(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 16 June 1988

amending Directive 70/220/EEC on the approximation of the laws of the Member States relating to measures to be taken against air pollution by gases from engines of motor vehicles (Restriction of particulate pollutant emissions from diesel engines)

(88/436/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100A thereof,

Having regard to the proposal from the Commission (1),

In cooperation with the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (³),

Whereas it is important to adopt measures with the aim of progressively establishing the internal market over a period expiring on 31 December 1992; whereas the internal market shall comprise and area without internal frontiers in which the free movement of goods, persons, services and capital is ensured;

Whereas the first programme of action of the European Communities on the environment, which was adopted by the Council on 22 November 1973, calls for account to be taken of the latest scientific progress in combating air pollution caused by exhaust gases from motor vehicles and for Directives adopted previously to be amended accordingly; whereas the third programme of action provides for further efforts to reduce considerably the present level of emissions of pollutants from motor vehicles;

Whereas differences which may emerge in national legislation concerning limits for particulate pollutant

- (²) OJ No C 190, 20. 7. 1987, p. 178 and OJ No C 167, 27. 6. 1988.
- (3) OJ No C 333, 29. 12. 1986, p. 17.

emissions from compression ignition ('diesel') engines used as criteria for the type-approval of vehicles equipped with such engines, are liable to constitute a restriction on the free movement of these products in the Community; whereas it therefore seems necessary to fix common standards in this area;

Whereas Directive 70/220/EEC (⁴) lays down limit values for emissions of carbon monoxide and unburnt hydrocarbons from such engines; whereas these limit values were lowered for the first time by Directive 74/290/EEC (⁵) and supplemented, pursuant to Commission Directive 77/102/EEC (⁶), by limit values for permissible emissions of nitrogen oxides; whereas the limit values for these three pollutants were successively reduced by Commission Directive 78/665/EEC (⁷) and Directives 83/351/EEC (⁸) and 88/76/EEC (⁹);

Whereas the scope of Directive 70/220/EEC was expanded by Directive 83/351/EEC in order to cover certain categories of vehicle equipped with compression ignition ('diesel') engines, without, however, laying down specific emission requirements for those engines; whereas only soot emissions are covered by Directive 72/306/EEC (¹⁰); whereas, however, with a view to improved protection of public health, it is necessary to restrict the overall particulate pollutant emissions from engines of this type; whereas it is appropriate to lay down limit values for particulate pollutant emissions which correspond to the state of the art with regard to diesel engines in the Community and to amplify the test procedure set out in Directive 70/220/EEC by adding the

- (⁶) OJ No L 32, 3. 2. 1977, p. 32.
- (⁷) OJ No L 223, 14. 8. 1978, p. 48.
- (⁸) OJ No L 197, 20. 7. 1983, p. 1.
- (⁹) OJ No L 36, 9. 2. 1988, p. 1.
- (¹⁰) OJ No L 190, 20. 8. 1972, p. 1.

⁽¹⁾ OJ No C 174, 12. 7. 1986, p. 3.

^{(&}lt;sup>4</sup>) OJ No L 76, 6. 4. 1970, p. 1.

^{(&}lt;sup>5</sup>) OJ No L 159, 15. 6. 1974, p. 61.

provisions relating to the sampling and analysis of particulate emissions taken over from the relevant United States requirements;

Whereas the establishment of 1,1 g and 1,4 g/test as limit values for particulate pollutant emissions from vehicles fitted with diesel engines represents only a first step towards controlling these emissions;

Whereas, considering also the opinion of the European Parliament, a second stage in the reduction of particulate pollutant emissions must be implemented as quickly as possible and whereas levels of 0.8 g and 1.0 g/test should be achieved; whereas the levels adopted will have to take into account the technical/economic possibilities which exist at that time,

HAS ADOPTED THIS DIRECTIVE:

Article 1

Directive 70/220/EEC is hereby amended as follows:

1. The title is replaced by the following:

'Council Directive of 20 March 1970 on the approximation of the laws of the Member States on measures to be taken against air pollution by emissions from motor vehicles'.

2. Annexes I, III and III A are amended in accordance with the Annex to this Directive.

Article 2

1. From 1 October 1988 no Member State may, on grounds relating to air pollution by particulate pollutant emissions from an engine:

- refuse to grant EEC type approval, to issue the document referred to in the last indent of Article 10 (1) of Directive 70/156/EEC (1) or to grant national type approval for a type of motor vehicle equipped with a compression-ignition engine,
- prohibit the entry into service of vehicles equipped with compression-ignition engines,

where particulate pollutant emissions from this type of motor vehicle or from such vehicles meet the requirements set out in the Annexes to Directive 70/220/EEC, as amended by this Directive.

- 2. From 1 October 1989, Member States:
- may no longer issue the document provided for in the last indent of Article 10 (1) of Directive 70/156/EEC in respect of a type of motor vehicle, equipped with a compression-ignition engine,
- may refuse national type approval for a type of motor vehicle, whose emission levels do not meet the requirements set out in the Annexes to Directive 70/220/EEC, as amended by this Directive.

However, in respect of types of vehicle equipped with a direct-injection compression-ignition engine, that date shall be postponed until 1 October 1994.

3. From 1 October 1990, Member States may prohibit the entry into service of motor vehicles equipped with compression-ignition engines whose particulate pollutant emissions do not meet the requirements set out in the Annexes to Directive 70/220/EEC, as amended by this Directive.

However, in respect of vehicles equipped with a direct-injection compression-ignition engine, that date shall be postponed until 1 October 1996.

Article 3

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than 1 October 1988. They shall forthwith inform the Commission thereof.

Article 4

Before the end of 1989, the Council shall decide, on the basis of a proposal from the Commission, the implementation of a second stage for further reduction in the limit values for particulate pollutant emissions.

Article 5

This Directive is addressed to the Member States.

Done at Luxembourg, 16 June 1988.

For the Council The President K. TÖPFER

ANNEX

Amendments to the Annexes to Directive 70/220/EEC

ANNEX 1

SCOPE, DEFINITIONS, APPLICATION FOR EEC TYPE APPROVAL, EEC TYPE APPROVAL, TEST SPECIFICATIONS, EXTENSION OF EEC TYPE APPROVAL, CONFORMITY OF PRODUCTION, TRANSITIONAL ARRANGEMENTS

1 now reads as follows:

'1. SCOPE

This Directive applies to the emission of gaseous pollutants from all motor vehicles equipped with spark-ignition engines and to the emission of gaseous and particulate pollutants from vehicles of categories M_1 and N_1 , equipped with compression-ignition engines covered by Article 1.'

2.1 now reads as follows:

- '2.1. "Vehicle type" with regard to the emission of gaseous and particulate pollutants from the engine, means a category of power-driven vehicles which do not differ in such essential respects as:'
- 2.4 is expanded as follows:

'Particulate pollutants' means components of the exhaust gas which are removed from the diluted exhaust gas at a maximum temperature of 52 °C by means of the filters covered by Annex III.'

3.1 now reads as follows:

'3.1. The application for approval of a vehicle type with regard to the emission of gaseous and particulate pollutants from its engine is submitted by the vehicle manufacturer or by his authorized representative.'

5.1.1. The first sentence now reads as follows:

'The components liable to effect the emission of gaseous and particulate pollutants must be so designed, constructed and assembled as to enable the vehicle, in normal use, to comply with the requirements of this Directive, despite the vibration to which they may be subjected.'

5.2.1.1 now reads as follows:

'5.2.1.1. Type 1 test (verifying the average emission of gaseous and particulate pollutants after a cold start).'

5.2.1.1.2 is expanded as follows:

'Not only the carbon monoxide, hydrocarbon and nitrogen oxide emissions, but also the particulate pollutant emissions from vehicles equipped with compression-ignition engines will be plotted.'

5.2.1.1.3. The second sentence now reads as follows:

'The methods used to collect and analyse the gases and also to remove and weigh the particulates must be those prescribed.'

5.2.1.1.4 now reads as follows:

⁵5.2.1.1.4. Subject to the requirements of 5.2.1.1.4.2 and 5.2.1.1.5 the test is repeated three times. For a vehicle of a given category the mass of the carbon monoxide, the combined mass of the hydrocarbons and the nitrogen oxides, the mass of the nitrogen oxides, and — in the case of vehicles equipped with compression-ignition engines — the mass of the particulates obtained in the test must be less than the amounts shown in the table below:

Engine capacity	Mass of carbon monoxide	Combined mass of hydrocarbons and nitrogen oxides	Mass of nitrogen oxides	Mass of particulates (1)	
C (in cm ³)	L_1 (g/test)	L ₂ (g/test)	L ₃ (g/test)	L ₄ (g/test)	
C > 2 000	25	6,5	3,5	<u> </u>	
$1 400 \le C \le 2 000$	30	8			
C < 1 400	45	15	6	ŢŢ	

(1) In the case of vehicles equipped with compression-ignition engines.

Vehicles equipped with compression-ignition engines whose engine capacity exceeds 2 000 cm³ must comply with the limit values for the emission of pollutant gases, corresponding to the category of engine capacities ranging from 1 400 cm³ to 2 000 cm³.

5.2.1.1.4.1. The phrase in brackets is deleted.

5.2.1.1.4.2 now reads as follows:

'5.2.1.1.4.2. The number of tests prescribed in 5.2.1.1.4 may, at the request of the manufacturer, be increased to 10 tests provided that " "the arithmetical mean (\bar{x}_1) of the three results obtained for each pollutant or combined total of two pollutants subject to limitation falls between 100 and 110 % of the limit. In this case, the decision, after testing, depends exclusively on the average results obtained from all ten tests ($\bar{x} < L$).

5.2.1.1.5.1 now reads as follows:

'5.2.1.1.5.1. Only one test is performed if the values obtained for each pollutant or for the combined emission of two pollutants, subject to limitation, are ≤ 0.70 L.'

5.2.1.1.5.2 now reads as follows:

'5.2.1.1.5.2. Only two tests are performed if the result for all pollutants or combined emissions of pollutants is $V_1 \le 0.85$ L, and if, at the same time, at least one of these values or combined values for pollutants is $V_1 > 0.70$ L. In addition the requirement that $V_1 + V_2 \le 1.70$ L and $V_2 \le L$ must be satisfied.'

7.1 now reads as follows:

'7.1. As a general rule, conformity of production models, with regard to limitation of the emission of gaseous and particulate pollutants from the engine, is checked on the basis of the description set out in Annex VII and, where necessary, of all or some of the tests of Types I, II and III described in 5.2.'

7.1.1.1. The table is replaced by the following:

Engine capacity	Mass of carbon monoxide	Combined mass of hydrocarbons and nitrogen oxides	Mass of nitrogen oxides	Mass of particulates (1) L4 (g/test)	
C (cm ³)	L ₁ (g/test)	L ₂ (g/test)	L ₃ (g/test)		
C > 2 000	30	8,1	4,4		
$400 \le C \le 2000$	36	10		1,4	
C < 1 400	54	19	7,5]]	

(1) In the case of vehicles equipped with compression-ignition engines.

Vehicles equipped with a compression-ignition engine having an engine capacity of more than 2 000 cm³ shall not exceed the limit values for pollutant gas emissions from the engine capacity class ranging from 1 400 cm³ to 2 000 cm³.

7.1.1.2. The second paragraph now reads as follows:

'The result to be taken into consideration for the vehicle tested originally is the arithmetical mean of the results obtained from the three Type-I tests carried out on that vehicle. The arithmetical mean (x) of the results obtained from the random sample and the standard deviation S (1) are then plotted for the carbon monoxide emissions, the combined hydrocarbon and nitrogen oxide emissions, the nitrogen oxide emissions and the particulate emissions. Production models are then deemed to conform if the following condition is met:

 $\bar{\mathbf{x}} + \mathbf{k} \cdot \mathbf{S} \leq \mathbf{L}$

where:

L is the limit value laid down in 7.1.1.1,

k is the statistical factor depending upon n and given in the following table:

8.3.1.1 now reads as follows:

'8.3.1.1. For vehicle type approval, the limit values specified in the table set out in 5.2.1.1.4 shall be replaced by the following:

- Mass of carbon monoxide: 2,11 g/km,
- Mass of hydrocarbons: 0,25 g/km,
- Mass of nitrogen oxides: 0,62 g/km,
- Mass of particulates (1): 0,124 g/km.

These limit values are deemed to be met if they are not exceeded by the results of tests on a vehicle type in which the individual masses of pollutants are multiplied by the relevant deterioration factor set out in the table below:

	Deterioration factor			
Exhaust gas clean-up system	со	нс	NO _x	Particulates (1)
1. Spark-ignition engine with oxidizing catalytic converter	1,2	1,3	1,0	_
2. Spark-ignition engine without catalytic converter	1,2	1,3	1,0	_
3. Spark-ignition engine with 3-way catalytic converter	1,2	1,3	1,1	_
4. Compression-ignition engine	1,1	1,0	1,0	1,2

Where the certification process for the Community export markets has provided a manufacturer with confirmation of deterioration factors which are specific to a vehicle type these factors may be used as an alternative to the abovementioned factor to establish whether the limit values referred to in this section are complied with.'