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**ECONOMIC COMMISSION FOR EUROPE**

INLAND TRANSPORT COMMITTEE

World Forum for Harmonization of Vehicle Regulations

Working Party on Pollution and Energy

Fifty-third session

Geneva, 9-12 January 2007

Item 5.1. of the provisional agenda

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 67

(Equipment for liquefied petroleum gas vehicles)

Submitted by the expert from India

Note: The text reproduced below was prepared by the expert from India to increase the number of cycles for the endurance test of pressure regulators and vaporizers to 50,000 operations. The text is based on documents without a symbol (informal documents Nos. GRPE-50-8 and GRPE-52-10), distributed during the fiftieth and fifty-second GRPE sessions (ECE/TRANS/WP.29/GRPE/52, para. 28). The modifications to the current text of the Regulations are marked in **bold** characters.

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Note: This document is distributed to the Experts on Pollution and Energy only.

A. PROPOSAL

Annex 6, para. 6.1., amend to read:

"6.1. ....  
Endurance (**Number of cycles shall be 50,000 cycles**) Annex 15, para. 9  
....."

B. JUSTIFICATION

During the discussions on informal document No. GRPE-50-8 at the fifty-first GRPE session, the experts from Italy, Netherlands and AEGPL had raised their studies reservations on India's proposal to insert into UNECE Regulation No. 67 the requirement of 50,000 cycles for the durability test of pressure regulators. That proposal was based on ISO 15500, part. No. 9 (para. 6.4.) which is applicable for compressed natural gas (CNG) pressure regulator.

Subsequently, India had approached ISO through the Bureau of Indian Standards (the national coordinator with ISO) in order to know how ISO had fixed the figure of 50,000 cycles for the pressure regulator of CNG.

The communication between India and ISO regarding the durability requirements for pressure regulator resulted in the following statement:

"The number of working cycles for the pressure regulator can be evaluated by considering a vehicle running for 200 days/year, with engine starts and stops of 10 times each day, for a total of 20 years. In this respect, the total number of engine starts/stops will be:  
 $200 \times 10 \times 20 = 40.000$  cycles,  
approximated with 50.000 duty cycles in the ISO standard."

Since liquefied petroleum gas (LPG) pressure regulators have similar operation than CNG pressure regulators, a number of 50,000 endurance cycles was proposed for LPG pressure regulators, according to the recommendations in ISO 15500, applicable for CNG pressure regulator. This proposal will increase the endurance test to 50,000 cycles instead of 6,000 cycles, as currently specified in UNECE Regulation No. 67.

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