

---

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

---

Commission Regulation (EU) No 582/2011 of 25 May 2011 implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI) and amending Annexes I and III to Directive 2007/46/EC of the European Parliament and of the Council (Text with EEA relevance)

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

## ANNEX X

### ON-BOARD DIAGNOSTICS

#### 1. INTRODUCTION

- 1.1. This Annex sets out the functional aspects of on-board diagnostic (OBD) systems for the control of emissions from engine systems which are covered by this Regulation.

#### 2. GENERAL REQUIREMENTS

- [<sup>F1</sup>2.1. The general requirements shall be those set out in paragraph 2 of Annex 9A to UNECE Regulation No 49, with the exceptions provided for in point 2.2.1 of this Regulation.]

- [<sup>F2</sup>2.1.1. Paragraphs 2.3.2.1 and 2.3.2.2 of Annex 9A to UNECE Regulation No 49 shall be understood as follows:

- 2.3.2.1. The performance of the particulate after treatment device, including the filtration and continuous regeneration processes, shall be monitored against the OBD threshold limit specified in Table 1 of this Annex.

- 2.3.2.2. Before the dates specified in Article 4(8) of this Regulation and in the case of a wall-flow diesel particulate filter (DPF), the manufacturer may choose to apply the performance monitoring requirements set out in Appendix 8 of Annex 9B to UNECE Regulation No 49 instead of the requirements set out in paragraph 2.3.2.1, if he can demonstrate with technical documentation that in case of deterioration there is a positive correlation between the loss of filtration efficiency and the loss of pressure drop (delta pressure) across the DPF under the operating conditions of the engine specified in the tests described in Appendix 8 of Annex 9B to UNECE Regulation No 49.]

#### Textual Amendments

- F2** Inserted by [Commission Regulation \(EU\) No 133/2014 of 31 January 2014 amending, for the purposes of adapting to technical progress as regards emission limits, Directive 2007/46/EC of the European Parliament and of the Council, Regulation \(EC\) No 595/2009 of the European Parliament and of the Council and Commission Regulation \(EU\) No 582/2011 \(Text with EEA relevance\).](#)

#### Textual Amendments

- F1** Substituted by [Commission Regulation \(EU\) No 133/2014 of 31 January 2014 amending, for the purposes of adapting to technical progress as regards emission limits, Directive 2007/46/EC of the European Parliament and of the Council, Regulation \(EC\) No 595/2009 of the European Parliament and of the Council and Commission Regulation \(EU\) No 582/2011 \(Text with EEA relevance\).](#)

- [<sup>F1</sup>2.2. The Commission shall conduct a review of the monitoring requirements set out in point 2.3.2.1 of Annex 9A to UNECE Regulation No 49 by 31 December 2012. In case the technical non-feasibility of the respective requirements by the dates specified in Article 4(8) of this Regulation is demonstrated, the Commission shall make a proposal for amending those dates accordingly.]

#### <sup>F3</sup>2.3. Additional provisions concerning monitoring requirements

- 2.3.1. <sup>F3</sup> .....

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

- 2.3.1.1. ....
- 2.3.2. <sup>F3</sup> .....
- 2.3.2.1. ....
- 2.3.3. <sup>F3</sup> .....
- 2.3.3.1. ....
- 2.3.3.2. ....
- 2.3.3.3. ....
- 2.3.3.4. ....

#### Textual Amendments

- F3** Deleted by Commission Regulation (EU) No 133/2014 of 31 January 2014 amending, for the purposes of adapting to technical progress as regards emission limits, Directive 2007/46/EC of the European Parliament and of the Council, Regulation (EC) No 595/2009 of the European Parliament and of the Council and Commission Regulation (EU) No 582/2011 (Text with EEA relevance).

#### 2.4. Alternative approval

- [<sup>F1</sup>2.4.1. If requested by the manufacturer, for vehicles of categories M<sub>2</sub> and N<sub>1</sub>, for vehicles of categories M<sub>1</sub> and N<sub>2</sub> with a technically permissible maximum laden mass not exceeding 7,5 tonnes, and for vehicles of category M<sub>3</sub> Class I, Class II and Class A and Class B as defined in Annex I to Directive 2001/85/EC with a permissible mass not exceeding 7,5 tonnes, compliance with the requirements set out in Annex XI to Regulation (EC) No 692/2008 shall be considered equivalent to the compliance with this Annex, in accordance with the following equivalences:]
- [<sup>F2</sup>2.4.1.1. The OBD standard Euro 6 – plus IUPR in Table 1 of Appendix 6 of Annex I to Regulation (EC) No 692/2008 shall be considered equivalent to the character A of Table 1 of Appendix 9 of Annex I to this Regulation.
- 2.4.1.2. The OBD standard Euro 6 – 1 in Table 1 of Appendix 6 of Annex I to Regulation (EC) No 692/2008 shall be considered equivalent to the character B of Table 1 of Appendix 9 of Annex I to this Regulation.
- [<sup>F4</sup>2.4.1.3. The OBD standard Euro 6-2 in Table 1 of Appendix 6 of Annex I to Regulation (EC) No 692/2008 shall be considered equivalent to the characters C and D of Table 1 of Appendix 9 of Annex I to this Regulation.]

#### Textual Amendments

- F4** Substituted by Commission Regulation (EU) 2017/1347 of 13 July 2017 correcting Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EU) No 582/2011 and Commission Regulation (EU) 2017/1151 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

Status: Point in time view as at 31/12/2020.

Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)

Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Regulation (EC) No 692/2008 (Text with EEA relevance).

2.4.1.a. If such alternative approval is used, the information related to OBD systems in points 3.2.12.2.7.1 to 3.2.12.2.7.4 of Part 2 of Appendix 4 to Annex I is replaced by the information in point 3.2.12.2.7 of Appendix 3 to Annex I to Regulation (EC) No 692/2008.

2.4.1.b. The equivalences set out in point 2.4.1. shall apply in the following manner:

2.4.1.b.1. The OTL's and dates referred to in Table 1 of Appendix 9 of Annex I to this Regulation and relevant to the assigned character for which the type-approval is sought shall apply.

2.4.1.b.2. The requirements on NOx control measures set out in points 2.1.2.2.1 to 2.1.2.2.5 of Annex XIII shall apply.]

2.4.2. [F5 Small series production]

As an alternative to the requirements set out in Section 4 of Annex 9B to UN/ECE Regulation No 49 and those described in this Annex, engine manufacturers whose world-wide annual production of engines within an engine type subject to this Regulation is less than 500 engines per year, may obtain EC type-approval on the basis of the other requirements of this Regulation when the emission control components of the engine system are at least monitored for circuit continuity, and for rationality and plausibility of sensor outputs, and when the aftertreatment system is at least monitored for total functional failure. Engine manufacturers whose world-wide annual production of engines within an engine type subject to this Regulation is less than 50 engines per year, may obtain EC type-approval on the basis of the requirements of this Regulation when the emission control components of the engine system are at least monitored for circuit continuity, and for rationality and plausibility of sensor outputs (component monitoring).

[F6 A manufacturer shall not be permitted to use the alternative provisions specified in this point for more than 500 engines per year.]

Textual Amendments

F6 Inserted by Commission Regulation (EU) No 64/2012 of 23 January 2012 amending Regulation (EU) No 582/2011 implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI) (Text with EEA relevance).

Textual Amendments

F5 Deleted by Commission Regulation (EU) No 64/2012 of 23 January 2012 amending Regulation (EU) No 582/2011 implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI) (Text with EEA relevance).

F5 2.4.3. ....

2.4.4. The approval authority shall inform the Commission of the circumstances of each type-approval granted under Sections 2.4.1 and 2.4.2.

2.5. Conformity of production

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

The OBD system is subject to the requirements for conformity of production specified in Directive 2007/46/EC.

If the approval authority decides that verification of the conformity of production of the OBD system is required, the verification shall be conducted in accordance with the requirements specified in Annex I to this Regulation.

## <sup>[F2]</sup>2.6. Dual-fuel engines and vehicles

- 2.6.1. Dual-fuel engines and vehicles shall comply with the requirements applicable to diesel engines specified in this Annex, regardless of whether operating in dual-fuel or diesel mode.
- 2.6.2. In addition to point 2.6.1, dual-fuel engines and vehicles shall comply with the OBD requirements set out in paragraph 7 of Annex 15 to UNECE Regulation No 49.
- 2.6.3. The provisions for alternative approval set out in point 2.4.1 shall not apply in the case of dual-fuel vehicles and engines.]

## 3. PERFORMANCE REQUIREMENTS

- 3.1. The performance requirements shall be those set out in Section 5 of Annex 9B to UN/ECE Regulation No 49.

### 3.2. OBD threshold limits

- <sup>[F1]</sup>3.2.1. The OBD threshold limits (hereinafter ‘OTLs’) applicable to the OBD system are those specified in the rows ‘general requirements’ of Table 1 for compression ignition engines and of Table 2 for positive ignition engines.
- 3.2.2. Until the end of the phase-in period set out in Article 4(7), the OBD threshold limits specified in rows ‘phase-in period’ of Table 1 for compression ignition engines and of Table 2 for positive ignition engines shall apply.

TABLE 1

### OTLs (compression ignition engines, including dual-fuel engines)

	Limit in mg/kWh	
	NO <sub>x</sub>	PM Mass
phase-in period	1 500	25
general requirements	1 200	25

TABLE 2

### OTLs (positive ignition engines)

	Limit in mg/kWh	
	NO <sub>x</sub>	CO
phase-in period	1 500	7 500 <sup>a</sup>
general requirements	1 200	7 500

<sup>a</sup> The limit shall apply as from the dates set out in row B of Table 1 in Appendix 9 to Annex I.]

## 4. DEMONSTRATION REQUIREMENTS

Status: Point in time view as at 31/12/2020.

Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)

[F14.1. The demonstration requirements shall be those set out in paragraph 4 of Annex 9A to UNECE Regulation No 49.]

F34.2. ....

5. DOCUMENTATION REQUIREMENTS

[F15.1. The documentation requirements shall be those set out in paragraph 5 of Annex 9A to UNECE Regulation No 49. The documentation package shall be provided in accordance with the provisions of Article 5(3) and Section 8 of Annex I to this Regulation.]

[F16. IN-USE PERFORMANCE REQUIREMENTS

6.1. The in-use performance requirements shall be those set out in paragraph 6 of Annex 9A to UNECE Regulation No 49, with the exceptions set out in points 6.1.1 to 6.1.3 of this Regulation.

6.1.1. The documentation package shall be provided in accordance with the provisions of Article 5(3) and Section 8 of Annex 1 to this Regulation.

6.1.2. Minimum in-use performance ratio

Paragraph 6.2.2 of Annex 9A to UNECE Regulation No 49 shall be understood as follows:

The value of minimum in-use performance ratio IUPR(min) is 0.1 for all monitors.

6.1.3. The conditions set out in paragraph A.1.5 of Appendix 1 of UNECE Regulation No 49 shall be subjected to review after the end of the phase-in period specified in Article 4(7) of this Regulation.

6.2. Assessment of the in-use performance during the phase-in period

6.2.1. During the phase-in period set out in Article 4(7) the assessment of the in-use performance of OBD systems shall be conducted in accordance with the provisions set out in Appendix 5 of this Annex.

6.2.2. During the phase-in-period set out in Article 4(7), compliance of the OBD systems with the requirements set out in paragraph 6.2.3 of Annex 9A to UNECE Regulation No 49 is not mandatory.]

F36.2.3. ....

F36.3. Documentation requirements

6.3.1. F3 .....

F3 .....

6.3.1.1. ....

F36.4. Statement of OBD in-use Performance compliance

6.4.1. ....

6.4.2. ....

6.4.3. ....

---

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

---

6.4.4. ....

<sup>F3</sup>6.5. **Assessment of the in-use performance**

6.5.1. ....

6.5.2. <sup>F3</sup> .....

6.5.2.1. ....

6.5.2.2. ....

6.5.2.3. ....

6.5.3. ....

6.5.4. ....

6.5.5. <sup>F3</sup> .....

6.5.5.1. ....

---

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

---

<sup>F3</sup>Appendix 1

**Additional monitoring requirements**

- 1. LOW EGR FLOW
  - 1.1. ....
- 2. EGR COOLER UNDERPERFORMANCE
  - 2.1. <sup>F3</sup>.....
  - 2.1.1. ....
- 3. LOW BOOST PRESSURE
  - 3.1. <sup>F3</sup>.....
  - 3.1.1. ....
  - 3.1.2. ....
- 4. MALFUNCTIONING INJECTORS
  - 4.1. ....
  - 4.2. <sup>F3</sup>.....
  - 4.2.1. ....



---

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

---

## F<sup>3</sup> Appendix 2

### **Performance monitoring**

#### 1. GENERAL

1.1. ....

#### 2. DEMONSTRATION OF PERFORMANCE MONITORING

##### 2.1. **Approval of the failure classification**

2.1.1. ....

##### 2.2. **Approval of the performance monitoring selected by the manufacturer**

2.2.1. ....

2.2.2. The performance threshold selected by the manufacturer for the monitor under consideration shall be determined on the parent engine of the OBD engine family during a qualification test performed as follows:

.....

2.2.3. ....

2.2.4. ....

2.2.4.1. ....

##### 2.3. **Qualification of a deteriorated component**

2.3.1. ....

2.3.2. ....

##### 2.4. **Demonstration of the OBD performance**

2.4.1. ....

---

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

---

### F<sup>3</sup>Appendix 3

## **Demonstration requirements in case of performance monitoring of a wall-flow diesel particulate filter**

1. GENERAL
  - 1.1. F<sup>3</sup> .....
  - 1.1.1. ....
2. QUALIFICATION TEST
  - 2.1. **Principle**
    - 2.1.1. F<sup>3</sup> .....
    - 2.1.1.1. ....
    - 2.1.2. F<sup>3</sup> .....
    - 2.1.2.1. ....
  - 2.2. **Qualification process**
    - 2.2.1. ....
    - 2.2.2. ....
  - 2.3. **Demonstration of the OBD performance**
    - 2.3.1. ....

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

## <sup>F3</sup>Appendix 4

### Assessment of the in-use performance of the on-board diagnostic system

1. GENERAL
  - 1.1. ....
2. PROCEDURE FOR DEMONSTRATING OBD IN-USE PERFORMANCE
  - 2.1. <sup>F3</sup> .....  
<sup>F3</sup> .....
  - 2.1.1. ....
  - 2.1.2. <sup>F3</sup> .....
    - 2.1.2.1. ....  
<sup>F3</sup> .....
  - 2.2. ....
  - 2.3. ....
  - 2.4. <sup>F3</sup> .....
    - 2.4.1. ....
  - 2.5. ....
3. OBD IN-USE PERFORMANCE DATA
  - 3.1. ....
4. ENGINE OR VEHICLE SELECTION
  - 4.1. **Engine selection**
    - 4.1.1. ....
    - 4.1.2. ....
  - 4.2. **Vehicle selection**
    - 4.2.1. *Vehicle segments*
      - 4.2.1.1. ....
      - 4.2.1.2. ....
      - 4.2.1.3. ....
      - 4.2.1.4. ....
    - 4.2.2. *Vehicle qualification*
      - 4.2.2.1. ....
      - 4.2.2.2. ....
      - 4.2.2.3. ....

---

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

---

4.2.2.4. ....

4.2.2.5. ....

5. IN-USE PERFORMANCE SURVEYS

5.1. **Collection of in-use performance data**

5.1.1. ....

5.1.2. ....

5.2. **Assessment of the in-use performance**

5.2.1. ....

5.2.2. ....

5.2.3. ....

6. REPORT TO THE APPROVAL AUTHORITY

.....

---

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

---

## Appendix 5

### Assessment of the in-use performance of the on-board diagnostic system during the phase-in period

1. GENERAL
  - 1.1. This Appendix specifies the process to be followed for the in-use performance assessment of the OBD system as regards the provisions set out in Section 6 during the phase-in period set out in Article 4(7).
2. PROCEDURE FOR OBD IN-USE PERFORMANCE ASSESSMENT
  - 2.1. The in-use performance assessment during the phase-in period set out in Article 4(7) shall consist of a survey programme including at least two in-use performance surveys, each of 9 months duration. These two surveys shall be completed not later than by 1 July 2015.
  - 2.2. Each manufacturer's first survey shall start when the first complete or completed vehicle fitted with an engine produced by that manufacturer and type-approved according to this Regulation is put into service.
  - 2.3. The surveys shall be organised and conducted by each manufacturer, in close cooperation with the approval authority that granted the type-approval of the vehicles or engines concerned.
  - 2.4. **Data Handling During the Phase-In Period set out in Article 4(7)**
    - 2.4.1. In order to achieve the aim of the phase-in period set out in Article 4(7) with respect to improvements in the assessment of the OBD in-use performance requirements set out in Appendix 4 of this Annex, manufacturers shall provide approval authorities and the Commission with following information:
      - (a) the IUPR data that manufacturers are required to supply in accordance with Section 6 of this Appendix;
      - (b) additional OBD information that manufacturers are required to supply by this Regulation and that may or may not be considered to be confidential;
      - (c) additional data provided voluntarily by the manufacturer as an aid to achieving the aim of the phase-in period, and which may be considered to be commercially sensitive by the manufacturer.
    - 2.4.2. The passing of information considered confidential or commercially sensitive under the terms of this Regulation falling into the category referred to in points (b) or (c) of Section 2.4.1 to third parties other than those mentioned in Section 2.4.1 and 2.4.3 shall be subject to the manufacturer's agreement.
    - 2.4.3. Examples of the kinds of aspects of the complementary data within the category defined in point (c) of Section 2.4.1 that might reasonably be thought to be commercially sensitive include the following:
      - (a) information that would permit the identity of either the vehicle or engine manufacturer, or of the vehicle operator, to be determined or to be inferred with reasonable confidence;
      - (b) information on measurement techniques that are under development.

---

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

---

- 2.5. Section 2.4 of Appendix 4 shall apply to the problems posed by faulty or non-conformant communication interfaces.
- 2.6. Engines or vehicles where the collection of in-use performance data influences the OBD monitoring performance shall be considered to be non-compliant.

### 3. OBD IN-USE PERFORMANCE DATA

- 3.1. The OBD in-use performance data to be considered for assessing the conformity of an OBD engine family shall be those recorded by the OBD system in accordance with Section 6 of Annex 9C to UN/ECE Regulation No 49, and made available in accordance with the requirements of Section 7 of that Annex.

### 4. VEHICLE AND ENGINE SELECTION

#### 4.1. **Engine selection**

- 4.1.1. In each of the two surveys required by Section 2.1 only one engine family and one OBD engine family shall be considered.
- 4.1.2. If before 1 July 2015 a manufacturer has placed more than one engine family or OBD engine family on the market, the two surveys shall cover different engine families or OBD engine families, respectively.
- 4.1.3. One of the surveys undertaken shall be performed using vehicles equipped with engines belonging to the engine family with the highest sales volume reasonably expected after 31 December 2013, considering information provided by the manufacturer.
- 4.1.4. Engines of a single engine family or OBD engine family may continue to be included in the same survey even if the monitoring systems with which they are equipped are of different generations or modification states.

#### 4.2. **Vehicle selection**

- 4.2.1. The vehicle selection rules shall be those defined in Section 4.2 of Appendix 4 to this Annex.

### 5. IN-USE PERFORMANCE SURVEYS

#### 5.1. **Collection of in-use performance data**

- 5.1.1. The rules concerning the collection of in-use performance data shall be those specified in Section 5.1 of Appendix 4.

Notwithstanding the provisions of Section 5.1.2 of Appendix 4, the results from the group of monitors under evaluation shall be disregarded if a minimum value of 25 for its denominator has not been reached unless disregarding the data would result in there being fewer than 10 vehicles considered for the sampling in the survey during the 9 month survey duration.

#### 5.2. **Assessment of the in-use performance**

- 5.2.1. An assessment of the in-use performance shall be made for each group of monitors within the OBD engine family considered in a vehicle segment.
- 5.2.2. The actual performance ratio per group of monitors for an individual engine (IUPR<sub>g</sub>) shall be calculated from the numerator<sub>g</sub> and denominator<sub>g</sub> retrieved from the OBD system of the vehicle in which it is fitted.

---

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

---

5.2.3. The assessment of the in-use performance of the OBD engine family shall be made for each group of monitors within the OBD engine family considered in a vehicle segment in accordance with the provisions of Section 6.5.1 of this Annex

5.2.4. If any of the conditions mentioned in Section 6.5.1 of this Annex is not met, this shall be reported to the approval authority together with the manufacturer's assessment of the reason for this situation arising and, if applicable, a plan of the work that the manufacturer will undertake with the aim of correcting the issue at latest for all vehicles registered for the first time in the Union after the end of the phase-in period.

## 6. REPORT TO THE APPROVAL AUTHORITY AND THE COMMISSION

For each survey performed in accordance with the provisions of this Appendix, the manufacturer shall provide the approval authority and the Commission with a report on the in-use performance of the OBD engine family that contains the following information:

- 6.1. The list of the engine families and OBD engine families considered for the survey.
- 6.2. Information concerning the vehicles considered in the survey including the following:
  - (a) the total number of vehicles considered in the survey;
  - (b) the number and the type of vehicle segments;
  - (c) the VIN, and a short description (type-variant-version) of each vehicle;
  - (d) the segment to which an individual vehicle belongs;
  - (e) the usual type of duty or mode of operation of each individual vehicle;
  - (f) the accumulated mileage of each individual vehicle and/or the accumulated operating hours of its engine.
- 6.3. In-use performance information for each vehicle including the following:
  - (a) the numerator<sub>g</sub>, denominator<sub>g</sub>, and in-use performance ratio (IUPR<sub>g</sub>) for each group of monitors;
  - (b) the general denominator, the value of the ignition cycle counter, the total engine running hours.
- 6.4. The results of the in-use performance statistics including the following:
  - (a) the average value  $\overline{\text{IUPR}}_g$  of the IUPR<sub>g</sub> values of the sample;
  - (b) the number and the percentage of engines in the sample that have an IUPR<sub>g</sub> equal to or above IUPR<sub>m</sub>(min).

---

*Status: Point in time view as at 31/12/2020.*

*Changes to legislation: There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details)*

---

<sup>F3</sup>Appendix 6

**Model of an OBD in-use performance compliance statement**

.....



**Status:**

Point in time view as at 31/12/2020.

**Changes to legislation:**

There are outstanding changes not yet made to Commission Regulation (EU) No 582/2011. Any changes that have already been made to the legislation appear in the content and are referenced with annotations.