

# N **AECC** Newsletter

Association for Emissions Control by Catalyst

Av. de Tervueren 100, B-1040 Brussels

Affiliated to CEFIC

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**July - August 2000**

## **INTERNATIONAL REGULATORY DEVELOPMENTS**

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## EUROPE

### 1. European Commission issues motorcycle emissions proposal

The European Commission has finally presented their proposal for a Directive to limit emissions from motorcycles. The proposal will amend Directive 97/24/EC, and includes emission limits for carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (NOx), which should apply from 1 January 2003 for new vehicle types and from 2004 to all new vehicles. In a significant departure from current practice, one set of limit values is being proposed to apply to all motorcycles, eliminating the distinction between two and four-stroke engines.

The 2003 proposed new limit values represent reductions from 1999 of:

- 60% for hydrocarbons and for carbon monoxide for four-strokes

- 70% for hydrocarbons and 30% for carbon monoxide for two-strokes.

A second regulatory stage is envisaged to be applied from 1 January 2006 and would further reduce motorcycle emissions. This is to give advance notice to the motorcycle industry of the measures the Commission anticipates that will need to be applied from that date. This second stage will be based on the new test cycle (WMTC) being developed by GRPE in Geneva, which is intended to be "more representative of real world emission behaviour". For stage 2, the Commission intends to table a proposal covering test procedures and limit values to the European Parliament and the Council before the end of 2002. Indicative values on the current test cycle are proposed to allow member states to introduce fiscal incentives.

The limit values in the Commission proposal are:

Date	Class	Cycle	CO g/km	HC g/km	NOx g/km	TEC
2003/2004	All Motor-cycles	UDC Warm	5.5	1.2	0.3	1
	Petrol Tri-/Quadri-cycles	ECE-40	7	1.5	0.4	
	Diesel Tri-/Quadri-cycles	[No 40 sec idle]	2	1	0.65	
2006/2007 [Indicative only]	≤150cc		2	0.8	0.2	2
	>150cc		2.0	0.3	0.1	3.

#### Technology (TEC)

1. DI &/or Ox. Cat for 2-stroke, Ox. Cat/Sec. Air for 4-stroke
2. DI + Ox. Cat
3. TWC

The proposal was delivered to the Parliament on 11 July. On the following day, Bernd Lange was appointed by the European Parliament's Environment Committee as

rapporteur to take the proposal through the cooperation procedure. The first reading in the Parliament is unlikely before the end of this year.

## **2. Commission to study Emission Control Technology**

DG Enterprise has launched two tenders for studies on emission control technology.

The first study relates to “Durability testing for motorcycle emission control technology” and will provide an inventory of existing regulations in the field of durability, analyse major influences on emission behaviour, examine the influence of anti-tampering devices within a context of emissions control and establish an emission measurement programme for designated vehicles. This study is intended to allow the Commission to develop further amendments covering durability to the motorcycle directive.

The second study on “Emission-control technology for heavy-duty motor vehicles” covers emission-control technology (including on-board diagnostic systems) for heavy-duty motor vehicles. The study will review prospective developments in emission-control technology in addition to addressing such factors as emission measurement and sampling procedures, OBD systems, durability criteria and in-use conformity testing.

## **3. EU Greenhouse Emissions down slightly**

The EEA, through work by its European Topic Centre on Air Emissions, has compiled the official European Community Greenhouse Gas Inventory for 1990-1998. The report is mainly based on data from the individual Member States, submitted to the European Commission under the EU greenhouse gas monitoring mechanism. The methodologies applied are those agreed upon by the UN Framework Convention on Climate Change (UNFCCC).

Carbon dioxide (CO<sub>2</sub>) makes the largest contribution to EU greenhouse gas emissions (81%), while methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) (total of 19%) are other important greenhouse gases. In addition industrial fluorocarbon gases contribute approximately 1% to the total greenhouse gas emissions.

Total EU greenhouse gas emissions have fallen slightly (2%) from 1990 to 1998. To achieve the UNFCCC Kyoto Protocol target of 8 % reduction by 2008-2012 (from 1990 levels) for the EU, further reductions of emissions, through additional policies and measures, will be necessary.

The reduction is mainly due to a decrease in two Member States (Germany, United Kingdom), while in most Member States emissions have increased since 1990. Total EU CO<sub>2</sub> emissions decreased initially in the early 1990s, but started to increase again, and are now on the same level as in 1990. The energy sector (power and heat generation) is the main contributor to EU emissions (32%), followed by transport (24%) and industry (18%). Substantial decreases occurred only in Germany, mainly due to increased energy efficiency and economic restructuring in former East Germany, and in the UK, mainly due to a switch from coal to natural gas.

Total EU methane emissions fell by 16% from 1990 to 1998 for similar reasons as mentioned above for CO<sub>2</sub> and account for most of the decrease of the total EU greenhouse gas emissions. Nitrous oxide emissions were reduced by 10%, mainly due to reduction measures in industry.

#### **4. Bulgaria plans to switch to Unleaded Gasoline**

Bulgaria hopes to switch to unleaded gasoline, three years earlier than initially planned, according to a senior government official. 1 January 2001 is the most realistic date for switching the most popular A-91 octane to A-91H unleaded.

Bulgaria's initial plans were to switch entirely to lead-free gasoline from January 2004. Bulgaria is holding membership talks with the European Union and has to agree a time frame to meet EU environmental requirements.

#### **5. Very low Sulphur Petrol introduced in the UK**

BP Amoco has launched a new grade of petrol with a maximum sulphur content of 10 ppm and an octane rating of 95 to be sold in Greater London. BP expects it to be available throughout the UK by the year-end.

## **NORTH AMERICA**

#### **6. CARB releases proposed Risk Reduction Plan for Diesel PM Emissions**

The California Air Resources Board (CARB) has released its draft risk reduction plan that outlines strategies to require particulate matter (PM) traps on all new and most existing diesel engines in California. Diesel engines that are affected by the proposal include heavy-duty trucks and buses, construction equipment, passenger vehicles, rubbish trucks, generators and agricultural and marine engines.

CARB estimates that about 27,000 tons of diesel PM are emitted each year into California's air. The staff proposal calls for

CARB to work with local and federal agencies, engine manufacturers, fuel providers and the public to develop additional emission standards to reduce diesel emissions by up to 90 percent from the 1.25 million diesel engines in the state.

The proposed plan calls for 12 control measures to be adopted within one to five years, with full implementation by 2010. Some of the strategies proposed in the plan consist of equipping all new diesel engines with PM traps, requiring low-sulphur diesel fuel, in-use emission testing, broader use of alternative fuels and providing funding to offset the cost of upgrading to cleaner alternative fuel engines. The plan also recommends retrofitting existing diesel engines with PM traps.

CARB estimates the cost to range from \$10 to \$50 per horsepower for the retrofit and will ensure that the clean diesel fuel needed to enable advanced emission control technology will be available.

In 1998 CARB identified diesel particulate matter as a Toxic Air Contaminant, which lists the compound as a known human carcinogen. As part of the identification process, California's toxicology agency completed a health risk assessment that concluded diesel PM can cause health problems ranging from respiratory illness, heart problems, asthma and cancer.

#### **7. EPA issues Mobile Source Air Toxics notice of rulemaking**

EPA Administrator Carol Browner signed a notice of proposed rulemaking (NPRM) regarding mobile source toxic emissions on 14 July. A range of compounds known as hazardous air pollutants are emitted from motor vehicles and fuels and are known or suspected to have serious health impacts.

EPA has identified those compounds emitted by motor vehicles that should be considered Mobile Source Air Toxics (MSATs). The list contains 21 MSATs and includes various volatile organic compounds (VOCs) as well as metal compounds and diesel exhaust. EPA analysis shows that the programmes EPA currently has in place, including the reformulated gasoline (RFG) programme, national low emission vehicle (NLEV) programme, Tier 2 motor vehicle emissions standards and gasoline sulphur control requirements (Tier 2), and its recently proposed heavy-duty engine and vehicle standards and on-highway diesel fuel sulphur control requirements (HD2007 rule), are expected to yield significant reductions of mobile source air toxics. Between 1990 and 2020, these programmes are expected to reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 75 percent or more. In addition, EPA expects to see on-highway diesel PM emission reductions of over 90 percent. Non-road engines and equipment also contribute substantially to levels of MSATs emissions and have only in recent years been subject to emission standards. Since non-road engines are not subject to the same stringent controls as on-highway vehicles, the reductions from these sources are more moderate than those for on-highway sources.

## **8. EPA issues 2004 Rule to cut Heavy Truck and Bus Pollution**

The U.S. Environmental Protection Agency has issued its long awaited final rule to reduce harmful diesel emissions from heavy-duty trucks and buses. The rule is the first part of the agency's two-part strategy to improve vehicle engines and have cleaner diesel fuel in the U.S. market. The second part was proposed in May and is expected to

be finalised by the end of the year.

When both rules take effect, trucks and buses will be almost as clean as alternatively fuelled vehicles, such as those that run on natural gas.

Heavy-duty trucks and buses produce exhaust that is made up of soot and smog-forming pollution, which together account for 15,000 U.S. deaths, 1 million respiratory problems and 400,000 asthma attacks, according to EPA.

Brief highlights of this final rule for Heavy-Duty Diesel Engines are:

- EPA is reaffirming a 2004 combined standard for nitrogen oxides (NO<sub>x</sub>) and hydrocarbons (HC) of 2.4 grams per brake horsepower-hour (g/bhp-hr)
- The rule adds new supplemental test procedures and compliance requirements to ensure that emission standards are met in actual use across a wide range of operating conditions. These requirements begin in the 2007 model year.
- The rule requires on-board diagnostic (OBD) systems for engines used in vehicles with a gross vehicle weight rating between 8,500 and 14,000 pounds to be phased-in, beginning in 2005. These systems will identify the failure of components of the emissions control system.

## **9. EPA Report shows a continued drop in major U.S. Air Pollutants**

A new Environmental Protection Agency report shows that U.S. air quality continues to improve as six major pollutants have fallen dramatically over the last decade.

Since the Clean Air Act was signed into law in 1970, overall national air quality levels

have improved as the amount of atmospheric smog, carbon monoxide, sulphur dioxide, lead, nitrogen dioxide and soot have been reduced.

Measurements for the most recent 10-year period show the following nationwide improvement in air quality.

- Carbon monoxide concentrations down 36 percent.
- Lead concentrations down 60 percent
- Nitrogen dioxide concentrations down 10 percent.
- Smog concentrations down 4 percent.
- Soot concentrations down 18 percent.
- Sulphur dioxide concentrations down 36 percent.

Even with the improvement, 62 million Americans still live in areas that have unhealthy air.

EPA said it was taking more steps to improve air quality, including requiring cleaner engines in cars and trucks and reducing the sulphur in gasoline and diesel fuel.

## **ASIA-PACIFIC**

### **10. Low Sulphur Diesel available in Hong Kong**

Ultra low sulphur diesel fuel (50 ppm maximum) is now available in Hong Kong and priced lower than high sulphur diesel.

### **11. BP Australia to reduce Sulphur in Diesel to 50 ppm**

BP Australia Ltd has announced that its refinery in Queensland would produce 50 ppm sulphur content diesel fuel within two months following a A\$500 million upgrade. BP has moved ahead of other Australian

refineries to produce 50 ppm sulphur diesel, which the Federal government has mandated to be introduced from January 2006.

## **GENERAL**

### **12. Global Agreement on Vehicle Regulations enters into force**

The agreement for the development of global regulations for vehicles entered into force on 25 August, the 30<sup>th</sup> day following the date on which at least 8 countries or regions became contracting parties to the agreement.

On 26 July the Russian Federation became the eighth contracting party. The other seven contracting parties are Canada, France, Germany, Japan, United Kingdom, United States of America and the European Community.

The agreement was concluded in Geneva in 1998 under the framework of the UN/ECE Working Party on the Construction of Vehicles (WP 29) and provides the legal framework for the development of global automotive regulations covering the safety, environmental protection, energy efficiency and anti-theft performance of road vehicles.

The development of global technical regulations will be achieved through harmonisation of existing national and international regulations, including the ECE regulations currently annexed to the existing 1958 Agreement, which continue to operate in parallel to the new agreement.

Several other countries intend to become parties to the new global agreement. The Republic of South Africa has already signed the agreement although still has to ratify it and Spain has already decided to sign the agreement.

WP 29 and its working parties, including

GRPE, develop global vehicle regulations. Since March 2000 WP 29 is known as the World Forum for Harmonisation of Vehicle Regulations (WP 29) working under the auspices of the UN/ECE Inland Transport Committee.

The text of the Global Agreement (ECE/TRANS/132 and Corr.1) is available via the Internet at the following address:

<http://www.unece.org/trans/main/welcwp29.htm>

### **13. Forthcoming Conferences**

#### **“Reducing the Environmental Impact of Heavy-Duty Vehicles TOPTEC”**

4-6 September 2000, Gothenburg, Sweden

Details from SAE, Email [profdev@sae.org](mailto:profdev@sae.org) or Tel. +1 (724) 772-7148

#### **"Tomorrow's power train – soul of the vehicle or simply a sub-system"**

7-8 September 2000, Graz, Austria

Details on AVL homepage [www.avl.com/engine\\_environment](http://www.avl.com/engine_environment)

#### **"Hybrid Vehicles 2000"**

11-13 September 2000, Hilton Windsor Hotel, Windsor, Ontario

Details from: Deborah Crommett, Intertech Conferences Tel: + 1 207-781-9800, Fax:

+ 1 207-781-2150, Email:

[info@intertechusa.com](mailto:info@intertechusa.com)

*Focus on market prospects and forecasts for hybrid passenger cars, trucks, buses and industrial vehicles. Conference will also cover cost and policy implications, and competition with internal combustion- and fuel cell-powered vehicles.*

#### **“Hart 2000 World Fuels Conference”**

19-21 September 2000, Washington DC

Details from Harts, Tel. +1 301 424 3338, Fax. +1 301 340 7136, [www.phillips.com](http://www.phillips.com)

*Special focus on diesel with session on how “engine aftertreatment technologies” will enable future engines to comply with EPA’s proposals.*

#### **“Diesel Engine TOPTEC: Emission Challenges for the Future”**

26-27 September 2000, Indianapolis, USA

Details from SAE, Email [profdev@sae.org](mailto:profdev@sae.org) or Tel. +1 (724) 772-7148

#### **“VDA Technical Congress: Where Commercial Vehicles and Future Technology Meet”**

28-29 September 2000, Frankfurt, Germany

Details from VDA, Tel. +49 69 97507-0 Fax +49 69 97507-310 [www.vda.de](http://www.vda.de)

#### **“9<sup>th</sup> Aachen Colloquium – Automobile and Engine Technology”**

4-6 October 2000, Eurogress Aachen

Details from: VKA, IKA, RWTH or VDI

#### **“Vehicle In-Use Compliance Testing – Strategies for Meeting the New Requirements”**

15-17 October 2000, Kempinski Hotel, Berlin

Details from: Intertech, Tel. +1 (207) 781 9800, Fax. +1 (207) 781 2150, Email [info@intertechusa.com](mailto:info@intertechusa.com), [www.intertechusa.com](http://www.intertechusa.com)

*Covers business, technical, legal and practical strategies for adopting and implementing in-use compliance programmes including influence of low sulphur fuels and particulate traps, DeNOx and lean-burn systems*

#### **“2000 Fuel Cell Seminar”**

30 October-2 November 2000, Portland, Oregon, USA

Details from: [fuelcell@courtesyassoc.com](mailto:fuelcell@courtesyassoc.com)

#### **“21st Century Emissions Technology”**

4-6 December 2000, IMechE, London

Details from: IMechE, Tel. +44 20 7975  
1312, Fax. +44 20 7222 9881, Email  
[s\\_love@imeche.org.uk](mailto:s_love@imeche.org.uk)

*Includes fuels and emission control  
technology.*

## **"Additives 2001"**

20-22 March 2001, Keble College, Oxford,  
UK

Details from: Dr Mario Moustras, RSC,  
Email: [moustrasm@rsc.org](mailto:moustrasm@rsc.org)

*International conference on chemistry of  
automotive fuel and lubricant additives*

## **"2001 SAE International Fuels and Lubricants Conference"**

7-9 May 2001, Orlando, Florida

Details from SAE, Email [mjena@sae.org](mailto:mjena@sae.org)

*Abstracts due 2 October.*