appropriate to extend the mandate of the IWG for a further period**, in order to complete the development of these UN GTRs and to allow for the transposition of these technical regulations into UN ECE regulations under the 1958 Agreement.



EPPR IWG – Terms of Reference (ToR)/Outlook

- Durability testing of pollution control devices for L-category vehicles;
- Potential alignment of the content of different GTRs, if needed.
- Assessment and development of propulsion unit performance requirements for conventional L-cat vehicles equipped with **combustion engines** only as well as for advanced concepts such as **electric and hybrid electric powertrains**.
- Unified rules and test **procedures to measure power and torque** for this wide range of propulsion technologies fitted on L-cat vehicles as well as unified measurement of maximum design vehicle speed and/or power for L-cat vehicles should be developed and agreed upon.
- Extension to all possible fuels for both environmental and propulsion unit performance requirements: petrol, petrol-ethanol mixtures, diesel, biodiesel but also gaseous fuels such as CNG, LPG, Hydrogen and their blends.
- Consideration for transposition of the various GTRs into UN Regulations under the 1958 Agreement.
- The **transposition of UN GTR 2 into a UN Regulation** is considered by the sponsor (EC) and many stakeholders as of capital importance to advance in the harmonization process by allowing mutual recognition by the signatories of the 1958 Agreement.



EPPR IWG – Terms of Reference (ToR)/Outlook

- The transposition of **UN GTR 2** into a **UN Regulation** will take central stage in the work of the EPPR IWG in the short to medium term.
- The transposition work will be, where possible, brought forward together with other activities

The EPPR IWG request the endorsement by the GRPE of this ToR for the continuation of the group (GRPE-81-23)



Thank you

