

N AECC Newsletter

Association for Emissions Control by Catalyst

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Affiliated to CEFIC

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INTERNATIONAL REGULATORY DEVELOPMENTS

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EUROPE

1. Agreement on Political Part of the 'Split-Level' Directive

A compromise on the first, political part of the heavy-duty 'Split-level' Directive has been reached by the European Parliament, the Council and the Commission.

The compromise retains the intent of most of the Parliament's amendments, although with some changes in specific wording. The Parliament has accepted the modified report.

Key amendments from the original Commission proposal are:

- 'Not To Exceed' (NTE) limits of 100% of the normal emissions limits under all randomly selected load conditions lasting at least 30 seconds (unless the operating conditions are specified in the technical part of the directive).
- Some changes to the durability distances for buses and lighter N3 vehicles.
- Emission Control Systems using Consumable Reagents (e.g. Urea-SCR) are to be protected against misuse and mis-maintenance. In addition measures can be included in the technical part of the directive to minimise ammonia emissions.
- The Commission is required to submit proposals on further NOx and particulate limits for heavy-duty vehicles and to investigate setting an additional limit for particulate levels and size.

Publication is expected in June / July 2004.

2. German Proposal to promote Diesel Particulate Filters

The German Environment Ministry has proposed a program under which owners of diesel vehicles with particulate filters would get an annual deduction from the vehicle tax for cars that demonstrate particle emissions below a certain threshold, initially proposed at 2.5 mg or less per kilometre.

Under the ministry proposal, the owner of a car that meets the standard could deduct up to a total of €600 in vehicle taxes over the life of the vehicle.

The Environment Ministry said it had sent the proposal for comments to other relevant departments of the national government, Germany's 16 state governments, and European Union authorities. The ministry hopes to have the tax break in place "as soon as possible" and would like it to be available until 2009 or 2010.

The Environment Minister said the tax is necessary because of cancer risks associated with the particles in diesel exhaust, and because the percentage of diesel-powered vehicles is climbing rapidly. A study commissioned by the German Federal Environment Agency estimated that 10 000 to 19 000 Germans die each year from diesel particle emissions.

In January 1990, diesel cars accounted for 13% of all German cars in circulation; in January 2004, the number had risen to 18%. The ministry said it expects the share of diesel-powered automobiles to continue climbing because in January they accounted for 44% of new registrations.

3. UK Budget raises Clean-Fuel Incentives and highlights Air Quality 'hotspots'

Britain's 2004 budget report calls for changes to vehicle fuel taxes to encourage the use of cleaner fuels.

Under the new budget proposal, tax rates for certain types of vehicle fuels will be raised to encourage the use of sulphur-free fuels. The tax rate for ultra-low sulphur fuels will be established at 0.5 pence (about 0.75 eurocents) per litre above the level for sulphur-free fuels to encourage the development of a market for cleaner sulphur-free fuels.

According to the budget, this incentive should lead to sulphur-free fuels "becoming the standard specification for road fuels in the United Kingdom by the end of the year, well ahead of their mandatory introduction on 1 Jan. 2009. This will bring significant improvements in air quality and major savings in carbon dioxide."

However, the budget document said it is "unlikely" that the government will be able to meet other targets for nitrogen dioxide and particulates in some parts of the country, particularly in urban areas. "In order to tackle these pollution hotspots, and achieve further general air quality improvements, the government is reviewing measures in the air quality policies and its ten-year plan for transportation".

The latest budget also maintains a vehicle excise duty established in 2001 based on carbon dioxide emissions and fuel type. It also confirmed that a tax incentive for biodiesel introduced in 2002 will remain in place until at least 2007.

4. Switzerland proposes Particle Number Limit

Switzerland has announced a draft ordinance requiring that, from 1 January 2006, new diesel passenger cars meet a maximum particle number emission level of 10^{11} /km.

The new limit would apply to the total of all particles in the 20 to 500nm size range and will supplement the EU4 limit on particle mass "until the introduction of an EU5 limit value for particle number and mass".

The proposed Swiss procedure for measuring the particle number emission level is based on the initial findings of the PMP group of GRPE, and is to be fully defined by 31 December 2004. The tests will need to be performed either by a recognised Swiss technical service or a foreign technical service recognised for tests in accordance

with ECE Regulations or EC Directives.

5. Swiss VCS proposes lower Tax Rates for Trucks with Filters

The Swiss voluntary organisation Transport and Environment (VCS) is calling for fiscal incentives for modern trucks which have effective particle filters.

VCS says that trucks at the least severe European emission standard should generally be prohibited from entering Switzerland and is asking the Federal Council to propose to the European Union a rates system which taxes conventional trucks at 2.85 centimes per kilometre/tonne but those equipped with diesel particle filters at only 2.12 centimes.

6. Development of On-Board Monitoring for Heavy-duty Vehicles

DG Enterprise, the Joint Research Centre (DG JRC), ACEA and manufacturers of Portable Emission Measuring Systems (PEMS) have agreed a co-operative program to develop a standard testing protocol for the use of PEMS for in-use conformity checking of heavy-duty vehicles.

Directive 1999/96/EC requires the Commission to make a proposal for in-use conformity checking for heavy-duty vehicles to be effective from the EU4 stage. However it is believed that PEMS will only be available for EU5.

NORTH AMERICA

7. California requires lower Emissions from In-Use Trucks

The California Air Resources Board (ARB) has approved a plan to accelerate upgrades of emission control software that reduce NOx emissions from most heavy-duty diesel trucks, buses and recreational vehicles (RVs) built between 1993 and 1999.

This results from a 1998 legal settlement

over defeat devices requiring six engine manufacturers to develop low emission software that could be installed to reduce the emissions of these trucks. ARB's new plan will result in the software being installed much sooner. Engine manufacturers will pay for the software and its installation any time a truck visits a dealership. The goal is to increase the percentage of Californian vehicles using low emission software from 10% to 35% by November 2004, 60% by June 2005, 80% by February 2006 and 100% percent by 2008.

8. Connecticut Legislature adopts California Standards

The Clean Cars Bill adopts the so-called "California Emissions Standards" for new cars and trucks sold in Connecticut beginning with the 2008 model year.

These standards have already been adopted in Massachusetts, New York, Vermont and most recently, New Jersey. Cars and trucks are the single largest source of toxic and smog-forming air pollution in Connecticut.

In Connecticut, estimates are that the program would reduce toxic air emissions by 33% and the two major components of smog would be reduced by 21% and 11%. These reductions in pollution will be achieved by requiring automakers to sell increasing numbers of hybrid-electric and other advanced-technology, low-emission cars and trucks in Connecticut beginning with the 2008 model year.

9. Mercedes plans to use SCR for Cars in the USA

According to reports in the US automotive press, Mercedes-Benz plans to use urea-based SCR to meet the 2007 US diesel emissions regulations.

They report that Mercedes-Benz says a urea injection system is the least expensive and most effective way to meet the NOx

emissions standards. Mercedes engineers are trying to create a system that will use a replaceable canister for urea. A new canister will be fitted every 13 000 miles, at scheduled oil changes. The car's speed or driving range or the number of times the engine will start could be limited once it runs out of urea to ensure that drivers keep the urea tank filled.

Mercedes say the technology is likely to find its way into Chrysler-brand vehicles. Ford Motor Co. is also exploring urea and SCR and has designed a prototype dual-fill system that would fill a urea tank at the same time a driver fills up with diesel.

10. Initiative for Clean School Buses

The Southland's air quality agency has committed \$12 million to replace and retrofit diesel buses.

The school bus initiative will provide funding to help purchase natural gas-powered buses as well as particulate traps for installation on diesel-powered buses.

Specifically, the initiative will provide: A total of \$4.8 million - \$6 500 per diesel bus - will be made available for the installation of retrofit particulate traps capable of reducing particulate matter by more than 85%. The funding, which also includes \$500 per fleet for the initial incremental cost of low-sulphur diesel fuel, is expected to place more than 650 particulate traps on buses.

Since 1999, AQMD funds have provided particulate traps for 1 295 diesel buses.

11. Court Denies Truckers' Petition Seeking New EPA Diesel Standards

The U.S. Circuit Court of Appeals for the District of Columbia has ruled that EPA (the Environmental Protection Agency) was legally entitled to deny a petition from five

of the nation's largest trucking companies. They had urged the agency to rework its 1997 heavy-duty emission standards for diesel engines used in trucks and buses.

The court dismissed the companies' claims and said the firms offered "only assertions, not facts" to support their claim that the repeal of the emission standards would reduce their costs. The companies had argued that EPA mistakenly failed to consider new cost and energy data showing a dramatic increase in the purchase price of the new engines.

The 1997 EPA rule is aimed at reducing nitrogen oxide and non-methane hydrocarbon emissions from 2004 to 2006 model year heavy-duty diesel engines.

ASIA-PACIFIC

12. Indian Report calls for Low-Sulphur Fuel and Diesel Filters

The Tata Energy and Resources Institute (TERI) has released a report which calls for the development of capacity to produce low sulphur diesel and for mandatory particulate filters to cut heavy-duty vehicle emissions.

The report, Fuel Choices for Transport and the Environment, says that ultra-low sulphur diesel (ULSD), with a maximum 50 parts per million (ppm) sulphur, should be made available in India's most polluted cities, and that modern Indian refineries can easily upgrade to produce the fuel.

The report said focusing efforts on improving the quality of diesel fuel would be a more effective way to reduce vehicle emissions than trying to develop compressed natural gas as a fuel, since the latter would require substantial additional infrastructure.

13. Singapore to Promote CNG and Euro IV Diesel Vehicles

Singapore's ambient air quality is one of the

best in the world with all major pollutants well within international standards. However, PM2.5 (fine particulate matter less than 2.5µm) is of growing concern.

Diesel vehicles contribute about 50% of the total PM2.5 emissions in Singapore. To bring the levels down to acceptable standards, the National Environment Agency (NEA) will implement the Euro IV emission standard for all new diesel vehicles registered from 1 October 2006.

The Government will introduce an incentive package to encourage an early switch from Euro II diesel vehicles to either Euro IV compliant diesel vehicles or CNG vehicles.

Euro IV diesel taxis registered from 1 June 2004 to 31 December 2005 will enjoy an ARF rebate of 100% of open market value (OMV) and those registered from 1 January 2006 to 30 September 2006 will enjoy an ARF rebate of 80% of OMV. CNG and Euro IV diesel buses and commercial vehicles will be exempted from paying ARF (currently at 5% of OMV) until 30 September 2006.

14. Euro III Fuels to be produced in China in 2005

Sinopec's leading refinery, Yanshan, located in Beijing, has launched an upgrade and renovation project in order to produce gasoline and diesel that will allow it to comply with the Euro III emission standard by 2005.

The cleaner products will be mainly supplied to the market in Beijing. Both gasoline and diesel made in the plant are currently up to Euro II quality standard.

Sinopec has also announced that it has started offering the highest-grade gasoline and diesel at a limited number of stations in Shanghai. The new diesel, named as "urban clean auto diesel", is said to have only a quarter of the sulphur content of the common diesel and to match Euro II standards for fuel

quality. Sinopec's leading refinery Gaoqiao in Shanghai is the supplier of the fuel.

15. VW To Make More Diesel Cars In China

According to Chinese press reports, FAW VW intends to produce 10 500 diesel cars this year, including 2 500 units of the newly launched TDI Bora and 8 000 units of the SDI Jetta. FAW VW introduced the SDI Jetta in 2002, becoming the first carmaker in China to deliver diesel cars. Last year, only 4 600 FAW VW Jetta models were diesels.

The 1.9-liter TDI Bora was recently launched in Xiamen, in East China's Fujian Province; its carbon dioxide emission is 30% lower than the same-sized petrol engine and it meets the Euro III emission standards.

The company will also introduce TDI diesel engines into its Golf notchback and Audi A6 luxury sedan at the end of the year.

However, other Sino-foreign joint ventures do not appear to be actively seeking the production of diesel engine cars.

GENERAL

16. AVECC 2004

The Asian Vehicle Emissions Control Conference AVECC 2004 was held from 27 to 29 April in Beijing China. The AVECC 2004 conference was co-organised and co-sponsored by AECC's sister-associations MECA - the Manufacturers of Emission Control Association - in the US and CVEC - the Committee for Vehicle Emission Control- in China.

The conference brought together experts from regulatory agencies, academia and industries from China and around the world in order to exchange and share information, ideas and experiences on motor vehicle emission control.

17. SAE Week

The SAE World Congress was held in Detroit from 8 to 11 March. Despite covering the whole range of automotive topics, there was a strong focus on combustion and emission control. Diesel emissions attracted particular attention, with nine sessions under the heading of Diesel Exhaust Emission Control and a further three on 'Diesel Exhaust Emission Control Modelling'. Five sessions were headed 'General Emissions', six dealt with 'Emissions Measurement and Testing' and three on 'Advanced Catalysts and Systems'.

18. CO₂ Performance of European Vehicles

The European car manufacturers' association ACEA has published data on its progress towards reducing vehicle CO₂ emissions.

According to ACEA, average CO₂ emission from new cars in 2002 was 165g/km, a 1.2% reduction on the previous year.

19. Soot may not damage Ozone Concentrations

A research team at the Centre National de la Recherche Scientifique and the Université d'Orléans has investigated the interaction of soot and ozone under real atmospheric conditions. Soot aerosols can react with atmospheric trace gases like ozone, and previous calculations supported the belief that soot-ozone interactions were significant enough to explain the damage to ozone levels in the atmosphere at certain altitudes. The new research suggests that although the soot reacts quickly with ozone at first, it rapidly becomes inactive, leading to the conclusion that "soot particles have negligible impact on ozone concentration throughout the atmosphere"

FORTHCOMING CONFERENCES

11th Nordic Symposium on Catalysis

23-25 May 2004, Oulu, Finland

Details at <http://cc.oulu.fi/~polamwww/nordic.html>

The aim of this biennial Symposium on Catalysis is to bring together all Nordic scientists working in field of catalysis and the focus is Catalysis for a Sustainable Future. The programme will include plenary lectures by invited plenary speakers, and a poster session.

World Automotive Congress FISITA 2004

23-27 May 2004, Barcelona, Spain

More on www.fisita2004.com

FISITA is a global conference on automotive technology with a session on "vehicles and the environment" dealing with, amongst other topics, emissions.

New developments in emission estimation from transport

24 May 2004, Antwerp, Belgium

Details at <http://www.vito.be/cost346conf/>

The prime aim of this conference is to present the results of projects COST346, ARTEMIS and PARTICULATES, achieved up so far. Although the contributions to the conference will cover aspects of all transportation modes, the main focus will be on heavy-duty vehicles on the road.

CO-OPET Conference "Energy Issues in Transport"

25-26 May 2004, Brussels, Belgium

Details at http://www.opet-network.net/opetnetworkinfo/areaofwork/transport_conference.html

May 25: New energy technologies and energy efficiency measure including low CO₂ technologies and fuels for passenger cars; energy innovation in inland shipping; and local/ regional energy action in public transport.

May 26: workshop on the implementation of the biofuels for transport Directives. The feasibility of transport biofuels targets (2%

in 2005 and 5,75% in 2010) in the Member States, based on study results on availability of biofuels, suitable technology, and national, regional and local deployment plans.

ENGVA 10th Annual European Natural Gas Vehicle Conference

25-27 May 2004, Graz, Austria

Details from www.engva.net

Engine Expo 2004

25-27 May 2004, Messe Stuttgart, Germany

More on www.engine-expo.com

EU Green Week Conference and Exhibition

1-4 June 2004, Brussels, Belgium

Details at

www.europa.eu.int/comm/environment/greenweek/index.htm

SAE Fuels & Lubricants Meeting

8-10 June 2004, Centre de Congrès Pierre Baudis, Toulouse, France

Explore the latest technology and trends in combustion, emissions, fuels & lubricants from a global perspective.

International Symposium on Internal Combustion Diagnostics

15-16 June 2004, Baden-Baden Kurhaus

Details at www.combustion-diagnostics.com

Themes are Pressure Indicating Technology, Visualisation and Simulation. The Symposium will be rounded off with papers on the use of these tools for further development of the HCCI combustion process.

2nd Emission Control 2004

17-18 June 2004, Dresden, Germany

More from the Institute of Internal Combustion Engines and Motor Vehicles (IVK), Dresden University of Technology, 01062 Dresden.

Emphases include: Spark ignition & diesel engines; emissions reducing methods applied within the engine; active and passive exhaust

gas after-treatment; control strategies; sensor technology; diagnostics; exhaust gas test methods; fuels & lubricants.

Engine Emissions Measurement

21-25 June 2004, University of Leeds, UK

A short training course covering regulated emissions measurement for certification including procedures for ultra-low emissions; techniques for real-world in-vehicle emissions; methods for gasoline engine specification; and particulate emissions characterisation.

Minimierung der Partikelemissionen von Verbrennungsmotoren – Grundlage and Messtechnik & Partikelfilter-technologie

22-24 June 2004, München, Germany

More at <http://www.hdt-essen.de/>

ISOTOPCAT – Isotopes in Catalytic Studies

7-9 July 2004, Poitiers, France

Details at <http://labo.univ-poitiers.fr/umr6503/isotopcat/invitation/index.html>

ISOTOPCAT will deal with isotopes use in catalysis for mechanistic, kinetic and characterisation purposes. Four sessions will be organised covering Isotopic labelling for mechanistic studies; Isotopic exchange with solids; Reaction kinetic studies using isotopes; Isotopic effects in heterogeneous catalysis.

8th International ETH-Conference on Combustion Generated Particles

16-18 August 2004, ETH Zurich, Switzerland

Details at www.nanoparticles.ethz.ch

Sessions will focus on the formation of nanoparticles during combustion; nanoparticles in ambient air; instrumentation; the influence of engine technology, fuels and lubricants on nanoparticle properties; after-treatment technologies to reduce nanoparticle emissions; deployment experience with DPFs on cars, trucks, buses and off-road;

and legislation and enforcement to implement best available technology.

13th IUAPPA (International Union of Air Pollution Prevention and Environmental Protection Associations) World Clean Air and Environmental Protection Congress and Exhibition

22-27 August 2004, London, UK

Details at www.kenes.com/cleanair

The Congress is expected to bring together over 1 000 scientists, regulators and representatives of the industrial and business communities from all around the world.

Subjects include: low-emission vehicles; the interaction of climate change and pollution; the challenge of resource efficiency; and the prospects for a transition to a low carbon economy.

16th International AVL Conference Engine & Environment

9-10 September 2004, Graz, Austria

Which powertrain systems offer the most promise in satisfying the increasingly stringent legislative requirements and increasing customer expectations at an acceptable cost? What is to be expected in the future from the politicians and legislators?

KONES 2004 30th International Scientific Conference on Internal Combustion Engines

12-15 September 2004, Cracow, Poland

The latest achievements in research, development and design of compression-ignition and spark-ignition as well as other combustion engines (hybrids). Topics include exhaust after-treatment, particulate filters, fuels and lubricants, environment protection, catalysis, catalyst systems, air pollution control and ecology.

3rd International Exhaust Gas and Particulate Emissions Forum

14-15 September 2004, Sinsheim, Germany
Details at <http://www.forum-emissions.com/index.php>

The Forum will take a general look at the current state of the art and the statutory requirements but also present future trends and developments in exhaust gas and particulate measurement technology as well as in exhaust after-treatment systems and strategies.

13. Aachener Kolloquium "Automobile and Engine Technology"

4-6 October 2004, Aachen, Germany
details from www.rwth-aachen.de/ac-kolloquium

The congress will provide a wide range of technical presentations addressing to current challenges of the vehicle and powertrain industry. Program-related test vehicles, prototypes and aggregates from participating companies and institutions will be presented on ika's test track. 82 exhibitors will present their products and services on an exhibition area of more than 1 600 m².

SAE Powertrain & Fluid Systems Conference & Exhibition

25-28 October, 2004, Tampa, Florida, USA
Abstracts are due 15 March 2004
Details at <http://www.sae.org/calendar/pfs/>

Innovative Powertrain Systems

11-12 November 2004, Dresden
Abstracts are due by 8 March 2004
Details at <http://www.vdi.de/fvt>

The conference will deal with improvements of today's gasoline and diesel engines; new fuels; hybrids; new solutions for transmissions; energy storage and management; and fuel cell technology.

Internal Combustion Engine Performance & Emissions Conference

7-8 December 2004, IMechE, London, UK
Abstracts are due by 19 March 2004.

This Conference will address the on-going need for emissions reduction strategies and technologies in automotive, truck, off-highway, industrial, marine and locomotive market sectors.

Symposium on International Automotive Technology

19-22 January 2005, Pune, India

Details at

<http://www.araiindia.com/html/siat2005/siatindex.htm>

Topics will include Durability evaluation techniques, Powertrain, Engine, Emissions (EU3 and beyond), Fuel, Inspection & Maintenance Programmes, Global Harmonisation of Standards, Off-road vehicles, and Emissions inventory and ambient air quality.

Additives 2005

5-7 April 2005, Dublin, Ireland

This meeting will put future developments of fuel and lubricant additive technology in the context of the challenge in simultaneously meeting the needs of vehicle owners and of government legislators on targets for exhaust emissions, fuel economy and vehicle recyclability

Beograd 2005 EAEC European Automotive Congress

30 May -1 June 2005, Belgrade, Serbia & Montenegro

Details at www.jumv.org.yu/eaec2005/prog2.html

Main topics include advanced propulsion and powertrain; energy, emissions, ecology, environment; safety; automotive logistics; and advanced engineering techniques and tools.

SAE 2005 World Congress

11-14 April 2005, Detroit, USA
Details at www.sae.org/congress

Deadline for offers of papers: 1 June 2004.