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From:	Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director
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To:	Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of the European Union

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Subject:	ANNEX to the COMMISSION DELEGATED REGULATION (EU) .../.. amending Annexes I and II to Regulation (EU) No 510/2011 of the European Parliament and of the Council as regards the monitoring of CO ₂ emissions from new light commercial vehicles type-approved in a multi- stage process

Delegations will find attached document C(2019) 1710 final - Annex.

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ANNEX

ANNEX

to the

COMMISSION DELEGATED REGULATION (EU) .../..

**amending Annexes I and II to Regulation (EU) No 510/2011 of the European Parliament
and of the Council as regards the monitoring of CO₂ emissions from new light
commercial vehicles type-approved in a multi-stage process**

ANNEX

Annexes I and II to Regulation (EU) No 510/2011 are amended as follows:

- (1) In Annex I, in point 1(c), the following paragraph is added:

‘In the case of incomplete multi-stage vehicles referred to in point 1a of Part A of Annex II, the monitoring mass (M_{mon}) shall be used instead of the value M . The monitoring mass shall be calculated in accordance with the following formula:

$$M_{\text{mon}} = \text{MRO}_{\text{base}} \times B_0$$

Where,

MRO_{base} and B_0 are as defined in point 1a.1(a) of Part A of Annex II.’.

- (2) In Annex II, Part A is amended as follows:

(a) point 1.2 is deleted with effect from 1 January 2021;

(b) the following points 1a, 1a.1, 1b and 1c are inserted:

“1a. Specific emissions of CO₂ of multi-stage vehicles of category N₁ determined pursuant to Regulation (EU) 2017/1151

With effect from 1 September 2019, a manufacturer shall, for each incomplete base vehicle of category N₁ subject to multi-stage type-approval pursuant to Directive 2007/46/EC, determine and report to the Commission the specific emissions of CO₂ of that base vehicle, hereinafter ‘the monitoring CO₂ emissions’ in accordance with the methodology set out in point 1a.1.

The Commission shall use the monitoring CO₂ emissions of the incomplete base vehicle reported to it pursuant to the first paragraph to calculate the base vehicle manufacturer’s average specific emissions of CO₂ in the calendar year in which the completed multi-stage vehicle is registered, except where the conditions referred to in point 1b. are met.

For complete base vehicles, the CO₂ emissions and mass in running order of that vehicle shall be used for the purpose of the CO₂ monitoring.

1a.1 Calculation of the specific emissions of CO₂ of the incomplete base vehicle

The base vehicle manufacturer shall calculate the monitoring CO₂ value of an individual incomplete base vehicle in accordance with the interpolation method referred to in points 3.2.3.2 or 3.2.4 of Sub-Annex 7 to Annex XXI to Regulation (EU) 2017/1151 depending on the methodology applied for the base vehicle emissions type approval, where the terms shall be as defined in that point with the following exceptions:

- (a) Mass of the individual vehicle

The term ‘ TM_{ind} ’ referred to in points 3.2.3.2.2.1. or 3.2.4.1.1.1 of Sub-Annex 7 to Annex XXI to Regulation (EU) 2017/1151 shall be replaced by the base vehicle default mass, DM_{base} , or, where applicable, by the test mass of vehicle low, TM_{L} or test mass of vehicle high, TM_{H} .

DM_{base} shall be determined in accordance with the following formula:

$$DM_{\text{base}} = \text{MRO}_{\text{base}} \times B_0 + 25 \text{ kg} + M_{\text{VL}}$$

Where,

MRO_{base} is the mass in running order of the base vehicle as defined in point 3.2.5 of Annex XXI to Regulation (EU) 2017/1151

B_0 is the body mass value of 1.375

M_{VL} is the mass representative of the vehicle load, which means 28 per cent of the maximum vehicle load, where maximum vehicle load is defined as the technically permissible maximum laden mass minus the mass in running order of the base vehicle multiplied by B_0 , minus 25 kg.

The B_0 figure is calculated as the weighted average of the ratio between the sum of the mass in running order of the incomplete base vehicles for all multi-stage vehicles registered in the calendar year and the default added mass calculated in accordance with Section 5 of Annex XII to Regulation (EC) No 692/2008, and the mass in running order of the base vehicles for all multi-stage vehicles registered in calendar years 2015, 2016, and 2017.

The figure B_0 shall be adjusted by 31 October 2021 on the basis of the relevant mass values of multi-stage vehicles registered in calendar years 2018, 2019, and 2020 calculated in accordance with the following formulae:

Formula 1:

$$A_y = \frac{\sum_{i=1}^n Mf_i}{\sum_{i=1}^n Mb_i}$$

Where,

A_y is the weighted average of the ratio between M_{fi} and M_{bi}

M_{fi} is the mass in running order of the base vehicle increased by the default added mass as defined in Section 5 of Annex XII to Regulation (EC) No 692/2008.

M_{bi} is the mass in running order of the base vehicle

n is the number of base vehicles for all multi-stage vehicles registered in the calendar year

Formula 2:

$$B_0 = \frac{\sum_{i=2018}^{2020} A_i n_i}{\sum_{i=2018}^{2020} n_i}$$

Where,

A_i is the weighted average as calculated in Formula 1

n_i is the number of base vehicles for all multi-stage vehicles registered in a calendar year

Where the base vehicle default mass DM_{base} is lower than the test mass of vehicle low, TM_L , of the interpolation family, TM_{ind} shall be replaced by TM_L .

Where the base vehicle default mass DM_{base} is higher than the test mass of vehicle high, TM_H , of the interpolation family, TM_{ind} shall be replaced by TM_H .

(b) Rolling resistance of the individual vehicle

The rolling resistance of the base vehicle shall be used for the purposes of point 3.2.3.2.2.2. or 3.2.4.1.1.2 of Sub-Annex 7 to Annex XXI to Regulation (EU) 2017/1151.

(c) Frontal area

In the case of an incomplete base vehicle that belongs to a road load matrix family, the manufacturer shall determine the term ‘Af’ referred to in point 3.2.3.2.2.3. of Sub-Annex 7 to Annex XXI to Regulation (EU) 2017/1151 in accordance with one of the following options:

- (i) frontal area of the representative vehicle of the road load matrix family, in m^2 ;
- (ii) the mean value of the frontal area of vehicle high and vehicle low of the interpolation family, in m^2 ;
- (iii) the frontal area of the vehicle high of the interpolation family, in case the interpolation method is not used, in m^2 .

In the case of an incomplete base vehicle that does not belong to a road load matrix family, the frontal area value of vehicle high of the interpolation family shall be used.

1b. Representativeness of the monitoring CO₂ value

The Commission shall each year, starting from calendar year 2020, assess the representativeness of the average monitoring CO₂ values reported by the base vehicle manufacturer as compared to the average of the specific emissions of CO₂ of the completed vehicles registered in the relevant calendar year and shall inform the manufacturer of the base vehicle thereof.

Where that assessment demonstrates a divergence by 4 % or more between the average of the specific emissions of CO₂ of all the completed vehicles and the average of the monitoring CO₂ emissions of all the related base vehicles of a manufacturer during each of two successive calendar years, the Commission shall use the average of the specific emissions of CO₂ of the completed vehicles in the following calendar year to calculate the average specific emissions of CO₂ of the base vehicle manufacturer or the pool in that year. In case of continued divergences, that calculation shall be repeated every three years.

1c. Data reporting by manufacturers of base vehicles

Manufacturers of base vehicles shall, for each incomplete or complete base vehicle submitted to multi-stage approval and sold by them in the preceding

calendar year in the Union, report to the Commission by 28 February each year the following data:

- (a) vehicle identification number;
- (b) interpolation family identifier;
- (c) specific emissions of CO₂ of the base vehicle;
- (d) frontal area (specify the applicable option);
- (e) rolling resistance of the base vehicle;
- (f) monitoring mass;
- (g) mass in running order of the base vehicle;
- (h) mass representative of the vehicle load as defined in point 1a.1 of this Annex.

- (c) point 2 is replaced by the following:

‘The details referred to in point 1 shall be taken from the certificate of conformity or be consistent with the certificate of conformity issued by the manufacturer of the relevant light commercial vehicle. The other details shall be taken from the type approval documentation or from the information reported by the base vehicle manufacturer pursuant to point 1c. Member States shall put the necessary measures in place to ensure adequate accuracy in the monitoring procedure. Where the certificate of conformity specifies both a minimum and a maximum mass for a light commercial vehicle, the Member States shall use only the maximum figure for the purpose of this Regulation. In the case of bi-fuelled vehicles (petrol/gas) the certificates of conformity of which bear specific CO₂ emission figures for both types of fuel, Member States shall use only the figure measured for gas.’