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Item 4 of the provisional agenda

**GLOBAL TECHNICAL REGULATION No. 2 ON THE
WORLDWIDE HARMONIZED MOTORCYCLE EMISSION TEST CYCLE**

Proposal for draft amendments to global technical regulation No. 2

Submitted by the expert from Germany¹

The text reproduced below was prepared by the expert from Germany in order to introduce performance requirements into the existing global technical regulation (gtr) No. 2 on the Worldwide harmonized Motorcycle emission Test Cycle (WMTC). It is based on documents without a symbol (informal documents Nos. GRPE-57-03 and GRPE-57-14), distributed at the fifty-seventh session of GRPE and reflects subsequent comments received from the members of the working group on WMTC Fundamental Elements. The modifications to the current text of gtr No. 2 are marked in **bold** characters.

¹ 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. PROPOSAL

A. STATEMENT OF TECHNICAL RATIONALE AND JUSTIFICATION

1. 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 in paragraph 5.2. are therefore deemed to comply with the requirements in paragraph 5.3., the alternatives.

2. 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, CO₂ 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_x;
- (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 by any of the alternate 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 the regulation. This will give some planning reliability for manufacturers.

3. Cost-effectiveness statement

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

4. 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.

B. 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 will be introduced with the European Union Euro-4 proposal by the European Commission in October 2009. They cannot be considered final until after they are approved by the European Council and European Parliament]

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.**"

II. JUSTIFICATION

The proposed amendments complement the existing gtr No. 2 with performance requirements to be referenced by Contracting Parties during the national or regional transposition.
