

## **Proposal for Amendment 1 to UN Global Technical Regulation No. 20 (Electric Vehicle Safety)**

### **Submitted by the expert from the European Association of Automotive Suppliers**

The text reproduced below was prepared by the expert from CLEPA, the European Association of Automotive Suppliers, to synchronise with UN Regulation No. 100 (Electric power-train vehicles) the clarification on specific conditions concerning a clear interpretation of an AC voltage (rms). The modifications to the formal document are marked in bold for new and strikethrough for deleted characters.

### **I. Proposal**

*Add a second note to paragraph 3.42., to read:*

***"Note 2: For pulsating DC voltages (alternating voltages without change of polarity) the DC threshold shall be applied.***

### **II. Justifications**

1. The proposal aims to align GTR20 with UN Regulation No. 100 where the second note was already introduced.
2. The amendment proposal to UN Regulation No. 100 was discussed and adopted during the 69th session of GRSP. The discussions were supported by the following documents:
  - a. GRSP-69-03
  - b. GRSP-69-04
3. The proposal was adopted during the 185th session of WP.29 as a Supplement 1 to the 03 series of amendments to UN Regulation No. 100.
4. The voltages between “a DC Live part and an AC Live part” can be composite voltages means a ‘pure’ AC including a DC offset voltage. These voltages are alternating, but without a change of polarity. These pulsating/switched DC voltages can be miss-interpreted as an AC voltage.
5. The AC (rms) threshold has to be applied to the ‘pure’ AC voltage and the DC threshold to the DC voltages. Applying the AC (rms) threshold to a pulsating/switched DC voltage is inappropriate.
6. Pulsating DC voltages (sometimes also called ‘switched’ DC) are a special case of alternating voltages without change of polarity. For these voltages the DC threshold has to be applied (see also EVS-06-24).

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