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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

**World Forum for Harmonization of Vehicle Regulations**

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Item 16.1 of the provisional agenda

**GUIDANCE, BY CONSENSUS DECISION, ON THOSE ELEMENTS OF DRAFT GLOBAL  
TECHNICAL REGULATIONS THAT HAVE NOT BEEN RESOLVED BY THE  
WORKING PARTIES SUBSIDIARY TO THE WORLD FORUM**

**Guidance concerning performance requirements in global technical regulation No. 2  
(Worldwide harmonized motorcycle emission test cycle)**

**Proposal for draft Amendment 2 to global technical regulation No. 2**

**Submitted by the Working Party on Pollution and Energy \*/**

The text reproduced below was adopted by the Working Party on Pollution and Energy (GRPE) at its fifty-eighth session. It is based on ECE/TRANS/WP.29/GRPE/2009/15, as amended by paragraph 19 of the report. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Executive Committee (AC.3) for consideration (ECE/TRANS/WP.29/GRPE/58, para. 19).

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\*/ In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance performance of vehicles. The present document is submitted in conformity with that mandate.

I. STATEMENT OF TECHNICAL RATIONALE AND JUSTIFICATION

A. The principal performance requirements

1. The European Union limit values have been adopted because they are the most stringent currently applied with the test procedures set out in the regulation. Vehicles complying with these most stringent requirements contained in paragraph 5.2. are therefore deemed to comply with the alternative requirements contained in paragraph 5.3.

B. The alternative performance requirements

2. Paragraph 5.3. contains alternative levels of stringency proposed by Contracting Parties, as foreseen by articles 4.2 and 7.2 of the 1998 Global Agreement.

3. There can be several reasons for the introduction of alternative levels of performance:

- (a) Different environmental priorities for different gaseous pollutants, CO<sub>2</sub> and energy/fuel conservation, or cost-benefit situation;
- (b) Diverse traffic situation or special vehicles (performance, classification);
- (c) Separated or combined limits for HC and NO<sub>x</sub>;
- (d) Different reference fuels because of the market fuel situation.

4. Acceptance of these alternative performance requirements in addition to the principal requirements is a matter for the Contracting Party to decide.

5. When a Contracting Party transposes this regulation with any of the possible alternative performance requirements, the national legislation should ensure that a motorcycle can also be type approved or certified if this motorcycle fulfils the principle performance requirements in this global technical regulation. This will give some planning reliability for manufacturers.

C. Cost-effectiveness statement

6. [Note: the cost-effectiveness statement will be updated using the statements from the European Commission and India.]

D. Reference Fuel

7. The performance requirements introduced in paragraphs 5.2. and 5.3. of the regulation are based on the use of the reference fuel as specified in Annex 2 (A2.1.) of gtr No. 2. The use of one standardized reference fuel has always been considered up to now as an ideal condition for ensuring the reproducibility of regulatory emission testing, and Contracting Parties are encouraged to use such fuel in their compliance testing.

II. TEXT OF THE REGULATION

Paragraphs 5., amend to read:

"5. Performance requirements for vehicles fitted with gasoline engines

5.1. The choice of performance requirements

The requirements of performance are set out in paragraphs 5.2. and 5.3.

Vehicles complying with the requirements set out in paragraph 5.2. are deemed to comply with the requirements in paragraph 5.3.

5.2. The principal performance requirements

The gaseous emissions for each class of vehicle defined in paragraph 6.3., obtained when tested in accordance with the cycles specified in paragraph 6.5.4.1., shall not exceed the values specified in Table 5-1.

Table 5-1: Limit values for gaseous emissions CO, HC and NOx

	CO	HC		NOx	
Vehicle Class	All	Class 1 and Class 2	Class 3	Class 1 and Class 2	Class 3
Limit values $L_A$ g/km	[X.XX]	[X.XX]	[X.XX]	[X.XX]	[X.XX]

Note: the figures in this table should be introduced when they are approved as appropriate among the Contracting Parties to the 1998 Agreement with sufficient technical consideration.

5.3. Alternative performance requirements

5.3.1. First alternative performance requirements

The gaseous emissions for each class of vehicle defined in paragraph 6.3., for the alternate performance requirements, obtained when tested in accordance with the cycles specified in paragraph 6.5.4.1., except that vehicles in Class 2.1 are to be tested by using the cycles prescribed for Class 1, shall not exceed the values specified in Table 5-2.

Table 5-2: Limit values for gaseous emissions CO, HC + NOx

	CO		HC + NOx		
Vehicle Class	Class 1 and Class 2.1	Class 2.2 and Class 3	Class 1 and Class 2.1	Class 2.2	Class 3
Limit values $L_B$ (g/km)	[1.87]	[2.62]	[1.08]	[0.92]	[0.55]

Note: if necessary, at the request of a Contracting Party, further sub-paragraphs can be added to paragraph 5.3. in order to allow additional alternatives."

Paragraphs 6.4., amend to read:

"6.4. Specification of the reference fuel

The appropriate reference fuels, as specified in Annex 2, shall be used for testing. For the purpose of the calculation mentioned in paragraph 8.1.1.5., for petrol and diesel fuel the density measured at 15 °C will be used."

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