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# ▶ <u>B</u> REGULATION (EU) 2018/956 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 28 June 2018

on the monitoring and reporting of  $CO_2$  emissions from and fuel consumption of new heavy-duty vehicles

(Text with EEA relevance)

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# REGULATION (EU) 2018/956 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

#### of 28 June 2018

# on the monitoring and reporting of CO<sub>2</sub> emissions from and fuel consumption of new heavy-duty vehicles

(Text with EEA relevance)

# Article 1

# Subject matter

This Regulation lays down the requirements for the monitoring and reporting of  $CO_2$  emissions from and fuel consumption of new heavy-duty vehicles registered in the Union.

#### Article 2

# Scope

This Regulation applies to the monitoring and reporting by Member States and manufacturers of heavy-duty vehicles of data on new heavy-duty vehicles.

It applies with regard to the following vehicle categories:

- (a) vehicles of categories M<sub>1</sub>, M<sub>2</sub>, N<sub>1</sub> and N<sub>2</sub> with a reference mass that exceeds 2 610 kg and which do not fall within the scope of Regulation (EC) No 715/2007 of the European Parliament and of the Council (<sup>1</sup>), and all vehicles of categories M<sub>3</sub> and N<sub>3</sub>;
- (b) vehicles of categories  $O_3$  and  $O_4$ .

For the purposes of this Regulation, those vehicles are referred to as heavy-duty vehicles.

## Article 3

# Definitions

For the purposes of this Regulation, the definitions set out in Directive 2007/46/EC of the European Parliament and of the Council (<sup>2</sup>) and Regulation (EC) No 595/2009 apply.

<sup>(&</sup>lt;sup>1</sup>) Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 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 (OJ L 171, 29.6.2007, p. 1).

<sup>(2)</sup> Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive) (OJ L 263, 9.10.2007, p. 1).

#### Article 4

# Monitoring and reporting by Member States

1. Starting from 1 January 2019, and for each subsequent calendar year, Member States shall monitor the data specified in Part A of Annex I relating to new heavy-duty vehicles registered for the first time in the Union.

By 28 February each year, starting in 2020, the competent authorities of the Member States shall report those data to the Commission in accordance with the reporting procedure set out in Annex II.

Data relating to new heavy-duty vehicles that were registered previously outside the Union shall not be monitored and reported, unless that registration was made less than three months before registration in the Union.

2. The competent authorities responsible for the monitoring and reporting of data in accordance with this Regulation shall be those designated by the Member States in accordance with Article 8(7) of Regulation (EC) No 443/2009.

#### Article 5

#### Monitoring and reporting by manufacturers

1. From the starting years set out in point 1 of Part B of Annex I, manufacturers of heavy-duty vehicles shall monitor, on a calendar year basis, the data specified in point 2 of Part B of Annex I, for each new heavy-duty vehicle.

By 28 February each year, from the starting years set out in point 1 of Part B of Annex I, manufacturers of heavy-duty vehicles shall report those data for each new heavy-duty vehicle with a date of simulation falling within the preceding calendar year to the Commission in accordance with the reporting procedure set out in Annex II.

The date of simulation shall be the date reported in accordance with data entry 71 in point 2 of Part B of Annex I.

2. Each manufacturer shall appoint a contact point for the purpose of reporting data in accordance with this Regulation.

# Article 6

#### Central Register for data on heavy-duty vehicles

1. The Commission shall keep a Central Register for the data on heavy-duty vehicles ('the Register') reported in accordance with Articles 4 and 5.

The Register shall be publicly available with the exception of data entry (a) specified in Part A of Annex I and data entries 1, 24, 25, 32, 33, 39 and 40 specified in point 2 of Part B of Annex I. With regard to data entry 23 specified in point 2 of Part B of Annex I, the value shall be made publicly available in a range format as set out in Part C of Annex I.

2. The Register shall be managed by the European Environment Agency on behalf of the Commission.

#### Article 7

## Monitoring of the results of on-road verification tests

1. The Commission shall monitor, where available, the results of on-road tests performed within the framework of Regulation (EC) No 595/2009 to verify the  $CO_2$  emissions and fuel consumption of new heavy-duty vehicles.

2. The Commission is empowered to adopt delegated acts in accordance with Article 13 in order to supplement this Regulation by specifying the data to be reported by the competent authorities of the Member States for the purposes of paragraph 1 of this Article.

# Article 8

#### Data quality

1. The competent authorities and manufacturers shall be responsible for the correctness and quality of the data they report pursuant to Articles 4 and 5. They shall inform the Commission without delay of any errors detected in the data reported.

2. The Commission shall carry out its own verification of the quality of the data reported pursuant to Articles 4 and 5.

3. Where the Commission is informed of errors in the data or finds, pursuant to its own verification, discrepancies in the dataset, it shall, where appropriate, take the necessary measures to correct the data published in the Register referred to in Article 6.

4. The Commission may, by means of implementing acts, determine the verification and correction measures referred to in paragraphs 2 and 3 of this Article. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 12.

#### Article 9

#### Administrative fines

1. The Commission may impose an administrative fine in each of the following cases:

- (a) where it finds that the data reported by the manufacturer pursuant to Article 5 of this Regulation deviate from the data resulting from the manufacturer's records file or the engine type-approval certificate issued within the framework of Regulation (EC) No 595/2009, and the deviation is intentional or due to serious negligence;
- (b) where the data are not submitted within the deadline applicable pursuant to Article 5(1) and the delay cannot be duly justified.

The Commission shall, for the purposes of verifying the data referred to in point (a), consult with the relevant approval authorities.

The administrative fines shall be effective, proportional and dissuasive and shall not exceed EUR 30 000 per heavy-duty vehicle concerned by deviating or delayed data as referred to in points (a) and (b).

2. The Commission shall, on the basis of the principles set out in paragraph 3 of this Article, adopt delegated acts in accordance with Article 13 to supplement this Regulation by laying down the procedure, methods for the calculation and collection of the administrative fines referred to in paragraph 1 of this Article.

3. The delegated acts referred to in paragraph 2 shall respect the following principles:

- (a) the procedure established by the Commission shall respect the right to good administration, and in particular the right to be heard and the right to have access to the file, while respecting the legitimate interests of confidentiality and of commercial secrets;
- (b) in calculating the appropriate administrative fine, the Commission shall be guided by the principles of effectiveness, proportionality and dissuasiveness, taking into consideration, where relevant, the seriousness and effects of the deviation or delay, the number of heavy-duty vehicles concerned by the deviating or delayed data, the good faith of the manufacturer, the degree of diligence and cooperation of the manufacturer, the repetition, frequency or duration of the deviation or the delay as well as prior sanctions imposed on the same manufacturer;
- (c) administrative fines shall be collected without undue delay by fixing deadlines for the payment and, as appropriate, including the possibility of splitting payments into several instalments and phases.

4. The amounts of the administrative fines shall be considered as revenue for the general budget of the Union.

#### Article 10

#### Report

1. By 31 October every year, the Commission shall publish an annual report with its analysis of the data transmitted by Member States and manufacturers for the preceding calendar year.

2. The analysis shall indicate, as a minimum, the performance of the heavy-duty vehicle fleet of the Union as well as that of each Member State and each manufacturer in terms of the average fuel consumption and  $CO_2$  emissions for each heavy-duty vehicle group by mission profile, load and fuel combination. It shall also, where available, take into account data on the uptake of new and advanced  $CO_2$  reducing technologies, as well as of alternative powertrains. Moreover, it shall include an analysis of, where available, the results of on-road verification tests as monitored in accordance with Article 7.

3. The Commission shall prepare the analysis with the support of the European Environment Agency.

#### Article 11

# Amendment of the Annexes

1. The Commission is empowered to adopt delegated acts in accordance with Article 13 with a view to amending the Annexes for the purpose of:

- (a) updating or adjusting the data requirements specified in Part A and Part B of Annex I, where this is deemed necessary in order to provide for a thorough analysis in accordance with Article 10;
- (b) completing the starting years in point 1 of Part B of Annex I;
- (c) updating or adjusting the ranges set out in Part C of Annex I to take into account changes in heavy-duty vehicle design and ensure that the ranges remain relevant for information and comparability purposes;
- (d) adjusting the monitoring and reporting procedure set out in Annex II in order to take into account the experience gained from the application of this Regulation.

2. The delegated acts referred to in point (b) of paragraph 1 shall be adopted by 30 July 2025.

# Article 12

#### **Committee procedure**

1. The Commission shall be assisted by the Climate Change Committee established by Regulation (EU) No 525/2013 of the European Parliament and of the Council (<sup>1</sup>). That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.

2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

#### Article 13

## Exercise of the delegation

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

<sup>(&</sup>lt;sup>1</sup>) Regulation (EU) No 525/2013 of the European Parliament and of the Council of 21 May 2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change and repealing Decision No 280/2004/EC (OJ L 165, 18.6.2013, p. 13).

2. The power to adopt delegated acts referred to in Articles 7(2), 9(2) and 11(1) shall be conferred on the Commission for a period of seven years from 29 July 2018. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the seven-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.

3. The delegation of power referred to in Articles 7(2), 9(2) and 11(1) may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

4. Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making.

5. As soon as it adopts a delegated act the Commission shall notify it simultaneously to the European Parliament and to the Council.

6. A delegated act adopted pursuant to Articles 7(2), 9(2) and 11(1) shall enter into force only if no objection has been expressed either by the European Parliament or by the Council within a period of two months of notification of that act to the European Parliament and to the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

#### Article 14

## Entry into force

This Regulation shall enter into force on the twentieth 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.

## ANNEX I

#### Rules on data to be monitored and reported

PART A: DATA TO BE MONITORED AND REPORTED BY MEMBER STATES

- (a) vehicle identification numbers of all new heavy-duty vehicles as referred to in points (a) and (b) of the second paragraph of Article 2 that are registered in the Member State territory;
- (b) manufacturer name;
- (c) make (trade name of manufacturer);

#### ▼<u>M1</u>

(d) for vehicles registered until 31 December 2019 where available, and for vehicles registered from 1 January 2020 in all cases, the code for the bodywork as specified in entry 38 of the certificate of conformity, including, where applicable, the supplementing digits referred to in Appendix 2 to Annex II to Directive 2007/46/EC;

# ▼<u>B</u>

(e) in the case of the heavy-duty vehicles referred to in point (a) of the second paragraph of Article 2, the information on the powerplant specified in entries 23, 23.1 and 26 of the certificate of conformity;

## ▼<u>M1</u>

(f) for vehicles registered from 1 January 2020, the maximum speed of the vehicle as specified in entry 29 of the certificate of conformity.

# ▼B

PART B: DATA TO BE MONITORED AND REPORTED BY MANUFAC-TURERS OF HEAVY-DUTY VEHICLES

1. Starting years for the monitoring and reporting of data for the heavy-duty vehicle categories set out in points (a) and (b) of the second paragraph of Article 2:

| Category of<br>heavy-duty<br>vehicles | Vehicle group in vehicle<br>category (as referred to in<br>Annex I to Regulation (EU)<br>2017/2400) | Starting year<br>Monitoring | Starting year<br>Reporting |
|---------------------------------------|---|-----------------------------|----------------------------|
| N <sub>1</sub>                        | _   | _                           | —                          |
| N <sub>2</sub>                        | 1 and 2   | 2020                        | 2021                       |
| N <sub>3</sub>                        | 3   | 2020                        | 2021                       |
|                                       | 4, 5, 9 and 10  | 2019                        | 2020                       |
|                                       | 11, 12 and 16   | 2020                        | 2021                       |
| M <sub>1</sub>                        | _   | _                           | —                          |
| M <sub>2</sub>                        | _   | _                           | —                          |
| M <sub>3</sub>                        | _   | _                           | —                          |
| O <sub>3</sub>                        |   | _                           | _                          |
| O <sub>4</sub>                        |   |                             | _                          |

# 2. Data to be monitored and reported:

|             | No | Monitoring parameters   | Source Part I of Annex IV to<br>Regulation (EU) 2017/2400, unless<br>otherwise specified | Description                                  |  |
|-------------|----|---|--|--|--|
|             | 1  | Vehicle identification number (VIN)   | 1.1.3  |  |  |
|             | 2  | Engine certification number   | 1.2.2  | Vehicle and<br>component identifi-<br>cation |  |
|             | 3  | CdxA (1) certification number (if applicable)   | 1.8.3  |  |  |
|             | 4  | Transmission certification number   | 1.3.2  |  |  |
| ▼ <u>M1</u> |    |   |  |  |  |
|             | 5  | Axle certification number   | 1.7.2  | Axle specifications                          |  |
| ▼ <u>B</u>  |    |   |  |  |  |
|             | 6  | Tyre certification number, axle 1   | 1.9.2  |  |  |
|             | 7  | Tyre certification number, axle 2   | 1.9.6  | Vehicle and                                  |  |
|             | 8  | Tyre certification number, axle 3   | 1.9.10   | component identifi-<br>cation                |  |
|             | 9  | Tyre certification number, axle 4   | 1.9.14   |  |  |
|             | 10 | Vehicle category (N <sub>1</sub> , N <sub>2</sub> , N <sub>3</sub> , M <sub>1</sub> , M <sub>2</sub> , M <sub>3</sub> ) | 1.1.4  |  |  |
|             | 11 | Axle configuration  | 1.1.5  |  |  |
|             | 12 | Maximum gross vehicle weight (t)  | 1.1.6  | Vehicle classification                       |  |
|             | 13 | Vehicle group   | 1.1.7  |  |  |
|             | 14 | Name and address of manufacturer  | 1.1.1  | Vehicle and chassis specification            |  |
| ▼ <u>M1</u> |    |   |  |  |  |
|             | 15 | Make (trade name of manufacturer)   | —  | Vehicle specifications                       |  |
| ▼ <u>B</u>  |    |   |  |  |  |
|             | 16 | Corrected actual curb mass (kg)   | 1.1.8  |  |  |
|             | 17 | Engine rated power (kW)   | 1.2.3  |  |  |
|             | 18 | Engine idling speed (1/min)   | 1.2.4  | Main engine specifi-                         |  |
|             | 19 | Engine rated speed (1/min)  | 1.2.5  | cations                                      |  |
|             | 20 | Engine capacity (ltr)   | 1.2.6  |  |  |
| ▼ <u>M1</u> |    |   |  |  |  |
|             | 21 | Fuel type (Diesel CI/CNG PI/LNG PI)   | 1.2.7  | Engine specifications                        |  |
| ▼ <u>B</u>  |    |   |  |  |  |
|             | 22 | Certification option used for generation of CdxA (standard values/measurement)  | 1.8.2  | Aerodynamics                                 |  |
|             | 23 | CdxA value (air drag value)   | 1.8.4  |  |  |
|             |    |   |  |  |  |

| No | Monitoring parameters   | Source Part I of Annex IV to<br>Regulation (EU) 2017/2400, unless<br>otherwise specified | Description                      |  |
|----|---|--|----------------------------------|--|
| 24 | Name and address of transmission manufacturer —   |  |                                  |  |
| 25 | Make (trade name of transmission manufacturer) —  |  |                                  |  |
| 26 | Certification option used for the generation of simulation tool loss maps (Option 1/Option 2/ Option 3/Standard values)             | 1.3.3  |                                  |  |
| 27 | Transmission type (SMT ( <sup>2</sup> ), AMT ( <sup>3</sup> ), APT ( <sup>4</sup> )<br>-S ( <sup>5</sup> ), APT-P ( <sup>6</sup> )) | 1.3.4  | Main transmission specifications |  |
| 28 | Number of gears   | 1.3.5  |                                  |  |
| 29 | Transmission ratio final gear   | 1.3.6  |                                  |  |
| 30 | Retarder type   | 1.3.7  |                                  |  |
| 31 | Power take off (yes/no)   | 1.3.8  |                                  |  |
| 32 | Name and address of axle manufacturer   | —  |                                  |  |
| 33 | Make (trade name of axle manufacturer)  | —  |                                  |  |
| 34 | Certification option used for the generation of a simulation tool loss map (standard values/ measurement)                           | 1.7.3  | Main axle specifi-<br>cations    |  |
| 35 | Axle type (e.g. standard single driven axle)  | 1.7.4  |                                  |  |
| 36 | Axle ratio  | 1.7.5  |                                  |  |
| 37 | Certification option used for the generation of a simulation tool loss map (standard values/ measurement)                           | 1.6.3  | Angle drive specifi-<br>cations  |  |
| 38 | Angle drive ratio   | 1.6.4  | cations                          |  |
| 39 | Name and address of tyre manufacturer   | —  |                                  |  |
| 40 | Make (trade name of tyre manufacturer)  | —  |                                  |  |
| 41 | Tyre dimension axle 1   | 1.9.1  |                                  |  |
| 42 | Specific rolling resistance coefficient (RRC) of all tyres on axle 1  | 1.9.3  |                                  |  |
| 43 | Tyre dimension axle 2   | 1.9.4  |                                  |  |
| 44 | Twin axle (yes/no) axle 2   | 1.9.5  |                                  |  |
| 45 | Specific RRC of all tyres on axle 2   | 1.9.7  | Main tyre specifi-<br>cations    |  |
| 46 | Tyre dimension axle 3   | 1.9.8  |                                  |  |
| 47 | Twin axle (yes/no) axle 3   | 1.9.9  |                                  |  |
| 48 | Specific RRC of all tyres on axle 3   | 1.9.11   |                                  |  |
| 49 | Tyre dimension axle 4   | 1.9.12   |                                  |  |
| 50 | Twin axle (yes/no) axle 4   | 1.9.13   |                                  |  |
| 51 | Specific RRC of all tyres on axle 4   | 1.9.15   |                                  |  |

| ▼ <u>B</u>  |    |   |  |  |  |
|-------------|----|---|--|--|--|
|             | No | Monitoring parameters   | Source Part I of Annex IV to<br>Regulation (EU) 2017/2400, unless<br>otherwise specified | Description  |  |
|             | 52 | Engine cooling fan technology   | 1.10.1   |  |  |
|             | 53 | Steering pump technology  | 1.10.2   | Main auxiliary specifi   |  |
|             | 54 | Electric system technology  | 1.10.3   | cations  |  |
|             | 55 | Pneumatic system technology   | 1.10.4   |  |  |
|             | 56 | Mission profile (long haul, long haul (EMS ( <sup>7</sup> )),<br>regional, regional (EMS), urban, municipal,<br>construction)   | 2.1.1  | Simulation parameters<br>(for each mission<br>profile/load/fuel<br>combination)        |  |
|             | 57 | Load (as defined in the simulation tool) (kg)   | 2.1.2  |  |  |
|             | 58 | Fuel type (diesel/petrol/LPG/CNG/)  | 2.1.3  |  |  |
|             | 59 | Total vehicle mass in simulation (kg)   | 2.1.4  |  |  |
|             | 60 | Average speed (km/h)  | 2.2.1  |  |  |
|             | 61 | Minimum instantaneous speed (km/h)  | 2.2.2  |  |  |
|             | 62 | Maximum instantaneous speed (km/h)  | 2.2.3  | Vehicle driving<br>performance (for each<br>mission profile/load/<br>fuel combination) |  |
|             | 63 | Maximum deceleration (m/s <sup>2</sup> )  | 2.2.4  |  |  |
|             | 64 | Maximum acceleration (m/s <sup>2</sup> )  | 2.2.5  |  |  |
|             | 65 | Full load percentage on driving time  | 2.2.6  |  |  |
|             | 66 | Total number of gear shifts   | 2.2.7  |  |  |
|             | 67 | Total driven distance (km)  | 2.2.8  |  |  |
|             | 68 | CO <sub>2</sub> emissions (expressed in g/km, g/t-km, g/p-km, g/m <sup>3</sup> -km)   | 2.3.13-2.3.16  | CO <sub>2</sub> emissions and  |  |
|             | 69 | Fuel consumption (expressed in g/km, g/t-km, g/p-km, g/m <sup>3</sup> -km, l/100km, l/t-km, l/p-km, l/m <sup>3</sup> -km, MJ/km, MJ/t-km, MJ/p-km, MJ/m <sup>3</sup> -km) | 2.3.1-2.3.12   | fuel consumption (for<br>each mission profile/<br>load/fuel combination)               |  |
|             | 70 | Simulation tool version (X.X.X.)  | 3.1.1  |  |  |
|             | 71 | Date and time of the simulation   | 3.1.2  | Software and user information  |  |
|             | 72 | Number of licence to operate the simulation tool  | _  |  |  |
| ▼ <u>M1</u> |    |   |  |  |  |
|             | 73 | Cryptographic hash of the manufacturer's records file   | 3.1.4  | Software information   |  |

| V D         |    |  |  |   |  |
|-------------|----|--|--|---|--|
|             | No | Monitoring parameters  | Source Part I of Annex IV to<br>Regulation (EU) 2017/2400, unless<br>otherwise specified   | Description   |  |
|             | 74 | Advanced CO <sub>2</sub> reducing technologies                                       | _  | Vehicle CO <sub>2</sub> reducing technologies                       |  |
|             | 75 | CO <sub>2</sub> mass emission of the engine over WHTC ( <sup>8</sup> )<br>(g/kWh)    | Point 1.4.2 of the addendum to<br>Appendix 5, or point 1.4.2 of<br>the addendum to Appendix 7,<br>to Annex I to Regulation (EU)<br>No 582/2011, whichever is<br>applicable |   |  |
|             | 76 | Fuel consumption of the engine over WHTC (g/kWh)                                     | Point 1.4.2 of the addendum to<br>Appendix 5, or point 1.4.2 of<br>the addendum to Appendix 7,<br>to Annex I to Regulation (EU)<br>No 582/2011, whichever is<br>applicable | Engine CO <sub>2</sub> emission<br>and specific fuel<br>consumption |  |
|             | 77 | CO <sub>2</sub> mass emission of the engine over WHSC ( <sup>9</sup> )<br>(g/kWh)    | Point 1.4.1 of the addendum to<br>Appendix 5, or point 1.4.1 of<br>the addendum to Appendix 7,<br>to Annex I to Regulation (EU)<br>No 582/2011, whichever is<br>applicable |   |  |
|             | 78 | Fuel consumption of the engine over WHSC (g/kWh)                                     | Point 1.4.1 of the addendum to<br>Appendix 5, or point 1.4.1 of<br>the addendum to Appendix 7,<br>to Annex I to Regulation (EU)<br>No 582/2011, whichever is<br>applicable |   |  |
| ▼ <u>M1</u> |    |  |  |   |  |
|             | 79 | Vehicle model  | 1.1.2  |   |  |
|             | 80 | Vocational vehicle (yes/no)  | 1.1.9  |   |  |
|             | 81 | Zero emission heavy-duty vehicle (yes/no)  | 1.1.10   |   |  |
|             | 82 | Hybrid electric heavy-duty vehicle (yes/no)  | 1.1.11   | Vehicle specifications  |  |
|             | 83 | Dual-fuel vehicle (yes/no)   | 1.1.12   |   |  |
|             | 84 | Sleeper cab (yes/no)   | 1.11.13  |   |  |
|             | 85 | Engine model ( <sup>10</sup> )   | 1.2.1  | Engine specifications   |  |
|             | 86 | Transmission model (10)  | 1.3.1  | Transmission specifications   |  |
|             | 87 | Retarder model ( <sup>10</sup> )   | 1.4.1  |   |  |
|             | 88 | Retarder certification number  | 1.4.2  | Retarder specifications   |  |
|             | 89 | Certification option used for generation of a loss map (standard values/measurement) | 1.4.3  |   |  |
|             |    |  |  |   |  |

| No  | Monitoring parameters  | Source Part I of Annex IV to<br>Regulation (EU) 2017/2400, unless<br>otherwise specified | Description                          |  |
|-----|--|--|--------------------------------------|--|
| 90  | Torque converter model ( <sup>10</sup> )   | 1.5.1  |                                      |  |
| 91  | Torque converter certification number  | 1.5.2  | Torque converter spec-<br>ifications |  |
| 92  | Certification option used for generation of a loss map (standard values/measurement) | 1.5.3  |                                      |  |
| 93  | Angle drive model ( <sup>10</sup> )  | 1.6.1  | Angle drive specifi-<br>cations      |  |
| 94  | Angle drive certification number   | 1.6.2  |                                      |  |
| 95  | Axle model ( <sup>10</sup> )   | 1.7.1  | Axle specifications                  |  |
| 96  | Air drag model ( <sup>10</sup> )   | 1.8.1  | Aerodynamics                         |  |
| 97  | Engine stop-start during vehicle stops (yes/no)                                      | 1.12.1   |                                      |  |
| 98  | Eco-roll without engine stop-start (yes/no)  | 1.12.2   | Advanced driver                      |  |
| 99  | Eco-roll with engine stop-start (yes/no)   | 1.12.3   | assistance<br>systems (ADAS)         |  |
| 100 | Predictive cruise control (yes/no)   | 1.12.4   |                                      |  |

(1) Air drag.

<sup>(2)</sup> Synchronised Manual Transmission.

(<sup>3</sup>) Automated Manual Transmission or Automatic Mechanically-engaged Transmission.

<sup>(4)</sup> Automatic Powershifting Transmission.

- (5) 'Case S' means the serial arrangement of a torque converter and the connected mechanical parts of the transmission.
- (6) 'Case P' means the parallel arrangement of a torque converter and the connected mechanical parts of the transmission (e.g. in power split installations).
- (7) European Modular System (EMS) in accordance with Council Directive 96/53/EC of 25 July 1996 laying down for certain road vehicles circulating within the Community the maximum authorized dimensions in national and international traffic and the maximum authorized weights in international traffic (OJ L 235, 17.9.1996, p. 59). World Harmonized Transient Driving Cycle.
- (8)

(9) Worldwide Harmonised Steady state Cycle.

▶<u>M1</u> (<sup>10</sup>) Data entries 85, 86, 87, 90, 93, 95 and 96 shall not be made publicly available in the Central Register on heavy-duty vehicles.

#### PART C: AIR DRAG VALUE (CDXA) RANGES FOR THE PURPOSE OF PUBLICATION IN ACCORDANCE WITH ARTICLE 6

For the purpose of making publicly available the CdxA value specified in data entry 23 in accordance with Article 6, the Commission shall use the ranges defined in the following table containing the corresponding range for each CdxA value:

| Damas | CdxA value [m <sup>2</sup> ]         |                           |  |
|-------|--------------------------------------|---------------------------|--|
| Range | $Min \ CdxA \ (CdxA \ge min \ CdxA)$ | Max CdxA (CdxA < MaxCdxA) |  |
| A1    | 0,00                                 | 3,00                      |  |
| A2    | 3,00                                 | 3,15                      |  |
| A3    | 3,15                                 | 3,31                      |  |
| A4    | 3,31                                 | 3,48                      |  |

# ▼<u>M1</u>

| Denes | CdxA value [m <sup>2</sup> ]         |                           |  |
|-------|--------------------------------------|---------------------------|--|
| Range | $Min \ CdxA \ (CdxA \ge min \ CdxA)$ | Max CdxA (CdxA < MaxCdxA) |  |
| A5    | 3,48                                 | 3,65                      |  |
| A6    | 3,65                                 | 3,83                      |  |
| A7    | 3,83                                 | 4,02                      |  |
| A8    | 4,02                                 | 4,22                      |  |
| A9    | 4,22                                 | 4,43                      |  |
| A10   | 4,43                                 | 4,65                      |  |
| A11   | 4,65                                 | 4,88                      |  |
| A12   | 4,88                                 | 5,12                      |  |
| A13   | 5,12                                 | 5,38                      |  |
| A14   | 5,38                                 | 5,65                      |  |
| A15   | 5,65                                 | 5,93                      |  |
| A16   | 5,93                                 | 6,23                      |  |
| A17   | 6,23                                 | 6,54                      |  |
| A18   | 6,54                                 | 6,87                      |  |
| A19   | 6,87                                 | 7,21                      |  |
| A20   | 7,21                                 | 7,57                      |  |
| A21   | 7,57                                 | 7,95                      |  |
| A22   | 7,95                                 | 8,35                      |  |
| A23   | 8,35                                 | 8,77                      |  |
| A24   | 8,77                                 | 9,21                      |  |

#### ANNEX II

#### Data reporting and management

- 1. REPORTING BY MEMBER STATES
- 1.1. The data specified in Part A of Annex I shall be transmitted in accordance with Article 4 by the contact point of the competent authority via electronic data transfer to the Central Data Repository managed by the European Environment Agency ('the Agency').

The contact point shall notify the Commission and the Agency when the data are transmitted by email to the following addresses:

EC-CO2-HDV-IMPLEMENTATION@ec.europa.eu

and

HDV-monitoring@eea.europa.eu

#### 2. REPORTING BY MANUFACTURERS

- 2.1. Manufacturers shall notify the Commission without delay and not later than by 31 December 2018 of the following information:
  - (a) the manufacturer name indicated in the certificate of conformity or individual approval certificate;
  - (b) the World Manufacturer Identifier code (WMI code) as defined in Commission Regulation (EU) No 19/2011 (<sup>1</sup>) to be used in the vehicle identification numbers of new heavy-duty vehicles to be placed on the market;
  - (c) the contact point responsible for uploading the data to the Business Data Repository of the Agency.

They shall notify the Commission without delay of any changes to that information.

The notifications shall be sent to the addresses referred to in point 1.1.

- 2.2. New manufacturers entering the market shall inform the Commission without delay of the information referred to in point 2.1.
- 2.3. The data specified in point 2 of Part B of Annex I shall be transmitted in accordance with Article 5(1) by the contact point of the manufacturer via electronic data transfer to the Business Data Repository managed by the Agency.

The contact point shall notify the Commission and the Agency when the data are transmitted by email to the addresses referred to in point 1.1.

<sup>(1)</sup> Commission Regulation (EU) No 19/2011 of 11 January 2011 concerning type-approval requirements for the manufacturer's statutory plate and for the vehicle identification number of motor vehicles and their trailers and implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor (OJ L 8, 12.1.2011, p. 1).

#### 3. DATA PROCESSING

- 3.1. The Agency shall process the data transmitted in accordance with points 1.1 and 2.3 and shall record the processed data in the Register.
- 3.2. The data relating to heavy-duty vehicles registered in the preceding calendar year and recorded in the Register shall be made public by 31 October each year, starting from 2020, with the exception of the data entries specified in Article 6(1).
- 3.3. Where a competent authority or manufacturers identify errors in the data submitted, they shall without delay notify those to the Commission and the Agency by submitting an error notification report to the Central Data Repository or the Business Data Repository and by email sent to the addresses referred to in point 1.1.
- 3.4. The Commission shall with the support of the Agency verify the notified errors and, where appropriate, correct the data in the Register.
- 3.5. The Commission, with the support of the Agency, shall make available electronic formats for the data transmissions referred to in points 1.1 and 2.3 in due time before the transmission deadlines.