EUROPEAN PARLIAMENT

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A5-0296/2003

10 September 2003

***I
REPORT

on the proposal for a European Parliament and Council directive 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 – C5-0636/2002 – 2002/0304(COD))

Committee on the Environment, Public Health and Consumer Policy

Rapporteur: Bernd Lange

Symbols for procedures

*	Consultation procedure *majority of the votes cast*
**I	Cooperation procedure (first reading) *majority of the votes cast*
**II	Cooperation procedure (second reading) *majority of the votes cast, to approve the common position* *majority of Parliament's component Members, to reject or amend the common position*
***	Assent procedure *majority of Parliament's component Members except in cases covered by Articles 105, 107, 161 and 300 of the EC Treaty and Article 7 of the EU Treaty*
***I	Codecision procedure (first reading) *majority of the votes cast*
***II	Codecision procedure (second reading) *majority of the votes cast, to approve the common position* *majority of Parliament's component Members, to reject or amend the common position*
***III	Codecision procedure (third reading) *majority of the votes cast, to approve the joint text*

(The type of procedure depends on the legal basis proposed by the Commission)

Amendments to a legislative text

In amendments by Parliament, amended text is highlighted in ***bold italics***. Highlighting in *normal italics* is an indication for the relevant departments showing parts of the legislative text for which a correction is proposed, to assist preparation of the final text (for instance, obvious errors or omissions in a given language version). These suggested corrections are subject to the agreement of the departments concerned.

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PROCEDURAL PAGE

By letter of 27 December 2002 the Commission submitted to Parliament, pursuant to Article 251(2) and Article 95 of the EC Treaty, the proposal for a European Parliament and Council directive 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 – 2002/0304 (COD)).

At the sitting of 13 January 2003 the President of Parliament announced that he had referred this proposal to the Committee on the Environment, Public Health and Consumer Policy as the committee responsible and the Committee on Industry, External Trade, Research and Energy and the Committee on Regional Policy, Transport and Tourism for their opinions (C5-0636/2002).

The Committee on the Environment, Public Health and Consumer Policy appointed Bernd Lange rapporteur at its meeting of 28 January 2003.

The committee considered the Commission proposal and draft report at its meetings of 16 June 2003 and 9 September 2003.

At the latter meeting it adopted the draft legislative resolution by 33 votes to 8, with 1 abstention.

The following were present for the vote: Alexander de Roo, acting chairman; Mauro Nobilia and Guido Sacconi, vice-chairmen; Bernd Lange, rapporteur; and Hans Blokland, David Robert Bowe, John Bowis, Martin Callanan, Dorette Corbey, Raffaele Costa, Chris Davies, Karl-Heinz Florenz, Pernille Frahm, Cristina García-Orcoyen Tormo, Robert Goodwill, Françoise Grossetête, Cristina Gutiérrez Cortines, Jutta D. Haug (for Béatrice Patrie), Marie Anne Isler Béguin, Hedwig Keppelhoff-Wiechert (for Caroline F. Jackson), Christa Klaß, Eija-Riitta Anneli Korhola, Giorgio Lisi (for María del Pilar Ayuso González), Torben Lund, Minerva Melpomeni Malliori, Patricia McKenna, Erik Meijer (for Jonas Sjöstedt), Emilia Franziska Müller, Rosemarie Müller, Riitta Myller, Ria G.H.C. Oomen-Ruijten, Dagmar Roth-Behrendt, Giacomo Santini (for Marialiese Flemming), Karin Scheele, Ursula Schleicher (for Avril Doyle), Renate Sommer (for Jorge Moreira da Silva), María Sornosa Martínez, Catherine Stihler, Astrid Thors, Antonios Trakatellis, Kathleen Van Brempt and Phillip Whitehead.

The opinion of the Committee on Regional Policy, Transport and Tourism is attached; the Committee on Industry, External Trade, Research and Energy decided on 20 February 2003 not to deliver an opinion.

The report was tabled on 10 September 2003.

DRAFT EUROPEAN PARLIAMENT LEGISLATIVE RESOLUTION

on the proposal for a European Parliament and Council directive 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 – C5-0636/2002 – 2002/0304(COD))

(Codecision procedure: first reading)

The European Parliament,

– having regard to the Commission proposal to the European Parliament and the Council (COM(2002) 765[1]),

– having regard to Article 251(2) and Article 95 of the EC Treaty, pursuant to which the Commission submitted the proposal to Parliament (C5-0636/2002),

– having regard to Rule 67 of its Rules of Procedure,

– having regard to the report of the Committee on the Environment, Public Health and Consumer Policy and the opinion of the Committee on Regional Policy, Transport and Tourism (A5-0296/2003),

1. Approves the Commission proposal as amended;

2. Asks for the matter to be referred to it again, should the Commission intend to amend its proposal substantially or replace it with another text;

3. Instructs its President to forward its position to the Council and Commission.

Text proposed by the Commission	Amendments by Parliament
	Amendment 1 Recital 3a (new)
	(3a) In view of the environmental need and the availability of new emission-reducing technologies for on-road vehicles, the aim should be made to align the standards for on-road vehicles and non-road mobile machinery. The legislature in the USA has also recognised this need and will shortly be publishing related proposals. Harmonisation at this point would seem rational in the context

[1] OJ C not yet published .

of the global market.

Justification

The US Environmental Protection Agency has proposed a new emission tier for the non-road sector corresponding to the emission limit values already applicable to the on-road sector. Harmonisation should also be the objective here in view of the global market and the environmental need for a reduction.

Amendment 2
Recital 4a (new)

(4a) On environmental grounds and in order to protect health, there is a need to insert another stage, Euro IV, after Euro III, with clearly reduced NOx and particulate values.

Justification

This is a necessary contribution to meeting EU air quality standards, particularly as the machinery is mostly used compressed. Particulates, ozone precursors and NOx are particular sources of pollution. Appropriate technologies are available and are already used in HGVs and Baltic ferries, for example.

Amendment 3
Recital 5

(5) A transient test procedure is needed to cover the operational conditions used by this kind of machinery under real working conditions.	(5) A transient test procedure is needed to cover the operational conditions used by this kind of machinery under real working conditions. ***The test should therefore be carried out on an engine which is not warmed up.***

Justification

In practice, it is not possible to assume that the engine will be warm. Machines are started up on site, which must be reflected in the test. The test should therefore be carried out on an engine at ambient temperature.

Amendment 4
Recital 5a (new)

(5a) Under all randomly selected load conditions, the limit values may not be exceeded by more than 50%.

Justification

To ensure that the limit values are not only selectively aligned but are also applicable at randomly selected test points during normal operation.

Amendment 5
Recital 5b (new)

(5b) Moreover, the use of defeat devices and irrational emission control strategies must be prevented.

Justification

Measures should be taken to prevent compliance with the limit values only during testing but not during actual operation.

Amendment 6
Recital 6

(6) The proposed package of ***Stage III*** limit values should be aligned as far as possible on developments in the United States so as to offer manufacturers a global market for their engine concepts.	(6) The proposed package of limit values should be aligned as far as possible on developments in the United States so as to offer manufacturers a global market for their engine concepts.

Justification

Applies to all stages.

Amendment 7
Recital 7

(7) Emission standards should also be introduced for ***certain*** railway and ***marine*** applications to help promote them as environmentally friendly modes of transport.	(7) Emission standards should also be introduced for railway and ***inland waterway*** applications to help promote them as environmentally friendly modes of transport.

Justification

All rail applications should be included now instead of being phased in. This will also take better account of rail as an environment-friendly form of transport.

Amendment 8
Recital 7a (new)

	(7a) In addition, there is also a need in the future for a further reduction in the limit values for engines for use in rail vehicles and inland waterway vessels.

Justification

There is still a very great potential for emission reduction in inland shipping, which must definitely be exploited on environmental grounds! In the Netherlands, for example, inland shipping is responsible for up to 40% of total NOx emissions.

Amendment 9
Recital 7a (new)

	(7a) Where large non-road mobile machinery complies with future limit values ahead of the deadline, it should be possible to indicate that it does so in the same way as for small non-road mobile machinery.

Justification

Where future limit values are complied with ahead of time, manufacturers should be able to indicate as much on their products and use it for advertising purposes. Labelling of this kind

will also enable consumers to make a more informed decision when purchasing a product.

Amendment 10
Recital 8

(8) Because of the technology needed to meet the Stage ***III B*** limits for PM emissions, the sulphur content of the fuel must be reduced from today's levels in many Member States. A reference fuel that reflects the fuel market situation should be defined.	(8) Because of the technology needed to meet the Stage ***IV*** limits for PM emissions, the sulphur content of the fuel must be reduced from today's levels in many Member States. A reference fuel that reflects the fuel market situation should be defined.

Justification

For greater clarity, Stage III A becomes Stage III and Stage III B becomes Stage IV. This also makes it clear that Stage IV is another genuine stage of reduction with new requirements.

Amendment 11
Recital 8a (new)

	(8a) Directive 2003/17/EC created the relevant conditions for the necessary fuel quality under which sulphur-free (10ppm) diesel fuel will be available in the Member States from 1 January 2009, very probably for non-road mobile machinery also. Modern exhaust reduction technologies could therefore also be used here.

Justification

Self-explanatory.

Amendment 12
ARTICLE 1, POINT 6(b)
Article 9 (Directive 97/68/EC)

(b) The following paragraphs 3a, 3b ***and 3c*** are inserted:	(b) The following paragraphs 3a, 3b***, 3c, 3d, 3e and 3f*** are inserted:

Justification

Follows from extending the scope to rail vehicles (Stages III and IV) and the introduction of a second stage for inland waterway vessels (Stage IV).

Amendment 13
ARTICLE 1, POINT 6(b)
Article 9, paragraph 3b (new), heading (Directive 97/68/EC)

(3b) TYPE-APPROVAL OF STAGE ***III B*** ENGINES (ENGINE CATEGORIES K, L, M and N)	(3b) TYPE-APPROVAL OF STAGE ***IV*** ENGINES (ENGINE CATEGORIES K, L, M and N)

Justification

For greater clarity, Stage III A becomes Stage III and Stage III B becomes Stage IV. This also makes it clear that Stage IV is another genuine stage of reduction with new requirements.

Amendment 14
ARTICLE 1, POINT 6
Article 9, paragraph 3c (new), heading (Directive 97/68/EC)

(3c) TYPE-APPROVAL OF ENGINES USED IN INLAND WATERWAY VESSELS (ENGINE CATEGORIES V)	(3c) TYPE-APPROVAL ***OF STAGE III*** OF ENGINES USED IN INLAND WATERWAY VESSELS (ENGINE CATEGORIES V)

Justification

To clarify that a second stage for inland waterway vessels has been introduced.

Amendment 15
ARTICLE 1, POINT 6(b)
Article 9, paragraph 3d (new) (Directive 97/68/EC)

(3d) TYPE-APPROVAL OF ENGINES USED IN INLAND WATERWAY VESSELS (ENGINE CATEGORIES V)

Member States shall refuse to grant type-approval for engine types or families and to issue the document as described in Annex VI:

– V1:1: after 31 December 2009 for engines of a power output above 37 kW and a swept volume below 0.9 litres per cylinder,

– V1:2: after 30 June 2009 for engines with swept volume at or above 0.9 but below 1.2 litres per cylinder,

– V1:3: after 30 June 2009 for engines with swept volume at or above 1.2 but below 2.5 litres per cylinder and an engine power output of :37 kW ≤ P < 75 kW,

– V1:4: after 31 December 2010 for engines with swept volume at or above 2.5 but below 5 litres per cylinder,

– V2: after 31 December 2010 for engines with a swept volume above 5 litres per cylinder,

where the engine fails to meet the requirements specified in this Directive and where the emissions of particulate pollutants from the engine do not comply with the limit values as set out in the table in section 4.1.2.5 of Annex I".

Justification

Introduction of a second stage for inland waterway vessels for reduction of NOx. There is still a great potential for reducing emissions in inland shipping, which must definitely be exploited

on environmental grounds! In the Netherlands, for example, internal waterway vessels are responsible for up to 40% of total NOx emissions. The SCR technology which makes this possible is already available and will be used from 2008 for HGVs and is already in use on Swedish Baltic ferries.

Amendment 16
ARTICLE 1, POINT 6(b)
Article 9, paragraph 3e (new) (Directive 97/68/EC)

(3e) TYPE-APPROVAL OF STAGE III engines for use in railway cars and locomotives (ENGINE CATEGORIES R)

Member States shall refuse to grant type approval for engine types or families and to issue the document as described in Annex VI, and shall refuse to grant any other type approval for non-road mobile machinery in which an engine, not already placed on the market, is installed:

R1: after 31 December 2005 for engines of a power output below 560 KW,

R2: after 31 December 2006 for engines with a power output above 560 KW,

where the engine fails to meet the requirements specified in this directive and where the emissions of particulate pollutants from the engine do not comply with the limit values set out in the table in Section 4.1.2.4. of Annex I.

Justification

Railway cars of a power output below 560 KW (category R1) usually have engines which are also used in other mobile machinery. They can therefore also comply with Stages III and IV. In the case of railway cars of a power output above 560KW (category R2), the targets set by the UIC for 2008 should first be made statutory. The standards developed by the UIC present no technical problems; they are approximately equivalent to the Euro II standard for HGVs.

Amendment 17
ARTICLE 1, POINT 6(b)
Article 9, paragraph 3f (new) (Directive 97/68/EC)

(3f) TYPE-APPROVAL OF STAGE IV engines for use in railway cars and locomotives (ENGINE CATEGORIES R)

Member States shall refuse to grant type approval for engine types or families and to issue the document as described in Annex VI, and shall refuse to grant any other type approval for non-road mobile machinery in which an engine, not already placed on the market, is installed:

R1: after 31 December 2009 for engines of a power output below 560 KW,

R2: after 31 December 2010 for engines with a power output above 560 KW,

where the engine fails to meet the requirements specified in this directive and where the emissions of particulate pollutants from the engine do not comply with the limit values set out in the table in Section 4.1.2.5. of Annex I.

Justification

As for inland waterway vessels, a second stage (stage IV) is introduced for rail vehicles. This gives manufacturers the incentive and sufficient time to develop the relevant technologies.

Amendment 18
ARTICLE 1, POINT 6(c), INDENT 3
Article 9, paragraph 4, subparagraphs 2 and 3 (Directive 97/68/EC)

The second and third subparagraphs are replaced by the following:	The second and third subparagraphs are replaced by the following:
"Stage ***III A***	"Stage ***III***
– category H: 31 December 2005	– category H: 31 December 2005
– category I: 31 December 2006	– category I: 31 December 2006
– category J: 31 December 2007	– category J: 31 December 2007
– category K: 31 December 2006	– category K: 31 December 2006
– category V1:1: 31 December 2006	– category V1:1: 31 December 2006
– category V1:2: 31 December 2006	– category V1:2: 31 December 2006
– category V1:3: 31 December 2006	– category V1:3: 31 December 2006
– category V1:4: 31 December 2008	– category V1:4: 31 December 2008
– categories V2: 31 December 2008	– categories V2: 31 December 2008
	– category R1: 31 December 2006
	– category R2: 31 December 2007
For constant speed engines of categories H, J, K and L respectively, the implementation dates are four years later than the dates mentioned above.	For constant speed engines of categories H, J, K and L respectively, the implementation dates are four years later than the dates mentioned above.
Stage ***III B***	Stage ***IV***
– category L: 31 December 2010	– category L: 31 December 2010
– category M: 31 December 2010	– category M: 31 December 2010
– category N: 31 December 2011	– category N: 31 December 2011
	– category V1:1: 31 December 2010
	– category V1:2: 31 December 2010
	– category V1:3: 31 December 2010
	– category V1:4: 31 December 2011

	– category V2: 31 December 2011
	– category R1: 31 December 2010
	– category R2: 31 December 2011
For each category, the above requirements shall be postponed by two years in respect of engines with a production date prior to the said date.	For each category, the above requirements shall be postponed by two years in respect of engines with a production date prior to the said date.
The permission granted for one stage of emission limit values shall be terminated with effect from the mandatory implementation of the next stage of limit values."	The permission granted for one stage of emission limit values shall be terminated with effect from the mandatory implementation of the next stage of limit values."

Justification

Inclusion of rail vehicles (R1 below 560 kW, R2 above 560 kW) in both stages and the introduction of a second stage for inland waterway vessels for NOx reduction. There is still great potential for reducing emissions in inland shipping which must definitely be exploited on environmental grounds! In the Netherlands, for example, inland waterway vessels are responsible for up to 40% of total NOx emissions. The SCR technology, which makes this possible, is already available and will be used from 2008 for HGVs and is already in use on Swedish Baltic ferries.

Amendment 19
ARTICLE 1, POINT 6(ca) (new)
Article 9, paragraph 4a (new) (Directive 97/68/EC)

	(ca) a new paragraph 4a is added:
	"4a. LABELLING TO INDICATE EARLY COMPLIANCE WITH THE STANDARDS OF EURO STAGES III AND IV
	For engine types which comply with Euro Stage III and IV limit values before the dates referred to in the section concerning type approval, Member States shall allow special labelling to indicate such early compliance."

Justification

Where future limit values are complied with ahead of time, manufacturers should be able to indicate as much on their products and use it for advertising purposes. Labelling of this kind

will also enable consumers to make a more informed decision when purchasing a product.

Amendment 20
ARTICLE 1, POINT 6a (new)
Article 9a (new) (Directive 97/68/EC)

(6a) A new Article 9a is inserted as follows:

"Article 9a

The use of defeat devices or irrational emission control strategies shall be prohibited."

Justification

In the same way as Directive 2001/27/EC applies to heavy goods vehicles, this principle must also apply to non-road mobile machinery so as not to take limit values and test provisions to the point of the absurd.

Amendment 21
ARTICLE 1, POINT 7
Article 10, paragraph 1 and 3 (Directive 97/68/EC)

(7) ***In*** Article 10 ***the following paragraph 3 is added:***	(7) Article 10 ***is amended as follows:***
	(a) the following indents are inserted at the end of paragraph 1:
	"- engines for use in machines intended primarily for the launch and recovery of lifeboats
	- engines for use in machines intended primarily for the launch and recovery of traditional vessels such as cobles, identified on a register compiled by the Commission
	- engines for use in machines used in harvesting and other specialised applications the annual operating hours of which is limited by the seasonality of their use, in the case of Stage IV only."
	(b) the following paragraph 3 is added:
"3. Engines may be placed on the market	"3. Engines may be placed on the market

under a "flexible scheme" in accordance with the provisions in Annex XIII."	under a "flexible scheme" in accordance with the provisions in Annex XIII."

Justification

At a limited number of locations, tractor engines are used to launch and recover "cobles" (traditional clinker-built open fishing boats with an awning at one end) and other small fishing craft. The tractors used to launch and recover these fishing boats travel very short distances (no more than 1km maximum) as they are only used to transport the boats to the water's edge. Given the small number of vehicles in question (approx. 200 in the UK) and their limited use, they are negligible as an emissions source and their exemption would have no appreciable impact on overall emissions. Some machines, for example, combine harvesters, self-propelled forage harvesters and airport snow ploughs are used for a limited season only. The cost of compliance with stage IV would be disproportionately high in relation to their annual usage and the emissions produced.

Amendment 22
ARTICLE 2

The Commission shall, not later than 31 December 2006	The Commission shall, not later than 31 December 2006
– consider the available technology with a view to confirming Stage ***III B*** limit values and evaluating the possible need for additional flexibilities, exemptions or later introduction dates for certain types of equipment or engines,	– consider the available technology with a view to confirming Stage ***IV*** limit values and evaluating the possible need for additional flexibilities, exemptions or later introduction dates for certain types of equipment or engines,
– evaluate the need to use a separate test procedure for railway applications,	– evaluate the need to use a separate test procedure for railway applications,
– evaluate the need to amend the scope of the Directive according to the last developments in the railway transport and interoperability legislative framework in order to cover, in the most effective way, all railway applications.	***delete***
– consider tightening the limit values for emissions of gaseous pollutants in the light of environmental needs and technological developments in after-treatment equipment for NOx reduction in the on-road sector,	***delete***
– consider the need to introduce a further set of limit values for engines to be used in inland waterway vessels,	***– evaluate the available technology in order to confirm the mandatory particulate value for internal waterway vessels in Stage IV in a report to the European Parliament and the Council to which it shall also attach relevant proposals, where appropriate. In doing so, the Commission shall take particular account of the effect of the available fuel qualities.***
– consider the need to introduce emission limit values for engines below 19 kW and above 560 kW,	– consider the need to introduce emission limit values for engines below 19 kW and ***further limit values for engines*** above 560 kW ,
and submit, where appropriate proposals to	and submit, where appropriate proposals to

the European Parliament and the Council.	the European Parliament and the Council.
	– submit provisions for reviewing the operability of the emission-related devices during the normal life of the vehicle or engine and
	– detailed rules to prevent 'cycle beating'.

Justification

Railway applications are already included. On-road vehicles have no place in this directive. A further stage should be laid down at the present time for internal waterway vessels. In addition, the Commission should ensure the durability of the emission-reducing devices and lay down rules to preclude cycle beating.

Amendment 23
ARTICLE 2a (new)

Article 2a

The Commission shall review the test cycle to be used for rail vehicles by no later than 31 December 2004 and shall submit proposals where appropriate.

Justification

There should be an assessment of whether different test procedures are required for railway applications with large and small engines. While for small engines, which are normally derived from other mobile machinery, the typical C1 procedure would seem appropriate, ISO 8178-4 test cycle F may be more appropriate for larger engines.

Amendment 24
ARTICLE 2b (new)

Article 2b

The Commission shall report by 31 December 2004 on the need to establish other limit values or test procedures for locomotive engines with a volume of more than 5 litres per cylinder.

Justification

Large rail engines with a volume of more than 5 litres per cylinder exhibit different operational behaviour and different standards might therefore be appropriate.

Amendment 25
ARTICLE 2c (new)

Article 2c

The Commission shall explore the possibility of an agreement between the EU and the Central Commission for Navigation on the Rhine in respect of mutual recognition of type approvals for inland waterway transport.

Justification

Mutual recognition of type approvals for inland waterway transport would simplify procedures considerably and would be a rational step given the similarity of standards.

Amendment 26
ANNEX I, POINT 1, BEFORE (a) (new)
Annex I, Section 1, last subparagraph, point A (Directive 97/68/EC)

(before a) The first paragraph of Section 1, last subparagraph, point A, shall read as follows:

'Intended and suited, to move, or to be moved on the ground, with or without road, and with a compression ignition engine having a net power in accordance with section 2.4 that is higher than 18 kW and that is operated under intermittent speed rather than a single constant speed.'

Justification

Follows from extending the scope to rail vehicles.

Amendment 27
ANNEX I, POINT 1, BEFORE (a) (new)
Annex I, Section 1, last subparagraph, point A, new indent (Directive 97/68/EC)

(before a) The following indent is inserted in Section 1, last subparagraph, point A:

'- rail vehicles'

Justification

Follows from extending the scope to rail vehicles.

Amendment 28
ANNEX I, POINT 1(b)
Annex I, Section 1, last subparagraph, point C (Directive 97/68/EC)

b) ***In*** point C of section 1, last subparagraph the words 'railway locomotives' ***are replaced by: 'railway locomotives that are not designed to carry any passengers or freight by themselves'***.	b) Point C of section 1, last subparagraph, ***is deleted***.

Justification

Follows from extending the scope to rail vehicles.

Amendment 29
ANNEX I, POINT 1 (c) (ia) (new)
Annex I, Section 2, 2.8c (new) (Directive 97/68/EC)

(ia) The following Section 2.8c is inserted:

'Defeat device' means a device which measures, senses or responds to operating variables for the purpose of activating, modulating, delaying or deactivating the operation of any component or function of the emission control system such that the effectiveness of the emission control system is reduced under conditions encountered during normal vehicle use.'

Justification

In line with Directive 2001/27/EC concerning heavy goods vehicles, this principle should also apply to non-road mobile machinery in order not to take limit values and test provisions to the point of the absurd.

Amendment 30
ANNEX I, POINT 1 (c) (ib) (new)
Annex I, Section 2, 2.8d (new) (Directive 97/68/EC)

(ib) The following section 2.8d is inserted:

'irrational emission control strategy' means any strategy or measure that, when the vehicle is operated under normal conditions of use, reduces the effectiveness of the emission control system to a level below that expected on the applicable emission test procedures'.

Justification

To ensure that the limit values are not only selectively aligned but are also applicable at randomly selected test points during normal operation.

Amendment 31
ANNEX I, POINT 1 (e), INDENT 1
Annex I, Section 4.1.2.4. (new) (Directive 97/68/EC)

e) Section 4 is amended as follows:	e) Section 4 is amended as follows:
- The following section 4.1.2.4 is added:	- The following section 4.1.2.4 is added:
'4.1.2.4. The emissions of the carbon monoxide, the emissions of the sum of hydrocarbons and oxides of nitrogen and the emissions of particulates obtained shall for stage ***IIIA*** not exceed amounts shown in the table below:'	'4.1.2.4. The emissions of the carbon monoxide, the emissions of the sum of hydrocarbons and oxides of nitrogen and the emissions of particulates obtained shall for stage ***III*** not exceed amounts shown in the table below:'

Justification

For greater clarity, Stage IIIA becomes Stage III and Stage IIIB becomes Stage IV. This also makes clear that Stage IV is a further genuine reduction stage with new requirements.

Amendment 32
ANNEX I, POINT 1 (e), INDENT 1
Annex I, Section 4.1.2.4. (new) (Directive 97/68/EC)

The following paragraph is added to the new paragraph 4.1.2.4:

Engines for use in railway cars and locomotives

Category: net power (P) (kW)	***Carbon monoxide (CO) (g/kWh)***	***Sum of hydrocarbons and oxides of nitrogen (HC+Nox) (g/kWh)***	***Particulates (PT) (g/kWh)***
R1: 130 kW < P < 560 kW	***3.5***	***4.0***	***0.2***

Category: net power (P) (kW)	***Carbon monoxide (CO) (g/kWh)***	***Hydrocarbons and (HC) (g/kWh)***	***Oxides of nitrogen (Nox) (g/kWh)***	***Particulates (PT) (g/kWh)***
R2: P > 560kW	***2.0***	***0.5***	***6.0***	***0.2***

Justification

Inclusion of rail vehicles from Stage III, differentiating between those below(R1) and those above (R2) 560 kW.

Amendment 33
ANNEX I, POINT 1(e), INDENT 1
Annex I, Section 4.1.2.4. (new), under tables (new) (Directive 97/68/EC)

Under all randomly selected load conditions, the limit values in the above tables may not be exceeded by more than 50%.

Justification

To ensure that the limit values are not only selectively aligned but are also applicable at randomly selected test points during normal operation.

Amendment 34
ANNEX I, POINT 1(e), INDENT 2
Annex I, Section 4.1.2.5. (new), (Directive 97/68/EC)

4.1.2.5. The emissions of the carbon monoxide, the emissions of the sum of hydrocarbons and oxides of nitrogen and the emissions of particulates obtained shall for stage ***IIIB*** not exceed amounts shown in the table below:	4.1.2.5. The emissions of the carbon monoxide, the emissions of the sum of hydrocarbons and oxides of nitrogen and the emissions of particulates obtained shall for stage ***IV*** not exceed amounts shown in the table below:

Justification

A further reduction of particulates and NOx is possible and necessary. On 15 April, new proposals from the US EPA were published, which also clearly point in this direction. Stage IV of these limit values is in line with the USA's endeavours in that it takes a harmonised approach. There is already widespread use of particulate filters which give a realistic indication of the particulate value and the review of the limit values for HGVs has clearly shown that it is possible to establish ambitious NOx limit values with current SCR technology.

Amendment 35
ANNEX I, POINT 1(e), INDENT 2
Annex I, Section 4.1.2.5. (new), table (Directive 97/68/EC)

Sum of hydrocarbons and oxides of nitrogen	Sum of hydrocarbons and oxides of nitrogen
4.0	***1.0***
4.0	***1.0***
4.7	***3.5***

Justification

A further reduction of particulates and NOx is possible and necessary. On 15 April, new proposals from the US EPA were published, which also clearly point in this direction. Stage IV of these limit values is in line with the USA's endeavours in that it takes a harmonised approach. There is already widespread use of particulate filters which give a realistic indication of the particulate value and the review of the limit values for HGVs has clearly shown that it is possible to establish ambitious NOx limit values with current SCR technology.

Amendment 36
ANNEX I, POINT 1(e), INDENT 2
Annex I, Section 4.1.2.5. (new), new paragraph (Directive 97/68/EC)

The following paragraph is added to the new paragraph 4.1.2.5.:

Engines for use in inland waterway vessels

Category: swept volume/net power (SV/P) (litres per cylinder/kW)	***Carbon monoxide (CO) (g/kWh)***	***Sum of hydrocarbons and oxides of nitrogen (HC+NOx) (g/kWh)***	***Particulates (PT) (g/kWh)***
V1:1 SV≤ 0,9 and P>37 kW	***5.0***	***1.5***	***0.02***
V1:2 0,9<SV≤ 1,2	***5.0***	***1.5***	***0.02***
V1:3 1,2<SV≤ 2,5	***5.0***	***1.5***	***0.02***
V1:4 2,5<SV≤ 5	***5.0***	***1.5***	***0.02***
V2:1 5<SV≤ 15	***5.0***	***1.5***	***0.02***
V2:2 15<SV≤ 20 and P ≤3300 kW	***5.0***	***1.7***	***0.02***
V2:3 15<SV≤ 20 and P>3300 kW	***5.0***	***2.0***	***0.02***
V2:4 20<SV≤ 25	***5.0***	***2.0***	***0.02***
V2:5 25<SV≤ 30	***5.0***	***2.2***	***0.02***

Justification

There is still very great potential for emission reduction in inland shipping, which must definitely be exploited on environmental grounds! In the Netherlands, for example, inland waterway vessels are responsible for 40% of total NOx emissions. SCR (selective catalytic reduction) technology, enabling 95% NOx reduction is available and is already in use on Swedish Baltic ferries and will be used for HGVs from 2008. A further stage for limit values (Stage IV) is therefore introduced for inland shipping.

Amendment 37
ANNEX I, POINT 1(e), INDENT 2
Annex I, Section 4.1.2.5. (new), new paragraph to be added to the tables (Directive 97/68/EC)

Under all randomly selected load conditions, the limit values in the above tables may not be exceeded by more than 100%.

Justification

To ensure that the limit values are not only selectively aligned but are also applicable at randomly selected test points during normal operation.

Amendment 38
ANNEX I, POINT 1(e), INDENT 2
Annex I, Section 4.1.2.5. (new), new paragraph (Directive 97/68/EC)

The following paragraph is added to the new paragraph 4.1.2.5.:

Engines for use in railway cars and locomotives

Category: Net power (P) (kW)	***Carbon monoxide (CO) (g/kWh)***	***Sum of hydrocarbons and oxides of nitrogen (HC+NOx) (g/kWh)***	***Particulates (PT) (g/kWh)***
R1: 130 kW < P <560 kW	***3.5***	***1.0***	***0.02***

Category: Net power (P) (kW)	***Carbon monoxide (CO) (g/kWh)***	***Hydrocarbons (HC) (g/kWh)***	***Oxides of nitrogen (NOx) (g/kWh)***	***Particulates (PT) (g/kWh)***
R2: P >560 kW	***2.0***	***0.5***	***1.0***	***0.02***

Amendment 39
ANNEX I, POINT 2 (a), INDENT 1
Annex III, Section 1, paragraph 1.1 (Directive 97/68/EC)

- the NRSC (Non-Road Steady Cycle) which shall be used for stages I, II and ***IIIA*** and for constant speed engines as well for stage ***IIIB***,	- the NRSC (Non-Road Steady Cycle) which shall be used for stages I, II and ***III*** and for constant speed engines as well for stage ***IV***,
- the NRTC (Non-Road Transient Cycle) which shall be used measurement of particulate emissions for stage ***IIIB*** for all engines but constant speed engines. By the choice of the manufacturer this test can be used also for stage IIA and for the gaseous pollutants in stage ***IIIB***.	- the NRTC (Non-Road Transient Cycle) which shall be used measurement of particulate emissions for stage ***IV*** for all engines but constant speed engines. By the choice of the manufacturer this test can be used also for stage IIA and for the gaseous pollutants in stage ***IV***.

Justification

For clarification, Stage IIIA becomes Stage III and Stage IIIB becomes Stage IV. This also makes clear that Stage IV is another genuine stage of reduction with new requirements.

Amendment 40
ANNEX I, POINT 2 (a), INDENT 2
Annex III, Section 1, paragraph 1.3 (new) subparagraph 1.3.2 (new) (Directive 97/68/EG)

1.3.2. NRTC test:	1.3.2. NRTC test:
During a prescribed transient cycle of operating conditions, with the engine warmed up, based closely on the operating conditions of diesel engines installed in nonroad machinery, the above pollutants shall be examined. Using the engine torque and speed feedback signals of the engine dynamometer, the power shall be integrated with respect to the time of the cycle, resulting in the work produced by the engine over the cycle. The concentrations of the gaseous components shall be determined over the cycle, either in the raw exhaust gas by integration of the analyzer signal in accordance with Appendix 3 to this Annex, or in the diluted exhaust gas of a CVS full-flow dilution system by integration or by bag sampling in accordance with Appendix 3 to this Annex. For particulates, a proportional sample shall be collected from the diluted exhaust gas on a specified filter by either partial flow dilution or full-flow dilution. Depending on the method used, the diluted or undiluted exhaust gas flow rate shall be determined over the cycle to calculate the mass emission values of the pollutants. The mass emission values shall be related to the engine work to give the grams of each pollutant emitted per kilowatt-hour.	During a prescribed transient cycle of operating conditions, with the engine warmed up ***and not warmed up at a ratio of 8:2***, based closely on the operating conditions of diesel engines installed in nonroad machinery, the above pollutants shall be examined. Using the engine torque and speed feedback signals of the engine dynamometer, the power shall be integrated with respect to the time of the cycle, resulting in the work produced by the engine over the cycle. The concentrations of the gaseous components shall be determined over the cycle, either in the raw exhaust gas by integration of the analyzer signal in accordance with Appendix 3 to this Annex, or in the diluted exhaust gas of a CVS full-flow dilution system by integration or by bag sampling in accordance with Appendix 3 to this Annex. For particulates, a proportional sample shall be collected from the diluted exhaust gas on a specified filter by either partial flow dilution or full-flow dilution. Depending on the method used, the diluted or undiluted exhaust gas flow rate shall be determined over the cycle to calculate the mass emission values of the pollutants. The mass emission values shall be related to the engine work to give the grams of each pollutant emitted per kilowatt-hour.

Justification

In practice it is not possible to assume that the engine will be warm. Machines are started up on site, which must be reflected in the test. During a transient cycle of operating conditions, therefore, the test should also take appropriate account of the behaviour of the engine at ambient temperature, applying an 8:2 ratio for warmed up vis-à-vis non-warmed up engines.

Amendment 41
ANNEX I, POINT 2(d)
Annex III, Section 4.5, last box (Directive 97/68/EG)

Run ***Hot Cycle*** exhaust emissions test within	Run exhaust emissions test ***twice for***

5 minutes either from engine shut down or from running engine that has been brought down to idle conditions.	***ambient temperature cycle and eight times for hot cycle*** within 5 minutes either from engine shut down or from running engine that has been brought down to idle conditions.

Justification

In practice it is not possible to assume that the engine will be warm. Machines are started up on site, which must be reflected in the test. During a transient cycle of operating conditions, therefore, the test should also take appropriate account of the behaviour of the engine at ambient temperature, applying an 8:2 ratio for warmed up vis-à-vis non-warmed up engines.

EXPLANATORY STATEMENT

Further steps required to protect health and the environment

Nitrogen oxides and particulates which are produced by combustion in diesel engines are to a large extent harmful to health. While, as ozone precursors, nitrogen oxides are one of the main causes of summer smog, particulates cause respiratory diseases and are suspected of being carcinogenic. In particular, fine particulates produced directly through combustion processes and indirectly through reaction with gaseous precursors penetrate deep into the lungs.

Diesel engines without particulate filters emit approximately 1 000 times more carcinogenic respirable fine dust than petrol engines. They also emit three times as much nitrogen oxides. The consequences are asthma attacks, respiratory and coronary diseases, possibly lung cancer and reduced life expectation and premature deaths as a result of these diseases. The US Environment Protection Agency gives a very good overview of the effects of these pollutants on human health in its proposal of 15 April 2003 for further limit values for non-road mobile machinery which, in the medium term, also seeks to set the same standards as for on-road vehicles (see http://www.epa.gov/otaq/nonroad.htm). Studies show a direct link between exposure to these pollutants and a higher incidence of heart and lung disease, including premature mortality. Not only health, but the environment and climate are also affected by diesel engine emissions.

Great progress has been made in reducing pollution on the roads; particular attention should now be paid to the mobile machinery sector. The more emissions of pollutants from road transport decline, the bigger proportionally the share of the off-road sector. There is still a great potential for reduction among construction vehicles, fork lift trucks, mobile cranes, etc. and, in particular, also inland waterway vessels and rail vehicles. There is no reason why this potential should not be exploited. Moreover, this machinery is mostly used compressed so that particularly high local air pollution is discernible. Apart from the need for a further reduction in pollution on environmental and health grounds, European legislation on air quality also requires further tightening of limit values for particulates and nitrogen oxides. Directive 99/30/EC on air quality sets correspondingly stringent quality standards, in particular for nitrogen oxides and particulates, which must be observed from 2005 and 2010 respectively.

Emission reductions for mobile machinery

In its proposal, the Commission stresses the need for a global approach. However, the current state of the art has already advanced beyond Stages III A/B proposed by the Commission and the USA has also taken a more ambitious approach to the problems involved. As the structure of the market in mobile machinery is global, it is important to monitor developments in the USA. In addition, from 2009, sulphur-free fuel will be available in the EU, which is a necessary condition for exhaust cleaning techniques such as particulate filters or DeNox catalytic converters. Particulate filters are already the norm for forklift trucks, which also partly operate indoors.

The Euro III (A) Stage proposed by the Commission should not be further amended because

of the short lead time and in order to afford the industries sufficient security for development. Nevertheless, another stage is needed. In order to make it clearer that another stage, with genuine reductions, must be added, Stage II A (NOx reduction) is renamed Stage III and Stage III B (particulate reduction) is renamed Stage IV, particularly as in the medium term there is clearly further potential for reducing NOx values. The necessary technology is already available, is being used in HGVs and will be mandatory from 2008. It is also applicable to the non-road mobile machinery sector.

The Swiss VERT project has shown that equipping construction machinery with particulate filters can reduce the toxic, ultra fine diesel particulate dust (from both old and new diesel engines) by a factor 100 to 1 000. This represents a 95% reduction in carcinogenic diesel dust. The studies have shown a high rate of mortality and lung disease among children linked to diesel particulate emissions from construction machinery (at over 40%, the biggest non-road source of diesel particulates), in response to which the Swiss environment authority, BUWAL, issued guidelines on air pollution control on building sites in order to prevent respiratory diseases and other health problems caused by fine dust. Particulate filter systems have been introduced in Switzerland as best available technology since March 2000 for engines used under ground. It has been statutory since January 2002 to upgrade all relevant diesel-powered machinery. The project has also shown that these measures also entail economic benefits as well as health benefits.

A further example of successful combating of particulate emissions from diesel engines and vehicles is the California Resources Board's diesel risk reduction programme (See http://www.arb.ca.gov/diesel/documents/rrpapp.htm). The target is a reduction in diesel particulate emissions and associated health risks by 75% by 2010 and by 85% by 2020. This target is to be met by means of stricter limit values for new diesel engines and vehicles and the use of particulate filters for existing diesel engines and vehicles, together with sulphur-free fuel using modern exhaust control systems. The plan envisages a minimum 90% reduction of total particulate emissions of new road vehicles and applying the same standards to the non-road mobile machinery sector.

Test procedures

To attain air quality targets requires not only strict limit values but also realistic test procedures.

This includes the avoidance of defeat devices and irrational emission control strategies in order to record as closely as possible the emission behaviour of the machinery during actual operation and not only their performance under test conditions. In order to measure the operating conditions under actual working conditions, the test must therefore be carried out on an engine which is not warmed up as, in practice, the engine cannot be assumed to be warm. Construction machinery, for example, is started up on site, which must be reflected accordingly in the test procedure.

No cycle beating

The Commission's proposal lacks unequivocal rules to prevent engines being attuned to the

test
procedures only and electronically adjusted, whereas in practice they exhibit completely different emission behaviour. Unambiguous provisions are needed in this respect. Steps must also be taken to ensure that, for all randomly selected load conditions (which are produced during normal operation), the prescribed limit values do not exceed a specified value.

Inland waterway vessels and rail vehicles

In its White Paper on transport, the Commission rightly singled out inland waterway vessels and rail vehicles as the most environment-friendly modes of transport, with the aim of transferring more traffic to both. However, they must be designed to actually fit the bill. This means that their emissions must be as clean as possible. Inland waterway vessels have considerable potential for emission reduction, which must be exploited. In the Netherlands, for example, they are responsible for up to 40% of total NOx emissions from transport. A second stage is therefore introduced with appropriate, stricter limit values. The selective catalytic reduction technology required to comply with these limit values is already available and is already in use on Swedish Baltic ferries. From 2008, they will also be used in HGVs to enable them to comply with the limit values applicable there. The same also applies to rail vehicles. In railway stations, where locomotives frequently stand with idling engines, the local particulate pollution can be unbearable, which is a severe health risk to people in the stations or living in the vicinity. All rail vehicles should therefore be included immediately and consistently in this legislation instead of focussing only on a number of special applications. This establishes clarity and gives the industry time for development and security of planning. Consideration must be given to a special test cycle in this case as rail vehicles exhibit different operating behaviour. The actual technology, however, is in principle transferable.

15 May 2003

OPINION OF THE COMMITTEE ON REGIONAL POLICY, TRANSPORT AND TOURISM

for the Committee on the Environment, Public Health and Consumer Policy

on the proposal for a European Parliament and Council directive 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 – C5-0636/2002 – 2002/0304(COD))

Draftsman: Jan Marinus Wiersma

PROCEDURE

The Committee on Regional Policy, Transport and Tourism appointed Jan Marinus Wiersma draftsman at its meeting of 21 January 2003.

It considered the draft opinion at its meetings of 18 March and 30 April 2003.

At the last meeting it adopted the following amendments unanimously.

The following were present for the vote Rijk van Dam vice-chairman, acting chairman; Gilles Savary vice-chairman; Jan Marinus Wiersma draftsman; Sylviane H. Ainardi, Pedro Aparicio Sánchez (for Rosa Miguélez Ramos), Philip Charles Bradbourn, Christine de Veyrac, Paolo Costa (for Dirk Sterckx), Jan Dhaene, Garrelt Duin, Alain Esclopé, Giovanni Claudio Fava, Jacqueline Foster, Mathieu J.H. Grosch, Konstantinos Hatzidakis, Georg Jarzembowski, Dieter-Lebrecht Koch, Giorgio Lisi, Emmanouil Mastorakis, Enrique Monsonís Domingo (for Herman Vermeer pursuant to Rule 153(2)), Josu Ortuondo Larrea, Wilhelm Ernst Piecyk, Samuli Pohjamo, Bernard Poignant, Alonso José Puerta, John Purvis (for Ari Vatanen pursuant to Rule 153(2)), Reinhard Rack, Carlos Ripoll y Martínez de Bedoya, Ingo Schmitt, Brian Simpson, Ulrich Stockmann, Margie Sudre, Daniel Varela Suanzes-Carpegna (for Rolf Berend), Hannes Swoboda (for John Hume), Joaquim Vairinhos, Christian Ulrik von Boetticher, Mark Francis Watts and Brigitte Wenzel-Perillo(for Luigi Cocilovo).

SHORT JUSTIFICATION

The proposal aims at tightening the emission standards of compression ignition enginges intended for use in non-road mobile machinery and with an engine power of 18 - 560 kW by amending Directive 97/68/EC.

Directive 97/68/EC defines two stages of emission standards: Stage I standards have already entered into force and Stage II standards enter into force between December 2000 and December 2003 depending on the power band.

Article 19 of Directive 97/68/EC makes arrangements for a further reduction in emission limit values (Stage III), provided that the air quality situation makes this necessary and that the required techniques are globally available.The implementation of Stages I and II of the current legislation has reduced nitrogen oxides (NOx) and particulate emissions (PM). As this reduction has been counteracted by an increased number of engines, the first prerequisite for the implementation of Stage III is fulfilled. The Commission states that technology to further limit the emissions of air pollution from compression engines is available or will be available on the global market within 3 to 5 years, meaning that the second requirement of Article 19 is also met.

The competences of the Committee on Regional Policy, Transport and Tourism are only touched by the following two modifications to the scope of the Directive:

1.The Directive shall be applicable for railway locomotives designed to carry passengers or freight with an engine power between 18 and 560 kW, i.e. for small (railcar) engines. Specifications for heavy-duty engines in railway applications are not a part of this proposal and shall be addressed separately.

2. The Commission wants vessels on inland waterways to improve their environmental performance and therefore extends the scope of the Directive to cover these ships. Sea-going ships are addressed in a separate Communication from the Commission.

Both rail and inland waterway shipping are relatively environmentally friendly modes of transport. However, further improvement is necessary in order not to lose this bonus by falling behind other modes of transport that recently have been making significant progress in their environmental performance.

The proposal's purpose to further improve air quality, to consider and implement technological progress in that area and thus protect public health within the Community is to be welcomed. This is especially important in the light of an increasing number of vehicles and engines and in the run-up to the enlargement of the European Union.

Your rapporteur considers the broadening of the scope of Directive 97/68 a sensible step. This broadening is part of a coherent and balanced overall approach relating to emission reduction. The stepwise tightening of emissions from road vehicles must be accompanied by parallel steps in the non-road sector as proposed by the Commission.

The proposal also obliges the Commission to carry out a technical feasibility study by December 2006. The Commission will have to consider the availability of technology and to

evaluate the possible need for exemptions as well as the need to amend the scope of the Directive as regards railway applications.

In your rapporteur's view there is no need to wait for this study to develop suggestions to cover all railway applications in this Directive. This issue should be addressed without unnecessary delay. The two amendments proposed by the Committee on Regional Policy, Transport and Tourism focus on this aspect as well as on further standards for waterborne transport.

AMENDMENTS

The Committee on Regional Policy, Transport and Tourism calls on the Committee on the Environment, Public Health and Consumer Policy, as the committee responsible, to incorporate the following amendments in its report:

Text proposed by the Commission[1]	Amendments by Parliament
Amendment 1 Recital 7	
(7) Emission standards should also be introduced for ***certain*** railway and ***marine applications*** to help promote them as environmentally friendly modes of transport.	(7) ***Comparable strict*** emission standards should also be introduced ***in due time*** for railway and ***waterborne transport*** to help promote them as environmentally friendly modes of transport.
Justification *As certain air pollution problems, caused by railways and waterborne transport, have also to be solved and performant technologies are available to improve their environmentally friendliness, adequate measures should be legislated in due time.*	
Amendment 2 Article 2, 3rd indent	
- evaluate the need to amend the scope of the	- evaluate the need to amend the scope of the

[1] not yet published

Directive according to the last developments in the railway transport and interoperability legislative framework in order to cover, in the most effective way, all railway applications.	Directive according to the last developments in the railway transport and interoperability legislative framework in order to cover, in the most effective way, all railway applications; ***the Commission shall scrutinise these possibilities as soon as possible and shall also consider the possibility of finally covering all railway applications in one single Directive***.

Justification

It is desirable to address the emissions of engines for railway applications that are more powerful than 560 kW without unnecessary delay. As soon as that is done, a splitting of provisions for railway applications into two Directives should be avoided.