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. Finnish Study links Pollution with Heart Disease

Air pollution worsens heart disease by cutting off circulation to the heart, according to a Finnish research study that helps explain why polluted environments aggravate not only asthma but also heart conditions. Researchers at the National Public Health Institute in Finland looked specifically at pollution coming from factory smokestacks and the tailpipes of some diesel-powered buses and trucks. Heart disease patients exposed to such pollution were about three times more likely to have ischemia - decreased blood flow to the heart - while exercising after being exposed to such pollution, as compared with when they exercised after breathing in cleaner air.

The study helps explain why pollution can affect heart disease, according to Dr. Murray Mittleman and colleagues at Harvard University in a commentary on the paper.

2. New European Studies show that improving Air Quality can save lives

Improving air quality by reducing pollution caused by traffic congestion can save lives, scientists said in a new study published in the British medical journal "The Lancet". Dutch scientists[1] showed that people exposed to traffic fumes over a long period of time might have a shorter life expectancy than other people. Elderly residents who lived near a main road where concentrations of air pollutants were high were around twice as likely to die from heart and lung disease than people living further away, according to the research conducted at Utrecht University. These results suggest that assessment of particulate exposure using only community average-background concentrations underestimates the health burden attributable to elevated concentrations in the vicinity of sources. In fact, the relative risk for 10 $\mu g/m^3$ black smoke nearly doubled (1.71, 95% confidence interval 1.10-2.67) when local sources of black smoke in addition to background concentrations were modelled.

[1] "Association between mortality and indicators of traffic-related air pollution in the Netherlands: a cohort study", Institute for Risk Assessment Sciences, Environmental and Occupational Health group, Utrecht University, Utrecht, Netherlands (G Hoek PhD, B Brunekreef PhD); Department of Nutritional Epidemiology, Netherlands Organisation for Applied Scientific Research, Nutrition and Food Research, Zeist (S Goldbohm PhD); Laboratory of Exposure Assessment and Environmental Epidemiology, National Institute of Public Health and the Environment, Bilthoven (P Fischer MSc); and Department of Epidemiology, Maastricht University, Maastricht, Netherlands (P A van den Brandt PhD), Lancet, Volume 360, Number 9341 19 October 2002

3. Swiss Government proposes Tax on Petrol and Diesel Fuels containing Sulphur

The Swiss government has sent a proposal to the Swiss Parliament for a new tax on petrol and diesel fuel containing sulphur levels of more than 10 parts per million. Under the proposal forwarded to the Parliament on 20 September, the new tax would be fixed at between 2-4 Swiss centimes per litre of petrol and between 4-5 centimes for diesel fuel with sulphur contents above 10 ppm. Fuel with sulphur content below 10 ppm would be considered as desulphurised fuel and would be exempt from the tax. The new tax would enter into force on 1 January 2004.

4. European Parliament acts on Fuels and Pleasure Craft

Sulphur-Free Gasoline and Diesel by 2009

On 26 September, the European Parliament voted to approve a legislative compromise with EU governments on the timing of a

mandatory introduction of sulphur-free petrol and diesel fuel. If the Council of Ministers agrees, the EU will set a limit of 10 parts per million on the sulphur content of road vehicle fuels across the EU from 1 January 2009. But if ministers resist other demands from the Parliament, the two sides will have to settle the issue through conciliation.

Parliament and Council have already agreed that member states have to begin marketing "zero-sulphur" fuels by 1 January 2005. Distribution has to be on "a balanced geographical basis" that allows motorists access to clean fuels within a reasonable travelling distance. From 1 January 2009, sulphur-free fuel would have to be available throughout the EU so that the fuel achieves "full penetration" of the market, under the text adopted by Parliament.

The EU Commission said lower sulphur levels would improve air quality, reduce acidification, and facilitate new engine technologies required to meet the EU's goal of reducing carbon dioxide emissions from new cars to an average of 140 grams per kilometre by 2008.

In a first reading on 29 November 2001, the Parliament said it wanted the deadline to be advanced three years to 1 January 2008. In determining their own position on the draft, EU ministers suggested 1 January 2009; the compromise now accepted by the Parliament. The Parliament insisted however that for diesel fuel, the 2009 deadline should be subject to review by the end of 2005, with a view to postponement in the event of supply problems.

However, the Parliament also introduced tight requirements on the sulphur content of fuels for non-road mobile machinery. To address these concerns, the Parliament introduced an amendment confirming that states are free to give cleaner fuels favourable tax treatment.

Air and Noise Limits for Pleasure Boats

On 26 September the European Parliament approved a measure that would set limits on exhaust and noise emissions from pleasure boats. It sets a range of limits on emissions of carbon monoxide, hydrocarbons, nitrogen oxides, and particulates according to engine size and type.

Austria and Germany also have adopted national rules, in collaboration with Switzerland, in order to control pollution on lakes and rivers at their frontiers. Swedish legislation has been on hold since 1996, pending adoption of EU-wide standards.

EU states will have to transpose the directive's requirements into national law by 30 June 2003. Starting in January 2004, the legislation will apply to more than 3 million craft sold annually in Europe.

NORTH AMERICA

5. US EPA releases Health Assessment Document for Diesel Engine Exhaust

The US Environmental Protection Agency (EPA) has released the final Health Assessment Document for Diesel Engine Exhaust. The assessment evaluates the health effects literature to identify the most important exposure hazards to humans and evaluates the exposure-response characteristics of the key health effects to understand the possible impact on an exposed population.

Diesel engine exhaust contains large quantities of harmful pollutants in a complex mixture of gases and particulates. Human exposure to this exhaust comes from both highway uses (on-road) as well as from the non-road uses of the diesel engine.

Emission standards issued in 2000 will bring about very large reductions in exhaust emissions for model year 2007 heavy-duty engines used in trucks, buses and other on-road uses. EPA anticipates developing similarly stringent regulations for other diesel engine uses, including those used in non-road applications.

Until these regulations take effect, EPA is partnering with state and local agencies to retrofit older, dirtier, engines to make them run cleaner and to develop model programmes to reduce emissions from idling engines. In addition, EPA and local authorities are working to ensure early introduction of effective technologies for particulate matter control and low sulphur fuel where possible in advance of the 2007 requirements. Today, at least one engine manufacturer is producing new engines with particulate traps that when coupled with low-sulphur fuel meets 2007 particulate emission levels.

The health assessment concludes that long-term (i.e., chronic) exposure to diesel exhaust is likely to pose a lung cancer hazard, as well as damaging the lungs in other ways depending on exposure. The health assessment's conclusions are based on exposure to exhaust from diesel engines built prior to the mid-1990s. Short-term (i.e. acute) exposures can cause transient irritation and inflammatory symptoms, although the nature and extent of these symptoms are highly variable across the population.

The particulate fraction of diesel exhaust and its composition is a key element in EPA's present understanding of the health issues and formulation of the conclusions in the health assessment. The amount of exhaust particulate from on-road engines has been decreasing in recent years and is expected to decrease 90% from today's levels with the engines designed to meet the 2007 regulations. While EPA believes that the assessment's conclusions apply to the general use of diesels today, as cleaner diesel engines replace a substantial number of existing engines, the general applicability of the conclusions in this Health Assessment Document will need to be re-evaluated.

6. Canadian Agency to designate Smog Components as Toxic Substances

Environment Canada proposes adding ozone, its precursors, and precursors of respirable particulate matter 10 micrometers or less in diameter to its list of toxic substances. The agency says designating smog components as toxic substances will allow the government to develop detailed plans to limit emissions that threaten life, health, the environment, and biological diversity. The specific substances proposed for designation as toxic are gaseous ammonia, ozone, sulphur dioxide, nitric oxide, nitrogen dioxide and volatile organic compounds.

7. EPA adopts Gasoline-fuelled off-road Vehicle Emissions Rules

The US EPA has issued new standards to limit air pollution from snowmobiles and other off-road vehicles. The rules apply to over a million estimated US conveyances, ranging from yachts and cruisers to forklifts, motorbikes, airport support equipment and other gasoline-powered vehicles.

EPA says the new rules will take 2 million tons of smog and other unhealthy substances out of the air every year, and save $8 billion in health-related costs by 2030, when older engines now in operation should be fully phased out.

"It's equivalent to taking about 32 million cars off the road". According to EPA a snowmobile can pollute as much as about 100 cars.

ASIA-PACIFIC REGION

8. Car Sales growing rapidly in China

Sales of domestically made vehicles increased by 31% in January-July 2002 to 1.80 million units from the previous year, according to the China Association of Automobile Manufacturers. In Beijing, the largest market, a total of 133,000 motor vehicles were sold in the first half of this year, rising 19.2% year on year, according to the Beijing Municipal Statistics Bureau. Of the total, 99,000 were new cars, up 30%. Sales of cars, buses and trucks rose 13% to 2.35 million in China last year.

9. Toyota - FAW Joint Venture indicates substantial future growth in China

Toyota Motor Corporation and China's First Automotive Works (FAW) have agreed to establish joint operations in China, the two companies said on 29 August. The automakers aim to sell 300,000 to 400,000 vehicles in 2010 via their joint operations, with products including medium-grade and luxury passenger cars, sport-utility vehicles and mini cars.

10. Japan Automakers aim to further cut Emissions

Japanese carmakers are stepping up efforts to reduce harmful emissions, aiming at having 80% of new cars for the domestic market certified as eco-friendly by the end of 2003, according to a Nihon Keizai Shimbun report. The move is seen likely to improve the overseas competitiveness of Japanese carmakers as nations around the world shift to increasingly tight emissions policies.

11. Japan says Emissions of NO_2 are level while Particulates are declining

Average nitrogen dioxide (NO_2) levels in 2001 were unchanged from the preceding year, while suspended particulate matter (SPM) decreased for the second consecutive year, according to the Ministry of Environment's annual report on air pollution released on 26 September. The ministry attributed the improvements to the availability of cleaner motor vehicle diesel engine technologies and tougher tailpipe emission requirements.

Only Tokyo, Osaka, Saitama, and Kanagawa prefectures failed to keep NO_2 levels to less than 0.06 ppm, the ministry said. The levels in those regions are expected to fall starting in 2003, when Tokyo and surrounding prefectures enforce city ordinances, banning the use of diesel-powered vehicles unless they are equipped with diesel particulate filters.

Two thirds of monitoring stations measured SPM emissions at less than the maximum tolerance level of 0.1 milligrams/cubic metre, declining for the second consecutive year, the ministry said.

12. Indonesia to halt use of Leaded Petrol from 2003

The ministries of transportation and of energy and mineral resources have agreed to

stop the use of leaded petrol across Indonesia in January 2003, according to a ministerial statement. Air pollution resulting from vehicle emissions in Indonesia had reached an alarming level and the number of motor vehicles in Indonesia was growing by 8% to 12% a year. Air pollution in major Indonesian cities was getting worse not only because of the ageing of public transport vehicles but also because of the poor maintenance of motor vehicles as a result of the prolonged economic crisis. Tighter vehicular emissions standards are among the main policies to reduce the amount of vehicular emissions.

13. Australian Ministers agree to release Draft National Measure on Fine Particles

Australia's national, state, and territory environment ministers, meeting on 11 October, have agreed to release a draft national environment protection measure (NEPM) on ultra-fine particles. The NEPM on particles with a diameter of less than 2.5 microns (PM 2.5) will be introduced as a variation to the existing ambient air quality NEPM. It proposes a one-day standard for PM 2.5 of 25 micrograms/cubic metre and a one-year standard of 8 micrograms/cubic metre.

14. Tokyo Diesel Retrofit Programme expands

The greater Tokyo area, representing more than half of the Japanese economy, will begin enforcing strict regulations on diesel powered motor vehicle use, in effect banning all currently driven trucks and buses unless they are equipped with diesel particulate filters (DPFs). The greater Tokyo-area provinces formed an alliance to restrict the use of diesel vehicles because of serious air pollution problems resulting from emissions of oxides of nitrogen and suspended particle matter (SPM).

After a one-year notification period, the four provinces will jointly implement their diesel ordinances from 1 October 2003.

Fleet owners and users of diesel powered vehicles registered before 1997 must install the DPF that is designated by Tokyo and/or the other three provinces on their diesel-powered vehicles, or switch their vehicle power trains to compressed natural gas (CNG), petrol engines, or other power sources. Diesel vehicles registered after 1997 can be used without DPFs but must be equipped with such filters seven years after the initial registration.

LATIN AMERICA

15. Venezuelan State Oil Firm to cease distribution of two grades of Leaded Petrol

In the second phase of a policy ultimately intended to eliminate leaded petrol from the Venezuelan market, the state petroleum company, Petroleum of Venezuela (PDVSA), ceased distributing two of the three grades of leaded petrol on 15 September. The move is part of the government's drive to cut air pollution from lead and other airborne substances.

The change will leave two classes of petrol for cars, 95 octane unleaded and 91 octane leaded petrol. PDVSA expects unleaded petrol sales to rise 13% to 25% of petrol sales. Other grades of leaded fuel will remain available for planes and other non-automobile users.

The first phase of the policy to eliminate leaded petrol was begun in 1999 by a presidential decree, which stipulated that all cars sold from model year 2000 had to use

unleaded petrol and be equipped with catalytic converters.

PDVSA plans to completely eliminate leaded petrol from the domestic market, but that will not be possible until the nation's refining capacity for unleaded petrol is sufficiently increased.

GENERAL

16. Automakers call for Global Harmonisation of Vehicle Requirements

The top officials of 13 European, Japanese, and US car and light truck manufacturers and representatives of several leading automobile manufacturing associations called on 27 September for global harmonisation of technical requirements for motor vehicles, which they said would improve safety and protect the environment. At the Global Automotive Industry Meeting, chief executive officers from the companies and other industry representatives said that harmonisation of regulations should move forward under the framework of the 1998 United Nations Economic Commission for Europe Agreement.

Under this United Nations-supervised legal instrument, also known as the Parallel Agreement, the European Union, Japan, and the United States agreed to work toward mutual recognition and acceptance of standardised technical requirements for cars.

"Participants agreed that the international automobile industry should strive for the earliest possible establishment of Global Technical Regulations", the CEOs said in the statement at the conclusion of their meeting.

Along with their call for international harmonisation, the CEOs agreed to work toward convergence for environmental progress in the area of "clean diesel technology". The CEOs agreed that current diesel engines are "dramatically more efficient than conventional petrol engines, in terms of both fuel economy and carbon dioxide emissions" and thus "have the potential to meet stringent requirements regarding local emissions".

CEOs pledged to expedite market penetration of everything from hybrid vehicles, clean diesels, fuel cells, and hydrogen combustion engines by increasing "support for technical innovation and needed infrastructure, improving the quality of available fuels, particularly sulphur-free fuels, and convincing consumers to adopt these vehicles in large numbers".

FORTHCOMING CONFERENCES

European Automotive Fuels Meeting

21 November 2002, Paris, France

Registration via E-mail:
mailto:ifqc@chemweek.com

BAQ 2002 – "Better Air Quality in Asian and Pacific Rim Cities"

16-18 December 2002, Hong Kong

Details from:
http://www.epd.gov.hk/epd/english/news_events/events/baq2002.html

Organised by Hong Kong Polytechnic University and will cover technical, policy and institutional aspects related to air quality and its management and control techniques.

SIAT 2003

15-18 January 2003, Pune, India

Details from ARAI website:
http://www.araiindia.com

Programme includes exhaust emission control techniques including durability aspect for Euro III and beyond.

SAE 2003 World Congress

3-6 March 2003, Detroit, USA

Details from: www.sae.org/congress

AVL Commercial Powertrain conference

3-4 April 2003, Graz, Austria

Details from: http://www.avl.com/icpc

The conference will focus on exploring the similarities and synergies between three different markets: commercial vehicles, agricultural tractors and construction equipment.

24th International Vienna Motor Symposium

15-16 May 2003, Vienna, Austria

Details from: http://www.oevk.at, as from mid December 2002.

The symposium will cover Latest Results in Worldwide Engine Development, Future Legislation, New Engines and Fuels, Components, Electronics, Drive Train.

Joint JSAE/SAE International Fuels and Lubricants Symposium

19-22 May 2003, Yokohama, Japan

Details from: http://jsae.or.jp/intconf/

With the participation of European industry. Programme includes Combustion, Emissions, Lubricants and Fuels.

"Transport and Air Pollution" and "Environment & Transport" – International Scientific Symposia

16-18 and 19-20 June 2003, Avignon, France

Details from:
www.inrets.fr/services/services.e.html

Organised by INRETS. Call for papers. Dates for abstracts and papers are listed on the web site.

Clean Air 2003 – Seventh International Conference on Energy for a Clean Environment

7-10 July 2003, Lisbon, Portugal

Details from: http://navier.ist.utl.pt/cleanair

Abstracts for papers required by 24 January 2003. The conference will deal with the reduction of local and global environment degrading emissions and aims at a better integration of supply and demanding side, while covering all the end users sectors with emphasis on industry and transport.

6th International Congress on Catalysis and Automotive Pollution Control (CAPoC6)

October 2003 (dates to be confirmed), Brussels

Details from Prof. N Kruse at ULB (nkruse@ulb.ac.be) or from CAPoC6 web site in due course:

http://www.ulb.ac.be/sciences/cpmct/CAPoC6/

Covers applications and requirements of catalysis in automotive (including cars, light and heavy duty vehicles) emission control, including catalyst technologies, fuel cell catalysis, materials for catalysts, washcoat and fuel-borne catalysts, particulate emission control, lean NOx emission control, unregulated pollutants, integrated emission control systems and alternative fuel technologies. Submission of extended abstracts (1-2 typewritten pages) is due by 20 January 2003.