COMMISSION IMPLEMENTING REGULATION (EU) 2018/1002

of 16 July 2018

amending Implementing Regulation (EU) 2017/1153 to clarify and simplify the correlation procedure and to adapt it to changes to Regulation (EU) 2017/1151

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO_2 emissions from light duty vehicles (¹), and in particular the first subparagraph of Article 13(7) thereof,

Whereas:

(1) Based on the experience gained from the implementation of Commission Regulation (EU) 2017/1151 (²) and Commission Implementing Regulation (EU) 2017/1153 (³), it has become evident that certain elements of the latter Regulation should be amended.

(2) It is necessary to complement the existing method for defining the end-points of the interpolation line used for calculating the NEDC CO_2 emission value of an individual vehicle. Those end-points, which are represented by a test vehicle with the highest CO_2 emission values, and test vehicle with the lowest values, should be defined so that the difference between the two test vehicles high and low is equal to or higher than 5 g CO_2/km.

(3) In order to avoid that the CO_2 emission values of individual vehicles are determined on the basis of interpolation lines that do not provide the minimum difference, it is appropriate that this amendment enters into force without delay.

(4) Where for the purpose of type approval under Regulation (EU) 2017/1151, road load matrix families are used, the calculation of the CO_2 emission value of an individual vehicle belonging to such a family should be simplified by deriving the road load coefficients to be used for the calculation of the NEDC CO_2 value from the road load coefficients of the individual vehicle as determined under Regulation (EU) 2017/1151.

(5) In order to ensure a robust correlation output, it is appropriate to add the number of cylinders as an input to be provided for the correlation tool.

(6) The opportunity should also be taken to correct some editorial errors in the text.

(7) The measures provided for in this Regulation are in accordance with the opinion of the Climate Change Committee,

HAS ADOPTED THIS REGULATION:

Article 1

Annex I to Implementing Regulation (EU) 2017/1153 is amended in accordance with the Annex to this Regulation

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(¹) OJ L 140, 5.6.2009, p. 1.
(²) Commission Regulation (EU) 2017/1151 of 1 June 2017 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Regulation (EC) No 692/2008 (OJ L 175, 7.7.2017, p. 1).
(³) Commission Implementing Regulation (EU) 2017/1153 of 2 June 2017 setting out a methodology for determining the correlation parameters necessary for reflecting the change in the regulatory test procedure (OJ L 175, 7.7.2017, p. 679).

Article 2

This Regulation shall enter into force on the seventh day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 16 July 2018.

For the Commission
The President
Jean-Claude JUNCKER

ANNEX

Annex I is amended as follows:

(1) the third paragraph of point 2.3.1. is replaced by the following:

'MRO is the mass in running order as defined in Article 3(1)(d) of Regulation (EC) No 443/2009 for vehicles H, L and R respectively.';

(2) point 2.3.8.1. is replaced by the following:

'2.3.8.1. In the case of WLTP road loads being determined in accordance with paragraphs 1-4 and 6 of Sub-Annex 4 to Annex XXI to Regulation (EU) 2017/1151

The NEDC road load coefficients shall be calculated in accordance with the formulae specified in point 2.3.8.1.1. (for vehicle H) and in point 2.3.8.1.2. (for vehicle L) and with the following points (a) and (b).

Unless otherwise specified the formulae shall apply both in the case of simulations and in the case of physical vehicle tests.

The type approval authority or, where applicable, the technical service shall verify if the wind-tunnel facility referred to in paragraph 3.2.3.2.2.3. in Sub-Annex 7 to Annex XXI to Regulation (EU) 2017/1151 is qualified to accurately determine the $\Delta(Cd \times Af)$ values. If the wind-tunnel facility is not qualified, the highest aerodynamic drag value shall apply for all vehicles in the family.

(a) The WLTP road load coefficients and test mass values referred to in the formulae set out in points 2.3.8.1.1. and 2.3.8.1.2. shall be those resulting from vehicle H and L as determined for the interpolation family in accordance with paragraph 5 of Sub-Annex 7 to Annex XXI to Regulation (EU) 2017/1151.

(b) Notwithstanding point (a), where the cycle energy demand of the WLTP vehicle H and/or L does not result in the highest, or respectively, the lowest cycle energy demand for the NEDC vehicle H and/or L, the NEDC road load coefficients shall be determined in accordance with either of the following:

(i) on the basis of the individual vehicle in the interpolation family with the highest, or respectively, the lowest NEDC cycle energy demand;

(ii) on the basis of the combination of the highest, or respectively, the lowest of each of the road load relevant characteristics, i.e. aerodynamic drag, rolling resistance and mass, taken from any individual vehicle in the interpolation family.

The choice of the procedure set out in points (i) or (ii) shall be made by the manufacturer.

Point (b) shall apply for new emissions type approvals granted from 1 January 2019, or from an earlier date at the manufacturer's request.';

(3) in point 2.3.8.1.1. the following is inserted as the first paragraph:

'Where this calculation procedure is used for an individual vehicle in accordance with point 4.2.1.4.2., the WLTP road loads and test mass corresponding to the NEDC individual vehicle shall be used with the influence of the optional equipment removed.';

(4) the final paragraph of point 2.3.8.1.1.(c) is replaced by the following:

'Where the factor $F^*_{2w,H}$ is the road load coefficient F_2 determined for the WLTP test of vehicle H from which the effect of all optional equipment has been removed.';

(5) the final paragraph of point 2.3.8.1.2.(c) is replaced by the following:

'Where the factor $F^*_{2w,L}$ is the road load coefficient F_2 determined for the WLTP test of vehicle L from which the effect of all optional equipment has been removed.';

(6) point 2.3.8.2.1 (b) is replaced by the following:

'(b) NEDC road load coefficients where the NEDC tabulated values are not used

In the case of vehicles designed for a technically permissible maximum laden mass equal to or exceeding 3 000 kg, the NEDC road load coefficients may, at the request of the manufacturer, be determined in accordance with point 2.3.8.1.';

(7) the following point 2.3.8.3. is added:

'2.3.8.3. Extensions of emissions approvals granted pursuant to Regulation (EU) 2017/1151

Where an emission approval pursuant to Regulation (EU) 2017/1151 is extended due to the addition of new vehicles to the CO_2 interpolation family with NEDC CO_2 emissions higher than those of vehicle H or lower than those of vehicle L, the following shall apply for the purpose of the correlation:

(a) Where the difference between NEDC vehicle H and L of the interpolation family concerned is equal to or higher than 5g CO_2/km, the NEDC interpolation line determined for that family can be extended, provided that the NEDC CO_2 emissions, determined pursuant to point 3 of this Annex on the basis of input data taken from the WLTP test referred to in point 3.1.1. of Annex I to Regulation (EU) 2017/1151, are equal to or below the CO_2 emissions determined on the basis of the NEDC interpolation line;

(b) Where the difference between NEDC vehicle H and L is lower than 5g CO_2/km, the interpolation line may not be extended.

In the case (a), the reference CO_2 emissions shall be determined without the selection referred to in points 3.1.1.2 and 3.2.6 of this Annex.

In the case (b), or in the case the reference CO_2 emissions referred to in point (a) are higher than the existing interpolation line, the NEDC vehicle H and L shall be determined in accordance with points 2 and 3 of this Annex.

Point (a) shall apply with regard to extensions to new types granted from 1 January 2019, or from an earlier date at the manufacturer's request.';

(8) Table 1 of point 2.4 is amended as follows:

(a) in entry 66 the text of the first column is replaced by the following:

'Interpolation family identification number'

(b) the following entry 68 is added:

| '68 | Number of cylinders | — | Manufacturer declaration | *Number (To be provided at the latest from 1 January 2019)*' |

(9) in point 3.1.1.1.(c) the point (i) is replaced by the following:

'(i) the interpolation family identification number'

(10) point 3.3.4 shall be deleted;

(11) point 4.2.1.4. is replaced by the following:

'4.2.1.4. Calculation of the road load for an individual vehicle in a WLTP interpolation family

4.2.1.4.1. Road load coefficients derived from NEDC vehicle H and L

The road load coefficients $F_{0,n}$, $F_{1,n}$ and $F_{2,n}$ for vehicles H and L determined in accordance with point 2.3.8. are referred to as $F_{0n,H}$, $F_{1n,H}$ and $F_{2n,H}$ and $F_{0n,L}$, $F_{1n,L}$ and $F_{2n,L}$ respectively.

The road load coefficients $f_{0n,ind}$, $f_{1n,ind}$ and $f_{2n,ind}$ for an individual vehicle shall be calculated in accordance with the following formula:

Formula 1(a)

$$f_{0n,ind} = F_{0n,H} - \Delta F_{0n} \cdot \frac{(TM_{n,H} \cdot RR_{n,H} - TM_{n,ind} \cdot RR_{n,ind})}{(TM_{n,H} \cdot RR_{n,H} - TM_{n,L} \cdot RR_{n,L})}$$

For new emission type approvals granted from 1 January 2019, or prior to that date, on the manufacturer's request, the road load coefficients shall be calculated in accordance with the following formula:

Formula 1(b)

$$f_{0n,ind} = F_{0n,H} - \Delta F_{0n} \cdot \frac{(RM_{n,H} \cdot RR_{n,H} - RM_{n,ind} \cdot RR_{n,ind})}{(RM_{n,H} \cdot RR_{n,H} - RM_{n,L} \cdot RR_{n,L})}$$

Or, if $(TM_{n,H} \cdot RR_{n,H} - TM_{n,L} \cdot RR_{n,L}) = 0$, or, where applicable, $(RM_{n,H} \cdot RR_{n,H} - RM_{n,L} \cdot RR_{n,L}) = 0$, Formula 2 shall apply:

Formula 2

$$f_{0n,ind} = F_{0n,H} - \Delta F_{0n}$$

$$f_{1n,ind} = F_{1n,H}$$

$$f_{2n,ind} = F_{2n,H} - \Delta F_{2n} \cdot \frac{(\Delta[C_d \times A_f]_{LH,n} - \Delta[C_d \times A_f]_{ind,n})}{(\Delta[C_d \times A_f]_{LH,n})}$$

or, if $\Delta[C_d \times A_f]_{LH,n} = 0$, Formula 3 shall apply:

Formula 3

$$f_{2n,ind} = F_{2n,H} - \Delta F_{2n}$$

where:

$$\Delta F_{0,n} = F_{0n,H} - F_{0n,L}$$

$$\Delta F_{2,n} = F_{2n,H} - F_{2n,L}$$

4.2.1.4.2.　Road load coefficients derived from WLTP road load coefficients of individual vehicles

From 1 January 2019 for new type approvals and from 1 January 2020 for all new vehicles entering into service, or prior to those dates at the request of the manufacturer, the NEDC road loads for an individual vehicle shall be derived from the WLTP road load coefficients of that vehicle in any of the following cases:

(a) if the CO_2 emission value, the cycle energy demand, or any of the road load coefficients f_0, f_1 or f_2 calculated in accordance with point 4.2.1.4.1., is to be extrapolated from NEDC vehicle H or L;

(b) if the road load coefficients for NEDC vehicle H and L are derived from different road load families;

(c) if the individual vehicle belongs to a road load family different to the road load family of NEDC vehicle H and/or L;

(d) if the individual vehicle belongs to a road load matrix family.

The NEDC road load coefficients shall, in the cases (a) to (d), be calculated using the formulae set out in point 2.3.8.1.1., where references to vehicle H shall be considered as references to the individual vehicle.

In the case (a), CO_2 extrapolation may only be performed, if the difference between the NEDC vehicle H and L is equal to or higher than 5g CO_2/km. The interpolation line may in that case be extrapolated by a maximum of 3g CO_2/km above the CO_2 emissions of vehicle H, or below the CO_2 emissions of vehicle L. If the extrapolation exceeds 3g CO_2/km, or the difference between NEDC vehicle H and L is less than 5g CO_2/km, the manufacturer shall determine a new interpolation line for that interpolation family in accordance with point 2 and 3 of this Annex.';

(12) point 4.2.1.4a. is deleted.