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Working Party on Pollution and Energy (GRPE)  
(Forty-eighth session, 1-4 June 2004,  
agenda item 6.)

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 24

(Visible pollutants)

Transmitted by the expert from France  
on behalf of the informal group on hybrid vehicles

Note: The document reproduced below has been prepared by the experts of the GRPE informal group on hybrid vehicles in order to include into the Regulation new provisions for the type approval of hybrid vehicles. The text is based on a document distributed without a symbol (informal document No. GRPE-47-15) during the forty-seventh session of GRPE (TRANS/WP.29/GRPE/47, para. 28). The modifications to the current requirements are marked in **bold** characters.

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

Insert new paragraphs 2.8. to 2.8.2., to read:

**"2.8. Hybrid vehicles (HV)**

**2.8.1. "Hybrid vehicle (HV)" means a vehicle with at least two different energy converters and two different energy storage systems (on vehicle) for the purpose of vehicle propulsion.**

**2.8.2. "Hybrid electric vehicle (HEV)" means a vehicle that, for the purpose of mechanical propulsion, draws energy from both of the following on-vehicle sources of stored energy/power:**

- a consumable fuel
- an electrical energy/power storage device (e.g.: battery, capacitor, flywheel/generator ...)"

Paragraph 12.1., correct to read:

"12.1. "Approval of a vehicle" means the approval of a vehicle type with regard to the installation of type approved engines for the limitation of **visible pollutants** from the engine;"

Paragraph 15.1., amend to read (insert a new subparagraph):

"15.1. ...  
... to comply with the provisions of this Regulation.

**It shall be possible to inspect the vehicle for roadworthiness by determining its performance in relation to the data collected for type approval as reported in paragraph 11.1.2.2. of annex 2 to this Regulation. If this inspection requires a special procedure, this shall be detailed in the service manual (or equivalent media). This special procedure shall not require the use of special equipment other than that provided with the vehicle."**

Paragraph 24.1., amend to read (insert a new subparagraph):

"24.1. ... to comply with the provisions of this Regulation.

**It shall be possible to inspect the vehicle for roadworthiness by determining its performance in relation to the data collected for type-approval as reported in paragraph 11.1.2.2. of annex 2 to this Regulation. If this inspection requires a special procedure, this shall be detailed in the service manual (or equivalent media). This special procedure shall not require the use of special equipment other than that provided with the vehicle."**

Paragraph 24.3.1., amend to read:

"24.3.1. The emission of visible pollutants by the vehicle type submitted for approval shall be measured by the two methods described in annexes 4 and 5 to this Regulation, relating respectively to tests at steady speeds and to tests under free acceleration. **If performing these tests on a hybrid electric vehicle requires a special procedure, this shall be detailed in the service manual (or equivalent media). This special procedure shall not require the use of special equipment other than that provided with the vehicle.**"

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