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Inland Transport Committee

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

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Item 4(b) of the provisional agenda

**Heavy duty vehicles - UN Regulation No. 49****(emissions of compression ignition and positive  
ignition (LPG and CNG) engines)****Proposal for amendments to Regulation No. 49 (compression  
ignition and positive ignition (LPG and CNG) engines)****Submitted by the expert from OICA\***

The text reproduced below was prepared by the expert from the International Organization of Motor Vehicle Manufacturers (OICA) in order to adapt some requirements to the current state of technology and to transpose the latest decisions of the EU regarding OBD threshold limits. The modifications to the current text of the Regulation No. 49, Revision 6, are marked in bold for new or struck through for deleted characters.

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\* In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94 and ECE/TRANS/2012/12, 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 4.10.8.*, amend to read:

"4.10.8. If the manufacturer chooses, until the date specified in paragraph ~~4.2.2.~~ **13.2.3.** for new type approvals, he may use alternative provisions for the monitoring of the Diesel Particulate Filter (DPF) as set out in paragraph 2.3.2.2. of Annex 9A."

*Paragraphs 13.2.1. to 13.3.3.*, amend to read:

"13.2.1. Contracting Parties applying this Regulation shall, from the date of entry into force of the 06 series of amendments to this Regulation, grant an ECE approval to an engine system or vehicle only if it complies with:

- (a) The requirements of paragraph 4.1. of this Regulation;
- (b) The performance monitoring requirements of paragraph 2.3.2.2. of Annex 9A **in the case of diesel and dual-fuel engines and vehicles;**
- (c) The NO<sub>x</sub> OTL monitoring requirements as set out in the row "phase in period" of ~~the Tables 1 and 2~~ of Annex 9A, **in the case of diesel and dual-fuel engines and vehicles;**
- (d) **The NO<sub>x</sub> monitoring requirements as set out in the row "phase in period" of Table 2 of Annex 9A, in the case of gas fuelled engines and positive ignition engines ;**
- (e) The Reagent quality ~~and consumption~~ "phase-in" requirements as set out in paragraphs 7.1.1.1. ~~and 8.4.1.1.~~ of Annex 11.

13.2.1.1. In accordance with the requirements of paragraph 6.4.4. of Annex 9A manufacturers are exempted from providing a statement of OBD in-use Performance compliance.

13.2.2. **In the case of gas fuelled engines and positive ignition engines,** Contracting Parties applying this Regulation shall, from 1 September 2014, grant an UN approval to an engine system or vehicle only if it complies with:

- (a) The requirements of paragraph 4.1. of this Regulation;
- ~~(b) The PM Mass OTL monitoring requirements as set out in the row "phase in period" of Table 1 of Annex 9A;~~
- ~~(c)~~ **(b)** The NO<sub>x</sub> OTL monitoring requirements as set out in the row "phase-in period" of Tables ~~1 and 2~~ of Annex 9A;
- (c) **The CO OTL monitoring requirements as set out in the row "phase-in period" of Table 2 of Annex 9A;**
- (d) The Reagent quality ~~and consumption~~ "phase-in" requirements as set out in paragraphs 7.1.1.1. ~~and 8.4.1.1.~~ of Annex 11.

13.2.2.1. In accordance with the requirements of paragraph 6.4.4. of Annex 9A manufacturers are exempted from providing a statement of OBD in-use Performance compliance.

13.2.3. Contracting Parties applying this Regulation shall, from 31 December 2015, grant an ECE approval to an engine system or vehicle only if it complies with:

- (a) The requirements of paragraph 4.1. of this Regulation;
  - (b) The PM Mass OTL monitoring requirements as set out in the row "general requirements" of Table 1 of Annex 9A **in the case of diesel and dual-fuel engines and vehicles;**
  - (c) The NOx OTL monitoring requirements as set out in the row "general requirements" of Tables ~~1 and 2~~ of Annex 9A **in the case of diesel and dual-fuel engines and vehicles;**
  - (d) **The NOx and CO OTL monitoring requirements as set out in the row "general requirements" of Table 2 of Annex 9A in the case of gas fuelled engines and positive ignition engines;**
  - ~~(d)~~ (e) The Reagent quality ~~and consumption~~ "general" requirements as set out in paragraphs 7.1.1.1. ~~and 8.4.1.~~ of Annex 11.
  - ~~(e)~~ (f) The requirements regarding the plan and implementation of the monitoring techniques according to paragraphs 2.3.1.2. and 2.3.1.2.1. of Annex 9A;
  - ~~(f)~~ (g) The requirements of paragraph 6.4.1. of Annex 9A for providing a statement of OBD in-use Performance compliance.
- 13.3. Limit of validity of type approvals
- 13.3.1. As from the 1 January 2014, type approvals granted to this Regulation as amended by the 05 series of amendments shall cease to be valid.
- 13.3.2. As from 1 September 2015, **in the case of gas fuelled engines and positive ignition engines**, type approvals granted to this Regulation as amended by the 06 series of amendments , which do not comply with the requirements of paragraph 13.2.2., shall cease to be valid.
- 13.3.3. As from 31 December 2016, type approvals granted to this Regulation as amended by the 06 series of amendments, which do not comply with the requirements of paragraph ~~13.2.2~~ 13.2.3., shall cease to be valid."

*Insert a new paragraph 13.3.4., to read:*

- "13.3.4. Type approvals granted to compression ignition and dual-fuel engines and vehicles which comply with the requirements of this Regulation and however have a Character B after the approval number specified in Annex 3 to this Regulation, shall remain valid until the date considered in paragraph 13.3.3."**

*Annex 1, Part 1, in the table, delete section 3.2.12.2.8.6.*

Annex 3, Table 1, including reference notes, replace to read:  
"Table 1

**Letters with reference to requirements of OBD and SCR systems**

| <i>Character</i> | <i>NO<sub>x</sub> OTL<sup>1</sup></i>                    | <i>PM OTL<sup>2</sup></i>                         | <i>CO OTL<sup>6</sup></i>                         | <i>IUPR<sup>13</sup></i> | <i>Reagent quality</i> | <i>Additional OBD monitors<sup>12</sup></i> | <i>Implementation dates: new types</i>       | <i>Date when type approval cease to be valid</i>              |
|------------------|--|---|---|--------------------------|------------------------|---|--|---|
| A                | Row "phase-in period" of Tables 1 and 2 of Annex 9A      | Performance monitoring <sup>3</sup>               | N/A   | Phase-in <sup>7</sup>    | Phase in <sup>4</sup>  | N/A   | Date of entry into force of 06 series of R49 | 31 August 2015 <sup>9</sup><br>31 December 2016 <sup>10</sup> |
| B <sup>11</sup>  | Row "phase-in period" of Tables 1 and 2 of Annex 9A      | N/A   | Row "phase-in period" of Table 2 of Annex 9A      | Phase-in <sup>7</sup>    | Phase in <sup>4</sup>  | N/A   | 1 September 2014                             | 31 December 2016  |
| C                | Row "general requirements" of Tables 1 and 2 of Annex 9A | Row "general requirements" of Table 1 of Annex 9A | Row "general requirements" of Table 2 of Annex 9A | General <sup>8</sup>     | General <sup>5</sup>   | Yes   | 31 December 2015                             |   |

*Notes:*

<sup>1</sup> "NO<sub>x</sub> OTL" monitoring requirements as set out in Table 1 of Annex 9A for diesel and dual-fuel engines and vehicles and in Table 2 of Annex 9A for gas and positive ignited engines and vehicles.

<sup>2</sup> "PM OTL" monitoring requirements as set out in Table 1 of Annex 9A for diesel and dual-fuel engines and vehicles.

<sup>3</sup> "Performance monitoring" requirements as set out in paragraph 2.3.2.2. of Annex 9A.

<sup>4</sup> Reagent quality "phase-in" requirements as set out in paragraph 7.1.1.1. of Annex 11.

<sup>5</sup> Reagent quality "general" requirements as set out in paragraph 7.1.1. of Annex 11.

<sup>6</sup> "CO OTL" monitoring requirements as set out in Table 2 of Annex 9A for gas and positive ignited engines and vehicles. excluding the statement required by paragraph 6.4.1. of Annex 9A .

<sup>7</sup> including the statement required by paragraph 6.4.1. of Annex 9A .

<sup>8</sup> For positive-ignition engines and vehicles

<sup>9</sup> For compression-ignition and dual-fuel engines and vehicles.

<sup>10</sup> Only applicable to positive-ignition engines and vehicles

<sup>11</sup> "Additional provisions concerning monitoring requirements" as set out in paragraph 2.3.1.2. of Annex 9A.

<sup>12</sup> IUPR specifications are set out in Annexes 9A and 9C of this Regulation. PI engines are not subjected to IUPR"

*Annex 9A, paragraph 2.2., amend to read:*

"2.2. ~~Reserved.~~ **Requirements regarding operating sequences and driving cycles for hybrid vehicles and vehicles with stop-start systems."**

*Annex 9A, insert new paragraphs 2.2.1. to 2.2.2.3., to read:*

"2.2.1. **Operating sequence**

2.2.1.1. **For vehicles that employ engine shut-off strategies that are commanded by the engine control system (for example hybrid bus with engine shut-off at idle) and that are followed by an engine cranking, the (engine shut-off – engine cranking) sequence shall be considered as part of the existing operating sequence.**

2.2.1.2. **The manufacturer shall provide the description of such strategies in the documentation considered in paragraphs 3.1.3. (a) and 3.1.3. (b) of this Regulation.**

2.2.1.3. **In the case of a hybrid vehicle, the operating sequence shall start at the time of the engine start or at the time when the vehicle starts moving, whichever occurs first.**

2.2.2. **Driving cycle**

2.2.2.1. **For vehicles that employ engine shut-off strategies that are commanded by the engine control system (for example hybrid bus with engine shut-off at idle) and that are followed by an engine cranking, the (engine shut-off – engine cranking) sequence shall be considered as part of the existing driving cycle.**

2.2.2.2. **The manufacturer shall provide the description of such strategies in the documentation considered in paragraphs 3.1.3. (a) and 3.1.3. (b) of this Regulation.**

2.2.2.3. **In the case of a hybrid vehicle, the driving cycle shall start at the time of the engine start or at the time when the vehicle starts moving, whichever occurs first."**

*Annex 9A, paragraph 2.3.2.2., amend to read:*

"2.3.2.2. In the case of a wall flow diesel particulate filter (DPF), **until the date specified in paragraph 13.2.3. of this Regulation for new type approvals and paragraph 13.3.3. for new registrations**, the manufacturer may choose to apply the performance monitoring requirements set out in Appendix 8 to Annex 9B instead of the requirements of 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 test described in Appendix 8 to Annex 9B."

*Annex 9A, paragraph 2.4.1., including footnote, amend to read:*

"2.4.1. ~~Reserved~~<sup>†</sup> **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 M<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 B<sup>1</sup> with a permissible mass not exceeding 7.5 tonnes, compliance with the requirements of Annex 11 to the 07 series of amendments to Regulation**

No. 83 shall be considered equivalent to the compliance with this Annex, according to the following equivalences:

<sup>1</sup> This paragraph has been reserved for future alternative approvals (e.g. transposition of Euro VI into Regulation No. 83). As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.3, para. 2. - [www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29resolutions.html](http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29resolutions.html)"

Annex 9A, insert new paragraphs 2.4.1.1. to 2.4.1.3.2.2., to read:

- "2.4.1.1.** The OBD standard "Interim OBD threshold limits" in Table A11/3 of Annex 11 to the 07 series of amendments to Regulation No. 83 shall be considered as equivalent to the character A of the Table 1 of Annex 3 to this Regulation.
- 2.4.1.2.** The OBD standard "Preliminary OBD threshold limits" in Table A11/2 of Annex 11 to the 07 series of amendments to Regulation No. 83 shall be considered as equivalent to the character B of the Table 1 of Annex 3 to this Regulation.
- 2.4.1.3.** The OBD standard "Final OBD threshold limits" in Table A11/1 of Annex 11 to the 07 series of amendments to Regulation No. 83 shall be considered as equivalent to the character C of the Table 1 of Annex 3 to this Regulation.
- 2.4.1.3.1.** If such alternative approval is used, the information related to OBD systems in section 3.2.12.2.7. of Part 2 of Annex 1 is replaced by the information of section 3.2.12.2.7. of Annex 1 to the 07 series of amendments to Regulation No. 83.
- 2.4.1.3.2.** The equivalences set out in paragraph 2.4.1. shall apply in the following manner:
  - 2.4.1.3.2.1.** The OTL's and dates referred to in Table 1 of Annex 3 to this Regulation and relevant to the assigned character for which the type-approval is sought shall apply;
  - 2.4.1.3.2.2.** The requirements on NOx control measures described in paragraphs 2.1.2.2.1. to 2.1.2.2.4. of Annex 11 shall apply."

Annex 9A, Table 2, amend to read:

"Table 2

OTLs (all gas fuelled engines and positive ignition engines fitted to vehicles belonging to category M<sub>3</sub>, to N<sub>2</sub> vehicles having a maximum permissible mass exceeding 7.5 tonnes, and to N<sub>3</sub> vehicles)

|                      | Limit in mg/kWh |                    |
|----------------------|-----------------|--------------------|
|                      | NO <sub>x</sub> | CO <sup>t</sup>    |
| Phase-in period      | 1 500           | 7 500 <sup>t</sup> |
| General requirements | 1 200           | 7 500              |

<sup>1</sup> The OTL for CO shall be set at a later stage. Mandatory as from the dates specified in paragraphs 13.2.2. and 13.3.2. of this Regulation, as appropriate."

Annex 9B, paragraph 3.5., amend to read:

"3.5. *"Continuous-MI"* means the malfunction indicator showing a steady indication ~~at all times while the key is in the on (run) position with the engine running~~ **from the time the key is moved to on (run) position and the engine is started (ignition on – engine on) or the vehicle starts moving, whichever occurs first, and extinguishing when the key is moved to off."**

*Annex 9B, paragraph 3.22., amend to read:*

"3.22. *"Short-MI"* means the malfunction indicator showing a **15 seconds** steady indication from the time the key is moved to on (run) position and the engine is started (ignition on - engine on) **or the vehicle starts moving**, and extinguishing **either** after **these** 15 seconds or **when** the key is moved to off, whichever occurs first."

*Annex 9B, paragraph 4.6.4., amend to read:*

"4.6.4. MI activation at key-on/engine-off

The MI activation at key-on/engine-off shall consist of two sequences separated by a 5 seconds MI off:

- (a) The first sequence is designed to provide an indication of the MI functionality and the readiness of the monitored components;
- (b) The second sequence is designed to provide an indication of the presence of a malfunction.

**The first sequence starts from the first time the system is at key-on position and stops either at its normal completion or when the key is set to the key-off position, whichever occurs first.**

The second sequence is repeated until **either the engine is started<sup>1</sup> (engine-on), the vehicle starts moving**, or the key is set to the key-off position, **whichever occurs first.**

~~At the request of the manufacturer, this activation may only occur once during an operating sequence (for example in case of start stop systems).~~

<sup>1</sup> An engine may be considered started during the cranking phase."

*Annex 9B, paragraphs 4.6.5.1.1. and 4.6.5.1.2., amend to read:*

"4.6.5.1.1. Continuous-MI counter

The OBD system shall contain a continuous-MI counter to record the number of hours during which the **internal combustion** engine has been operated while a continuous-MI is activated. ... "(remainder unchanged)

"4.6.5.1.2. Cumulative continuous-MI counter

The OBD system shall contain a cumulative continuous-MI counter to record the cumulative number of hours during which the **internal combustion** engine has been operated over its life while a continuous-MI is activated. ... "(remainder unchanged)

*Annex 9B, paragraph 4.6.5.2.1., amend to read:*

"4.6.5.2.1. Single B1-counter

The OBD system shall contain a B1 counter to record the number of hours during which the **internal combustion** engine has operated while a Class B1 malfunction is present. ... "(remainder unchanged)

*Annex 9C, paragraph 5.5., amend to read:*

- "5.5. Requirements for incrementing the ignition cycle counter  
The ignition cycle counter shall be incremented once and only once per ~~engine start~~ **driving cycle.**"

*Annex 11, paragraph 2.1.1., including footnote, amend to read:*

- "2.1.1. ~~Reserved~~<sup>1</sup>. **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<sup>1</sup> with a permissible mass not exceeding 7.5 tonnes, compliance with the requirements of Annex 6 to the 07 series of amendments to Regulation No. 83 shall be considered equivalent to the compliance with this Annex.**

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<sup>1</sup> This paragraph has been reserved for future alternative approvals (e.g. transposition of Euro VI into Regulation No. 83). As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.2, para. 2. - [www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29resolutions.html](http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29resolutions.html)"

*Annex 11, insert new paragraphs 2.1.2. to 2.1.2.2.5., to read:*

- "2.1.2. **If the alternative approval is used:**
- 2.1.2.1. **The information related to the correct operation of NOx control measures in paragraphs 3.2.12.2.8.1 to 3.2.12.2.8.5 of Part 2 of Annex 1 to this Regulation is replaced by the information of paragraph 3.2.12.2.8 of Annex 1 to the 07 series of amendments to Regulation No. 83.**
- 2.1.2.2. **The following exceptions shall apply regarding the application of the requirements set out in Appendix 6 to the 07 series of amendments to Regulation No. 83 and those of this Annex:**
- 2.1.2.2.1. **The provisions on reagent quality monitoring set out in paragraphs 7.1 to 7.1.2 of this Annex shall apply, instead of paragraphs 4.1 and 4.2 of Appendix 6 to the 07 series of amendments to Regulation No. 83.**
- 2.1.2.2.2. **The provisions on dosing activity monitoring set out in section 8.4 of this Annex shall apply, instead of section 5 of Appendix 6 to the 07 series of amendments to Regulation No. 83.**
- 2.1.2.2.3. **The driver warning system referred to in sections 4, 7 and 8 of this Annex shall be understood as the driver warning system in section 3 of Appendix 6 to the 07 series of amendments to Regulation No. 83.**
- 2.1.2.2.4. **Section 6 of Appendix 6 to the 07 series of amendments to Regulation No. 83 shall not apply.**
- 2.1.2.2.5. **The provisions set out in paragraph 5.2 of this Annex shall apply in the case of vehicles for use by the rescue services or to vehicles designed and constructed for use by the armed services, civil defence, fire services and forces responsible for maintaining public order."**

*Annex 11, paragraphs 7.1.1. to 7.1.1.2., amend to read:*

- "7.1.1. The manufacturer shall specify ~~a minimum acceptable reagent concentration CD<sub>min</sub>, which~~ **a value CD<sub>min</sub>, which is greater than the highest reagent**



**concentration that** results in tailpipe emissions ~~not~~ exceeding the limit values specified in paragraph 5.3. of this Regulation.

- 7.1.1.1. During the phase-in period specified in paragraph 4.10.7. of this Regulation and upon request of the manufacturer for the purpose of paragraph 7.1.1. the reference to the NO<sub>x</sub> emission limit specified in paragraph 5.3. to this Regulation shall be replaced by the value of 900 mg/kWh.
- 7.1.1.2. The ~~correct~~ value of CD<sub>min</sub> shall be demonstrated during type approval by the procedure defined in Appendix 6 to this annex and recorded in the extended documentation package as specified in paragraph 5.1.4. to this Regulation."

*Annex 11, paragraphs 8.1. to 8.2.3., amend to read:*

- "8.1. The vehicle shall include a means of determining **interruption of the reagent consumption and providing off board access to consumption information dosing activity (including due to a blocked reagent dosing system).**
- 8.2. ~~Reagent consumption and~~ dosing activity counters
- 8.2.1. A specific counter shall be attributed ~~to the reagent consumption (the "reagent consumption counter") and another~~ to the dosing activity (the "dosing activity counter"). ~~These~~ **This** counters shall count the number of engine operating hours which occur with ~~an incorrect reagent consumption and, respectively,~~ an interruption of the reagent dosing activity.
- 8.2.2. Details of the reagent ~~consumption counter and~~ dosing counter activation and deactivation criteria and mechanisms are described in Appendix 2 to this annex.
- 8.2.3. The ~~reagent consumption counter and the~~ dosing counter information shall be made available in a standardised manner according to the provisions of Appendix 5 to this annex."

*Annex 11, paragraphs 8.3. to 8.3.2., deleted.*

*Annex 11, paragraphs 8.4.1. and 8.4.1.1., deleted.*

*Annex 11, former paragraph 8.4.2., renumber as 8.4.1.*

*Annex 11, paragraphs 8.5.1. and 8.5.2., amend to read:*

- "8.5.1. The low-level inducement system described in paragraph 5.3. shall be enabled, and subsequently activated according to the requirements of that section, if ~~an error in the reagent consumption or~~ an interruption in reagent dosing is not rectified within 10 engine operating hours after the activation of the driver warning system specified in paragraphs 8.4.1. ~~and 8.4.2.~~
- 8.5.2. The severe inducement system described in paragraph 5.4. shall be enabled, and subsequently activated according to the requirements of that section, ~~if an error in the reagent consumption or~~ an interruption in reagent dosing is not rectified within 20 engine operating hours after the activation of the driver warning system in paragraphs 8.4.1. ~~and 8.4.2."~~

*Annex 11, Appendix 2, paragraph A.2.2.1., amend to read:*

- "A.2.2.1. The driver warning system shall be activated when the diagnostic trouble code (DTC) associated with a malfunction justifying its activation has ~~the status defined in Table 1~~ **got the "confirmed and active" status.**"

*Annex 11, Appendix 2, Table 1, deleted.*

Annex 11, Appendix 2, paragraph A.2.4.1.1., amend to read:

- "A.2.4.1.1. To comply with the requirements of this annex, the system shall contain ~~at least 5~~ **separate** counters to record the number of hours during which the engine has been operated while the system has detected any of the following:
- (a) An incorrect reagent quality;
  - ~~(b) An incorrect reagent consumption;~~
  - ~~(e)~~**(b)** An interruption of reagent dosing activity;
  - ~~(d)~~**(c)** An impeded EGR valve;
  - ~~(e)~~**(d)** A failure of the monitoring system as defined of paragraph 9.1. (b) of this annex"

Annex 11, Appendix 2, Table 2, amend to read:

"Table 2

**Counters and inducement**

|  | <i>DTC status for first activation of the counter</i>      | <i>Counter value for low-level inducement</i> | <i>Counter value for severe inducement</i> | <i>Frozen value held by the counter during the period just after severe inducement</i> |
|--|--|---|--|--|
| Reagent quality counter                | Confirmed and active                                       | 10 hours                                      | 20 hours                                   | 18 hours   |
| <del>Reagent consumption counter</del> | <del>Potential or confirmed and active (see Table 1)</del> | <del>10 hours</del>                           | <del>20 hours</del>                        | <del>18 hours</del>  |
| Dosing counter                         | Confirmed and active                                       | 10 hours                                      | 20 hours                                   | 18 hours   |
| EGR valve counter                      | Confirmed and active                                       | 36 hours                                      | 100 hours                                  | 95 hours   |
| Monitoring system counter              | Confirmed and active                                       | 36 hours                                      | 100 hours                                  | 95 hours   |

"

## II. Justification

1. The proposed amendments aim at transposing into Regulation No. 49 rev.6 the provisions regarding OTLs that are specified in Regulation (EU) 133/2014 and not yet included in Regulation No. 49 and the decision of the EU Commission regarding the date of introduction of the PM OTLs.
2. The proposed amendments aim at introducing into Annexes 9A and 9B of Regulation No. 49 rev.6 the OBD provisions necessary for the type-approval of stop-start and hybrid vehicles
3. The proposed amendments aim at adapting to the current state of technology the requirements regarding NOx control. In particular, it proposed to delete the requirements related to the monitoring of the reagent consumed from the reagent tank, thereby without taking any risk of penalising the Environment:

(a) The driving reason for the proposed amendments is the fact that all EURO VI engine systems are using close-loop strategies that, inter alia adapt the reagent demand to the actual NOx reduction need.

(b) In that context it shall be noticed that the proposed amendment will permit to better align the HD-EURO VI requirements regarding tampering with the requirements that are currently considered sufficient all over the world, and, in particular, by the European authorities for the more recent non-road mobile machineries

(c) Like in these very demanding recent Regulations, the following possible tampering manoeuvres will be considered: not refilling the reagent tank, interrupting the dosing activity, using an improper reagent concentration, making inoperative a device that is used for diagnosing tampering

4. During some repair operations of LNG vehicles, it is necessary to drain out all the gas contained in the tank system. Due to the very poor density of LNG filling stations in some areas, the current requirements forces a Type A dual-fuel vehicle that has no diesel mode to be driven at 20km/h during hours and accordingly generate traffic issues. The proposal is to introduce in that specific case an alternative requirement that would limit the available power so that the vehicle could not operate commercially, while it would be able to drive an acceptable speed.

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