

## **Proposal for amendments to the 06 and 07 series of amendments to UN Regulation No. 83 (Emissions of M1 and N1 vehicles) amending ECE/TRANS/WP.29/GRPE/2020/5**

### **I. Proposal**

*Annex 11, paragraph 3.8.1, amend to read:*

"3.8.1. The OBD system may erase a fault code and the distance travelled and freeze-frame information if the same fault is not re-registered in at least 40 engine warm-up cycles or ~~forty driving cycles with vehicle operation in which the criteria specified in sections 7.5.1.(a) – (c) of Annex 11, Appendix I are met.~~ **40 driving cycles with vehicle operation in which the following criteria (a) to (c) are satisfied:**

- (a) **Cumulative time since engine start is greater than or equal to 600 seconds;**
- (b) **Cumulative vehicle operation at or above 40 km/h occurs for greater than or equal to 300 seconds;**
- (c) **Continuous vehicle operation at idle (i.e. accelerator pedal released by driver and vehicle speed less than or equal to 1.6 km/h) for greater than or equal to 30 seconds."**

## II. Justification

### Definition to erase fault codes

The initial definition in the UN Regulation No. 83 to erase fault codes by counting engine warm-up cycles has been adapted to consider hybrid electric vehicles. As engine warm-up cycles might occur less frequently compared to conventional combustion engines, the engine warm-up cycle is not suitable for hybrid vehicles and therefore an alternative cycle was included by referencing to the general denominator. However, this updated definition (like paragraphs 7.5.1.(a)–(c)\* of Appendix I to Annex 11) to erase fault codes would not (or not sufficiently) allow fault code erasing in cold regions (below  $-7^{\circ}\text{C}$ ) and high altitude (above 2440m). Therefore, a further update is proposed to adapt the definition by deleting the two environmental conditions (ambient temperature  $< -7^{\circ}\text{C}$  and high altitude  $> 2440\text{m}$ ). Except for these two criteria, the conditions to erase a fault code are identical. This proposal would support an international harmonization of OBD regulations as well as geographical differences in all contracting parties.

*\*Appendix I to Annex 11*

*7.5.1. The general denominator is a counter measuring the number of times a vehicle has been operated. It shall be incremented within 10 seconds, if and only if, the following criteria are satisfied on a single driving cycle:*

*(a) Cumulative time since engine start is greater than or equal to 600 seconds while at an elevation of less than 2,440 m above sea level and at an ambient temperature of greater than or equal to  $-7^{\circ}\text{C}$ ;*

*(b) Cumulative vehicle operation at or above 40 km/h occurs for greater than or equal to 300 seconds while at an elevation of less than 2,440 m above sea level and at an ambient temperature of greater than or equal to  $-7^{\circ}\text{C}$ ;*

*(c) Continuous vehicle operation at idle (i.e. accelerator pedal released by driver and vehicle speed less than or equal to 1.6 km/h) for greater than or equal to 30 seconds while at an elevation of less than 2,440 m above sea level and at an ambient temperature of greater than or equal to  $-7^{\circ}\text{C}$ .*