



European Economic and Social Committee

INT/171
**Emissions from internal
combustion engines**

Brussels, 18 June 2003

OPINION

of the European Economic and Social Committee

on the

Proposal for a Directive of the European Parliament and of the Council amending Directive 97/68/EC on the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery

COM(2002) 765 final - 2002/0304 (COD)

On 11 February 2003 the Council decided to consult the European Economic and Social Committee, under Article 95 of the Treaty establishing the European Community, on the

Proposal for a Directive of the European Parliament and of the Council amending Directive 97/68/EC on the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery
COM(2002) 765 final – 2002/0304 (COD).

The Section for the Single Market, Production and Consumption, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 4 June 2003. The rapporteur was **Mr Barros Vale**.

At its 400th plenary session on 18 and 19 June 2003 (meeting of 18 June), the European Economic and Social Committee unanimously adopted the following opinion:

1. Introduction

1.1 This EESC Opinion concerns a proposed amendment to Directive 97/68/EC on "the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery" (NRMM).

1.1.1 The engines for use in NRMM are to a large extent produced for a global market. Global alignment was a high priority issue when the current legislation was developed and continues to be so in respect of future emissions standards.

1.2 The current Directive 97/68/EC covers compression ignition (CI) engines of 18 kW to 560 kW for use in non-road mobile machinery; it also proposes tighter restrictions on emissions of air pollutants from these engines.

1.3 The directive currently in application stipulates two stages of emission standards, as follows:

- Stage I standards entered into force on 31 December 2000 for all power bands;
- Stage II standards are entering into force between 31 December 2000 and 31 December 2003, depending on the power band.

1.4 In line with Article 19 of the directive, which provides for a tightening of the emissions standards for CI engines, the current proposal introduces new limits for these engines in Stages III A and III B.

1.5 The current proposal also extends the scope of the directive to cover:

- inland waterway vessels with a length of 20 metres or more and a volume of 100 m³ or more;
- tugs or pusher craft having been built to tow or to push or to move alongside vessels of 20 metres or more.

1.6 Stage III A of the proposal only refers to gaseous pollutants, recommending an approximately 30% reduction in NO_x (nitrous oxides) in relation to the Stage II values; it should enter into force between 31 December 2005 and 31 December 2007, depending on the size of the engine. The limits now recommended are equivalent to those stipulated in the corresponding legislation already adopted in the USA.

1.7 Stage III B of the proposal recommends reducing solid particulates in emissions from the engines covered by the directive by about 90%, with respect to Stage II, and should enter into force between 31 December 2010 and 31 December 2011.

1.8 The proposed changes to the measurement and sampling methods will introduce procedures based on a better simulation of actual engine use, as a consequence of which the results obtained will be more meaningful than those currently based on a steady state test cycle. Use of the new procedures will be mandatory in Stage III B to determine the particulate mass in emissions, while it will be optional whether to use the new test methods or those established to date for the Stage III A emissions and the Stage III B gaseous emissions. The measurement and sampling methods, as defined in the present directive, are of limited application for machines whose patterns of operation are not covered by the test methods for NRMM. However, those engines are generally covered by specific directives such as Directive 70/156/EEC for vehicles, Directive 74/150/EEC for agricultural tractors, and Directive 94/25/EEC for recreational craft, or their power is usually above 560 kW, as is the case with locomotives.

1.9 Stage III A can be completed with currently available technology, or by introducing technologies flowing from developments between now and 2010. As regards the recommended values for particulate emissions, a steady supply of low-sulphur fuel ([50 mg/kg = [50 ppm) is vital; therefore the entry into force of the limits stipulated in Stage III B depends on the entry into force of the amendments to Directive 98/70/EC relating to diesel fuel.

1.10 The proposal allows engines to be mounted into pieces of equipment by the actual engine manufacturers or by equipment manufacturers; it therefore provides for two points of flexibility in order to allow equipment manufacturers enough time to adapt their products to the directive, as follows:

- The first allows equipment manufacturers to use "old" engines for a period of two years, providing that the engines are produced before the date of entry into force of the new limit values.
- The second allows equipment manufacturers (i) to use a limited number of engines that comply only with the previous limit values, but not more than 20% of one year's production within each power band (calculated as an average of the distribution on the EU market over the last five years)

or (ii) to choose to exempt a fixed number of engines included in one or more power bands, but not more than 50 (fifty) pieces for 130-560 kW, 100 (one hundred) pieces for 75-130 kW, 150 (one hundred and fifty) pieces for 37-75 kW and 200 (two hundred) pieces for 19-37 kW.

2. General comments

2.1 In accordance with Article 19 of the directive, which provides for a tightening of the emissions standards for compression ignition engines, the Commission is presenting a proposal for a further reduction in limit values for emissions from engines for use in non-road mobile machinery with an engine power of 18 to 560 kW.

2.2 It is certain that the number of engines produced for non-road mobile machinery is much lower than the number of engines produced for road use. Mobile machinery engines for road and non-road use are technologically very similar, and therefore experience acquired with the former type of engine could be adapted to the latter type. It is largely a matter of adapting technology already developed for engines used in road haulage vehicles to the design and operating conditions of non-road mobile machinery. There are however a number of key differences in use to take into consideration:

- The operating environment and the engine speed at which they operate are very different.
- The lack of registration (commonly known as the number plate) for NRMM makes it difficult to monitor normal usage, but does not prevent the directive's requirements from being imposed as a condition for the machinery to receive type-approval.
- The definition of the term "useful life" is not determined by periodical mandatory inspections, as is the case with road machinery, but rather by economic operating criteria for professionals or companies using non-road machinery with CI engines in the course of their activities.

2.3 These differences do not constitute major obstacles to achieving the aims of the directive, given that:

- the new "measurement and sampling methods" can adequately reproduce the operating conditions for non-road machinery;
- these machines, because of their size and power, are generally used for professional purposes, and are therefore constantly maintained by the companies owning them;
- the mechanical wear and tear on non-road machinery is probably faster than the wear and tear on the engines; therefore in the long term, the type-approval for these engines in itself ensures that they comply with the limit values laid down in the directive during the useful life of the machinery.

2.4 In order to gain a better understanding of the importance of implementing this directive so as to secure a solution to air quality problems in the future, reference should be made to the overall quantity of NRMM in operation as a percentage of all machinery running on diesel. The

EU 15's diesel consumption in 1998 was of the order of 227,117,000 tonnes; NRMM accounted for 9.3% of the total:

– road machinery	52.4%
– non-road machinery ¹ (estimate)	9.3%
– inland waterway vessels	2.1%
– other	36.2%
Total	100.0%

3. Technological difficulties

3.1 As noted above, technological developments available for engines used in road machinery are in most cases transferable for use on non-road machinery. Nevertheless, the Commission's proposal to review the feasibility of such a use/transfer of technology by December 2006 at the latest, seems sensible.

4. Importance of fuel quality

4.1 Implementation of Stage III B depends on fuel quality and consequently on compliance with Directive 98/70/EC which sets a maximum sulphur content of 50 ppm for diesel used for road vehicles as of 1 January 2005; the dates for beginning Stage III B must therefore be determined by compliance with this directive. Type-approval of engines using the reference fuel guarantees that they operate in line with the limit values set down for Stage III B, but emissions will only meet the new limit values if suitable fuels are actually available on the market.

4.1.1 The costs referred to in the proposal's preliminary comments are estimated and not detailed costs, and therefore a cost-benefit analysis cannot be carried out properly, nor can there be a proper assessment of the overall benefits of the limit values package proposed for non-road engines as indicated. (See, for example *Conclusion 3.7.4* of the preliminary comments in the *Explanatory Memorandum*.)

4.2 Given that low sulphur fuel (10 – 50 ppmS) is unlikely to be available on all markets, it should be borne in mind that the limit values stipulated for Stage III B cannot be achieved as long as such fuel is unavailable.

5. Final comments

5.1 The proposal is rooted in a concern to protect the environment, which the Committee supports. However, it should be borne in mind that smooth implementation will depend on the

¹ Agricultural machinery (except for tractors), civil construction and mining machinery, etc

availability of the right quality of fuel, and on steps to monitor compliance with the rules after type-approval has been granted.

5.2 Although non-road mobile machinery with CI engines does not need to be registered, the fact that it is usually used by professionals and companies means that such machinery can be identified and located by the official bodies of each Member State. This machinery should have a type-approval certificate with a detailed description of the mandatory devices for full compliance with the limit values of the directive under which type-approval was granted. Thus, Member States will in the future have the means available for checking maintenance and/or compliance with the type-approval conditions.

6. Conclusions

6.1 The Committee welcomes the Commission's proposal which is designed to reduce air pollution caused by non-road mobile machinery using CI engines.

6.2 The Committee agrees with the feasibility of the technical solutions required to comply with the limit values stipulated for the various stages, as well as the dates set for their implementation; it seconds the concerns about the changes which need to be made to the fuel for Stage III B and supports the technical improvements in the new test methods appended to the proposed directive.

Brussels, 18 June 2003.

The President
of the
European Economic and Social Committee

The Secretary-General
of the
European Economic and Social Committee

Roger Briesch

Patrick Venturini