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**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

World Forum for Harmonization of Vehicle Regulations

Executive Committee of the 1998 Global Agreement

One-hundred-and-forty-third session

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Item 19.6. of the provisional agenda

**PROGRESS IN THE DEVELOPMENT OF GLOBAL TECHNICAL REGULATIONS**

Gtr No. 4

(World-wide harmonized heavy-duty certification procedure)

Proposal to amend global technical regulation No. 4

European Community \*/

The text reproduced below was considered and adopted by the Executive Committee (AC.3) of the 1998 Global Agreement at its twentieth session, in June 2007. It is based on document ECE/TRANS/WP.29/2007/42, that had been submitted by the European Community, not amended (ECE/TRANS/WP.29/1062, para. 85). The document is transmitted to AC.3 in order to be appended to the amendment to the gtr once adopted. The proposal is also referred to the Working Party on Pollution and Energy for its consideration (Article 6 of the 1998 Agreement).

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\*/ Technical Sponsor of this global technical regulation (gtr)

## I. OBJECTIVE OF THE PROPOSAL

1. The objective of this proposal is to introduce an amendment to the global technical regulation for heavy-duty vehicle emissions (gtr No. 4). This amendment is introduced with the aim of removing the options contained in document ECE/TRANS/180/Add.4 established in the Global Registry on 15 November 2006. The options refer to:

- (a) Hot soak period
- (b) Weighting factors for hot and cold phases
- (c) Particulate sampling filter size and material
- (d) Engine power definition

2. Regulations governing exhaust-emissions from all vehicles have been in use for many years but the methods of measurement vary. To ensure the maximum benefit to the environment as well as the efficient use of energy, it is desirable that as many countries as possible use the same high standards of emission control. In that context, this gtr is an important step forward.

3. Manufacturers of heavy-duty vehicles are already operating in a world market and it is economically inefficient for manufacturers to have to prepare different models in order to meet different emission regulations and methods of measuring CO<sub>2</sub>/fuel consumption, which are, in principle, aimed at achieving the same objective. This gtr will enable vehicle manufacturers to develop new models in the most effective way.

## II. DESCRIPTION OF THE GLOBAL TECHNICAL REGULATION

4. The regulation is based on research into the world-wide pattern of real heavy commercial vehicle use. From the collected data, two representative test cycles, one transient test cycle (WHTC) and one steady state test cycle (WHSC), have been created covering typical driving conditions in the European Union, the United States of America and Japan. Based on real life data a model was developed for translating the vehicle cycle into an engine cycle. The general laboratory conditions for the emission test and the engine family concept have been brought up to date by expert committees in the International Organization for Standardization (ISO) and reflect the latest technologies.

5. The WHTC and WHSC test procedures reflect world-wide on-road heavy-duty engine operation as closely as possible and provide a marked improvement in the test procedure for measuring the emission performance of existing and future heavy-duty engines.

6. The next phase of work on this global technical regulation aims at eliminating the above-mentioned options in order to achieve a fully harmonised test procedure. AC.3 is therefore requested to agree that gtr No. 4 be amended and that the informal group established for the development of the gtr under the Working Party on Pollution and Energy (GRPE) continues its work on the amendment of the gtr.

7. While it is difficult to foresee a deadline, it is expected that phase 2 will be completed in two years.

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