UNITED NATIONS

E

Economic and Social Council

Distr.
GENERAL

ECE/TRANS/WP.29/2006/39
4 April 2006

ENGLISH
Original: ENGLISH AND FRENCH

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

World Forum for Harmonization of Vehicle Regulations (WP.29)

One-hundred-and-thirty-ninth session
Geneva, 20-23 June 2006
Item 4.2.26. of the provisional agenda

PROPOSAL FOR SUPPLEMENT 6 TO THE 03 SERIES OF AMENDMENTS TO REGULATION No. 83

(Emissions of M1 and N1 categories of vehicles)

Submitted by the Working Party on Pollution and Energy (GRPE)

Note: The text reproduced below was adopted by GRPE at its fifty-first session (ECE/TRANS/WP.29/GRPE/51, paras. 27 and 49) and is transmitted for consideration to WP.29 and AC.1. It is based on the text of ECE/TRANS/WP.29/GRPE/2005/10/Rev.1 and ECE/TRANS/WP.29/GRPE/2006/5, both not amended.

Paragraph 1., amend to read:

"1. SCOPE

This Regulation applies to vehicles of categories M and N 1/ as shown by Table A, with regard to the tests foreseen for these vehicles in Table B.

Table A. APPLICABILITY

Vehicle category		Positive-ignition engined vehicles including hybrid vehicles			Compression-ignition engined vehicles including hybrid vehicles
	Max. mass	Petrol	NG [(a)]	LPG [(b)]	Diesel
M1 1/	= 3.5 t	R83	R83	R83	83
	> 3.5 t	R83	-	-	-
M2 1/	-	R83	-	-	R49 or R83 [(c)]
M3 1/	-	R83	-	-	-
N1 1/	-	R83	R49 or R83	R49 or R83	R49 or R83
N2 1/	-	R83	-	-	R49 or R83 [(c)]
N3 1/	-	R83	-	-	-

(a) Natural Gas.

(b) Liquefied Petroleum Gas.

(c) Regulation No. 83 applies only for vehicles with a reference mass = 2,840 kg as an extension of an approval given for an engine used in vehicles of categories M1 or N1.
"R49 or R83" means that manufacturers can obtain type approval according to this Regulation or to Regulation No. 49.

Table B. REQUIREMENTS

Requirements	Positive-ignition engined vehicles of categories M and N including hybrid vehicles 1/			Compression-ignition engined vehicles of categories M_1 and N_1 including hybrid vehicles 1/
	petrol fuelled vehicle	bi-fuel vehicle	mono-fuel vehicle	Diesel fuelled vehicles
Gaseous pollutants	Yes (max. mass ≤ 3.5 t)	Yes (test with both fuel types) (max. mass ≤ 3.5 t)	Yes (max. mass ≤ 3.5 t)	Yes (max. mass ≤ 3.5 t)
Particulates	-	-	-	Yes (max. mass ≤ 3.5 t)
Idle emissions	Yes	Yes (test with both fuel types)	Yes	-
Crankcase emissions	Yes	Yes (test only with petrol)	Yes	-
Evaporative emissions	Yes (max. mass ≤ 3.5 t)	Yes (test only with petrol) (max. mass ≤ 3.5 t)	-	-
Durability	Yes (max. mass ≤ 3.5 t)	Yes (test only with petrol) (max. mass ≤ 3.5 t)	Yes (max. mass ≤ 3.5 t)	Yes (max. mass ≤ 3.5 t)
Low temperature emissions	Yes (max. mass ≤ 3.5 t)	Yes (test only with petrol) (max. mass ≤ 3.5 t)	-	-
In-use conformity	Yes (max. mass ≤ 3.5 t)	Yes (max. mass ≤ 3.5 t)	Yes. (max. mass ≤ 3.5 t)	Yes (max. mass ≤ 3.5 t)
On-board diagnostics	Yes (max. mass ≤ 3.5 t)	Yes (max. mass ≤ 3.5 t)	Yes (max. mass ≤ 3.5 t)	Yes (max. mass ≤ 3.5 t)

1/ As defined in Annex 7 to the Consolidated Resolution on the Construction of Vehicles (R.E.3), (document TRANS/WP.29/78/Rev.1/Amend.2 as last amended by Amend.4)."

Annex 11,

Paragraphs 3.9. and 3.9.1., amend to read:

"3.9. Bi-fuelled gas vehicles

In general, for bi-fuelled gas vehicles for each of the fuel types (petrol and NG/LPG) all the OBD requirements as for a mono-fuelled vehicle are applicable. To this end one of the following two options in paragraphs 3.9.1. or 3.9.2. or any combination thereof shall be used.

3.9.1. One OBD system for both fuel types.

3.9.1.1. The following procedures shall be executed for each diagnostic in a single OBD system for operation on petrol and on NG/LPG, either independent of the fuel currently in use or fuel type specific:

(a) activation of malfunction indicator (MI) (see paragraph 3.5. of this annex),
(b) fault code storage (see paragraph 3.6. of this annex),
(c) extinguishing the MI (see paragraph 3.7. of this annex),
(d) erasing a fault code (see paragraph 3.8. of this annex).

For components or systems to be monitored, either separate diagnostics for each fuel type can be used or a common diagnostic.

3.9.1.2. The OBD system can reside in either one or more computers."

Insert new paragraphs 3.9.2. to 3.9.4., to read:

"3.9.2. Two separate OBD systems, one for each fuel type.

3.9.2.1. The following procedures shall be executed independently of each other when the vehicle is operated on petrol or on NG/LPG:

(a) activation of malfunction indicator (MI) (see paragraph 3.5. of this annex),
(b) fault code storage (see paragraph 3.6. of this annex),
(c) extinguishing the MI (see paragraph 3.7. of this annex),
(d) erasing a fault code (see paragraph 3.8. of this annex).

3.9.2.2. The separate OBD systems can reside in either one or more computers.

3.9.3. Specific requirements regarding the transmission of diagnostic signals from bi-fuelled gas vehicles.

3.9.3.1. On a request from a diagnostic scan tool, the diagnostic signals shall be transmitted on one or more source addresses. The use of source addresses is described in ISO DIS 15031-5 "Road vehicles - communication between vehicles and external test equipment for

emissions-related diagnostics - Part 5: Emissions-related diagnostic services", dated 1 November 2001.

3.9.3.2. Identification of fuel specific information can be realized:

(a) by use of source addresses and/or

(b) by use of a fuel select switch and/or

(c) by use of fuel specific fault codes.

3.9.4. Regarding the status code (as described in paragraph 3.6. of this annex), one of the following two options has to be used:

(a) the status code is fuel specific, i.e. use of two status codes, one for each fuel type;

(b) the status code shall indicate fully evaluated control systems for both fuel types (petrol and NG/LPG) when the control systems are fully evaluated for one of the fuel types."

Paragraph 4.4., amend to read:

"4.4. Prior to or at the time of type-approval, no deficiency shall be granted in respect of the requirements of paragraph 6.5., except paragraph 6.5.3.4. of appendix 1 to this annex."

Paragraphs 4.5. to 4.5.2., should be deleted.

Paragraphs 4.6. and 4.6.1. (former), renumber as paragraphs 4.5. and 4.5.1.

Paragraph 4.6.1.1. (former), should be deleted.

Paragraphs 4.6.2. and 4.7. (former), renumber as paragraphs 4.5.2. and 4.6.

Annex 11, appendix 1, paragraph 3.2., amend to read:

"3.2. Fuel

The appropriate reference fuel as described in Annex 10 for petrol and diesel fuels and in Annex 10a for LPG and NG fuels must be used for testing. The fuel type for each failure mode to be tested (described in paragraph 6.3. of this appendix) may be selected by the administrative department from the reference fuels described in Annex 10a in the case of the testing of a mono-fuelled gas vehicle and from the reference fuels described in Annex 10 and Annex 10a in the case of the testing of a bi-fuelled gas vehicle. The selected fuel type must not be changed during any of the test phases (described in paragraphs 2.1. to 2.3. of this appendix). In the case of the use of LPG or NG as a fuel it is permissible that the engine is started on petrol and switched to LPG or NG after a pre-determined period of time which is controlled automatically and not under the control of the driver."

Annex 11, appendix 1, paragraph 6.4.1.1., amend to read:

"6.4.1.1. After vehicle preconditioning according to paragraph 6.2., the test vehicle is driven over a Type I test (Parts One and Two).

The MI shall activate before the end of this test under any of the conditions given in paragraphs 6.4.1.2. to 6.4.1.5. The technical service may substitute those conditions with others in accordance with paragraph 6.4.1.6. However, the total number of failures simulated shall not exceed four (4) for the purpose of type approval.

In the case of testing a bi-fuel gas vehicle, both fuel types shall be used within the maximum of four (4) simulated failures at the discretion of the type-approval authority."

Annex 11, appendix 1, paragraphs 6.6. to 6.6.3., should be deleted.

Annex 11, appendix 2, paragraph 2., amend to read:

"2. To this end, those vehicle types whose parameters described below are identical are considered to belong to the same engine/emission control/OBD system combination.

Engine:

(a) Combustion process (i.e. positive-ignition, compression-ignition, two-stroke, four-stroke),
(b) method of engine fuelling (i.e. carburettor or fuel injection),
(c) fuel type (i.e. petrol, diesel, NG, LPG, bi-fuel petrol/NG, bi-fuel petrol/LPG).

Emission control system:

(a) type of catalytic converter (i.e. oxidation, three-way, heated catalyst, other),
(b) type of particulate trap,
(c) secondary air injection (i.e. with or without),
(d) exhaust gas recirculation (i.e. with or without)

OBD parts and functioning:

The methods of OBD functional monitoring malfunction detection and malfunction indication to the vehicle driver."

- - - - -