Council of the European Union

Brussels, 15 March 2023
(OR. en)

7476/23

Interinstitutional File: 2022/0365(COD)

LIMITE

MI 197
ENV 256
ENT 52
CODEC 387

NOTE

From:	Presidency
To:	Delegations
No. prev. doc.:	14598/22 + ADD 1-7
Subject:	Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on type-approval of motor vehicles and engines and of systems, components and separate technical units intended for such vehicles, with respect to their emissions and battery durability (Euro 7) and repealing Regulations (EC) No 715/2007 and (EC) No 595/2009 - Presidency partial compromise text

In view of the upcoming meeting of the Working Party on Technical Harmonisation (Motor Vehicles) on 22 March 2023, delegations will find enclosed, in Annex to this note, the first partial compromise text of the Presidency. The first partial compromise text covers all chapters, based on comments received from MS, except the Commission's empowerments in Chapter V, recitals and annexes, hence no emission limits. The topics not covered by the first partial compromise text will be covered by forthcoming partial compromise texts.

Changes compared to the proposal (doc. 14598/22) are marked in bold and underlined for the new text and in strikethrough for deletions.

ANNEX

2022/0365 (COD)

Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on type-approval of motor vehicles and engines and of systems, components and separate technical units intended for such vehicles, with respect to their emissions and battery durability (Euro 7) and repealing Regulations (EC) No 715/2007 and (EC) No 595/2009

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 114 thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee[1],

Having regard to the opinion of the Committee of the Regions[2],

Acting in accordance with the ordinary legislative procedure,

[1] OJ C , , p. .
[2] OJ C , , p. .

Whereas:

(1) The internal market is an area in which the free movement of goods, persons, services and capital must be ensured. To that end Regulation (EU) 2018/858 of the European Parliament and of the Council[3] introduced a comprehensive type-approval and market surveillance system for motor vehicles, trailers, and for systems, components and separate technical units intended for such vehicles.

(2) The technical requirements for the type-approval of motor vehicles, engines and replacement parts with regard to emissions ('emission type-approval') should remain harmonised to ensure the proper functioning of the internal market, as well as a high level of environmental and health protection common in all Member States.

(3) This Regulation is a separate regulatory act for the purposes of the EU type-approval procedure laid down in Annex II to Regulation (EU) 2018/858. It lays down provisions and requirements on vehicle emissions and battery durability, whereas the technical elements will be laid down by implementing acts adopted in accordance with the examination procedure and the assistance of a committee within the meaning of Regulation (EU) No 182/2011 (comitology procedure).

[3] Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC (OJ L 151, 14.6.2018, p. 1).

(4) The technical requirements for the type-approval of motor vehicles, engines and replacement parts with regard to emissions ('emission type-approval') are currently set out in two Regulations that apply to emission type-approval for light-duty and heavy-duty vehicles respectively, i.e. Regulation (EC) No 715/2007 of the European Parliament and of the Council ('Euro 6')[4] and Regulation (EC) No 595/2009 of the European Parliament and of the Council ('Euro VI')[5]. The reason for having two Regulations was that the emissions of heavy-duty vehicles were checked based on engine testing, while for light-duty vehicles the basis was whole vehicle testing. Since then, methodologies have been developed that allow testing of both light- and heavy-duty vehicles on the road. It is therefore no longer necessary to base type-approval on engine testing.

(5) Incorporating the requirements laid down in Regulation (EC) No 715/2007 and Regulation (EC) No 595/2009 into a single Regulation should ensure internal coherence of the system of emission type-approvals for both light and heavy-duty vehicles, while allowing for different emission limits for such vehicles.

(6) Furthermore, the current emission limits were adopted in 2007 for light-duty vehicles and for heavy-duty vehicles in 2009. Both emission limits were adopted on the basis of the then available technology. Since then, technology has advanced and the level of emissions achieved with a combination of current technologies is much lower than that achieved more than 15 years ago. That technological progress should be reflected in emission limits based on state-of-the-art existing technology and knowledge of pollution controls and for all relevant pollutants.

---

4 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).

5 Regulation (EC) No 595/2009 of the European Parliament and of the Council of 18 June 2009 on type-approval of motor vehicles and engines with respect to emissions from heavy duty vehicles (Euro VI) and on access to vehicle repair and maintenance information and amending Regulation (EC) No 715/2007 and Directive 2007/46/EC and repealing Directives 80/1269/EEC, 2005/55/EC and 2005/78/EC (OJ L 188, 18.7.2009, p. 1).

(7) It is also necessary to reduce complexity, administrative and implementation costs for manufacturers and authorities and to ensure effective and efficient implementation of the Euro emission standards. Simplification is achieved by eliminating different application dates for the limits and tests which existed under Euro 6 and Euro VI, by eliminating multiple and complex emission tests where such tests are not needed, by referring to standards under existing UN Regulations where applicable, and by ensuring a streamlined and consistent set of procedures and tests for the various phases of the emission type-approval.

(8) In order to ensure that the emissions for both light and heavy duty vehicles are limited in real life, testing vehicles in real conditions of use with a minimum set of restrictions, boundaries and other driving requirements and not only in the laboratory is required.

(9) The accuracy of the portable emission measurement equipment used for measuring the emissions of vehicles used on the road has improved significantly since their introduction. It is therefore appropriate to base the emission limits on such on-road measurements and therefore on-road testing no longer requires the use of conformity factors.

(10) Regulations (EC) No 715/2007 and (EC) No 595/2009 require that vehicles respect the emission limits for a specified period of time, which does not correspond anymore to the average lifetime of vehicles. It is therefore appropriate to lay down durability requirements that reflect the average expected lifetime of vehicles in the Union.

(11) There are now technologies available and used widely worldwide that limit evaporative emissions of volatile organic compounds during the use, parking and refuelling of a vehicle with petrol fuel. It is therefore appropriate to set the emission limits for such volatile organic compounds at a lower level and introduce emission limits for the refuelling phase.

(12) Non-exhaust emissions consist of particles emitted by tyres and brakes of vehicles. Emissions from tyres is estimated to be the largest source of microplastics to the environment. As shown in the Impact Assessment, it is expected that by 2050, non-exhaust emissions will constitute up to 90% of all particles emitted by road transport, because exhaust particles will diminish due to vehicle electrification. Those non-exhaust emissions should therefore be measured and limited. The Commission should prepare a report on tyre abrasion by the end of 2024 to review the measurement methods and state-of-the-art in order to propose tyre abrasion limits.

(13) Regulation (EU) 2019/2144 of the European Parliament and of the Council[6] regulates gear shift indicators (GSI), whose main purpose is to minimise fuel consumption of a vehicle when a driver follows its indications. However, the pollutant emission requirements in real use, including when following the GSI, should be addressed in this Regulation.

(14) Vehicles with traction batteries, including plugin hybrids and battery electric vehicles, contribute to the decarbonisation of the road transport sector. In order to gain and increase consumer trust in such vehicles, they should be performant and durable. It is therefore important to require that traction batteries retain a good part of their initial capacity after many years of use. That is of particular importance to buyers of second hand electric vehicles to ensure that the vehicle will continue to perform as expected. Monitors of the battery state-of-health should therefore be required for all vehicles that use traction batteries. In addition minimum performance requirements for battery durability of passenger cars should be introduced, taking into account the UN Global Technical Regulation 22[7].

---

[6] Regulation (EU) 2019/2144 of the European Parliament and of the Council of 27 November 2019 on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/858 of the European Parliament and of the Council and repealing Regulations (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009 of the European Parliament and of the Council and Commission Regulations (EC) No 631/2009, (EU) No 406/2010, (EU) No 672/2010, (EU) No 1003/2010, (EU) No 1005/2010, (EU) No 1008/2010, (EU) No 1009/2010, (EU) No 19/2011, (EU) No 109/2011, (EU) No 458/2011, (EU) No 65/2012, (EU) No 130/2012, (EU) No 347/2012, (EU) No 351/2012, (EU) No 1230/2012 and (EU) 2015/166 (OJ L 325, 16.12.2019, p. 1).

[7] United Nations Global Technical Regulation on In-vehicle Battery Durability for Electrified Vehicles, UN GTR 22

(15) Tampering of vehicles to remove or deactivate parts of the pollution control systems is a well-known problem. Such practice leads to uncontrolled emissions and should be prevented. Tampering of the odometer, leads to false mileage and hampers the proper in-service control of a vehicle. It is therefore of the utmost importance to guarantee the highest possible security protection of those systems, complete with security certificates and appropriate anti-tampering protection to ensure that neither pollution control systems nor the vehicle odometer can be tampered with.

(16) Sensors installed on vehicles are already used today to detect anomalies on emissions and trigger related repairs through the on-board diagnostic (OBD) system. The OBD system currently in use, however, does not detect accurately or timely the malfunctions and neither does it sufficiently and timely force repairs. As a result, it is possible that vehicles emit much more than they are allowed to do. The sensors used up to now for OBD can also be used to monitor and control the emission behaviour of the vehicles on a continuous basis via an on-board monitoring (OBM) system. The OBM will also warn the user to perform repairs of the engine or the pollution control systems when these are needed. It is therefore appropriate to require that such a system is installed and to regulate its technical requirements.

(17) Manufacturers may opt to produce vehicles which comply with lower emission limits or with better battery durability than what is required in this Regulation, or which include advanced options including geofencing and adaptive controls. Consumers and national authorities should be able to identify such vehicles through appropriate documentation. An environmental vehicle passport (EVP) should therefore be made available.

(18) In case the Commission makes a proposal for registering after 2035 new light-duty vehicles running exclusively on CO2 neutral fuels outside the scope of the CO2 fleet standards, and in conformity with Union law and the Union's climate neutrality objective, this Regulation will need to be amended to include the possibility to type approve such vehicles.

(19) Emissions from vehicles sold by small volume manufacturers constitute an insignificant part of emissions in the Union. Some flexibility may therefore be allowed in some of the requirements for such manufacturers. Small volume manufacturers should therefore be able to substitute certain tests during type-approval with declarations of compliance, while ultra-small volume manufacturers should be allowed to use laboratory tests based on random real-driving cycles.

(20) Regulations (EU) 2019/631[8] and (EU) 2019/1242[9] of the European Parliament and of the Council regulate the average fleet CO_2 emission performance for new motor vehicles in the Union. The procedures and methodologies for the accurate determination of CO_2 emissions, fuel and energy consumption, electric range and power for individual vehicles should be introduced in emission type-approval.

[8] Regulation (EU) 2019/631 of the European Parliament and of the Council of 17 April 2019 setting CO2 emission performance standards for new passenger cars and for new light commercial vehicles, and repealing Regulations (EC) No 443/2009 and (EU) No 510/2011 (OJ L 111, 25.4.2019, p. 13).

[9] Regulation (EU) 2019/1242 of the European Parliament and of the Council of 20 June 2019 setting CO2 emission performance standards for new heavy-duty vehicles and amending Regulations (EC) No 595/2009 and (EU) 2018/956 of the European Parliament and of the Council and Council Directive 96/53/EC (OJ L 198, 25.7.2019, p. 202)

(21) In order to ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission in relation to obligations of manufacturers as part of type-approval and procedures, test and methodologies to be applied for declaration of conformity, conformity of production check, in-service conformity-check and environmental vehicle passport (EVP); options and designations of vehicles; requirements, tests, methods and corrective measures related to durability of vehicles, systems, components and separate technical units, as well as registration and communication capabilities of OBM systems, including for the purpose of periodic technical inspections and roadworthiness checks; requirements and information to be provided by manufacturers of multistage vehicles as well as procedures to determine the CO_2 value for these multistage vehicles; technical elements, administrative and documentation requirements for emission type-approval, checks and inspections and market surveillance checks, as well as reporting obligations, in-service conformity and conformity of production checks; methods and tests to (i) measure exhaust emissions in the lab and on the road, including random and worst-case RDE test cycles, the use of portable emissions measurement systems for verifying real driving emissions, and idle emissions, (ii) determine the CO_2 emissions, fuel and energy consumption, the electric range and engine power of a motor vehicle, (iii) provide specifications for gear shift indicator (GSI) (iv) determine the impact of O_3, O_4 trailers on the CO_2 , fuel and energy consumption, electric range and engine power of a motor vehicle, (iv) measure crankcase emissions, evaporative emissions, brake emissions, (v) evaluate compliance with minimum performance requirements of battery durability, (vi) assess the in-service conformity of engines and vehicles; compliance thresholds and performance requirements, as well as (vii) test and methods to ensure performance of sensors (OBD and OBM);

(viii) methods to ensure and assess security measures; specification and characteristics of driver warning systems and inducement methods and to assess their correct operation; (ix) methods to assess the correct operation, effectiveness, regeneration and durability of original and replacement pollution control systems; (x) methods to ensure and assess security measures including vulnerability analysis and tampering protection; (xi) methods to assess the correct functioning of types approved under specific EURO7 designations; (xii) criteria for emission type-approvals for small and ultra-small volume manufacturers; (xiii) checks and test procedures for multistage vehicles; (xiv) performance requirements for test equipment; (xv) specification of reference fuels; and (xvi) methods for assessing the absence of defeat devices and defeat strategies; (xvii) to measure tyre abrasion, as well as (xviii) EVP format, data and method of communication of the EVP data. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council[10].

[10] Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13).

(22) In order to amend or supplement, as appropriate, non-essential elements of this Regulation, the power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission in respect of test conditions based on data collected when testing Euro 7 vehicles, brakes or tyres; test requirements, in particular taking into account technical progress and data collected when testing Euro 7 vehicles; introducing vehicle options and designations based on innovative technologies for manufacturers but also setting out brake particle emission limits and abrasion limits for tyre types as well as minimum performance requirements of batteries and durability multipliers based on data collected when testing Euro 7 vehicles and setting out definitions and special rules for small volume manufacturers for vehicles of categories M_2, M_3, N_2, N_3, It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making[11]. In particular, in order to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.

(23) In the interest of clarity, rationality and simplification, since the rules on emission type-approval of motor vehicles and engines, and of systems, components and separate technical units intended for such vehicles are updated and all contained in this Regulation, the existing Regulations (EC) No 595/2009 and (EC) No 715/2007 should be repealed and replaced by this Regulation.

[11] OJ L 123, 12.5.2016, p. 1.

(24) Whenever the measures provided for in this Regulation entail the processing of personal data, they should be carried out in accordance with Regulations (EU) 2016/679 of the European Parliament and of the Council[12] and Regulation (EC) No 45/2001 of the European Parliament and of the Council[13], as well as the national implementing measures thereto.

(25) It is important to grant Member States, national type-approval authorities and economic operators enough time to prepare for the application of the new rules introduced by this Regulation. The date of application should therefore be deferred. While for light duty vehicles the date of application should be as soon as technically possible, for heavy duty vehicles and trailers the date of application may be further delayed by two years, since the transition to zero-emission vehicles will be longer for heavy duty vehicles.

(26) Since the objectives of this Regulation, namely to lay down harmonised rules on the administrative and technical requirements for the type-approval of vehicles of categories M and N, and of systems, components and separate technical units, and on market surveillance of such vehicles, systems, components and separate technical units, with respect to emissions cannot be sufficiently achieved by the Member States, but can rather, by reason of their scale and effects, be better achieved at Union level, the Union may adopt measures in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality, as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve those objectives,

HAVE ADOPTED THIS REGULATION:

---

12 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4.5.2016, p. 1).

13 Regulation (EC) No 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Union institutions and bodies and on the free movement of such data (OJ L 8, 12.1.2001, p. 1).

Chapter I – Subject matter, scope and definitions

Article 1
Subject matter

1. This Regulation establishes common technical requirements and administrative provisions for the emission type-approval and market surveillance of motor vehicles, systems, components and separate technical units, with regard to their CO_2 and pollutant emissions, fuel and **electric** energy consumption and battery durability.

2. This Regulation **also** lays down rules for the initial emission type approval, conformity of production, in-service conformity, market surveillance, the durability of pollution control systems and traction batteries, on-board monitoring systems, security provisions to limit tampering and cybersecurity measures, and the accurate determination of CO_2 emissions, electric range, fuel and **electric** energy consumption and energy efficiency.

Article 2
Scope

This Regulation applies to motor vehicles of categories M_1, M_2, M_3, N_1, N_2 and N_3, as well as trailers of O_3 and O_4 categories as specified in Article 4 of Regulation (EU) No 2018/858, including those designed and constructed in one or more stages, and to systems, components and separate technical units intended for such vehicles **and tyres of categories C1, C2 and C3 as specified in Article 4 of Regulation (EU) No 2018/858**.

Article 3
Definitions

For the purposes of this Regulation, definitions in Regulation (EU) 2018/858 apply.

For the purposes of this Regulation, the following definitions apply:

(1) 'emission type-approval' means an EU type-approval complying with the administrative provisions and technical requirements of this Regulation in regards to their CO_2 and pollutant emissions, fuel and **electric** energy consumption and battery durability;

(1a) 'granting type-approval authority' means the type-approval authority that granted the emission type-approval;

(2) 'initial emission type approval' or 'IETA' means the first phase of an emission type approval procedure before the emission type approval certificate is granted by the authorities and vehicles are put into production;

(3) 'conformity of production' or 'CoP' means the activities carried out on new vehicles, separate technical units or components selected at the manufacturer's premises to ensure that the products put into the market comply with the requirements set out in this Regulation;

(4) 'in-service conformity' or 'ISC' means the activities carried out on vehicles in circulation with the purpose of verifying the durability requirements set out in this Regulation;

(5) 'engine' means the propulsion source of a vehicle;

(6) 'emissions' means the exhaust and non-exhaust emissions of a motor vehicle;

(7) 'exhaust emissions' means the emission from the tailpipe of the motor vehicle or engine of all of the following: CO2, gaseous, solid, liquid compounds and crankcase emissions;

(8) 'gaseous pollutants' means the emissions of gaseous chemical species, excluding CO_2;

(9) 'CO_2 emissions' or 'CO_2' means the emission of carbon dioxide from the tailpipe ~~of the motor vehicle or engine~~;

(10) 'nitrogen oxides' or 'NOx' means the sum of ~~the oxides of nitrogen~~ **NO and NO_2** emitted from the tailpipe;

(10a) 'nitrous oxide' or 'N_2O' means the emission of nitrous oxide from the tailpipe;

(11) 'particulate matter' or 'PM' means any material emitted from the tailpipe or the brakes and collected on a filter media;

(12) 'particulate matter less than 10 μm' or 'PM_{10}' means the particulate matter with a diameter less than 10 μm;

(13) 'particle number' or 'PN' means the total number of solid particles emitted from the tailpipe or the brakes;

(14) 'particle number above 10 nm' or 'PN_{10}' means the total number of solid particles emitted from the tailpipe or the brakes that have a diameter larger or equal than 10 nm;

(15) 'carbon monoxide' or 'CO' means the carbon monoxide emitted from the tailpipe;

(16) 'methane' or 'CH_4' means the methane emitted from the tailpipe;

(17) 'total hydrocarbons' or 'THC' means the total hydrocarbons emitted from the tailpipe;

(18) 'non-methane hydrocarbons' or ~~'NHMC'~~ **'NMHC'** means the total hydrocarbons emitted from the tailpipe excluding methane;

(19) 'non-methane organic gases' or 'NMOG' means the sum of non-oxygenated and oxygenated hydrocarbons emitted from the tailpipe **excluding methane**;

(20) 'ammonia' or 'NH_3' means the ammonia emitted from the tailpipe;

(21) 'formaldehyde' or 'HCHO' means the formaldehyde emitted from the tailpipe;

(22) 'WHTC' means the worldwide harmonised transient driving cycle in accordance with paragraph 7.2.1. of Annex 4 to UN Regulation No. 49;

~~(23) 'WHSC' means the worldwide harmonised steady state driving cycle in accordance with paragraph 7.2.2. of Annex 4 to UN Regulation No. 49;~~

(23a) 'electric energy consumption' means the consumption of electric energy from each and all propulsion sources within a vehicle;

(23b) 'fuel consumption' means the consumption of fuel from each and all propulsion sources within a vehicle;

(24) 'vehicle energy consumption calculation tool' or 'VECTO' means a simulation tool used for determining CO_2 emissions, fuel consumption, electric energy consumption and the electric range from heavy duty vehicles; 'energy consumption' means the consumption of electric energy from each and all propulsion sources within a vehicle;

~~(25) 'fuel consumption' means the consumption of fuel from each and all propulsion sources within a vehicle;~~

(26) 'evaporative emissions' means the hydrocarbon vapours emitted from the fuel system of a vehicle excluding those from exhaust emissions;

(27) 'crankcase emissions' means the gaseous pollutants emitted from the spaces in, or external to, an engine which are connected to the oil sump by internal or external ducts;

(28) 'brake particle emissions' means the particles emitted from the brake system of a vehicle;

(29) ‘tyre abrasion’ means the mass of material lost from the tyre due to the abrasion process and emitted to the environment;

(30) ‘non-exhaust emissions’ means evaporative, tyre abrasion, and brake emissions;

(31) ‘pollutant emissions’ means exhaust and non-exhaust emissions other than CO_2 emissions;

(32) ‘pollution control device’ means those devices of a vehicle that control or limit pollutant emissions;

(33) ‘pollution control systems’ means the pollution control devices installed in a vehicle, including all control units and software that govern their use;

(34) ‘original pollution control systems’ means a pollution control system or an assembly of such systems covered by the type-approval granted for the vehicle concerned;

(35) ‘replacement pollution control systems’ means a pollution control system or an assembly of such systems intended to replace an original pollution control system and which can be approved as a separate technical unit;

~~(36) ‘adaptive control function’ means a system that adjusts engine, pollution control systems or other vehicle parameters with the purpose to improve fuel or energy consumption and the effectiveness of the pollution control system based on the expected usage of the vehicle;~~

(37) ‘on-board diagnostic system’ or ‘OBD’ means a system that can generate vehicle on-board diagnostic (OBD) information, as defined in Article 3, point 49, of Regulation (EU) 2018/858 and is capable of communicating that information via the OBD port and over the air;

(38) ‘on-board monitoring system’ or ‘OBM’ means a system on board a vehicle that is capable of detecting either **exhaust** emission exceedances or when a vehicle is in zero emission mode if applicable, and capable of indicating the occurrence of such exceedances by means of information stored in the vehicle, and of communicating that information via the OBD port and over the air;

(39) ‘on-board fuel and **electric** energy consumption monitoring device’ or ‘OBFCM device’ means any software or hardware that senses and uses vehicle, engine, fuel or electric energy and payload/mass parameters to determine, store in the vehicle the fuel and **electric** energy consumption data and other parameters relevant for determining the fuel or **electric** energy consumption and energy efficiency of the vehicle;

(40) ‘defeat device’ means any software or hardware that senses temperature, vehicle speed, engine speed , transmission gear, manifold vacuum or any other parameter to activate, modulate, delay or deactivate the operation of any part of the pollution control system, with the purpose of reducing the effectiveness of the pollution control system when the vehicle is driven;

(41) ‘defeat strategy’ means a strategy that reduces the effectiveness of the pollution controls under ambient or engine operating conditions encountered either during vehicle operation or outside the type-approval test procedures or falsifies data related to sensors, fuel or **electric** energy consumption, electric range or battery durability;

(42) ‘real driving emissions’ or ‘RDE’ means the emissions of a vehicle under normal driving conditions and **each of the** extended conditions **individually** as specified in Tables 1 and 2 of Annex III;

(43) ‘odometer’ means an instrument indicating the total distance driven by the vehicle since its production;

(44) ‘tampering’ means the inactivation, or modification ~~by the economic operators or independent operators, of the engine~~, vehicle pollution control device and system, propulsion system, traction battery, odometer, OBFCM or OBD/OBM, including any software or other logical control elements of those systems and their data;

(45) ‘own production facility’ means a manufacturing or assembly plant used by the manufacturer for the purpose of manufacturing or assembling new vehicles for that manufacturer, including, where relevant, vehicles which are intended for export;

(46) ‘own design centre’ means a facility in which the whole vehicle is designed and developed, and which is under the control and use of the manufacturer;

(47) ‘small volume manufacturer’ means a manufacturer of fewer than 10 000 new motor vehicles of category M_1 or 22 000 new motor vehicles of category N_1 ~~registered in the Union~~ **produced worldwide** per calendar year and which:

(a) is not part of a group of connected manufacturers; or

(b) is part of a group of connected manufacturers that is responsible in total for fewer than 10 000 new motor vehicles of category M_1 or 22 000 new motor vehicles of category N_1 ~~registered in the Union~~ **produced worldwide** per calendar year; or

(c) is part of a group of connected manufacturers but operates its own production facilities and own design centre;

(48) ‘ultra-small-volume manufacturer’ means a small volume manufacturer that produces fewer than 1 000 new motor vehicles of category M_1 or fewer than 1 000 new motor vehicles of category N_1 ~~registered in the Union~~ **produced worldwide** in the previous calendar year;

(49) ‘pure internal combustion engine vehicle’ or ‘ICEV’ means a vehicle where all of the propulsion energy converters are internal combustion engines, including hydrogen powered ones;

(50) ‘pure electric vehicle’ or ‘PEV’ means a vehicle equipped with a powertrain containing exclusively electric machines as propulsion energy converters and exclusively rechargeable electric energy storage systems as propulsion energy storage systems;

(51) ‘fuel cell’ means an energy converter transforming chemical energy (input) into electrical energy (output) or vice versa;

(52) ‘fuel cell vehicle’ or ~~(~~‘FCV’~~)~~ means a vehicle equipped with a powertrain containing exclusively fuel cell(s) and electric machine(s) as propulsion energy converter(s);

(53) ‘fuel cell hybrid vehicle’ or ~~(~~‘FCHV’~~)~~ means a fuel cell vehicle equipped with a powertrain containing at least one fuel storage system and at least one rechargeable electric energy storage system as propulsion energy storage systems;

(54) ‘hybrid vehicle’ or ‘HV’ means a vehicle equipped with a powertrain containing at least two different categories of propulsion energy converters and at least two different categories of propulsion energy storage systems;

(55) ‘hybrid electric vehicle’ or ‘HEV’ means a hybrid vehicle where one of the propulsion energy converters is an electric machine;

(56) ‘off-vehicle charging hybrid electric vehicle’ or ‘OVC-HEVs’ means a hybrid electric vehicle that can be charged from an external source;

(57) ‘not off-vehicle charging hybrid electric vehicle’ or ‘NOVC-HEV’ means a vehicle with at least two different energy converters and two different energy storage systems that are used for the purpose of vehicle propulsion and that cannot be charged from an external source;

(58) ‘geofencing technologies’ means technologies that do not allow a hybrid vehicle to run with the use of the internal combustion engine (i.e. to enable zero-emission mode) when driven inside a specific geographic area;

(59) ‘zero-emission mode’ means a selectable mode, whereby a hybrid vehicle is driven without the use of the internal combustion engine;

(60) ‘net power’ means the power obtained on a test bench at the end of the crankshaft or its equivalent at the corresponding engine or motor speed with the auxiliaries, and which is determined under the reference atmospheric conditions;

(61) ‘wheel power’ means the power measured at the wheels of a vehicle and used for its propulsion;

(62) ‘power-to-mass-ratio’ means the ratio of rated power to the **maximum** mass ~~in running order~~;

(63) ‘rated power’ or ‘P_{rated}’ means the maximum net power of the engine or motor in kW;

(64) ‘mass in running order’ means the mass of the vehicle, with its fuel tank(s) filled to at least 90 per cent of their capacities, including the mass of the driver, fuel and liquids, fitted with the standard equipment in accordance with the manufacturer’s specifications and, when they are fitted, the mass of the bodywork, the cabin, the coupling and the spare wheels as well as the tools;

(65) ‘traction battery’ means a battery system that stores energy with the main purpose of propelling the vehicle;

(66) ‘electric range’ means the distance travelled in charge-depleting operation condition until the traction battery is depleted;

(67) ‘zero-emission range’ means the maximum distance a ~~zero-emission~~ vehicle can travel **with zero exhaust emissions** ~~until the traction battery or fuel tank is depleted~~, which for PEVs corresponds to the electric range;

(68) ‘durability’ means the ability of a system or device, component or any part of the vehicle to maintain its required performance over a given time;

(69) ‘battery durability’ means the durability of a traction battery measured in terms of its State of Health;

(70) ‘state of health’ or ‘SOH’ means the measured or estimated state of a specific performance metric of a vehicle or traction battery at a specific point in its lifetime, expressed as a percentage of the performance that was determined when certified or new;

(71) ‘environmental vehicle passport’ or ‘EVP’ means a record on ~~paper and~~ digital form containing information on the environmental performance of a vehicle at the moment of registration, including the level of pollutant emission limits, CO_2 emissions, fuel consumption, **electric** energy consumption, electric range and engine power, and battery durability and other related values;

(72) ‘excess **exhaust** emissions driver warning system’ means a system designed, constructed and installed in a vehicle to provide information to the user about excess **exhaust** emissions and ~~enforce repairs~~ **ensure repairs before further use**;

(73) ‘low-reagent driver warning system’ means a system designed, constructed and installed in a vehicle to warn the user of the low level of the consumable reagent, and ~~enforce~~ **ensure** the use of the reagent;

(74) ‘idle emissions’ means exhaust emissions produced when the internal combustion engine operates but is not under load for the purposes of propelling the vehicle;

(75) ‘declaration of conformity’ means a declaration by the manufacturer that a specific type or group of vehicles, component or separate technical unit is in conformity with the requirements of this regulation

(76) ‘energy efficiency of a trailer’ means the performance of a trailer with regard to its influence on the CO_2 emissions, fuel and **electric** energy consumption, zero-emission range, electric range and engine power of a towing motor vehicle;

(77) "'snow tyre"' means a tyre whose tread pattern, tread compound or ~~structure~~ **construction** is primarily designed to achieve in **mud and** snow conditions a performance better than that of a normal tyre with regard to its ability to initiate ~~or maintain~~ **and control** vehicle motion;

(77a) 'tyre for use in severe snow conditions' means a snow tyre or a special use tyre whose tread pattern, tread compound or structure is specifically designed to be used in severe snow conditions;

(78) "'special use tyre"' means a tyre intended for mixed use both on- and off-road or for other special duty. These tyres are primarily designed to initiate and maintain the vehicle in motion in off-road conditions.

(79) 'option' means a set of requirements laid down in this Regulation, which a manufacturer may choose to additionally comply with in order to be able to use the corresponding designation for the vehicles they manufacture.

Chapter II – Manufacturers' obligations

Article 4

Obligations of the manufacturers concerning construction of vehicles, systems, components and separate technical units

1. Manufacturers shall ensure that the new vehicles they manufacture, which are sold, registered or put into service in the Union, are type approved in accordance with this Regulation. Manufacturers shall ensure that the new **systems,** components or separate technical units, including engines, traction batteries, brake systems**, tyres** and replacement pollution control systems requiring type-approval which they manufacture and which are sold or put into service in the Union are type approved in accordance with this Regulation.

2. Manufacturers shall design, construct and assemble vehicles to comply with this Regulation, including complying with the emission limits set out in Annex I and respecting the values declared in the certificate of conformity and in the type-approval documentation for the lifetime of the vehicle as set out in table 1 of Annex IV. These vehicles shall be designated as "Euro 7" vehicles.

3. When verifying compliance with the exhaust emission limits, where the testing is performed in **each of the** extended driving conditions **individually**, the emissions shall be divided by the extended driving divider set out in Annex III.

   The emissions during regeneration of pollution control systems ~~will~~ **shall** be included as a weighted average based on the frequency and duration of the regeneration events. **The tests performed for compliance verification shall not include and take into the consideration biased driving.**

4. Manufacturers shall design and construct **systems,** components or separate technical units, including engines, traction batteries, brake systems**, tyres** and replacement pollution control systems to comply with this Regulation, including complying with the emission limits set out in Annex I **under the conditions set out in Annex III**.

5. Manufacturers shall not design, construct and assemble vehicles with defeat devices or defeat strategies**, which cause a vehicle to emit differently during a type-approval test than when driven, but not tested.**

6. Manufacturers shall design, construct and assemble vehicles of categories M_1, M_2, M_3, N_1, N_2 and N_3 with:

(a) OBD systems capable of detecting malfunctioning systems which lead to **exhaust** emission exceedances in order to facilitate repairs;

(b) OBM systems capable of detecting **exhaust** emissions above the emission limits **for a vehicle type, or more than 2,5 higher than the emission limits for a single vehicle** due to malfunctions, increased degradation or other situations that increase emissions;

(c) OBFCM device to monitor their real-world fuel and **electric** energy consumption and other relevant parameters such as payload/mass which are needed to determine their real-world fuel and energy efficiency;

(d) SOH monitors of the traction battery ~~and emission systems~~;

(e) excess **exhaust** emissions driver warning systems;

(f) low-reagent driver warning systems;

(g) devices communicating vehicle generated data used for compliance with this regulation and OBFCM data, for the purpose of periodic roadworthiness tests and technical roadside inspection over the air, and for the purposes of communicating with recharging infrastructure and stationary power systems capable of supporting smart and bidirectional charging functionalities.

7. Manufacturers shall design, construct and assemble vehicles of categories M_1, M_2, M_3, N_1, N_2 and N_3 in such a way to minimise vulnerabilities, arising in all phases of their life-cycle, that may lead to tampering with the following:

(a) fuel and reagent injection system,

(b) engine and engine control units

(c) traction batteries,

(d) odometer ~~and~~**,**

(e) pollution control systems **and**

(f) OBFCM device, OBM and EVP.

8. The manufacturer shall prevent the possibility of exploiting vulnerabilities referred to in paragraph 7. When such a vulnerability is found, the manufacturer shall **make best efforts to** remove the vulnerability, by software update or any other appropriate means.

9. The manufacturers shall ensure the secure transmission of data related to emissions and battery durability by taking cybersecurity measures in accordance with UN Regulation 155[14].

10. The Commission shall adopt, by means of implementing acts, detailed rules on the procedures, tests and methodologies to verify compliance with the requirements laid down in paragraphs 1 to 9. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 17(2).

[14] UN Regulation No 155 – Uniform provisions concerning the approval of vehicles with regards to cybersecurity and cybersecurity management system (OJ L 82, 9.3.2021, p. 30).

Article 5

Options of the manufacturers concerning the construction and designation of vehicles

1. Manufacturers may designate the vehicles they manufacture as "Euro 7+ vehicle" where those vehicles comply with the following:

   (a) for ICEV and NOVC-HEV by declaring compliance with at least 20 % lower emission limits than those set out in Annex I for gaseous pollutants and one order of magnitude lower emission limits for particle number emissions;

   (b) for OVC-HEV by declaring compliance with at least 20 % lower emission limits than those set out in Annex I for gaseous pollutants, one order of magnitude lower emission limits for particle number emissions and battery durability that is at least 10 percentage points higher than the requirements set out in Annex II;

   (c) for PEV by declaring battery durability that is at least 10 percentage points higher than the requirements set out in Annex II.

2. Compliance of these vehicles with the requirements under paragraph 1 shall be checked against the declared values.

~~3. Manufacturers may designate vehicles as "Euro 7A vehicle" where those vehicles are equipped with adaptive control functions. The use of adaptive control functions shall be demonstrated to the type-approval authorities during type-approval and verified during the lifetime of the vehicle as set out in table 1, Annex IV.~~

4. Manufacturers may designate vehicles as "Euro 7G vehicle" where those vehicles are equipped with internal combustion engines with geofencing technologies. The manufacturer shall install a driver warning system on those vehicles to inform the user when the traction batteries are nearly empty and to stop the vehicle if not charged within 5 km from the first warning while on zero-emission mode. The application of such geofencing technologies ~~may~~ **shall** be **demonstrated to the type-approval authorities during type-approval and** verified during the lifetime of the vehicle.

(4a) At the manufacturer's request, for N_2 vehicles between 3.5 and 4.25 tonnes maximum mass originating from an N_1 vehicle type, the type-approval authority may grant an emission type-approval for N_1 vehicle type. Such vehicles shall be designated as "Euro 7ext vehicle".

5. Manufacturers may construct vehicles combining two or more of the characteristics referred to in paragraphs 1, ~~2 or~~ 3**, 4 or 4a** and designate them using a combination of symbols and letters such as ~~"Euro 7+A",~~ "Euro 7+G", ~~"Euro 7+AG" or "Euro 7AG"~~ **"Euro 7+ext", "Euro 7Gext" or "Euro 7+Gext"** vehicles.

~~6. At the manufacturer's request, for N_2 vehicles between 3.5 and 4.0 tonnes maximum mass originating from an N_1 vehicle type, the type-approval authority may grant an emission type-approval for N_1 vehicle type. Such vehicles shall be designated as "Euro 7ext vehicle".~~

7. The Commission shall adopt, by means of implementing acts, detailed rules on the procedures, tests and methodologies to verify compliance with the requirements laid down in paragraphs 1 to 6. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 17(2).

Article 6

Durability requirements for vehicles, systems, components and separate technical units

1. Manufacturers shall ensure that the vehicles they manufacture, which are sold, registered or put into service in the Union, comply with the emission limits set out in Annex I when driven under the normal and extended driving conditions as set out in Annex III, for the lifetime of the vehicle as set out in table 1 of Annex IV, and comply with the minimum performance requirements on battery durability as set out in Annex II.

2. Manufacturers shall ensure that these vehicles comply with the values regarding CO_2 emissions, fuel and **electric** energy consumption and energy efficiency declared under the provisions of this Regulation for the lifetime of the vehicle as set out in Annex IV, Table 1.

3. Manufacturers shall ~~ensure~~ **design** ~~that~~ OBFCM, OBD**,** ~~and~~ OBM devices and anti-tampering measures ~~installed in these vehicles~~**, so that they** comply with the provisions of this Regulation as long as the vehicle is in use.

4. The requirements referred to in ~~points~~ **paragraphs** 1 to 3 shall apply to vehicles for all types of fuels or energy sources by which they are powered. The same requirements shall also apply to all separate technical units and components intended for such vehicles.

5. In order to verify compliance with the requirements referred to in the first paragraph during the additional lifetime of a vehicle, the gaseous pollutant emission limits set out in Annex I shall be adjusted by using the durability multipliers, set out in table 2 of Annex IV.

6. The OBM systems installed by the manufacturer in these vehicles shall be capable of all of the following:

   (a) registering the magnitude and duration of all **exhaust** emission exceedances **of NOx, NH_3 and PM**;

   (b) communicating the data of the **exhaust** emission behaviour of the vehicle, including pollutant sensor and exhaust flow data, via the OBD port and over the air, including for the purpose of roadworthiness tests[15] and technical roadside inspections[16],~~[17]~~;

   (c) triggering ~~repair of the vehicle when the driver warning system notifies significantly excess emissions~~ **the driver warning system to induce repairs when exhaust emissions are significantly exceeded**.

7. The OBFCM devices installed by the manufacturer in these vehicles shall be capable of communicating the **relevant** vehicle data they record via the OBD port and over the air.

8. For vehicles, systems, components and separate technical units presenting a serious risk or non-compliance with the requirements laid down in this regulation, manufacturers shall immediately take the necessary corrective measures, including repairs or modifications of those vehicles, systems, components and separate technical units as appropriate, to ensure compliance with this regulation. Manufacturers or any other economic operator shall withdraw it from the market or recall it, as appropriate. The manufacturer shall immediately inform the type approval authority that granted the type-approval of the non-conformity with appropriate details.

---

15 Directive 2014/45/EU of the European Parliament and of the Council of 3 April 2014 on periodic roadworthiness tests for motor vehicles and their trailers and repealing Directive 2009/40/EC (OJ L 127, 29.4.2014, p. 129)

16 Directive 2014/47/ EU of the European Parliament and of the Council of 3 April 2014 on the technical roadside inspection of the roadworthiness of commercial vehicles circulating in the Union and repealing Directive 2000/30/EC (OJ L 127, 29.4.2014, p. 134).

17 Directive 2014/45/EU of the European Parliament and of the Council of 3 April 2014 on periodic roadworthiness tests for motor vehicles and their trailers and repealing Directive 2009/40/EC (OJ L 127, 29.4.2014, p. 129)

9. The Commission shall adopt, by means of implementing acts, detailed rules on requirements, tests, methods and corrective measures related to the obligations referred to in paragraphs 1 to 8. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 17(2).

Article 7

Obligations of the manufacturers concerning emission type-approval

1. In order to demonstrate compliance with the emission type-approval rules during emission type-approval, the manufacturer shall perform the tests specified in tables 1, 3, 5, 7 and 9 of Annex V. For the purpose of verifying the conformity of production with the requirements of this Regulation vehicles, components and separate technical units shall be selected at the premises of the manufacturer by the type approval authority or the manufacturer. In-service conformity shall be checked for the periods prescribed in table 1 of Annex IV.

2. The manufacturer shall provide the type-approval authority with a signed declaration of conformity as regards the RDE, CO_2 ambient temperature correction, OBD, OBM, emission and battery durability, continuous or periodic regeneration, anti-tampering and crankcase requirements as specified in Annex V. The manufacturer shall provide to the type-approval authority a signed declaration of conformity on the use of ~~adaptive controls and~~ geofencing options when the manufacturer selects these options.

3. The national authorities may test the vehicle type to verify its conformity during conformity of production, in-service conformity or market surveillance as specified in Annex V.

4. Manufacturers shall issue the environmental vehicle passport (EVP) for each vehicle and deliver that passport to the purchaser of the vehicle together with the vehicle, extracting the relevant data from sources such as the certificate of conformity and the type-approval documentation. The manufacturer shall ensure that EVP data are available for display in the vehicle electronic systems and can be transmitted from on- to off- board.

5. The Commission shall adopt implementing acts laying down the testing and compliance verifications as well as procedures, related to emission type-approval, conformity of production, in-service conformity, declaration of conformity and EVP under paragraphs 1to 4. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 17(2).

Article 8

Special rules for small volume manufacturers

1. As regards pollutant emissions, small volume manufacturers may substitute tests set out in tables 1, 3, 5, 7 and 9 of Annex V with declarations of conformity. The compliance of vehicles constructed and put into the market by small volume manufacturers may be tested for in service conformity and market surveillance in accordance with tables 2, 4, 6, 8 and 10 of Annex V. Conformity of production tests set out in Annex V shall not be required. Article 4~~(4)~~**(6)** point**s** (b) **and (c)** shall not apply to small volume manufacturers.

2. Ultra-small volume manufacturers shall ~~comply~~ **demonstrate compliance** with the emission limits set out in Annex I in laboratory tests based on ~~random~~ real-driving cycles for in-service conformity and market surveillance purposes.

Article 9

Special rules for multistage vehicles

1. In multistage type-approvals, manufacturers of the second or subsequent stages shall be responsible for the emission type-approval where they modify any part of the vehicle that, according to the data provided by the manufacturers of the previous stage, might affect emissions or battery durability.

2. The Commission shall adopt implementing acts laying down the administrative requirements and data to be provided by manufacturers of the previous stage in accordance with paragraph 1 and procedures for the determination of CO_2 emissions of such vehicles. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 17(2).

Chapter III – Obligations of Member States for emission type-approval and market surveillance

Article 10

Emission type-approval, conformity of production, in-service conformity and market surveillance

1. ~~National~~ **Type** approval authorities shall put in place measures to grant emission type-approvals to vehicle types, **systems,** components and separate technical units and to perform tests, checks and inspections for verifying whether the manufacturers comply with the requirements for conformity of production and in-service conformity in accordance with Annex V.

2. ~~National~~ ~~m~~**M**arket surveillance authorities shall perform market surveillance checks in accordance with Article 8 of Regulation (EU) 2018/858 and tables 2, 4, 6, 8 and 10 of Annex V.

3. With effect from … [*OP please insert the date = the date of entry into force of this Regulation*], where a manufacturer so requests, the ~~national~~ **type** approval authorities shall not refuse to grant EU emission type-approval or national emission type-approval for a new type of vehicle or engine, or prohibit the registration, sale or entry into service of a new vehicle complying with this regulation.

3a. With effect from 24 months after entry into force of this Regulation, national authorities shall, on grounds relating to CO2 and pollutant emissions, fuel and electric energy consumption or battery durability, in the case of new types of M_1, N_1 vehicles, refuse to grant EU emission type-approval or national emission type-approval which do not comply with this Regulation.

4. With effect from ~~1 July 2025~~ **36 months after entry into force of this Regulation**, national authorities shall, in the case of new M_1, N_1 vehicles which do not comply with this Regulation consider certificates of conformity to be no longer valid for the purposes of registration and shall, on grounds relating to CO_2 and pollutant emissions, fuel and **electric** energy consumption or battery durability, prohibit the registration, sale or entry into service of such vehicles.

4a. With effect from 36 months after entry into force of this Regulation, national authorities shall, on grounds relating to CO2 and pollutant emissions, fuel and electric energy consumption or battery durability, in the case of new types of M2, M3, N2, N3 vehicles and new O3, O4 trailers, refuse to grant EU emission type-approval or national emission type-approval which do not comply with this Regulation.

5. With effect from ~~1 July 2027~~ **48 months after entry into force of this Regulation**, national authorities shall, in the case of new M_2, M_3, N_2, N_3 vehicles and new O_3, O_4 trailers, which do not comply with this Regulation consider certificates of conformity to be no longer valid for the purposes of registration and shall, on grounds relating to CO_2 and pollutant emissions, fuel and **electric** energy consumption, energy efficiency or battery durability, prohibit the registration, sale or entry into service of such vehicles.

6. With effect from 1 July 2030, national authorities shall, in the case of new M_1, N_1 vehicles constructed by small volume manufacturers which do not comply with this Regulation consider certificates of conformity to be no longer valid for the purposes of registration and shall, on grounds relating to CO_2 and pollutant emissions, fuel and **electric** energy consumption, energy efficiency or battery durability, prohibit the registration, sale or entry into service of such vehicles.

7. With effect from 1 July 2031, national authorities shall, in the case of new M_2, M_3, N_2, N_3 vehicles constructed by small volume manufacturers, which do not comply with this Regulation consider certificates of conformity to be no longer valid for the purposes of registration and shall, on grounds relating to CO_2 and pollutant emissions, fuel and **electric** energy consumption, energy efficiency or battery durability, prohibit the registration, sale or entry into service of such vehicles.

8. The Commission shall adopt implementing acts laying down the administrative and technical elements required for performing tests, checks and inspections for the purposes of verifying compliance with paragraph 1, as well as the technical elements required for market surveillance checks under paragraph 2. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 17(2).

Article 11

Specific obligations of Member States concerning the emission type-approval of systems, components and separate technical units

1. With effect from ~~1 July 2025~~ **24 months after entry into force of this Regulation**, the sale or installation of a system, component or separate technical unit intended to be fitted on an M_1, N_1 vehicle approved under this Regulation, shall be prohibited if the system, component ~~and~~**,** separate technical unit **and tyres of categories C_1, C_2 and C_3** ~~is~~ **are** not of type approved in compliance with this Regulation.

2. With effect from **36 months after entry into force of this Regulation** ~~1 July 2027~~, the sale or installation of a system, component or separate technical unit intended to be fitted on an M_2, M_3, N_2, N_3, **O_3, O_4** vehicle approved under this Regulation, shall be prohibited if the system, component, ~~and~~ separate technical unit **and tyres of categories C_1, C_2 and C_3** ~~is~~ **are** not type approved in compliance with this Regulation.

3. ~~National~~ **Type** approval authorities may continue to grant extensions, to EU emission type-approvals of replacement pollution control systems granted before this regulation applies under the terms which applied at the time of the ~~initial~~ **original** emission type-approval. National authorities shall prohibit the sale or installation on a vehicle of such replacement pollution control systems unless they are type approved.

Article 12

Correct operation of systems using a consumable reagent and pollution control systems

1. Economic operators and independent operators shall not tamper with the vehicle and its systems.

2. National authorities shall, during in-service conformity or market surveillance checks, verify whether manufacturers of vehicles have correctly installed excess **exhaust** emissions driver warning systems, low-reagent driver warning systems and whether vehicles can be tampered.

Chapter IV
Role of the Commission and third parties for in-service conformity and market surveillance

Article 13

Application of test requirements for Commission and third parties

1. The Commission or third parties, in accordance with Article 9 and 13(10) of Regulation (EU) 2018/858, may perform in-service conformity and market surveillance checks set out in Tables 2, 4, 6, 8, and 10 of Annex V, to verify compliance of vehicles, components and separate technical units with this Regulation.

2. Manufacturers shall make available the data required to perform such checks to the Commission and third parties in accordance with Articles 9(5) and 13(10) of Regulation (EU) 2018/858.

Chapter V
Tests and declarations

Article 14
Procedures and tests

1. Procedures for the emission type-approval shall include tests and checks as well as the application of all administrative procedures and documentation requirements as specified in Annex V. For the requirements specified in Annex V, where applicable the manufacturer shall provide a declaration of conformity to the type-approval authority.

2. Tests to prove compliance with the requirements of Article 4 shall be applied by manufacturers and national authorities as specified in Annex V. Tests to prove compliance with the requirements of Article 4 may be applied by the Commission and third parties also as specified in Annex V.

3. The Commission shall adopt implementing acts for all the phases of emission type-approval, including conformity of production, in-service conformity and market surveillance, addressing procedures and tests for emission type-approval, testing methodologies, administrative provisions, amending and extending emission type-approvals, data access, documentation requirements and templates for all of the following:

   (a) M_1, N_1 vehicle types;

   (b) M_2, M_3, N_2, N_3 vehicle types;

   (c) engines used in M_2, M_3, N_2, N_3 vehicle types;

   (d) OBM/OBD systems;

   (e) anti-tampering, security and cybersecurity systems;

(f) replacement pollution control systems types and their parts;

(g) brake system types and their replacement parts **in respect to particle emissions**;

(h) **C_1, C_2 and C_3** tyre types in respect to tyre abrasion;

(i) other component types and their replacement parts;

(j) CO_2, fuel and **electric** energy consumption, electric range and engine power determination for M_1, N_1 vehicles, provisions for OBFCM;

(k) CO_2, fuel and **electric** energy consumption, zero-emission range, electric range and engine power determination for M_2, M_3, N_2, N_3 vehicles, energy efficiency of O_3, O_4 trailers, provisions for OBFCM.

4. The Commission shall be empowered to adopt implementing acts for all phases of the emission type-approval, including in-service conformity, conformity of production and market surveillance, to lay down the following:

(a) the methods to measure exhaust emissions in the lab and on the road **as per usual use for real world driving**, including ~~random and~~ worst-case RDE test cycles, the use of portable emissions measurement systems for verifying real driving emissions, and idle emissions;

(b) the methods to determine the CO_2 emissions, fuel and **electric** energy consumption, zero-emission range, electric range and engine power of a motor vehicle;

(c) the methods, requirements and technical specifications for gear shift indicators;

(d) the methods to determine the energy efficiency of O_3, O_4 trailers;

(e) the methods to measure crankcase emissions;

(f) the methods to measure evaporative emissions;

(g) the methods to measure brake particle emissions, including methods for HDV, real driving brake particle emissions and regenerative braking;

(h) the methods to measure tyre abrasion ~~in order to monitor tyre abrasion rates~~;

(i) the methods to evaluate compliance with minimum performance requirements of battery durability;

(j) OBFCM device, OBD and OBM systems, including compliance thresholds, performance requirements and tests, methods to ensure performance of sensors and over the air communication of data recorded by these devices and systems;

(k) characteristics and performance of driver warning systems and inducement methods and method to assess their correct operation;

(l) the methods to assess the correct operation, effectiveness, regeneration and durability of original and replacement pollution control systems;

(m) methods to ensure and assess security measures referred to in Article 4(5), including the methodology for the vulnerability analysis and tampering protection;

(n) the criteria for emission type-approvals and implementation of special rules for small and ultra-small volume manufacturers set out in Article 8;

(o) the methods to assess the correct functioning of vehicle types approved under the designations in Article 5

(p) checks for compliance with the provisions of Article 9 (1) and test procedures for multistage vehicles;

(q) performance requirements for test equipment;

(r) specifications of reference fuels for testing;

(s) methods for establishing the absence of defeat devices and defeat strategies;

~~(t) methods to measure tyre abrasion;~~

(u) format and data and over the air communication methods for the EVP;

(v) administrative requirements and documentation for emission type-approval;

(w) reporting obligations where appropriate.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 17(2).

Article 15
Adaptation to technical progress

1. The Commission shall be empowered to adopt delegated acts in accordance with Article 16 in order to take into account technical progress to amend the following:

(a) Annex III, as regards the test conditions for M_2, M_3, N_2, N_3 vehicles, based on data collected when testing Euro 7 vehicles;

(b) Annex III, as regards the test conditions, based on data collected when testing Euro 7 brakes or tyres;

(c) Annex V, as regards the application of test requirements and declarations, based on technical progress;

(d) Article 5 by introducing options and designations based on innovative technologies for manufacturers.

2. The Commission shall be empowered to adopt delegated acts to supplement this Regulation in accordance with Article 16 in order to take into account technical progress by:

(a) setting out brake particle emission limits in Annex I referring to the work performed in the UN World Forum for Harmonisation of Vehicle Regulations (WP29);

(b) setting out abrasion limits for tyre types in Annex I referring to the work performed in the UN World Forum for Harmonisation of Vehicle Regulations (WP29);

(c) setting out the minimum performance requirements of batteries laid down in Annex II, referring to the work performed in the UN World Forum for Harmonisation of Vehicle Regulations (WP29);

(d) setting out durability multipliers in Annex IV based on data collected when testing Euro 7 M_2, M_3, N_2, N_3 vehicles and a report on the durability of heavy duty vehicles submitted to the European Parliament and Council;

(e) setting out definitions and special rules for small volume manufacturers for vehicle categories M_2, M_3, N_2, N_3 under Article 3 and Article 8 of this Regulation.

Chapter VI- General Provisions

Article 16
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.

2. The power to adopt delegated acts referred to in Article 15 shall be conferred on the Commission for a period of five years from... *[OP please insert the date = the date of entry into force of this Regulation]*. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-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 Article 15 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 on Better Law-Making of 13 April 2016.

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 Article 15 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 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 17
Committee Procedure

1. The Commission shall be assisted by the Technical Committee –Motor Vehicles. 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 18
Reporting

1. By 1 September 2030, Member States shall inform the Commission of the application of this Regulation.

2. By 1 September 2031, on the basis of the information supplied in accordance with paragraph 1, the Commission shall submit to the European Parliament and to the Council an evaluation report on the application of this Regulation.

Chapter VI- Final Provisions

Article 19
Repeal of Regulation (EC) 715/2007 and Regulation (EC) 595/2009

Regulation (EC) 715/2007 is repealed with effect from 1 July [~~2025~~ **2030**].

Regulation (EC) 595/2009 is repealed with effect from 1 July [~~2027~~ **2031**].

References to Regulations (EC) 715/2007 and 595/2009 shall be construed as references to this Regulation and shall be read in accordance with the correlation table set out in Annex VI to this Regulation.

Article 20

Entry into force and application

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

It shall apply from ~~1 July 2025~~ **24 months after entry into force of this Regulation** for M_1, N_1 vehicles and components and separate technical units for those vehicles and from ~~1 July 2027~~ **36 months after entry into force of this Regulation** for M_2, M_3, N_2, N_3 vehicles and components and separate technical units for those vehicles and O_3, O_4 trailers.

It shall apply from 1 July 2030 for M_1, N_1 vehicles constructed by small volume manufacturers.

Notwithstanding paragraph 2, Article 11(3) shall apply from the entry into force of this regulation.

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

Done at Brussels,

For the European Parliament	*For the Council*
The President	*The President*

ANNEX I

EURO 7 EMISSION LIMITS

Table 1: Euro 7 exhaust emission limits for M_1, N_1 vehicles with internal combustion engine

Pollutant emissions	**M_1, N_1 vehicles**	**Only for N_1 vehicles with power to mass ratio[18] less than 35 kW/t**	**Emission budget for all trips less than 10 km for M_1, N_1 vehicles**	**Emission budget for all trips less than 10 km only for N_1 vehicles with power to mass ratio less than 35 kW/t**
	per km	***per km***	***per trip***	***per trip***
NO_x in mg	60	75	600	750
PM in mg	4.5	4.5	45	45
PN_{10} in #	6×10^{11}	6×10^{11}	6×10^{12}	6×10^{12}
CO in mg	500	630	5000	6300
THC in mg	100	130	1000	1300
NMHC in mg	68	90	680	900
NH_3 in mg	20	20	200	200

[18] Measured in accordance with paragraph 5.3.2. of UN/ECE Regulation No 85 in the case of ICEVs and PEVs, or, in all other cases, measured in accordance with one of the test procedures laid down in paragraph 6 of UN Global Technical Regulation 21

Table 2: Euro 7 exhaust emission limits for M_2, M_3, N_2 and N_3 vehicles with internal combustion engine and internal combustion engines used in those vehicles

Pollutant emissions	Cold emissions[19]	Hot emissions[20]	Emission budget for all trips less than 3*WHTC long	Optional idle emission limits[21]
	per kWh	*per kWh*	*per kWh*	*per hour*
NO_x in mg	350	90	150	5000
PM in mg	12	8	10	
PN_{10} in #	$5x10^{11}$	$2x10^{11}$	$3x10^{11}$	
CO in mg	3500	200	2700	
NMOG in mg	200	50	75	
NH_3 in mg	65	65	70	
CH_4 in mg	500	350	500	
N_2O in mg	160	100	140	
HCHO in mg	30	30		

[19] Cold emissions refers to the 100th percentile of moving windows (MW) of 1 WHTC for vehicles, or $WHTC_{cold}$ for engines

[20] Hot emission refers to the 90th percentile of moving windows (MW) of 1 WHTC for vehicles or $WHTC_{hot}$ for engines

[21] Applicable only if a system is not present that automatically shuts down the engine after 300 seconds of continuous idling operation (once the vehicle is stopped and brakes applied)

Table 3: Euro 7 evaporative emission limits for petrol fuelled M_1, N_1 vehicles

Pollutant emissions	M_1, N_1 with maximum mass up to 2650 kg	N_1 with maximum mass equal or more than 2650 kg
Evaporative emissions (in hot soak + 2 day diurnal test)	0.50 g at worst day + hot soak	0.70 g at worst day + hot soak
Refuelling emissions	0.05 g/L of fuel	0.05 g/L of fuel

Table 4: Euro 7 brake particle emission limits in standard driving cycle applying until 31/12/2034

Emission limits in mg/km per vehicle	M_1, N_1 vehicles	M_2, M_3 vehicles	N_2, N_3 vehicles
Brake particle emissions (PM_{10})	7		
Brake particle emissions (PN)			

Table 5: Euro 7 brake particle emission limits in applying from 1/1/2035

Emission limits in mg/km per vehicle	**M_1, N_1 vehicles**	**M_2, M_3 vehicles**	**N_2, N_3 vehicles**
Brake particle emissions (PM_{10})	3		
Brake particle emissions (PN)			

Table 6: Euro 7 tyre abrasion rate limits

Tyre mass lost in g/1000 km	**C1 tyres**	**C2 tyres**	**C3 tyres**
Normal tyres			
Snow tyres			
Special use tyres			

ANNEX II

EURO 7 MINIMUM PERFORMANCE REQUIREMENTS FOR BATTERY DURABILITY

Table 1: Euro 7 Minimum performance requirements (MPR) for battery durability for M_1 vehicles

Battery energy based MPR	Start of life to 5 years or 100 000 km whichever comes first	Vehicles more than 5 years or 100 000 km, and up to whichever comes first of 8 years or 160 000 km	Vehicles up to additional lifetime*
OVC-HEV	80%	70%	
PEV	80%	70%	

Range based MPR	Start of life to 5 years or 100 000 km whichever comes first	Vehicles more than 5 years or 100 000 km, and up to whichever comes first of 8 years or 160 000 km	Vehicles up to additional lifetime*
OVC-HEV			
PEV			

Table 2: Euro 7 Minimum performance requirements (MPR) for battery durability for N_1 vehicles

Battery energy based MPR	Start of life to 5 years or 100 000 km whichever comes first	Vehicles more than 5 years or 100 000 km, and up to whichever comes first of 8 years or 160 000 km	Vehicles up to additional lifetime*
OVC-HEV	75%	65%	
PEV	75%	65%	

Range based MPR	Start of life to 5 years or 100 000 km whichever comes first	Vehicles more than 5 years or 100 000 km, and up to whichever comes first of 8 years or 160 000 km	Vehicles up to additional lifetime*
OVC-HEV			
PEV			

Table 3: Euro 7 Minimum performance requirements (MPR) for battery durability for M_2, M_3, N_2, N_3 vehicles

Battery Energy based MPR	Vehicles in main lifetime*	Vehicles in additional lifetime*
OVC-HEV		
PEV		

* As specified in Annex IV

ANNEX III

TEST CONDITIONS

Table 1: Conditions for testing compliance of M_1, N_1 vehicles with exhaust emission limits with any market fuel and lubricant within the specifications issued by the manufacturer of the vehicle

Parameter	Normal driving conditions	Extended driving conditions*
Extended driving divider	-	1.6 (applies to measured emissions only during the time when one of the conditions set out in this column applies)
Ambient temperature	0°C to 35°C	-10°C to 0°C or 35°C to 45°C
Maximum altitude	700 m	More than 700 m and below 1 800 m
Maximum speed	Up to 145 km/h	Between 145 and 160 km/h
Towing/aerodynamic modifications	Not allowed	Allowed according to manufacturer specifications and up to the regulated speed.
Auxiliaries	Possible as per normal use	-
Maximum average wheel power during first 2 km after cold start	Lower than 20% of maximum wheel power	Higher than 20% of maximum wheel power
Trip composition	Any	-
Minimum mileage	10 000 km	Between 3 000 and 10 000 km

* The same emission strategy shall be used when a vehicle is run outside those conditions, unless there is a technical reason approved by the type approval authority.

Table 2: Conditions for testing compliance of M_2, M_3, N_2 and N_3 vehicles with exhaust emission limits with any market fuel and lubricant within the specifications issued by the manufacturer of the vehicle

Parameter	Normal driving conditions	Extended driving conditions*
Extended Driving Divider	-	2 (applies to measured emissions only during the time when one of the conditions set out in this column applies)
Ambient temperature	-7°C to 35°C	-10°C to -7°C or 35°C to 45°C
Maximum altitude	1 600 m	From 1 600 to 1 800 m
Towing/aerodynamic modifications	Not allowed	Allowed according to manufacturer specifications and up to the regulated speed
Vehicle Payload	Higher or equal than 10%	Less than 10%
Auxiliaries	Possible as per normal use	-
Internal Combustion Engine Loading at cold start	Any	-
Trip composition	As per usual use	-
Minimum mileage	5 000 km for <16t TPMLM 10 000 km for > 16t TPMLM	Between 3 000 km and 5 000 km for <16t TPMLM Between 3 000 km and 10 000 km for > 16t TPMLM

* The same emission strategy shall be used when a vehicle is run outside those conditions, unless there is a technical reason approved by the type approval authority.

Table 3: Conditions for testing compliance with evaporative emission limits with any market fuel and lubricant within the specifications issued by the manufacturer of the vehicle

	Testing conditions
Evaporative emission SHED[22] test	• Baking of entire vehicle or of individual components (optional) • Vehicle canister preconditioning and fuel refilling and vehicle precondition drive • Drive temperature and hot soak test 25 and 38°C (38 °C for type approval) • 48-h diurnal test
Refuelling emission test	**Vehicle preconditioning** • Fuel drain and fill to 40% • 6 h min soak at 20-30°C • preconditioning drive **Canister preconditioning** • Fuel drain and fill to 40% • 12-36 h soak • Load canister with hydrocarbon vapours until 2g breakthrough at 40 g/h 50% butane/N2 • Exhaust test: WLTP (recording emissions) • 0-1 h soak at 20-30°C • Canister purge drive at 20-30°C **Refuelling event** • Disconnect canister(s) • Fuel drain and fill to 10% • 6-24h soak at 27°C. • Reconnect canisters • Dispense fuel at 38 l/min until automatic shut-off. If < 85% of total tank capacity is dispensed, continue auto-refuelling until fuel dispensed is ≥ 85%. Authorities may use 15 l/min • Dispense fuel temperature:19°C

[22] SHED: Sealed House for evaporative determination

Table 4: Conditions for testing compliance with brake particle emission limits

	M_1, N_1 vehicles	**M_2, M_3, N_2 and N_3 vehicles**
Brake particle emissions test	Testing according to the UN GTR on brake emissions	

Table 5: Conditions for testing compliance with tyre abrasion limits

	M_1, N_1 vehicles	**M_2, M_3, N_2 and N_3 vehicles**
Tyre abrasion limits test	Based on the testing methodologies developed in UN for testing tyre abrasion in real world	Based on the testing methodologies developed in UN for testing tyre abrasion in real world

ANNEX IV

LIFETIME REQUIREMENTS

Table 1: Lifetime of vehicles, engines and pollution control systems

Lifetime of vehicles, engines and replacement pollution control devices	**M_1, N_1 and M_2**	**N_2, N_3<16t, M_3<7.5t:**	**N_3>16t, M_3>7.5t**
Main lifetime	Up to 160 000 km or 8 years, whichever comes first	300 000 km or 8 years, whichever comes first	700 000 km or 15 years, whichever comes first
Additional lifetime	After main lifetime and up to 200 000 km or 10 years whichever comes first	After main lifetime and up to 375 000 km	After main lifetime and up to 875 000 km

Table 2: Applicable durability multipliers for adjusting exhaust emission limits under Annex 1 when testing vehicles, engines and replacement pollution control devices during additional lifetime.

Durability multipliers	**M_1, N_1 and M_2**	**N_2, N_3<16t, M_3<7.5t:**	**N_3>16t, M_3>7.5t**
Durability multiplier for additional lifetime	1.2 for gaseous pollutant emissions		

ANNEX V

APPLICATION OF TEST REQUIREMENTS AND DECLARATIONS

Table 1: Application of test requirements and declarations for M_1, N_1 vehicles for vehicle manufacturers

Test requirements	Tests and requirements at initial emission type approval	Tests at conformity of production	Tests at in-service conformity
Gaseous pollutants and PN in road testing (RDE)	Required demonstration test for all fuels for which the type approval is granted and declaration of compliance for all fuels, all payloads and all applicable vehicle types	Not required	Optional[23]
Gaseous pollutants, PM and PN in RDE cycles in the laboratory and CO_2 emissions, fuel consumption (OBFCM), electric energy consumption and electric range (Battery Durability) (WLTP at 23 °C)	Required where all pollutants cannot be measured on the road	Required	Required where all pollutants cannot be measured on the road
CO_2 ambient temperature correction (WLTP at 14°C)	Declaration[6]	Not required	Optional[6]
Crankcase emissions	Declaration that a closed crankcase system or routing to the tailpipe is installed [6]	Required	Optional[6]

[23] The type-approval authority may request the test to be performed

Test requirements	Tests and requirements at initial emission type approval	Tests at conformity of production	Tests at in-service conformity
Evaporative emissions SHED test	Required	Required	Optional[6]
Refuelling emissions	Required	Not required	Not required
Emissions durability	Declaration	Not required	Not required
Battery durability	Declaration	Not required	Not required
Laboratory test of low temperature for emissions and range	Required	Not required	Optional[6]
On-board diagnostics	Declaration	Not required	Optional[6]
On-board monitoring	Declaration and demonstration	Not required	Required
Engine power	Required	Not required	Optional[6]
Anti-tampering, security and cybersecurity	Declaration and documentation	Not required	Not required
Adaptive controls (where applicable)	Declaration and demonstration	Not required	Not required
Geofencing technologies (where applicable)	Declaration and demonstration	Not required	Not required

Table 2: Application of test requirements and declarations for M_1, N_1 vehicles for Member States and recognised third parties/Commission

Test requirements	**Tests and requirements at initial emission type approval**	**Tests at conformity of production**	**Tests at in-service conformity**		**Tests at market surveillance)**	
Relevant actor	***Type approval authority for issuing the type approval***	***Type approval authority***	***Type approval authority***	***Third parties and Commission***	***Market surveillance authorities***	***Third parties and Commission***
Gaseous pollutants and PN in road testing (RDE)	Required demonstration test for all fuels for which the type approval is granted and declaration of compliance for all fuels, all payloads and all applicable vehicle types	Not required	Required for 5% of the vehicle types approved per year	Optional	Required	Optional
Gaseous pollutants, PM and PN in RDE cycles in the laboratory and CO_2 emissions, fuel consumption (OBFCM), electric energy consumption and electric range (Battery Durability) (WLTP at 23 °C)	Required	Audits or optional testing	Optional	Optional	Optional	Optional

Test requirements	**Tests and requirements at initial emission type approval**	**Tests at conformity of production**	**Tests at in-service conformity**		**Tests at market surveillance)**	
Relevant actor	***Type approval authority for issuing the type approval***	***Type approval authority***	***Type approval authority***	***Third parties and Commission***	***Market surveillance authorities***	***Third parties and Commission***
CO_2 ambient temperature correction (WLTP at 14°C)	Declaration[6]	Not required	Optional	Optional	Required	Optional
Crankcase emissions	Declaration that a closed crankcase system or routing to the tailpipe is installed[6]	Audits or optional testing	Optional	Optional	Optional	Optional
Evaporative emissions SHED test	Required	Audits or optional testing	Optional	Optional	Required	Optional
Refuelling emissions	Required	Not required	Optional	Optional	Required	Optional
Emissions durability	Declaration	Not required	Required	Optional	Required	Optional
Battery durability	Declaration	Not required	Required	Optional	Required	Optional
Laboratory test of Low temperature for emissions + range	Required	Not required	Optional	Optional	Required	Optional

Test requirements	**Tests and requirements at initial emission type approval**	**Tests at conformity of production**	**Tests at in-service conformity**		**Tests at market surveillance)**	
Relevant actor	***Type approval authority for issuing the type approval***	***Type approval authority***	***Type approval authority***	***Third parties and Commission***	***Market surveillance authorities***	***Third parties and Commission***
On-board diagnostics	Declaration	Not required	Optional	Optional	Required	Optional
On-board monitoring	Demonstration +Declaration	Not required	Required	Optional	Required	Optional
Engine power	Required	Not required	Optional	Optional	Optional	Optional
Anti-tampering, security and cybersecurity	Declaration and documentation	Not required	Not required	Not required	Required	Optional
Adaptive controls (where applicable)	Declaration	Not required	Not required	Not required	Optional	Optional
Geofencing technologies (where applicable)	Declaration and demonstration	Not required	Not required	Not required	Required	Optional

Table 3: Application of tests, declarations and other requirements for type-approval and extensions for M_2, M_3, N_2 and N_3 vehicles for manufacturers

Test requirements	Tests and requirements at initial emission type approval	Tests at conformity of production	Tests at in-service conformity
Gaseous pollutants, PM and PN in road testing (RDE) for each fuel and for the applicable vehicle categories (M_2, M_3, N_2 and N_3) and low load test (if applicable)	Required demonstration tests for all fuels for which the type approval is granted per vehicle type and a declaration of compliance for all fuels, all payloads and all applicable vehicle types	Conformity of production performed at engine level only	Required test on a vehicle with any fuel and on any vehicle category and any payload for all engine types every two year
CO_2 and fuel/energy consumption, zero emission/electric range determination of a vehicle	VECTO licence	For components	Not required
Energy efficiency of trailers	VECTO licence	For components	Not required
Verification testing procedure	Not required	Required	Not required
Crankcase emissions	Check installation of closed crankcase system or routing to the tailpipe	Not required	Optional[6]
Emissions durability	Declaration	Not required	Not required
Battery durability	Declaration	Not required	Not required
On-board diagnostics (OBD family level)	Declaration	Not required	Optional[6]

Test requirements	Tests and requirements at initial emission type approval	Tests at conformity of production	Tests at in-service conformity
On-board monitoring (OBM family level)	Demonstration +Declaration	Not required	Required
Anti-tampering, security and cybersecurity	Declaration and documentation	Not required	Not required
Adaptive controls (where applicable)	Declaration	Not required	Not required
Geofencing technologies (where applicable)	Declaration and demonstration	Not required	Not required

Table 4: Application of test requirements and declarations for type-approval and extensions for M_2, M_3, N_2 and N_3 vehicles for Member States and recognised third parties/Commission

Test requirements	**Tests and requirements at initial emission type approval**	**Tests at conformity of production**	**Tests at in-service conformity**		**Tests at market surveillance**	
Relevant actor	***Type approval authority for issuing the type approval***	***Type approval authority***	***Type approval authority***	***Third parties and Commission***	***Market surveillance authorities***	***Third parties and Commission***
Gaseous pollutants, PM and PN in road testing (RDE) for each fuel and for the applicable vehicle categories (M_2, M_3, N_2 and N_3) + low load test (if applicable)	Required demonstration tests for all fuels for which the type approval is granted per vehicle type and a declaration of compliance for all fuels, all payloads and all applicable vehicle types	(see engine requirements)	Required yearly for an adequate number of vehicle types on any fuel and on any vehicle category covered by the emission type approval	Optional	Required/Optional	Optional
CO_2,emissions, fuel/energy consumption, zero-emissions/electric range determination of a vehicle	Issue VECTO licence	For components	Not required	Not required	Optional	Optional
Energy efficiency of trailers	Issue VECTO licence	For components	Not required	Not required	Optional	Optional

Test requirements	**Tests and requirements at initial emission type approval**	**Tests at conformity of production**	**Tests at in-service conformity**		**Tests at market surveillance**	
Relevant actor	***Type approval authority for issuing the type approval***	***Type approval authority***	***Type approval authority***	***Third parties and Commission***	***Market surveillance authorities***	***Third parties and Commission***
Verification testing procedure	Not required	Required	Optional	Optional	Optional	Optional
Crankcase emissions	Check installation of closed crankcase system or routing to the tailpipe	Not required	Optional	Optional	Optional	Optional
Emissions durability	Declaration	Not required	Optional	Optional	Required	Optional
Battery durability	Declaration	Not required	Optional	Optional	Optional	Optional
On-board diagnostics (OBD family level)	Declaration	Not required	Optional	Optional	Required	Optional
On-board monitoring (OBM family level)	Declaration and demonstration	Not required	Not required	Not required	Required	Optional
Anti-tampering, security and cybersecurity	Declaration and documentation	Not required	Not required	Not required	Required	Optional
Adaptive controls (where applicable)	Declaration	Not required	Not required	Not required	Optional	Optional
Geofencing technologies (where applicable)	Declaration and demonstration	Not required	Not required	Not required	Required	Optional

Table 5: Application of test requirements and declarations for type-approval and extensions of engines intended for M_2, M_3, N_2 and N_3 vehicles for manufacturers

Test requirements for each fuel	Tests and requirements at initial emission type approval	Tests at conformity of production	Tests at in-service conformity
Gaseous pollutants, PM and PN and CO_2 emissions, fuel consumption on transient cycle (WHTC Cold and Hot)	Required on the parent engine of the emission family and declaration for all family members**	Required on an engine out of the family	Performed only with the complete vehicle as in Tables 3 and 4
Engine tests for verifying data required for CO_2 determination	Required	Required	
Continuous/periodic regeneration	Declaration	Not required	
Crankcase emissions	Check installation of closed crankcase system or routing to the tailpipe	Not required	
Emissions Durability	Declaration	Not required	
On-board diagnostics (OBD family level)	Declaration	Not required	
On-board monitoring (OBM family level)	Performed only with the complete vehicle as in Tables 3 and 4	Not required	
Engine power	Required		

*** The type approval authority may request a test to be performed during initial type approval.**

**** Supported by data of engine testing of all power ratings.**

Table 6: Application of test requirements and declarations for type-approval and extensions of engines intended for M_2, M_3, N_2 and N_3 vehicles for Member States and recognised third parties/Commission

Test requirements for each fuel	**Tests and requirements at initial emission type approval**	**Tests at conformity of production**	**Tests at in service conformity**	**Tests at market surveillance**
Relevant actor	***Type approval authority for issuing the type approval***	***Type approval authority***	**-**	**-**
Gaseous pollutants, PM and PN and CO_2 emissions, fuel consumption on transient cycle (WHTC Cold and Hot)	Required on the parent engine and a declaration for all family members**	Audit or optional testing	Performed only with the complete vehicle as in Tables 3 and 4	Performed only with the complete vehicle as in Tables 3 and 4
Engine tests for verifying data required for CO_2 determination	Required	Audit or optional testing		
Continuous/periodic regeneration	Declaration	Not required		
Crankcase emissions	Check installation of closed crankcase system or routing to the tailpipe	Not required		
Emissions durability	Declaration	Not required		
On-board diagnostics (OBD family level)	Declaration	Not required		
On-board monitoring (OBM family level)	Performed only with the complete vehicle as in Tables 3 and 4			
Engine power	Required	Not required		

Table 7: Application of test requirements and declarations for type-approval of pollution control systems for manufacturers

Test requirements	Tests and requirements at initial emission type approval	Tests at conformity of production	Tests at in-service conformity
Demonstration of performance and durability with aged parts	Required/Declaration	Not required	Optional
Durability requirement check in real life (RDE test with aged vehicles)	Declaration	Not required	Optional

Table 8: Application of test requirements and declarations for type-approval of pollution control systems for Member States and recognised third parties/Commission

Test requirements	**Tests and requirements at initial emission type approval**	**Tests at conformity of production**	**Tests at in-service conformity**		**Tests at market surveillance**	
Relevant actor	***Type approval authority for issuing the type approval***	***Type approval authority***	***Type approval authority***	***Third parties and Commission***	***Market surveillance authorities***	***Third parties and Commission***
Demonstration of performance and durability with aged parts	Required	Optional	Optional/Optional		Optional/Optional	
Durability requirement check in real life (RDE test with aged vehicles)	Declaration	Not required	Optional/Optional		Required/Optional	

Table 9: Application of test requirements for type-approval of brake systems for manufacturers

Test requirements	Tests and requirements at initial emission type approval	Tests at conformity of production	Tests at in-service conformity
Brake system emissions test in WLTP brake cycle	Required	Required	Required

Table 10: Application of test requirements for type-approval of brake systems for Member States and recognised third parties/Commission

Test requirements	**Tests and requirements at initial emission type approval**	**Tests at conformity of production**	**Tests at in-service conformity**		**Tests at market surveillance**	
Relevant actor	***Type approval authority for issuing the type approval***	***Type approval authority***	***Type approval authority***	***Third parties and Commission***	***Market surveillance authorities***	***Third parties and Commission***
Brake system emissions test in WLTP brake cycle	Required	Audit or optional testing	Required/Optional		Optional/Optional	

ANNEX VI

CORRELATION TABLE

1. Regulation (EC) No 715/2007

Regulation (EC) No 715/2007	This Regulation
Article 1(1)	Article 1(1)
Article 1(2)	Article 1(2)
Article 2(1)	Article 2(1)
Article 2(2)	Article 5(6)
Article 3	Article 3
Article 4(1), first subparagraph	Article 4(1), first subparagraph
Article 4(1), second subparagraph	Article 4(1), second subparagraph
Article 4(2)	Article 7(1)
Article 4(3)	Article 7(4)
Article 4(4)	Article 7(6)
Article 5(1)	Article 4(2)
Article 5(2)	Article 4(3)
Article 5(3)	Article 14(2)
Article 5(3), last subparagraph	Article 6 (1), second subparagraph
Article 10	Article 10
Article 11	Article 11
Article 12	—
Article 13	—
Article 14	—
Article 15	Article 17
Article 16	—
Article 17	Article 19
Article 18	Article 20
Annex I	Annex I
Annex II	—

2. Regulation (EC) No 595/2009

Regulation (EC) No 595/2009	This Regulation
Article 1	Article 1
Article 2, first subparagraph	Article 2, first subparagraph
Article 2, second subparagraph	—
Article 2, third subparagraph	—
Article 2, fourth subpagraph	—
Article 3	Article 3
Article 4(1)	Article 4(1)
Article 4(2)	Article 7(1)
Article 4(3)	Article 7(5)
Article 5(1)	Article 4(1), second subparagraph
Article 5(2)	Article 4(2)
Article 5(3)	Article 4(3)
Article 5(4)	Article 14(2)
Article 5a	Article 4(4)
Article 5b	Article 10(5)
Article 5c(a)	Article 14(4)(d)
Article 5c(b)	Article 14(4)(i)
Article 5c (c)	Article 14(4)(b)
Article 7	Article 12
Article 8	Article 10(4) and Article 10(5)
Article 9	Article 11
Article 10	—
Article 11	—
Article 12	—
Article 13	Article 17
Article 13a	Article 17
Article 14	—

Regulation (EC) No 595/2009	This Regulation
Article 15	—
Article 16	—
Article 17	Article 19
Article 18	Article 20
Annex I	Annex I
Annex II	—