

The Borough Air Quality Bulletin



A Local Agenda 21/Environment Group Initiative

Autumn 2003

IN THIS ISSUE

1 in 10 failing emission tests1
Ealing's web site in top 2%1
Mobile to be dusted off2
Monitoring site in Hanger Lane2
New solvents emission directive2
Air Quality on the Internet2
Research Latest
Air Pollution Results July to Sept 20034

Ealing Borough Air Quality Bulletin

Published quarterly by the Environmental Quality Team Residential Services Environmental Health and Trading Standards London Borough of Ealing Perceval House 14/16 Uxbridge Road London W5 2HL

Edited by Richard Ward Tel: 020 8825 8111 Fax: 020 8825 7732 E-mail: wardr@ealing.gov.uk

www.ealing.gov.uk/services/pollution+ control/

1 in 10 failing emission tests

The London-wide roadside vehicle emission testing programme was launched in Ealing at the end of July with 3 days of testing on Ruislip Road in Northolt. Ealing is one of 28 boroughs in London involved in the testing programme. TRL (Transport Research Laboratory) are carrying out the tests on behalf of the boroughs and now have three teams, each with two testers and a van, accompanied by police officers who are able to stop traffic.

Testing began with a four-week amnesty period. Drivers of vehicles found to be over the limits, received a caution instead of a fine and were given advice on how to clean up their vehicle. Around 2000 tests were carried out during this amnesty period, with between 9-10% of vehicles failing the MOT emission standards. The first two weeks of proper enforcement saw 352 tests carried out around London and only 13 fixed penalty notices being issued. (A £60 fine reduced to £30 if the vehicle is brought up to MOT standard within 14 days). This low figure can be explained by a 10% tolerance built into the regulations.

More days of testing are planned for Ealing in the coming weeks. It is hoped that raising awareness will reduce the failure rate to a minimum.

Ealing's web site in top 2%

After slipping down to 35th place last year, Ealing Council's pollution control website has bounced back to 8th place this year in a review of local authority air quality websites around the country. Leading environmental magazine, *Air Quality Management*, visited all 470 plus local authority websites looking for pages containing air quality information. They then ranked them according to the quality of the site and ease of finding it.

Ealing's web site has recently been updated and now contains information and links to past and present air quality information for the borough. It also has an interactive modelling section (called OMNI) that allows users to try various traffic flows and mixes on the roads where they live to see what effect the changes have on air quality. The site can be accessed via the home page of Ealing's web site or directly by typing <u>http://www.ealing.gov.uk/services/pollution</u> <u>+control/default.asp</u>

We aim to keep readers informed regarding air quality management in Ealing and to bring you up to date on general air quality issues. If you have any comments on how to improve this bulletin or if there are any topics you would like to see included, then please get in touch with the Editor.

Mobile unit to be dusted off

The Environmental Quality Team has received funding from the Department for Environment Food and Rural Affairs (Defra) so that we can re-deploy our mobile air quality monitoring unit. The unit was previously located on High Street, Southall, before loss of commercial sponsorship forced us to mothball the equipment. The unit is equipped with analysers to monitor particulate matter (PM₁₀), oxides of nitrogen and sulphur dioxide, which are the pollutants of most concern in an urban area such as Ealing borough. In addition the unit has sensors for wind speed and direction. The new source of funding will allow us to locate the unit at a permanent site for a period of five years. We are currently in the process of looking for a suitable location in or around the Southall area that will provide valuable data regarding the impact that Heathrow may have on the residents there.

New Monitoring Site in Hanger Lane

Ealing has just taken delivery of a new monitoring station that will be located at the Hanger Lane Gyratory on the A406. The station has an analyser that continuously monitors nitrogen dioxide, feeding the results through automatically to our consultants ERG, Kings College London, who will process the information and display hourly updates of the results on the London Air Quality Network web site (http://www.erg.kcl.ac.uk/london/asp/home.asp). The new site will complement Ealing's two existing monitoring stations at Ealing Town Hall and Acton Town Hall, as well as the re-deployed mobile monitoring unit, and will provide valuable data concerning NO₂ levels in what is one of the most polluted areas of the borough. NO2 was identified in our last review and assessment of air quality as the pollutant for which the air quality objective will be the most difficult to meet

New Solvent Emissions Directive

The Government is poised to implement new EU legislation aimed at limiting the amount of emissions of volatile organic compounds from a range of activities and industrial installations. Volatile Organic Compounds or VOCs are organic chemicals that easily evaporate at room temperature. They are called organic because they contain the element carbon in their molecular structures. Organic chemicals are

widely used as ingredients in household products. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, and degreasing products. Fuels and other petroleum based products are also made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored. Some VOCs are known carcinogens, including benzene, and 1,3 butadiene. They also contribute to the production of ground level ozone which can be damaging to human health and natural resources, whilst many also contribute to global warming.

The proposed new regulations will affect various businesses across the borough, most notably dry cleaners and garages that are involved in vehicle respraying. Such businesses may need to apply for a permit to operate depending on the scale of their operations and will have to comply with a list of requirements in order to minimise emissions of VOCs.

Air Quality on the Internet

Here is a selection of air quality sites on the Internet:-

Ealing Council's Pollution Control Team www.ealing.gov.uk/services/pollution+control/

Department for Environment, Food and Rural Areas <u>http://www.defra.gov.uk/environment/index.htm</u>

National Society of Clean Air and Environmental Protection<u>http://www.nsca.org.uk</u>

The Air Quality Management Site <u>http://www.air-quality-management.co.uk/</u>

Atmospheric Research & Information Centre (at Manchester Metropolitan University) http://www.docm.mmu.ac.uk/aric/eae/

Friends of the Earth www.foe.co.uk

Local Agenda 21 Pollution and Public Health Project Group www.LA21.org

OMNI - Ealing Council's interactive website. www.seiph.umds.ac.uk/o2/ealing/index.htm

Environmental Research Group - Kings College London. London Air Quality Network. http://www.erg.kcl.ac.uk/london/asp/home.asp

Research Latest Pollution link to strokes?

Taiwan researchers believe that high pollution levels may make people more susceptible to having a stroke. The researchers collected data on 23,179 hospital admissions from 1997 to 2000 in Kaohsiung, Taiwan's second city, and an area of heavy industry. They then compared air pollution levels on the dates of admissions with air pollution levels one week before and one week after admissions. What they found was that a rise in the levels of Particulates and NO₂ was linked to a significant increase in the number of people admitted to hospital with either of the 2 most common type of stroke. Previous research has shown a link between air pollution and death rates from respiratory and heart disease. However, the link with stroke has been far from clear. Many experts suspect that air pollution makes the blood more sticky, making it tougher for the heart to pump it round the body, and increasing both the risk that it may clot, and that the blood vessels will be damaged. However, other experts believe that if air pollution really is involved in the causation of stroke, then what it is doing is activating inflammatory or other mechanisms which precipitate stroke rather than being a direct cause of the stroke itself.

Anon. 2003. Air pollution 'increases stroke risk'. BBC News Online. <u>http://news.bbc.co.uk/1/hi/health/3177530.stm</u> 10^{th} October, 2003.

Pollution playing with the mind

It seems that if a person thinks they are living in an area of poor air quality, they may well develop appropriate health symptoms according to intriguing new research. A survey of some 6,559 households was conducted in Ellesmere Port returning 3,402 questionnaires. Childhood asthma was associated with central heating. Adult asthma was associated with the number of people in the house who had ever smoked and 'crowding'. General adult respiratory symptoms were associated with perception of industrial air pollution. The study suggests a complex relationship exists between actual levels of pollution, social deprivation, socio-behavioural factors and people's perceptions about pollution. The researchers argue that" studies of the health impact of air pollution that concentrate only on chemical exposure will be flawed unless they are placed in the context of perception and socio-behavioural factors".

Hunter P, et al. 2003. The prevalence of self-reported symptoms of respiratory disease and community belief about the severity of pollution from various sources. International Journal of Environmental Health Research. Vol 13 (3). pp227 - 238.

Air Quality Management. October 2003. Issue number 94.

Asthma symptoms worsened

Southampton researchers have found that exposure to increased NO_2 in the week before the start of a respiratory viral infection increases the severity of any resulting asthma attack. What's more is that these increases in NO_2 are still at levels within current air quality standards.

It is known that viral infections are the major cause behind worsening asthma symptoms. What this study tried to assess was whether there is a relation between NO₂ exposure and the severity of asthma exacerbations caused by respiratory viral infections in children. The research focused on 114 asthmatic children aged between 8 and 11 years over a 13 month period. Their daily upper and lower respiratory-tract symptoms and peak expiratory flow were recorded, along with measurements of personal NO₂ exposures. The researchers commented that "In asthmatic children with colds, high NO₂ pollution results in more severe exacerbations. These observations (and therefore health costs) could be reduced through control of NO2 pollution".

Chauhan, A.J. et al. 2003. Personal exposure to nitrogen dioxide (NO_2) and the severity of virus-induced asthma in children. The Lancet. Vol **361**: 1939-44.

Air Quality Management. September 2003. Issue number 93.

Clean air improves asthma

More evidence of a link between air pollution and asthma seems to have come out of research carried out by the Health Protection Agency in Birmingham. They examined the health of people living near an iron foundry in Sandwell, Birmingham. In 1997, the foundry introduced a programme to reduce emissions. The researchers examined hospital admission figures for the two years before the improvements were made and for the two years after the improvements had been operating for one year. They found that the number of patients admitted to hospital with asthma fell by 30% after the foundry cut emissions. The researchers note "This study has suggested that improvements in emission cleaning technology have had a beneficial and measurable impact on the health of the local community."

The findings add to the growing debate over whether there is a link between asthma and air pollution. While a number of studies have suggested a link, others have not. For instance, asthma rates have soared in Britain since the introduction of the Clean Air Act in 1956, which significantly cut air pollution across the country. Anon. 2003. Cleaner air helps asthma patients. BBC News Online. http://news.bbc.co.uk/1/hi/health/3112672.stm 16th September, 2003.

Air Pollution Results July to Sept 2003



Nitrogen dioxide (NO2) levels measured in Ealing





Record temperatures in London during August brought with it record ozone levels. The highest ozone recorded in the 10 year history of the LAQN occurred on the 6th August with a peak of 131ppb measured in Enfield. Ealing recorded prolonged episodes of HIGH ozone over that week. The weather brought hot conditions that was favourable to the production of ozone, with atmospheric reactions promoted by strong sunlight and the influx of pollutants from the continent in addition to our own emissions. Ealing also witnessed significant periods of MODERATE PM₁₀ over this period while other pollutant levels remained LOW for the three-month period.

Incidentally, the highest levels of ozone in the UK were recorded in the hot summer of 1976 when levels exceeded 250ppb at Harwell in Oxfordshire.

Due to vandalism, the $PM_{2.5}$ analyser at our Acton Town Hall site is currently out of commission.

Daily Forecasts

A daily air pollution forecast is published every day on the Residential Service's website, as well as recent air pollution levels. You will also find details of Ealing's Air Quality Review and Assessment, the results of Ealing's public consultation on air pollution and other related topics, including back issues of the Air Quality Bulletin.

Pollution Bandings

	low	moderate	e	high	v.high	
O ₃	<50	50-89		80-179	>180	
CO	<10	10-14		15-19	>20	
NO ₂	<150	150-299		300-399	>400	
PM10	<50	50-74		75-99	>100	
Margunadian						
Measured as:						
Ozone		(O_3)	hourly mean			
Carbon n	(CO)	running 8 hour mean				
Nitrogen dioxide		(NO_2)	hourly mean			
Particula	(PM_{10})	running 24 hour mean				