Commission Regulation (EU) No 459/2012 of 29 May 2012 amending Regulation (EC) No 715/2007 of the European Parliament and of the Council and Commission Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6) (Text with EEA relevance)

COMMISSION REGULATION (EU) No 459/2012

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amending Regulation (EC) No 715/2007 of the European Parliament and of the Council and Commission Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6)

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to 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[(1)], and in particular Article 5(3),

Having regard to Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive)[(2)], in particular Article 39(2) thereof,

Whereas:

(1) Regulation (EC) No 715/2007 and Commission Regulation (EC) No 692/2008 of 18 July 2008 implementing and amending Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information[(3)] establish common technical requirements for the type approval of motor vehicles and replacement parts with regard to their emissions and lay down rules for in-service conformity, durability of pollution control devices, on-board diagnostic (OBD) systems, measurement of fuel consumption and accessibility of vehicle repair and maintenance information.

(2) Pursuant to Regulation (EC) No 715/2007, a particle number (PN) standard is to be defined for vehicles equipped with a positive ignition engine to be approved according to Euro 6 standards.

(3) Particles emitted by vehicles may be deposited in the alveoli of human lungs, potentially leading to respiratory and cardiovascular illness and increased mortality. Therefore it is in the public interest to have a high level of protection from those particles.

(4) For measuring the particle emissions of positive ignition vehicles, the Particulate Measurement Programme (PMP) measurement protocol developed for diesel vehicles is currently used. However, evidence exists that the size spectra and chemical compositions of particle emissions of positive ignition can differ from those of diesel vehicles. Particle size spectra and chemical composition, and the effectiveness of the current measurement technique in controlling harmful particle emissions, should be kept under review. A revision of that measurement protocol for positive ignition vehicles may be required in the future.

(5) Based on today's knowledge, the level of particle emissions from conventional, port fuel injection (PFI) engines that inject the fuel into the intake manifolds or inlet ports rather than directly into the combustion chamber is low. Therefore, it appears to be justified to limit regulatory action for the moment to vehicles equipped with direct injection engines, without excluding further research and monitoring of the particle emission performance of all positive ignition engines, in particular with respect to the size spectrum and chemical composition of emitted particles as well as to the real driving emissions, and the Commission should propose further regulatory measures if necessary, also taking into account the future market share of PFI engines.

(6) Regulation (EC) No 692/2008 has set a particle number emission limit of 6×10^{11} #/km for Euro 6 diesel vehicles. In accordance with the principle of technology neutral legislation, a respective emission limit for Euro 6 positive ignition vehicles should be the same since there is no evidence suggesting that particles emitted by PI engines have a lower specific toxicity than particles emitted by diesel engines.

(7) Gasoline particle filters (GPF), an effective after-treatment technology for abating particles emitted by positive ignition vehicles, are expected to become available for integration into some Euro 6 vehicles at a reasonable cost. In addition, it appears likely that within a time frame of three years after the mandatory Euro 6 dates set out in Article 10 of Regulation (EC) No 715/2007, a similar reduction of PN emissions can be achieved with internal engine measures at substantially lower costs for many applications. Any engine measure must be applicable to all engine working conditions to ensure that, in the absence of aftertreatment devices, emission levels in real life driving conditions are not worsened.

(8) In order to allow for all necessary technologies to be developed and to allow adequate lead time, a two step approach should be adopted, which would apply the Euro 6 diesel particle number limits also to direct injection positive ignition vehicles in its second phase.

(9) Attention shall be given to the particle emissions of positive ignition vehicles under real driving conditions and the development of respective test procedures. The Commission should develop and introduce corresponding measurement procedures at the latest three years after the entry into force of Euro 6.

(10) The Commission should keep under review the impact of PN abatement measures on CO_2 emissions of positive ignition vehicles.

(11) Pursuant to Article 4(7) of Regulation (EC) No 692/2008, vehicles falling under the scope of that Regulation may only be type-approved to Euro 6 emission standards once on-board-diagnostic (OBD) thresholds limits have been introduced. OBD is an important tool for identifying malfunctions of pollution control devices.

(12) In its Communication 2008/C 182/08 on the application and future development of Community legislation concerning vehicle emissions from light-duty vehicles and access to repair and maintenance information (Euro 5 and 6)[4] the Commission has suggested a series of OBD threshold limits, which broadly reflect the thresholds applied to most light duty vehicles in the United States and Canada from the year 2013 onwards, where the majority of vehicles' OBD systems are compliant with the legislation set by the Californian Air Resources Board (CARB). An alignment of the Union's requirements with those of the United States would be in accordance with the objectives of international harmonisation and would provide a high level of environmental protection.

(13) However, the OBD requirements in the United States are technologically challenging for vehicle manufacturers not exporting into the United States. Therefore, an initial period of three years of more lenient OBD requirements should be adopted, providing more lead time to the industry.

(14) The final Euro 6 OBD threshold limits for CO, NMHC and PM provided by Regulation (EC) No 692/2008 should be more lenient than the values suggested in Communication 2008/C 182/08, reflecting particular technical difficulties in those areas. In addition, no Euro 6 OBD threshold limit for particle numbers should be adopted by this Regulation.

(15) The environmental need, technical feasibility and cost/benefit ratios of more stringent Euro 6 OBD threshold limits applicable to CO and NMHC and of setting a particle number Euro 6 OBD threshold limit should be evaluated at a later stage. Any resulting amendment of the regulatory requirements in that respect should only be introduced with appropriate lead time for industry. Given the complexity of OBD systems, such lead time is typically three to four years.

(16) Regulations (EC) No 715/2007 and (EC) No 692/2008 should therefore be amended accordingly.

(17) The measures provided for in this Regulation are in accordance with the opinion of the Technical Committee — Motor Vehicles,

HAS ADOPTED THIS REGULATION:

Article 1

Regulation (EC) No 715/2007 is amended as follows:

(1) in Article 3, at the end of point 17, the full stop should be changed into a semicolon;

(2) in Article 3, the following point 18 is added:

18. "direct injection engine" means an engine which can operate in a mode where the fuel is injected into the intake air after the air has been drawn through the inlet valves.;

Changes to legislation: *There are currently no known outstanding effects for the Commission Regulation (EU) No 459/2012. (See end of Document for details)*

(3) in Article 10, the following paragraph 7 is added:

7. Until three years after the applicable dates set out in paragraphs 4 and 5 for new type approvals and the registration, sale or entry into service of new vehicles and upon the choice of the manufacturer, a particle number emission limit of 6×10^{12} #/km shall apply to vehicles with a direct injection positive ignition engine.;

(4) Annex I is amended in accordance with Annex I to this Regulation.

Article 2

Regulation (EC) No 692/2008 is amended as follows:

(1) in Article 4, paragraph 7 is deleted;

(2) Annexes I, XI and XVI are amended in accordance with Annex II to this Regulation.

Article 3

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

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

Done at Brussels, 29 May 2012.

For the Commission

The President

José Manuel BARROSO

ANNEX I

Amendments to Regulation (EC) No 715/2007

Annex I to Regulation (EC) No 715/2007 is amended as follows:

(1) the text in the second row of the last column of Table 1 (Euro 5 emission limits) is replaced by the following:

Number of particles (PN);

(2) Table 2 is replaced by the following table:

TABLE 2

Euro 6 Emission Limits

		Reference mass (RM) (kg)	Limit values													
			Mass of carbon monoxide (CO)		Mass of total hydrocarbons (THC)		Mass of non-methane hydrocarbons (NMHC)		Mass of oxides of nitrogen (NO_x)		Combined mass of hydrocarbons and oxides of nitrogen (THC + NO_x)		Mass of particulate matter (PM)[a]		Number of particles (PN)	
			L_1 (mg/km)		L_2 (mg/km)		L_3 (mg/km)		L_4 (mg/km)		$L_2 + L_4$ (mg/km)		L_5 (mg/km)		L_6 (#/km)	
Category	**Class**		**PI**	**CI**	**PI**	**CI**	**PI**	**CI**	**PI**	**CI**	**PI**	**CI**	**PI**[b]	**CI**	**PI**[bc]	**CI**
M	—	All	1 000	500	100	—	68	—	60	80	—	170	4,5	4,5	$6,0 \times 10^{11}$	$6,0 \times 10^{11}$
N_1	I	RM ≤ 1 305	1 000	500	100	—	68	—	60	80	—	170	4,5	4,5	$6,0 \times 10^{11}$	$6,0 \times 10^{11}$
	II	1 305 < RM ≤ 1 760	1 810	630	130	—	90	—	75	105	—	195	4,5	4,5	$6,0 \times 10^{11}$	$6,0 \times 10^{11}$

a A limit of 5,0 mg/km for the mass of particulate emissions applies to vehicles type approved to the emission limits of this table with the previous particulate mass measurement protocol, before 1.9.2011.

b Positive ignition particulate mass and number limits shall apply only to vehicles with direct injection engines.

c Until three years after the dates specified in Article 10(4) and (5) for new type approvals and new vehicles respectively, a particle number emission limit of $6,0 \times 10^{12}$ #/km shall apply to Euro 6 PI direct injection vehicles upon the choice of the manufacturer. Until those dates at the latest a type approval test method ensuring the effective limitation of the number of particles emitted by vehicles under real driving conditions shall be implemented.

Key: PI = Positive Ignition, CI = Compression Ignition