

**Economic and Social Council**Distr.: General
25 March 2011Original: English
English and French only

Economic Commission for Europe

Inland Transport Committee

World Forum for Harmonization of Vehicle Regulations**Working Party on Pollution and Energy****Sixty-second session**

Geneva, 7–10 June 2011

Item 4(a) of the provisional agenda

**Heavy duty vehicles – Worldwide harmonized Heavy
Duty Certification procedure****Proposal for Corrigendum 1 to Amendment 1 to global
technical regulation No. 4****Submitted by the expert from the International Organization of Motor
Vehicle Manufacturers ***

The text reproduced below was prepared by the expert from the International Organization of Motor Vehicle Manufacturers (OICA) to insert a number of corrections to the text of global technical regulation (gtr) No. 4 on the Worldwide harmonized Heavy Duty Certification procedure (WHDC). This document is based on Informal document No. GRPE-61-04 distributed at the sixty-first session of the Working Party on Pollution and Energy (GRPE) (ECE/TRANS/WP.29/GRPE/61, para. 4). Modifications to the current text of the gtr are marked in bold for new or strikethrough for deleted characters.

* 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.

I. Proposal

Paragraph 8.6.2., amend to read:

"8.6.2. Calculation of NMHC and CH₄

The calculation of

.....

The concentration of NMHC and CH₄ shall be calculated as follows for method (a):

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

$$c_{CH4} = \frac{c_{HC(w/oNMC)} \times (1 - E_M) - c_{HC(w/NMC)}}{E_E - E_M} \quad (68)$$

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

$$c_{CH4} = \frac{c_{HC(w/NMC)} - c_{HC(w/oNMC)} \times (1 - E_E)}{r_h \times (E_E - E_M)} \quad (68)$$

....."

Paragraph 9.5.5., amend to read:

"9.5.5. Total system verification

The total accuracy of 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 0.000472 **0.000507** is used in place of 0.000480 for HC. Either of the following two techniques shall be used."

Annex 4, paragraph A.4.2, amend to read:

"A.4.2. Regression analysis

.....

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

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

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

....."

II. Justification

This proposal intends to insert a number of corrections into gtr No. 4. The corrections proposed in this document equally apply to the relevant sections of Annex 4B to Regulation No. 49 (Emissions of C.I. and P.I. (LPG and CNG) engines).
