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Delegations will find attached document [...](2022) XXX draft - D 082562/3 - ANNEXES IV to XV.

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ANNEXES 4 to 15

ANNEXES

to the

Commission Regulation

**amending Commission Regulation (EU) 2017/1151 as regards the emission type
approval procedures for light passenger and commercial vehicles**

ANNEX IV

In Annex V to Regulation (EU) 2017/1151, point 2.3 is replaced by the following:

‘2.3. The road load coefficients to be used shall be those for vehicle low (VL). If VL does not exist, then the VH road load shall be used. In that case VH is defined in accordance with point 4.2.1.1.1 of Annex B4 to UN Regulation No 154. In case the interpolation method is used VL and VH are specified in point 4.2.1.1.2 of Annex B4 to UN Regulation No 154. Alternatively, the manufacturer may choose to use road loads that have been determined in accordance with the provisions of Appendix 7a or Appendix 7b to Annex 4a of UN/ECE Regulation No 83 for a vehicle included in the interpolation family.’

ANNEX V

Annex VI to Regulation (EU) 2017/1151 is amended as follows:

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

‘2. General requirements

The general requirements for conducting the type 4 test shall be those set out in paragraph 6.6. of UN Regulation No. 154. The limit value shall be that specified in Table 3 of Annex I to Regulation (EC) 715/2007.’;

- (2) point 3. is replaced by the following:

‘3. Technical requirements

The technical requirements for conducting the type 4 test shall be those set out in Annex C3 of UN Regulation No. 154.’;

- (3) points 4, 5 and 6 are deleted;

- (4) Appendix 1 is deleted.

ANNEX VI

Annex VII to Regulation (EU) 2017/1151 is amended as follows:

- (1) point 1.1. is replaced by the following:
‘1.1. This Annex describes the tests for verifying the durability of pollution control devices, as described in Annex C4 of UN Regulation No 154.’;
- (2) point 2.1. is replaced by the following:
‘2.1. The general requirements for conducting the type 5 test shall be those set out in Section 6.7. of UN Regulation No. 154.’;
- (3) points 2.2., 2.3. and 2.4. are deleted;
- (4) point 3. is replaced by the following:
‘3. The technical requirements for conducting the type 5 test shall be those set out in Annex C4 of UN Regulation No 154.’.

ANNEX VII

Annex VIII to Regulation (EU) 2017/1151 is amended as follows:

- (1) Point 2.1 is replaced by the following:
‘2.1. The general requirements for the Type 6 test are those set out in section 5.3.5 of UN/ECE Regulation No 83 with the exception specified in points 2.2 and 2.3 below.’;
- (2) Point 2.3 is added:
‘2.3. Paragraph 5.3.5.1 of UN/ECE Regulation No 83 shall be replaced by ‘5.3.5.1. This test shall be carried out on all vehicles referred to in paragraph 1, except those having compression-ignition engines.’’;
- (3) Point 3.3. is replaced by the following:
‘3.3. The road load coefficients to be used shall be those for vehicle low (VL). If VL does not exist then the vehicle high (VH) road load shall be used. In that case VH shall be specified in accordance with paragraph 4.2.1.1.1 of Annex B4 to UN Regulation No 154. In case the interpolation method is used VL and VH shall be specified in accordance with paragraph 4.2.1.1.2 of Annex B4 to UN Regulation No 154. The dynamometer shall be adjusted to simulate the operation of a vehicle on the road at -7°C . Such adjustment may be based on a determination of the road load force profile at -7°C . Alternatively, the driving resistance determined may be adjusted for a 10 % decrease of the coast-down time. The technical service may approve the use of other methods for determining the driving resistance.’.

ANNEX VIII

In Annex IX to Regulation (EU) 2017/1151, Part A is replaced by the following:

‘

A. REFERENCE FUELS

The specification for the reference fuels to be used shall be those set out in Annex B3 of UN Regulation No 154.‘

ANNEX IX

ANNEX XI

ON-BOARD DIAGNOSTICS (OBD) FOR MOTOR VEHICLES

1. Introduction

1.1. This Annex sets out the functional aspects of on-board diagnostic (OBD) systems for the control of emissions from motor vehicles.

2. General requirements

The requirements for OBD systems set out in paragraph 6.8. of UN Regulation No 154 shall apply for the purposes of this Annex.

3. Administrative provisions for deficiencies of OBD systems

3.1. The administrative provisions for deficiencies of OBD systems as set out in Article 6(2) shall be those specified in Section 4 of Annex C5 to UN Regulation No 154 with the following exceptions.

3.2. Reference to ‘OBD thresholds’ in paragraph 4.2.2. of Annex C5 to UN Regulation No 154 shall be understood as being reference to the OBD thresholds in Table 4A of paragraph 6.8.2. of UN Regulation No 154.

3.3. The second sub-paragraph of paragraph 4.6 of Annex C5 to UN Regulation No 154 shall be understood as being as follows:

‘The type-approval authority shall notify its decision in granting a deficiency request in accordance with Article 6(2).’

4. Technical requirements

The definitions, requirements and tests for OBD systems set out in paragraph 3.10, 4, 5.10, 6.8 and Annex C5 to UN Regulation No 154 shall apply for the purposes of this Annex. The in-use performance requirements are specified in Appendix 1.

Appendix 1

IN-USE PERFORMANCE

1.1. General Requirements

The technical requirements and specifications shall be those set out in Appendix 1 to Annex 11 to UN/ECE Regulation No 83 with the exceptions and additional requirements as described in points 1.1.1 to 1.1.6.

1.1.1. The requirements of paragraph 7.1.5. of Appendix 1 to Annex 11 to UN/ECE Regulation No 83 shall be understood as being as follows.

For new type approvals and new vehicles the monitor required by paragraph 3.3.4.7. of Annex 11 to UN/ECE Regulation No 83 shall have an IUPR greater or equal to 0,1 until three years after the dates specified in Article 10(4) and (5) of Regulation (EC) No 715/2007 respectively.

1.1.2. The requirements of paragraph 7.1.7. of Appendix 1 to Annex 11 to UN/ECE Regulation No 83 shall be understood as being as follows.

The manufacturer shall demonstrate to the approval authority and, upon request, to the Commission that these statistical conditions are satisfied for all monitors required to be reported by the OBD system in accordance with paragraph 7.6. of Appendix 1 to Annex 11 to Regulation No 83 not later than 18 months after the entry onto the market of the first vehicle

type with IUPR in an OBD family and every 18 months thereafter. For this purpose, for OBD families consisting of more than 1000 registrations in the Union, that are subject to sampling within the sampling period, the process described in Annex II shall be used without prejudice to the provisions of paragraph 7.1.9. of Appendix 1 to Annex 11 to Regulation No 83.

In addition to the requirements set out in Annex II and regardless of the result of the audit described in Section 2 of Annex II, the authority granting the approval shall apply the in-service conformity check for IUPR described in Appendix 1 to Annex II in an appropriate number of randomly determined cases. 'In an appropriate number of randomly determined cases' means, that this measure has a dissuasive effect on non-compliance with the requirements of Section 3 of this Annex or the provision of manipulated, false or non-representative data for the audit. If no special circumstances apply and can be demonstrated by the type-approval authorities, random application of the in-service conformity check to 5 % of the type approved OBD families shall be considered as sufficient for compliance with this requirement. For this purpose, type-approval authorities may find arrangements with the manufacturer for the reduction of double testing of a given OBD family as long as these arrangements do not harm the dissuasive effect of the type-approval authority's own in-service conformity check on non-compliance with the requirements of Section 3 of this Annex. Data collected by Member States during surveillance testing programmes may be used for in-service conformity checks. Upon request, type-approval authorities shall provide data on the audits and random in-service conformity checks performed, including the methodology used for identifying those cases, which are made subject to the random in-service conformity check, to the Commission and other type-approval authorities.

1.1.3. Non-compliance with the requirements of paragraph 7.1.6. of Appendix 1 to Annex 11 to Regulation No 83 established by tests described in point 1.1.2 of this Appendix or paragraph 7.1.9 of Appendix 1 to Annex 11 to Regulation No 83 shall be considered as an infringement subject to the penalties set out in Article 13 of Regulation (EC) No 715/2007. This reference does not limit the application of such penalties to other infringements of other provisions of Regulation (EC) No 715/2007 or this Regulation, which do not explicitly refer to Article 13 of Regulation (EC) No 715/2007.

1.1.4. Paragraph 7.6.1. of Appendix 1 to Annex 11 of UN/ECE Regulation No 83 shall be replaced with the following:

'7.6.1. The OBD system shall report, in accordance with the standard listed in paragraph 6.5.3.2.(a) of Annex C5 to UN Regulation No 154, the ignition cycle counter and general denominator as well as separate numerators and denominators for the following monitors, if their presence on the vehicle is required by this Annex:

- (a) Catalysts (each bank to be reported separately);
- (b) Oxygen/exhaust gas sensors, including secondary oxygen sensors
(each sensor to be reported separately);
- (c) Evaporative system;
- (d) EGR system;
- (e) VVT system;
- (f) Secondary air system;
- (g) Particulate trap/filter;
- (h) NO_x after-treatment system (e.g. NO_x absorber, NO_x reagent/catalyst system);
- (i) Boost pressure control system.'

1.1.5. Paragraph 7.6.2. of Appendix 1 to Annex 11 of UN/ECE Regulation No 83 shall be understood as follows:

‘7.6.2. For specific components or systems that have multiple monitors, which are required to be reported by this point (e.g. oxygen sensor bank 1 may have multiple monitors for sensor response or other sensor characteristics), the OBD system shall separately track numerators and denominators for each of the specific monitors and report only the corresponding numerator and denominator for the specific monitor that has the lowest numerical ratio. If two or more specific monitors have identical ratios, the corresponding numerator and denominator for the specific monitor that has the highest denominator shall be reported for the specific component.’

1.1.6. In addition to the requirements of paragraph 7.6.2. of Appendix 1 to Annex 11 of UN/ECE Regulation No 83 the following shall apply:

‘Numerators and denominators for specific monitors of components or systems, that are monitoring continuously for short circuit or open circuit failures are exempted from reporting.

‘Continuously,’ if used in this context means monitoring is always enabled and sampling of the signal used for monitoring occurs at a rate no less than two samples per second and the presence or the absence of the failure relevant to that monitor has to be concluded within 15 seconds.

If for control purposes, a computer input component is sampled less frequently, the signal of the component may instead be evaluated each time sampling occurs.

It is not required to activate an output component/system for the sole purpose of monitoring that output component/system.’

ANNEX X

In Annex XII to Regulation (EU) 2017/1151, point 2 is replaced by the following:

‘2. DETERMINATION OF CO₂ EMISSIONS AND FUEL CONSUMPTION FROM VEHICLES SUBMITTED TO MULTI-STAGE TYPE-APPROVAL OR INDIVIDUAL VEHICLE APPROVAL

2.1 For the purpose of determining the CO₂ emissions and fuel consumption of a vehicle submitted to multi-stage type-approval, as defined in Article 3(8) of Regulation (EU) 2018/858, the procedures of Annex XXI apply. However, at the choice of the manufacturer and irrespective of the technically permissible maximum laden mass, the alternative described in paragraphs 2.2. to 2.6. may be used where the base vehicle is incomplete.

2.2. A road load matrix family, as defined in paragraph 6.3.4. of UN Regulation No 154, shall be established based on the parameters of a representative multi-stage vehicle in accordance with paragraph 4.2.1.4. of Annex B4 to UN Regulation No 154.

2.3. The manufacturer of the base vehicle shall calculate the road load coefficients of vehicle HM and LM of a road load matrix family as set out in paragraph 5. of Annex B4 to UN Regulation No 154 and shall determine the CO₂ emission and fuel consumption in a Type 1 test of both vehicles. The manufacturer of the base vehicle shall make available a calculation tool to establish, on the basis of the parameters of completed vehicles, the final fuel consumption and CO₂ values as specified in Annex B7 to UN Regulation No 154.

2.4. The calculation of road load and running resistance for an individual multi stage vehicle shall be performed in accordance with paragraph 5.1. of Annex B4 to UN Regulation No 154.

2.5. The final fuel consumption and CO₂ values shall be calculated by the final-stage manufacturer on the basis of the parameters of the completed vehicle as specified in paragraph 3.2.4. of Annex B7 to UN Regulation No 154 and using the tool supplied by the manufacturer of the base vehicle.

2.6. The manufacturer of the completed vehicle shall include, in the certificate of conformity, the information of the completed vehicles and add the information of the base vehicles in accordance with Commission Implementing Regulation (EU) 2020/683.

2.7. In the case of multi stage vehicles submitted to individual vehicle approval, the individual approval certificate shall include the following information:

- (a) the CO₂ emissions measured in accordance with the methodology set out in points 2.1 to 2.6.;
- (b) the mass of the completed vehicle in running order;
- (c) the identification code corresponding to the type, variant and version of the base vehicle;
- (d) the type-approval number of the base vehicle, including the extension number;
- (e) the name and address of the manufacturer of the base vehicle;
- (f) the mass of the base vehicle in running order.

2.8. In the case of multi stage type approvals or individual vehicle approval where the base vehicle is a complete vehicle with a valid certificate of conformity, the final stage manufacturer shall consult the base vehicle manufacturer to set the new CO₂ value in accordance with the CO₂ interpolation using the appropriate data from the completed vehicle or calculate the new CO₂ value on the basis of the parameters of the completed vehicle as

specified in paragraph 3.2.4. of Annex B7 to UN Regulation No 154 and using the tool supplied by the manufacturer of the base vehicle as mentioned in point 2.3. If the tool is not available or the CO₂ interpolation is not possible, the CO₂ value of Vehicle High from the base vehicle shall be used with the agreement of the type-approval authority.’.

ANNEX XI

Annex XIII to Regulation (EU) 2017/1151 is amended as follows:

- (1) point 3.2 is replaced by the following:

‘3.2. This mark shall consist of a rectangle surrounding the lower-case letter ‘e’ followed by the distinguishing number of the Member State which has granted the EC type-approval in accordance with the numbering system set out in Commission Implementing Regulation (EU) 2020/683.

The EC type- approval mark shall also include in the vicinity of the rectangle the ‘base approval number’ contained in section 4 of the type-approval number referred to in Annex IV of Commission Implementing Regulation (EU) 2020/683, preceded by the two figures indicating the sequence number assigned to the latest major technical amendment to Regulation (EC) No 715/2007 or this Regulation on the date EC type-approval for a separate technical unit was granted. For this Regulation, the sequence number is 00.’;

- (2) point 4 is replaced by the following:

‘4. TECHNICAL REQUIREMENTS

4.1. The requirements for the type-approval of replacement pollution control devices shall be those of Section 5 of UN/ECE Regulation No 103¹ with the exceptions set out in sections 4.1.1 to 4.1.5.

4.1.1. Reference to the ‘test cycle’ in Section 5 of UN/ECE Regulation No 103 shall be understood as being the same Type I / Type 1 test and Type I / Type 1 test cycle as used for the original type approval of the vehicle.

4.1.2. The terms ‘catalytic converter’ and ‘converter’ used in section 5 of UN/ECE Regulation No 103 shall be understood to mean ‘pollution control device’

4.1.3. The regulated pollutants referred to throughout section 5.2.3 of UN/ECE Regulation No 103 shall be replaced by all the pollutants specified in Annex 1, Table 2 of Regulation (EC) No 715/2007 for replacement pollution control devices intended to be fitted to vehicles type approved to Regulation (EC) No 715/2007.

4.1.4. For replacement pollution control devices intended to be fitted to vehicles type approved to Regulation (EC) No 715/2007, the durability requirements and associated deterioration factors specified in section 5 of UN/ECE Regulation No 103, shall refer to those specified in Annex VII of this Regulation.

4.2. For vehicles with positive-ignition engines, if the NMHC emissions measured during the demonstration test of a new original equipment catalytic converter, under paragraph 5.2.1 of UN/ECE Regulation No 103, are higher than the values measured during the type-approval of the vehicle, the difference shall be added to the OBD thresholds. The OBD thresholds are specified in Table 4A of UN Regulation No 154.

4.3. The revised OBD thresholds will apply during the tests of OBD compatibility set out in paragraphs 5.5 to 5.5.5 of UN/ECE Regulation No 103. In particular, when the exceedance allowed in paragraph 1 of Appendix 1 to Annex C5 to UN Regulation No 154 is applied.

4.4. Requirements for replacement periodically regenerating systems

4.4.1. Requirements regarding emissions

4.4.1.1. The vehicle(s) indicated in Article 11(3), equipped with a replacement periodically regenerating system of the type for which approval is requested, shall be subject to the tests described in Appendix 1 to Annex B6 to UN Regulation No 154, in order to compare its performance with the same vehicle equipped with the original periodically regenerating system.

4.4.1.2. Reference to the 'Type I test' and 'Type I test cycle' in Appendix 1 to Annex B6 to UN Regulation No 154 and the 'test cycle' in Section 5 of UN/ECE Regulation No 103 shall be understood as being the same Type I / Type 1 test and Type I / Type 1 test cycle as used for the original type approval of the vehicle.

4.4.2. Determination of the basis for comparison

4.4.2.1. The vehicle shall be fitted with a new original periodically regenerating system. The emissions performance of this system shall be determined following the test procedure set out in Appendix 1 to Annex B6 to UN Regulation No 154.

4.4.2.1.1. Reference to the 'Type I test' and 'Type I test cycle' in Appendix 1 to Annex B6 to UN Regulation No 154 and the 'test cycle' in Section 5 of UN/ECE Regulation No 103 shall be understood as being the same Type I / Type 1 test and Type I / Type 1 test cycle as used for the original type approval of the vehicle.

4.4.2.2. Upon request of the applicant for the approval of the replacement component, the approval authority shall make available on a non-discriminatory basis, the information referred to in point 3.2.12.2.10.2. of the information document contained in Appendix 3 to Annex I to this Regulation for each vehicle tested.

4.4.3. Exhaust gas test with a replacement periodically regeneration system

4.4.3.1. The original equipment periodically regenerating system of the test vehicle(s) shall be replaced by the replacement periodically regenerating system. The emissions performance of this system shall be determined following the test procedure set out in Appendix 1 to Annex B6 to UN Regulation No 154.

4.4.3.1.1. Reference to the 'Type I test' and 'Type I test cycle' in Appendix 1 to Annex B6 to UN Regulation No 154 and the 'test cycle' in Section 5 of UN/ECE Regulation No 103 shall be understood as being the same Type I / Type 1 test and Type I / Type 1 test cycle as used for the original type approval of the vehicle.

4.4.3.2. To determine the D-factor of the replacement periodically regenerating system, any of the engine test bench methods referred to in Appendix 1 to Annex B6 to UN Regulation No 154 may be used.

4.4.4. Other requirements

The requirements provided in paragraphs 5.2.3, 5.3, 5.4 and 5.5 of UN/ECE Regulation No 103 shall apply to replacement periodically regenerating systems. In these paragraphs the words 'catalytic converter' shall be understood to mean 'periodically regenerating system'. The

exceptions provided in the paragraphs in section 4.1 of this Annex shall also apply to periodically regenerating systems.’.

ANNEX XII

ANNEX XVI

REQUIREMENTS FOR VEHICLES THAT USE A REAGENT FOR THE EXHAUST AFTER-TREATMENT SYSTEM

1. Introduction

This Annex sets out the requirements for vehicles that rely on the use of a reagent for the after-treatment system in order to reduce emissions.

2. General requirements

The general requirements for vehicles that use a reagent for the exhaust after-treatment system shall be those set out in paragraph 6.9. of UN Regulation No 154.

3. Technical requirements

The technical requirements for vehicles that use a reagent for the exhaust after-treatment system shall be those set out in Appendix 6 to UN Regulation No 154.

3.1. The reference to Annex A1 in paragraph 4.1. of Appendix 6 to UN Regulation No 154 shall be understood as reference to Appendix 3 of Annex I to this Regulation.’.

ANNEX XIII

Annex XX to Regulation (EU) 2017/1151 is amended as follows:

(1) Footnote 1 is replaced by the following: ‘OJ L 323, 7.11.2014, p. 52.’.

(2) The following sentence is added to point 1:

‘The latter in case of electric drive trains composed of controllers and motors, which are used as the sole mode of propulsion, at least for part of the time.’.

ANNEX XIV

ANNEX XXI

TYPE 1 EMISSIONS TEST PROCEDURES

1. INTRODUCTION

This Annex describes the procedure for determining the levels of emissions of gaseous compounds, particulate matter, particle number, CO₂ emissions, fuel consumption, electric energy consumption and electric range from light-duty vehicles.

2. General requirements

2.1. The general requirements for conducting the type 1 test shall be those set out in UN Regulation No 154.

2.2. The limit values referred to in Table 1A of paragraph 6.3.10 of UN Regulation No 154 shall be replaced by the limit values set out in Annex I, Table 2, to Regulation (EC) No 715/2007.

3. Technical requirements

The technical requirements for conducting the type 1 test shall be those set out in paragraph 6.3. and Annexes Part B of UN Regulation No 154, with the exceptions described in the points below.

3.1. Table A4/2 in paragraph 4.2.2.1. of Annex B4 to UN Regulation No 154 shall read as follows:

<i>Energy efficiency class</i>	<i>Range of RRC for C1 tyres</i>	<i>Range of RRC for C2 tyres</i>	<i>Range of RRC for C3 tyres</i>
A	RRC ≤ 6.5	RRC ≤ 5.5	RRC ≤ 4.0
B	6.6 ≤ RRC ≤ 7.7	5.6 ≤ RRC ≤ 6.7	4.1 ≤ RRC ≤ 5.0
C	7.8 ≤ RRC ≤ 9.0	6.8 ≤ RRC ≤ 8.0	5.1 ≤ RRC ≤ 6.0
D	9.1 ≤ RRC ≤ 10.5	8.1 ≤ RRC ≤ 9.0	6.1 ≤ RRC ≤ 7.0
E	RRC ≥ 10.6	RRC ≥ 9.1	RRC ≥ 7.1

<i>Energy efficiency class</i>	<i>Value of RRC to be used for interpolation for C1 tyres</i>	<i>Value of RRC to be used for interpolation for C2 tyres</i>	<i>Value of RRC to be used for interpolation for C3 tyres</i>
A	RRC = 5.9*	RRC = 4.9*	RRC = 3.5*
B	RRC = 7.1	RRC = 6.1	RRC = 4.5
C	RRC = 8.4	RRC = 7.4	RRC = 5.5

D	RRC = 9.8	RRC = 8.6	RRC = 6.5
E	RRC = 11.3	RRC = 9.9	RRC = 7.5

*In case the actual RRC value is lower than this value, the actual rolling resistance value of the tyre or any higher value up to the RRC value indicated here shall be used for interpolation.

3.2. Appendix 5 of Annex B8 to UN Regulation No 154 shall be read as:

Appendix 5

Utility factors (UF) for OVC-HEVs and OVC-FCHVs (as applicable)

1. Reserved
2. For the approval of OVC-HEVs or OVC-FCHVs of category M1 or N1 with emission characters EA, EB or EC as referred to in Table 1, Appendix 6 to Annex I, the fractional utility factor UF_j for the weighting of period j , shall be calculated in accordance with the following equation:

$$UF_j(d_j) = 1 - \exp \left\{ - \left(\sum_{i=1}^k C_i \times \left(\frac{d_j}{d_{nx}} \right)^i \right) \right\} - \sum_{l=1}^{j-1} UF_l$$

where:

- UF_j utility factor for period j ;
- d_j measured distance driven at the end of period j , km;
- C_i i^{th} coefficient (see Table A8.App5/1);
- d_{nx} d_{nea} , d_{neb} , d_{nec} , normalized distance (see Table A8.App5/1);
- k number of terms and coefficients in the exponent;
- j number of period considered;
- i number of considered term/coefficient;
- $\sum_{l=1}^{j-1} UF_l$ sum of calculated utility factors up to period $(j-1)$

The normalized distance “ d_{nx} ” shall be set in accordance with the Table A8.App5/1, where the values d_{neb} shall be applied from 1 January 2025, and d_{nec} from 1 January 2027.

The value d_{nec} shall, where appropriate, be revised at the latest by 31 December 2024, taking into account the real-world fuel consumption data recorded by fuel consumption monitoring devices on-board OVC-HEVs or OVC-FCHVs and made available pursuant to Implementing Regulation (EU) 2021/392.

Table A8.App5/1

Parameters for the determination of fractional UFs (as applicable)

Parameter	Value
d_{nea}^*	800 km
d_{neb}^*	2200 km
d_{nec}^*	4260 km
C1	26.25
C2	-38.94
C3	-631.05
C4	5964.83
C5	-25095
C6	60380.2
C7	-87517
C8	75513.8
C9	-35749
C10	7154.94

*The value to be applied shall be that corresponding to the emission characters EA, EB and EC as specified in Table 1, Appendix 6 to Annex I.

’.

ANNEX XV

ANNEX XXII

DEVICES FOR MONITORING ON BOARD THE VEHICLE THE CONSUMPTION OF FUEL AND/OR ELECTRIC ENERGY

1. Introduction

This Annex sets out the definitions and requirements applicable to the devices for monitoring on board the vehicle the consumption of fuel and/or electric energy.

2. General requirements

The general requirements for OBFCM devices shall be those set out in paragraph 6.3.9. of UN Regulation No. 154.

3. Technical requirements

The technical requirements for the OBFCM device shall be those set out in Appendix 5 to UN Regulation No. 154.