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## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

#### 155<sup>th</sup> session

Geneva, 15–18 November 2011

Item 13.2 of the provisional agenda

**Consideration and vote by AC.3 of draft  
global technical regulation and/or draft**

**amendments to established global technical regulations**

### **Proposal for Corrigendum 1 to Amendment 1 to global technical regulation No. 4 (Worldwide harmonized Heavy Duty Certification procedure (WHDC))**

#### **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 sixty-second session to introduce a number of editorial corrections. It is based on ECE/TRANS/WP.29/GRPE/2011/9, not amended (ECE/TRANS/WP.29/GRPE/62, paras. 14-15). It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Executive Committee (AC.3) for consideration and vote.

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\* 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.

Paragraph 8.6.2., amend to read:

"8.6.2. Calculation of NMHC and CH<sub>4</sub>

The calculation of ...

...

The concentration of NMHC and CH<sub>4</sub> shall be calculated as follows for method (a):

$$c_{NMHC} = \frac{c_{HC(w/oNMC)} \times (1 - E_M) - c_{HC(w/NMC)}}{E_E - E_M} \quad (67)$$

$$c_{CH_4} = \frac{c_{HC(w/NMC)} - c_{HC(w/oNMC)} \times (1 - E_E)}{r_h \times (E_E - E_M)} \quad (68)$$

..."

Paragraph 9.5.5., amend to read:

"9.5.5. Total system verification

The total accuracy of the CVS sampling system and analytical system shall be determined by introducing a known mass of a pollutant gas into the system while it is being operated in the normal manner. The pollutant is analyzed, and the mass calculated according to paragraph 8.5.2.4. except in the case of propane where a *u* factor of 0.000507 is used in place of 0.000480 for HC. Either of the following two techniques shall be used."

Paragraph A.4.2., amend to read:

"A.4.2. Regression analysis

...

The standard error of estimate (*SEE*) shall be calculated as follows:

$$SEE = \sqrt{\frac{\sum_{i=1}^n [y_i - a_0 - (a_1 \times x_i)]^2}{n - 2}} \quad (96)$$

..."