

LEAD Action NEWS

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Ceiling Dust: Woodsmoke & Other Toxics

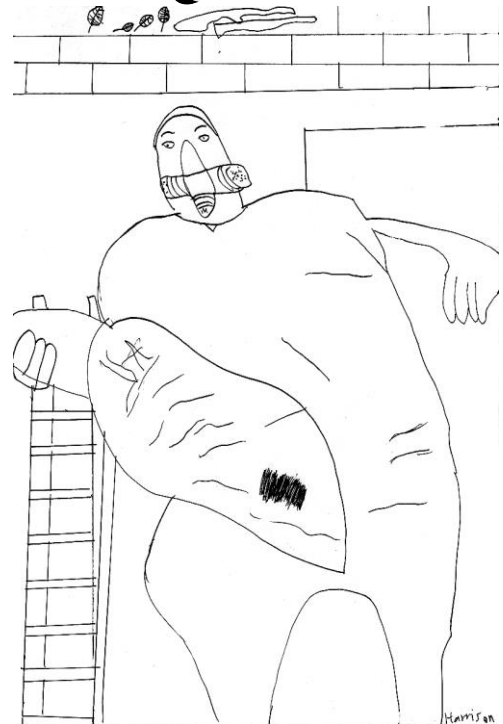
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Research into Ceiling Dust

Jeffrey Davis is a research student from Macquarie University (resides at CSIRO) who has been studying ceiling dust for the past 4 years. His research involves looking at 35 house sites across the Sydney urban environment, where homes have been selected from, heavy industrial, industrial, urban, non-industrial and rural locations. Some of the methods and techniques Jeff has been using within his research include; microscopy and mineralogy of the ceiling dust, size fractionation from 4mm to <2.5 microns, x-ray diffraction and chemical analysis for 56 elements. The 56 elements analysed are: silver (Ag), aluminium (Al), arsenic (As), gold (Au), barium (Ba), beryllium (Be), bismuth (Bi), bromine (Br), calcium (Ca), cadmium (Cd), cerium (Ce), chlorine (Cl), cobalt (Co), chromium (Cr), cesium (Cs), copper (Cu), europium (Eu), iron (Fe), gallium (Ga), hafnium (Hf), mercury (Hg), iridium (Ir), potassium (K), lanthanum (La), lithium (Li), lutetium (Lu), magnesium (Mg), manganese (Mn), molybdenum (Mo), sodium (Na), niobium (Nb), nickel (Ni), phosphorus (P), lead (Pb), rubidium (Rb), sulfur (S), antimony (Sb), scandium (Sc), selenium (Se), silicon (Si), samarium (Sm), tin (Sn), strontium (Sr), tantalum (Ta), terbium (Tb), tellurium (Te), thorium (Th), titanium (Ti), thallium (Tl), uranium (U), vanadium (V), tungsten (W), yttrium (Y), ytterbium (Yb), zinc (Zn) and zirconium (Zr).

Presently the results of this research are very near publication and will soon be released [as long as funding becomes available].



Graphic: Man in respirator & bagged dust coming down the ladder from the roof

Editorial: Building Cavity Dust - Treat it with Respect!

By Elizabeth O'Brien, National Coordinator, The LEAD Group

What is the fate of air pollution? Does it just drift off into space once emitted? Some might. But most comes back to haunt us – either as contamination of water, sediments, soils or as a fine dust on surfaces (what goes up – must come down). In Australian houses the air pollution fallout accumulates in building cavities as a very fine dust. Until the museum of contamination (cavity dust) is fully analysed, we won't know what else it contains. The worst place for this toxic dust to be is above our heads, in the ceiling cavity – because it can, with very little provocation, come down into our living space (see LEAD Action News vol 7 no 2 “Ceiling Dust and Hail Storms”). This issue of LEAD Action News has numerous articles on the ramifications of us “collecting” our air pollution in our houses and further contaminating the dust with fibres and pesticides. We have articles on two previously under-estimated major contributors to air pollution – woodsmoke and aircraft; as well as an update on what the federal government plans to do on Air Toxics. Unfortunately, federal Environment Minister Robert Hill has decided not to fund The LEAD Group's proposed Toxics Information and Referral Service of Australia (TIRSA) so please go and see your federal member about that and write to Senator Robert Hill. Phone (02) 9716 0014 for a copy of the proposal. Even the NSW EPA funding for the Lead Advisory Service is severely threatened (once again) so while you're writing letters, send one to NSW Environment Minister Bob Debus and also see your state member of parliament to seek protection for the service that's doing the most to protect children and the environment from lead. We believe we can use our talents, experience, knowledge, systems and network to provide a service about all manner of toxics but we're currently only funded until March 2000 by NSW EPA and June 2000 by Environment Australia.

Needleman: Source Control & Abatement are Essential

By Elizabeth O'Brien, National Coordinator, The LEAD Group Inc.

There are few internationally renowned lead researchers who could be described as being passionate about the elimination of lead poisoning, but most people who know about such things, would readily identify Prof Herbert Needleman as one such person. Needleman is the quintessential campaigner among medical scientists, who has the tenacity and perseverance to overcome government lassitude and to bring back on track those of us who sometimes forget to focus on the main learnings. Needleman has yet again written a brilliant article on childhood lead poisoning prevention that everyone should read but I will be so bold as to summarise as:

- Paradoxically, without sufficient blood lead screening having been done, there is a widespread dangerous belief that the lead problem has been fixed.
- It costs much more to society to allow children to be lead poisoned than it costs to prevent it. Lead abatement is worth the investment yet the belief that lead abatement is unaffordable persists.
- Advice about housecleaning and minimal home maintenance (rather than lead abatement) arises out of a “belief that lead poisoning is a product of poor mothering, not of environmental pollution. This weighting of personal choice or behaviour over environment is a tool used to shift responsibility away from health authorities or polluters and onto the victim.” Governments choose to educate and screen selectively (US) [or not at all (Australia)], because it's cheap to do so. [In Australia, even lead education is being phased out.]
- Policymakers have failed to see that lead abatement not only prevents lead poisoning, it also creates jobs in areas of high unemployment which typically are the very areas where lead contamination is worst.

When I mentioned to lead campaigner Theresa Gordon (Newcastle, NSW) that I had been told by an EPA staffer that the latest unpublished Health Department research findings from lead mining town Broken Hill were that education of parents is more effective than remediation of houses, she responded “I find turning off the tap [controlling lead emissions at the source] is the most effective of all.” Ref: *Childhood Lead Poisoning: The Promise and Abandonment of Primary Prevention* Am J. Public Health 1998 Dec; 88(12):1871-7 by Needleman HL, Lead Research Group, University of Pittsburgh Medical Centre, Pa USA hinlead@vms.cis.pitt.edu

Goals: The LEAD Group is a non-profit community group aiming to eliminate lead poisoning in Australia by the year 2002 and to protect the environment from lead.

Disclaimer: Our policy is to give you all the information available to us, which you might need, in order to make informed decisions about lead and other toxic hazards. The LEAD Group runs the government funded Lead Advisory Service. The information and advice given by the Lead Advisory Service (LAS) is given in good faith but with no responsibility taken. LEAD Action News is no longer approved as part of the LAS funding, but is paid for by donations and subscriptions and created by volunteers. The views expressed in LEAD Action News are not necessarily those of The LEAD Group. LEAD Action News does not purport to express Government views or policy on lead.

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Fine Particulate (PM_{2.5}) Air Pollution

[in Woodsmoke] - Sources and Consequences for Health in Australia

By Dorothy L Robinson, Armidale Air Quality Group, NSW, Australia. See <http://www.ozemail.com.au/~airqual>

Fine particle pollution

A lot of attention was recently given to the dangers of fine particle air pollution during the GST debate. And rightly so. A recent study by NSW Health estimated that, every year, approximately 400 Sydneysiders die prematurely from the effects of air pollution. The pollutant most significantly related to premature mortality, and the only one to remain significant in the multi-pollutant models, was fine particulate pollution, measured by a device known as a nephelometer.

Nephelometers measure very small particles - less than about 2.5 microns (μ , or millionth of a metre) in aerodynamic diameter, by their ability to scatter light. This is known as PM_{2.5} pollution - particle matter less than 2.5 microns. Such particles are so small, a million or so would fit on the dot over this i. According to a New Scientist article (Inside Science, No 84, 1995) large particles are filtered out by the nose. Middle size particles deposited in the airways are trapped on a layer of mucus which sweeps them to the throat, where they are coughed up or swallowed. Only particles less than 2 microns reach the alveoli, where they must be dealt with by macrophages from the immune system. The article continues "It is important to remember that even those industrial and traffic pollutants that only mildly irritate lungs can make us more vulnerable to infection."

Immediate effects

The NSW Health study investigated only the *immediate* effects of air pollution in Sydney. Air pollution measurements were compared with the number of people dying or admitted to hospital for heart or respiratory disease either on the day, or day following, the pollution. Most people who died would have been sick for some time; air pollution created additional stress exacerbating the situation.

Animal experiments are now shedding light on how this happens. Researchers at Harvard University exposed rats with bronchitis either to filtered air or, for 6 hours a day, to the PM_{2.5}s present in the air at Harvard, concentrated 30 fold to simulate a pollution event. Within

three days, 37% of the rats breathing PM_{2.5}s were dead, but none of those breathing filtered air. Deaths occurred without visible changes in behaviour, or signs of irritant inhalation such as rubbing of eyes or nose, coughing or sneezing.

There is no reason, however, to believe these immediate effects represent the total effect of air pollution. As the New Scientist article suggested, air pollution can increase the risk of infection. Thus one pollution event may increase the risk of getting sick, another may make the situation worse, then finally, especially if you are old and frail, (or young and vulnerable) the next may load the system beyond its limits. Put simply, total exposure over a year, or even several years, may be a more important measure than the amount of pollution received the day before death.

Imagine a study relating mortality to the number of cigarettes smoked just on the day before death. Because smoking reduces life expectancy, it is highly likely that an association would be found. However, this association would be much smaller than for the average number of cigarettes smoked over the past several years. The latter indicator of smoking would give a much larger estimate of the effect on mortality. The same appears to be true for PM_{2.5} pollution.

Effects measurable after longer-term (annual) exposure

No studies of total or annual effects of air pollution on mortality have yet been done in Australia, but they have in the US. The most famous is known as the 'Six Cities Study', in which 8111 subjects (average age 50 years) from six cities were studied between 1974 and 1991. Age, sex, weight, height, education, occupational exposures, smoking and medical history of each subject were recorded. The six cities were chosen to be representative of the range of air pollution in the US and had a comprehensive range of air pollution measurements, including total suspended particles, PM_{2.5}s, SO₂, sulphate particles, aerosol acidity and ozone.

Lead in Woodsmoke:

Larson & Koenig (Annual Review of Public Health, 1994) reported that lead (Pb) particles in woodsmoke ranged from 0.1 to 3.0 mg per kg of wood burned. Burning 3 tonnes of wood will therefore result in between 0.3 and 9 g of Pb. Tests on automobiles in the US (a 1965 Mercury, 1969 and 1974 Fords, 1970 Buick and 1976 VW Beetle, published in Environmental Science and Technology, 1991) averaged 8.7 mg of lead/km. So, using one of these old cars, running on leaded premium petrol at 0.34 g/gal (0.9 g/l), or 0.22 g/gal (0.06 g/l) for the Mercury and Buick, you need to drive between 35 and 1040 km to emit the same amount of Pb as using a wood heater for the winter.

As might be expected, smoking had a large effect on mortality, increasing the risk of death in the subjects studied by 59%, plus a further increase depending on the amount of smoking, eg 26% for 25 years of 1 pack per day. Body mass index, education level and being a former smoker were also significant. So was city of residence; the city with the highest air pollution had 26% greater mortality, than the least polluted one. When mortality was graphed against PM2.5 pollution, the effect was almost linear (see graph 1). There was no clear relationship for ozone, SO₂, total particles or aerosol acidity. The second closest relationship was with sulphate particles which, in these cities, averaged 42% of the fine particle mass. Overall, mortality increased by 14% for each additional increase of 10 µg/m³ of PM2.5 pollution.

A second study using death rates and fine particle measurements in 50 cities was published some time later. Unfortunately, in this study, air pollution measurements were recorded from 1979-83 but mortality from 1982-89. The non simultaneity of the two sets of measurements may have caused a downward bias in the results - a 17% increase in risk of mortality for the least polluted versus the most polluted city, equivalent to a 7% increase in mortality for each additional 10 µg/m³ of PM2.5 pollution.

Both studies therefore found PM2.5 increased death rates. A simple average of the two studies - a 10% increase in mortality for each additional 10 µg/m³ of annual PM2.5 pollution would appear to be the most plausible estimate of the overall effect. Note this is five times higher than the short-term effect observed in Sydney. Immediate short term effects, observed on the day, or day following increased air pollution appear to represent the tip of an iceberg. Confirmation of this comes from Australian research in the Hunter and Illawarra, which found each increase of 10 µg/m³ of annual PM10 pollution increased the risk of chest colds by 43% and nighttime coughs by 34%. In contrast, each additional increase of 10 µg/m³ in *daily* PM10 pollution has been found in several overseas studies to increase *daily* hospital admissions for lower respiratory symptoms or cough by about 0.7 to 1.2%. Again, observed daily effects seem to represent the tip of an iceberg.

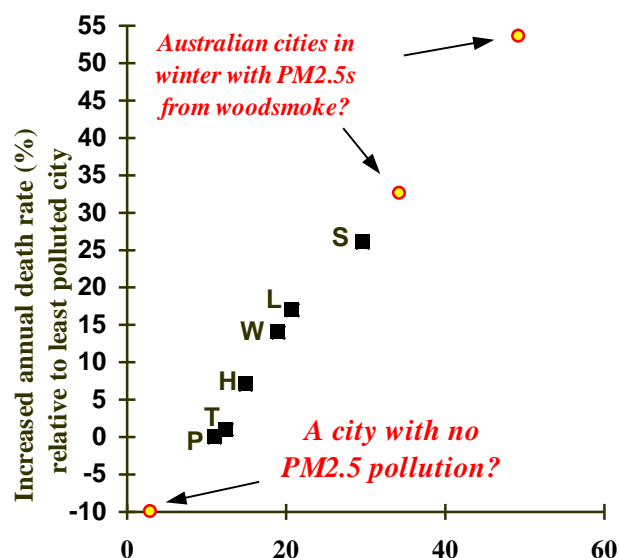
Are health effects related to PM2.5 or PM10 pollution?

PM10 means particle matter less than 10 microns, of which PM2.5s are a subgroup. Very recent research from the US has found that daily mortality is linked only to PM2.5 pollution, but not particles between 2.5 and 10 microns. Based on the long term estimates, PM2.5 air pollution in Sydney is likely to be responsible, not just for the estimated 400 deaths each year, but five times as many ie about 2,000 deaths every year and 5,000 deaths Australia wide, compared with the ideal case of little or no pollution.

Current PM2.5 measurements in Australia

Nonetheless PM2.5 measurements, especially in summer, in Australia compare quite favourably to other parts of the world. According to the July 1997 VIC EPA

Air Quality Management Plan, annual PM2.5 concentrations in Australian capital cities in 1994 ranged from about 6 µg/m³ of PM2.5 in Brisbane to 8.5 in Perth. However, a very recent study by CSIRO (www.dar.csiro.au/res/aq/CSIRO_AFP.pdf) suggests a worse picture, especially in winter in areas where wood heaters are common. Launceston, (measured in June & July 1997), averaged 49.3 µg/m³ of PM2.5; Canberra (May 97, Monash) 34.3; Melbourne (April 97) 14.8, Brisbane (Sept, Oct & Nov 96) 11.2, Sydney (Aug 96) 18.5 and Adelaide (Aug 97) 15.8. Thus PM2.5 pollution in winter in Monash, ACT and Launceston, Tasmania not only exceeds the recently set NEPM standards, but is also considerably worse than the annual average of 29.6 µg/m³ in the worst of the six US cities. The circles on Graph 1 show the increase in mortality in these cities in winter, if the relationship between mortality and PM2.5 pollution holds not just for entire years, but for seasons within years. These values are, of course, hypothetical, based only on measured wintertime pollution and the relationship between annual pollution and annual mortality in the US cities.



Graph 1. Annual average PM2.5 (ug/m3) 6 US Cities & winter average for Monash, ACT & Launceston, TAS. Australian mortality projected from the US figures.

No evidence woodsmoke less harmful than other PM2.5

While many people have expressed the view that woodsmoke is natural, so not harmful, this is contradicted by a wealth of scientific evidence. Over 40 papers linking adverse health effects to woodsmoke are listed on the web at:

http://lash.une.edu.au/~drobinso/smog_refdescr.htm.

The American Lung Association (ALA) of Washington, on the web at: <http://www.alaw.org/wsfact.html> tells us that "Air pollution from fireplaces and wood stoves contains particulate matter and more than 100 other chemical compounds and pollutants.

Particulates can lodge deep in the lungs, causing structural damage while reducing resistance to infection. Long-term exposure may lead to chronic obstructive lung disease and an increased risk of cancer." The ALA's first suggestion under "what you can do" is: "Don't burn wood!" and the second is: "Convert your wood-burning fireplace to use natural gas or propane." Education programs in Washington emphasize: "Woodsmoke is more than a nuisance, it is a health hazard. This health hazard does not exist in a far away industrial area, it exists in residential neighbourhoods, where people live and spend time with their families."

Woodsmoke and cancer

Indeed, tumour initiation tests on mice and Ames tests on bacteria suggest woodsmoke is 12 times more carcinogenic than the same amount of cigarette smoke. Epidemiological studies in Brazil, have recently linked woodsmoke to mouth and throat cancer, suggesting that it may be responsible for 30% of these cancers. Known carcinogenic PAHs in woodsmoke include bezo(k)-fluoranthene, dibenzo(a,h)anthracene, benzo(g,h,i)perylene and benzo(a)pyrene. The latter is also a constituent of cigarette smoke, made famous by the "every cigarette is doing you damage" adverts. Zeedik found that an enclosed wood stove emitted 22, 17, 43 and 12 times the amount of these toxic PAHs as an open wood fire.

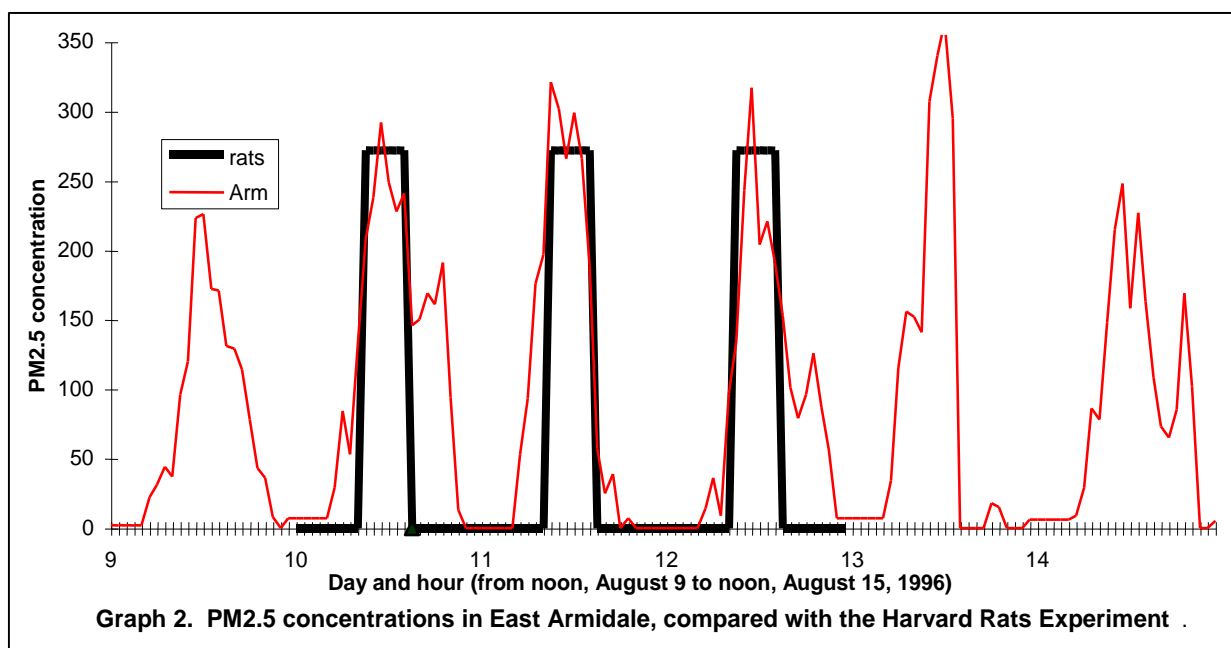
In Santa Clara County, California, and Seattle, Washington, woodsmoke is the predominant air pollutant (up to 90%). In both places daily PM pollution was found to be significantly linked to hospital admissions for respiratory infections, just like PM pollution from other sources.

In Armidale, a rural city of 22,000 with virtually no air pollution in summer but high reliance on wood heaters in winter, PM2.5 measurements were taken in a residential

area to the east of the CBD. Graph 2 shows measurements, compared with the concentration of PM2.5s administered to the rats with bronchitis in the Harvard Experiment. Unfortunately, nobody in Armidale appears interested in repeating the Harvard experiment, but using ordinary air which reaches the same PM2.5 concentrations without the need of fancy equipment to concentrate it 30-fold.

Particulate pollution and cot deaths

Particulate pollution is also linked to SIDS or cot deaths. A study published in 1997 found that for each additional 10 µg/m³ of PM10 air pollution in the first two months of a normal birthweight baby's life, cot deaths increase by 12% and respiratory deaths by 20%. So, a normal birthweight baby in East Armidale whose first two months of life were June and July 1997 (average PM2.5 pollution 55 µg/m³), would experience a 66% increase in risk of cot death and 110% (ie 2.1 times) increased risk of respiratory death. For comparison, a 1 pack per day smoking father increases indoor pollution by 30 µg/m³, equivalent to a 36% increased risk of cot death. Independently, a New Zealand Study looked at the effect of smoking by the father and found a 37% increase in risk of cot death. Fortunately, such deaths are fairly rare. The vast majority of babies survive. Having a father who smokes is not generally considered a reason for excessive alarm, and living in a high woodsmoke area should be considered in the same light. But in both cases, all reasonable steps should be taken to minimize the risk. If the Australian findings of a 43% increase in chest colds and 34% increase in nighttime coughs for each additional 10 µg/m³ of average annual PM10 also applies to monthly or quarterly pollution, averages of 55 µg/m³ PM2.5 over June and July are clearly significantly detrimental to health.



Contribution of Woodsmoke to PM2.5 pollution

Woodsmoke is, in fact, a major component of PM2.5 pollution in most Australian capital cities. Even in Sydney, where roughly 13% of households use wood heating, carbon dating of PM10 particles (sampled overnight on various days in July and August 1993 from 4 pm to 8 am the following morning) found that 67% of carbon in PM10s from inner Sydney originated from wood, not coal, oil or diesel. In the Blue Mountains, the proportion was 81%. A study by the NSW EPA of emissions in Sydney found that, despite only 13% of households burning wood, wood heaters emitted an estimated 38 tonnes of fine particulates per day in winter, compared with only 2 tonnes for all passenger vehicles on Sydney's roads and 15 tonnes for other mobile sources (mainly diesel). The NSW Health study noted that both deaths and particulate pollution in Sydney peaked significantly every winter.

In Perth, wood heaters emit an estimated 28 tonnes of particulates per day in winter, compared with 4 tonnes for diesel trucks and 0.5 tonnes for buses. In Melbourne and surrounding Port Phillip region, vehicle exhausts emit an estimated 2,800 tonnes of PM2.5 every year, but domestic solid fuel combustion emits 5,200 tonnes annually, nearly twice the contribution, not just in winter, but averaged over the whole year.

In Brisbane, diesel particulates are probably greater than woodsmoke, but the latter are nonetheless increasing. When a neighbour installed a new AS4013 wood heater, a family in Brisbane had to move house to escape the noxious emissions which affected their health. The family were told that woodheater sales in Brisbane were now greater than in Melbourne. Roughly 7% of houses in SE Qld now have wood heaters, the majority installed in the last 5 years.

In fact, wood heater use and woodsmoke emissions are increasing in most of Australia. ABS figures from 1983 to 1994 show wood consumption changed little in the ACT, but rose 70% in NSW, 20% in Vic, 22% in SA, 58% in WA and a massive 227% in Qld. The NSW EPA predict that, despite new standards for wood heaters, PM2.5 emissions from wood heaters will rise by about 25% from 1996-2012, an increase of about 10,000 tonnes per year in NSW alone. This compares with Clive Hamilton's estimate of 1,520 tonnes more PM2.5 pollution for the GST package. Thus, the potential for increased PM2.5 pollution from increasing wood heater use is considerable. Furthermore, new technology such as particle traps for diesel engines (New Scientist, 21 Feb 98) or diesel/water or diesel/alcohol mixtures have the potential to slash emissions from the existing diesel fleet by 90-95%. There is no equivalent technology to reduce wood heater emissions.

Will new wood heaters help?

New AS4013 wood heaters produce about half the PM2.5 pollution of older models - but this still represents a considerable amount, about 150 to 200 grams of PM2.5s every single day, if correctly operated, and much more (in

excess of half a kilo-gram) if crammed full of wood then the air con-trol turned down im-mediately for an overnight burn.



The photo (above) shows typical emissions from an AS4013 heater rated at 3.2 g/kg (better than the average of models currently on sale) when turned down for the night.

The average diesel truck is no worse than the average wood heater. US figures for a 1987 GMC heavy diesel 2-axle truck and a 1987 Ford 3-axle dump truck are 0.4 g/km. So, if the truck is driven at 80 km/h for 10 hours, it produces 320 g. This seems like an horrific figure, but a lot of brand new wood heaters installed this winter will produce more pollution than this, every single day they are used! Furthermore 25% of Australian households now use wood heating. Imagine how we'd feel pollution-wise if one household in every four used a diesel truck for several hours a day!

If we don't want this increase in heater sales and wood heater PM2.5 emissions to continue, we must also do a better job of publicising the health effects of woodsmoke and, as in the US, encourage or mandate people to seek less polluting forms of heating. A flued natural gas heater, for example, emits significantly less greenhouse gases under normal use and virtually no PM2.5 pollution. We also have to think about alternatives, such as home insulation (to reduce heating needs and so greenhouse gases) as well as solar heaters (see the latest issue of ReNew magazine <http://www.ata.org.au>) and passive solar home design. Correctly sized eaves and north facing living areas can create a home that is bright, warm and sunny in winter, but which received no direct sun in summer - a far more attractive proposition than chopping wood to light the fire.

One positive move is that the local government association in Sydney has also written to the minister to lobby the state government to prohibit the installation of wood heaters in new houses. The WA government also agrees in principle that wood heaters should not be installed as the sole source of heat in new houses.

People should also have the option of living in areas where they will not have to put up with smoke pollution, and even in other areas, all nearby residents likely to be affected by the smoke from a new wood heater should be given a chance to object to the installation.

Do we need Smokeless Zones?

Most residential areas of the UK have been declared as 'smokeless zones' to protect the health of the people and provide a pleasant environment. Those affected by woodsmoke in Australia have no choices. One family, who moved house to escape health problems caused by a neighbour's newly installed woodstove, deliberately chose a coastal suburb of Brisbane where there were no chimneys and the climate seemed far too mild for anyone to want a wood heater. But soon afterwards, wood heaters were installed near their home and the air has changed from fresh to smoky. For four months of the year, regardless of how mild the weather, windows now have to be kept closed in an effort to keep out the smoke. The health problems continue. The family want to know where they can go to escape this form of pollution.

Indeed, a NSW EPA study found that, of those who had sometimes or often experienced problems from other people's smoke, only 6% had complained. Perhaps this is because, as in the case above, local authorities appear unwilling to take effective action. State EPAs act upon reports of a vehicle seen smoking for 10 seconds or more. But complaints about a domestic chimney producing 10 times the quantity of smoke, not for 10 seconds, nor 10 hours but even continuously for 10 months appear to result in little more than the local council providing information to the owner about correct operation of the heater. If this has happened to you, or you have had the opposite experience of successful action being taken, or you felt discouraged from complaining in the first place, let us know. We would like to compile a list of such experiences. People concerned about woodsmoke should also write to their Local Council and the Minister of Health asking whether families would be informed under the planning process about an application to install a wood heater close (say within 50 metres) of their home, why

there are no smokeless zones in Australia, and why the complaints procedure has to be handled, not by the EPA, but by local authorities, who have no training in air pollution.

We need a realistic assessment of the costs and benefits of wood heating in urban areas. There are many renewable, greenhouse and environmentally friendly uses for all the wood we will ever be able to grow, including wood fired heat and power plants (needed to replace coal fired plants) as well as production of ethanol needed to replace dwindling petrol supplies.

Conclusions: PM2.5 pollution is known to be have significant health impacts, including exacerbation of asthma and increased risk of premature mortality, especially in the very young and the elderly. Environmental groups were rightly concerned over increased PM2.5 pollution from increased diesel use. But new technology could reduce PM2.5 emissions from the diesel fleet by 90-95%, if there is a will to insist on its use. In contrast a state of the art AS4013 wood heater operated continuously for a day, will emit more PM2.5 particles than driving a new car 15,000 km, or if carelessly operated produce more PM2.5s than a new car in its entire lifetime. Though used by only a small proportion [25%] of households, wood heaters now produce more than twice as many PM2.5s than all vehicles in most capital cities in winter. It's time we started to treat woodheater PM2.5 pollution in the same way as other health hazardous pollution and attempt to get rid of it for once and for all, so we can all enjoy clean air in our residential areas.

Further reading: a collection of scientific papers on which this article is based is available at The LEAD Group Office in Sydney. Also see the Air Quality Group's site: <http://www.ozemail.com.au/~airqual> ■



Health Effects of Airports

The following extracts are reprinted (with permission) from the website <http://areco.org/> by AReCO (20th Nov 1999)

AReCO believes in a balance between economy and ecology.

AReCO (*Alliance of Residents Concerning O'Hare*) is a grass roots organization and is separate from all other organizations. AReCO began in June 1994, with just 26 members. Today AReCO represents over 1200 residents from about a 25 mile radius of O'Hare Airport, including Chicago.

AReCO's concerns:

We citizens are concerned with the increase in incidents of noise, health, safety, environmental problems and decreasing property values that more flights at O'Hare Airport will bring.

New Projects:

AReCO has launched three major projects:

1. To obtain compensation for property owners for loss of property value and loss of use of property.
2. To lower the baseline threshold level of noise to accurately include the number of people who are seriously exposed to environmental hazards of O'Hare pollution (approx. 25+ mile radius).
3. To obtain medical health benefits for problems caused by the airport and have legislation enacted that benefits the community rather than the industry.

Health Issues

The area heavily contaminated by a light to medium traffic two runway airport is approximately 12 miles around the field and 20 miles or more downwind. A single runway equipped airport with light to medium traffic contaminates an area about 6 miles around the field and 20 downwind.

Newer aircraft, even though emissions go relatively unseen, could be at least as bad at polluting as older aircraft for many reasons including production of smaller particulate matter, with different combustion processes and different formulations in fuel.

Thus, the number of people exposed to aviation pollutants and who are affected in an airport's vicinity can be immense. In Chicago, for instance, a medical doctor who teaches clinical medicine at the University of Illinois-Chicago, School of Public Medicine, estimated that as many as 5-million people's health could be affected as a result of just one airport, O'Hare.

The United Nations has released a report stating that aviation is responsible for over half of the pollution caused by transportation. In comparison to ground transportation with its millions upon millions of vehicles, there are surprisingly few aircraft (34,444 US-civil, 5,778 US-

commercial). Thus, one can only imagine the massive amounts of pollution they emit. A loaded jumbo 747, for instance, uses tens of thousands of pounds of fuel on merely take-off.

Extract of "[Airports: Deadly Neighbors](#)"

by Charles R. Miller

About the Author: Mr. Miller was formerly a supervisor with a major airline and is currently a director of the Alliance of Residents Concerning O'Hare (AReCO) working on airport environmental issues.

What kinds of health effects may be occurring to the population in your neighborhood can be seen from a report, dated June 20, 1997 to the Georgetown Crime Prevention and Community Council by the Seattle-King County Department of Public Health. Georgetown is an area of Seattle, and surrounds the King County International Airport (Boeing Field), King County, in turn, surrounds greater Seattle. (The Georgetown Council is a sister organization to AReCO and member of US-CAW (United States Citizens Aviation Watch). When comparing hospitalization rates for Georgetown (Zip Code 98108) to those of King and North King Counties, the following, alarming statistics resulted:

- a 57% higher asthma rate
- a 28% higher pneumonia/influenza rate
- a 26% higher respiratory disease rate
- an 83% higher pregnancy complication rate
- a 50% higher infant mortality rate
- genetic diseases are statistically higher
- mortality rates are 48% higher for all causes of death: 57% higher for heart disease, a 36% higher cancer death rate with pneumonia and influenza among the top five leading causes
- average life expectancy 70.4 years (the same as in many developing nations) compared to Seattle's of 76.0 years.

What You Can Do: Contact Mr. Jack Saporito, President, US-CAW (US Citizens Aviation Watch) at Box 1702, Arlington Heights, IL 60006. Tel: +1 630 415-3370. Email: JSaporito@aol.com for more information. *Editor's Note: I asked Jack whether there is mercury in aviation fuel and he said he's unaware but there's 70 or so compounds that are proprietary.*

What are our children breathing [from aircraft emissions]... and how will it affect their health now and in the future?

Did you ever wonder what blows out of a jet airplane? Here is what you'll find in the air around an airport:

Freon 11, Freon 12, Methyl Bromide, Dichloro-methane, cis-1,2-Dichloroethylene, 1,1,1-Trichloro-ethane, Carbon Tetrachloride, Benzene, Trichloro-ethylene, Toluene, Tetrachloroethene, Ethylbenzene, *m,p*-Xylene, *o*-Xylene, Styrene, 1,3,5-Trimethyl-benzene, 1,2,4-Trimethylbenzene, *o*-Dichlorobenzene, Formaldehyde, Acetaldehyde, Acrolein, Acetone, Propinaldehyde, Crotonaldehyde, Isobutylaldehyde, Methyl Ethyl Ketone, Benzaldehyde, Verbaldehyde, Hexanaldehyde, Ethyl Alcohol, Acetone, Isopropyl Alcohol, Methyl Ethyl Ketone, Butane,

Isopentane, Pentane, Hexane, Butyl Alcohol, Methyl Isobutyl Ketone, *n,n*-Dimethyl Acetamide, Dimethyl Disulfide, *m*-Cresol, 4-Ethyl Toulene, *n*-Heptaldehyde, Octanal, 1,4-Dioxane, Methyl Phenyl Ketone, Vinyl Acetate, Heptane, Phenol, Octane, Anthracene, Dimethylnaphthalene (isomers), Flouranthene, 1-methylnaphthalene, 2-methylnaphthalene, Naphthalene, Phenanthrene, Pyrene, Benzo(a)pyrene, 1-nitropyrene, 1,8-dinitropyrene, 1,3-Butadiene, sulfites, nitrites, nitrogen oxide, nitrogen monoxide, nitrogen dioxide, nitrogen trioxide, nitric acid, sulfur oxides, sulfur dioxide, sulfuric acid, urea, ammonia, carbon monoxide, ozone, particulate matter (PM10, PM2.5).

What symptoms can occur with prolonged exposure to these chemicals?

| | | |
|--------------------------|----------------------------|---------------------------|
| ASPHYXIATION | FLUSHING | MUSCLE WEAKNESS |
| ASTHMA | HALLUCINATIONS | MUTATIONS |
| BRAIN CANCER | HEART DISEASE | MYELOID LEUKEMIA |
| CANCER | HODGKIN'S DISEASE | NASAL EFFECTS |
| CONJUNCTIVE IRRITATION | KIDNEY DAMAGE | NAUSEA, VOMITING |
| COUGHING | LACRIMATION | PULSE RATE DECREASE |
| DELAYED HYPERSENSITIVITY | LIVER DAMAGE | PULMONARY IRRITATION |
| DISTORTED PERCEPTIONS | LUNG DISEASE | RESPIRATORY SYSTEM DAMAGE |
| DROWSINESS | LUNG STRUCTURE DAMAGE | SKIN AND EYE IRRITATION |
| DYSPNEA HEADACHE | LUNG TIGHTNESS | SYSTEMIC IRRITATION |
| EEG [ELECTRO ENCEPHALO | LYMPHOMA | TUMORS |
| GRAPH] CHANGES | MENTAL DEPRESSION | WHEEZING |
| EMPHYSEMA | MULTIPLE ORGAN INVOLVEMENT | |

Have there been studies on cancer rates near airports?

- [A 1993 US-EPA study of Midway Airport](#) exhibited massive amounts of known carcinogens coming from aircraft engines in tons-per-year. It also predicted that it produced more than 400 times the allowable cancer risks to the population than that of a federal Superfund Cleanup site (Toxic Waste Dump), as a direct result of exposure to these airport toxins. **The report is "EPA Estimation and Evaluation of Cancer Risks Attributed to Air Pollution in Southwest Chicago."**
- The National Cancer Institute states that studies show that some types of brain tumors are more frequent among workers in certain types of industries including oil refining and embalmers. Major health concerns of aircraft exhaust are petroleum and formaldehyde.
- The Federal Agency for Toxic Substances and Disease Registry states that volatile organic compounds in jet exhaust, precisely 1,3-butadiene and benzene pose increased health risks in the exposed populace for leukemia and thyroid cancer.
- Data from the State of Washington Department of

Health regarding Seattle-Tacoma Airport shows that cancer rates are not only up near the airport, but increase the closer you get to it.

- A second Washington state study of another airport, Boeing Field, by the Seattle-King County Department of Health shows that cancer rates are up 31% and the rate of respiratory disease among children is more than twice that of the county overall.

Some Facts About [Aircraft] Fuel

- One aircraft take-off can burn thousands of pounds of fuel.
- Air pollution levels from one 747 takeoff is similar to setting the local gas station on fire and then flying it over your head!
- The pollution from just one, two-minute 747 takeoff is equal to operating 2.4 million lawnmowers simultaneously. That's four states worth!

For more information about ARECO, [send an e-mail to info@areco.org](mailto:info@areco.org) or phone 0011 1 630 415-3370.

[For local Sydney information contact: Peter Cork, Chairman: FRAAN (Fairfield Residents Against Airport Noise), PO Box 20, Horsley Park NSW 2164, Phone/Fax (02) 9620 1428 - NO AIRPORT AT BADGERYS CREEK!]

Air Pollution Causes Eight Thousand Deaths Per Day

By CSIRO Atmospheric Research, Private Bag 1, Aspendale 3195 Australia. Tuesday, 24 August 1999

Air pollution kills eight thousand people every day worldwide, according to a recent international Commonwealth Science Council conference.

"The World Health Organization estimates that about 2.8 million people die each year due to indoor pollution (over 500,000 occur in China alone). And about 200,000 deaths are due to outdoor air pollution", says one of the conference organisers, Dr Peter Manins.

"Most of these deaths are caused by excessive levels of fine particles in the air, but smog is involved as well.

"There is an alarming number of deaths and illnesses due to the poor state of air quality in many countries in Asia and Africa. Indoor air pollution is particularly serious in many regions. The evidence is now accepted around the world," says Dr Manins.

Diesel vehicles and open fires produce most of the airborne particles that are dangerous to human health. The number of diesel vehicles is increasing much more rapidly than petrol vehicles.

The very large numbers of severe health effects and deaths due to particle pollution from indoor use of coal and biomass fuels (agricultural waste and wood) for cooking and heating, particularly in developing countries, are a real concern according to Dr Manins.

"However, simple steps such as ventilation to take the smoke outside can greatly reduce the problem," Dr Manins says.

Contact Dr Peter Manins, CSIRO Atmospheric Research, ph 03 9239 4630; fax 03 9239 4688; Email: peter.manins@dar.csiro.au



dead people in a heap behind a diesel truck

RTA Demolition Dust Minimisation Procedures

By Franki Lee, NSW Roads and Traffic Authority, franki_lee@rta.nsw.gov.au

Editor's Note: On the basis of the first dot point below, you would expect that cavity dust removal would be done as a matter of course, prior to demolition – yet it isn't. Who has evidence that screens stop cavity dust? What type of screens would? The following are the dust minimisation procedures used by RTA contractors for demolition work:

- The contractor shall take all necessary precautions to prevent the contamination of the atmosphere, building and their surrounds by airborne fibres and particulates.
- Prior to any demolition work commencing the contractor is responsible for providing temporary barrier/screens, as appropriate, to suppress the effect of dust movement to adjacent occupied properties.
- Demolition of areas likely to result in significant

dust is not to be undertaken during periods of strong winds.

- The contractor is to ensure that dust generating materials are maintained in a moist condition during demolition or loading activities.
- Material transported in open trucks shall be covered to prevent the generation of dust. The tailgates of all vehicles used to transport material from the demolition site shall be securely fixed prior to loading.
- The burning of timber or other combustible materials is prohibited at all times.

These dust minimisation measures have been included in the Specification for Demolition Work (Environmental Management Plan) used for demolitions on the M5 East motorway and other motorways.

WorkSafe Guidelines for Building Cavity Dust

By Elizabeth O'Brien, National Coordinator, The LEAD Group Inc.

Following from the last edition of LEAD Action News, I tried to research the possible health effects of exposure to ceiling dust and other building cavity dust, and to find out what, if any, guidelines could be applied to handling the dust. The NOHSC (NATIONAL OCCUPATIONAL HEALTH and SAFETY COMMISSION – previously WorkSafe) website at <http://www.worksafe.gov.au/> contains an overwhelming amount of information on Air Toxics at Work. To piece together all the relevant standards for working in building cavity dust, one would have to, at the minimum, check out the following sections:-

AIRBORNE PARTICULATES:

Building cavity dust does not have an assigned exposure standard. The advice is, "it should not be assumed that this indicates that these unlisted dusts do not represent a hazard to health."

HAZARDOUS SUBSTANCES:

In this section the exposure standards are given for about 26 of the elements found to be in ceiling dust by Jeff Davis (see article on page one of this newsletter), but mostly as compounds. The section includes the following excerpts:

INDEPENDENT EFFECTS:

"Where there is clear toxicological evidence to indicate that two or more contaminants have totally distinct mechanisms of effect on the body, then each substance may be separately evaluated against its appropriate exposure standard."

ADDITIVE EFFECTS: "When the body is exposed to two or more contaminants, an additive effect is obtained when contaminants have the same target organ or the same mechanism of action. In this situation, the total effect upon the body equals the sum of effects from the individual substances."

SYNERGISM AND POTENTIATION: "Sometimes the combined effect of multiple exposure is considerably greater than the sum of the effects from the individual components. This phenomenon can be one of synergism or potentiation. Synergism occurs when both chemicals have an effect individually and a more than additive effect when together. Potentiation

is when one chemical has an effect but the second chemical does not but enhances the effect of the former chemical on combined exposure.

"Interaction effects may also occur in connection with exposure to entirely different environmental factors such as simultaneous exposure to chemical agents and physical factors, such as light, heat and noise... Smoking of tobacco is known to have a synergistic effect in combination with, for example, inhaled particulates.

"At present the understanding of interaction effects is incomplete. The knowledge that such effects can occur is reason to maintain the concentrations of individual substances as low as is practicable under complex exposure conditions."

FIBRES: since the ceiling cavity can contain various types of insulation including asbestos insulation around hot water heaters, the following excerpts are relevant:-

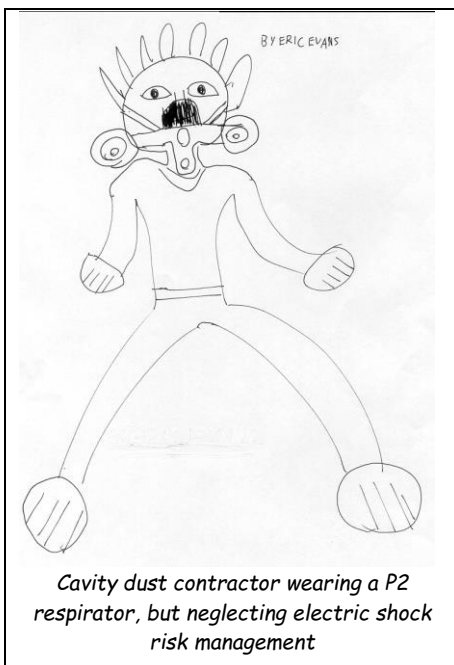
ASBESTOS: "The average fibre concentration of the air breathed by a worker throughout a working shift...should not exceed...0.1 fibres per mL of air (TWA [time weighted average] Exposure Standard) [for] any mixture of [the different types of] asbestos, or where the composition is unknown."

SYNTHETIC MINERAL FIBRES: "For respirable fibres, the National Commission has adopted a TWA exposure standard of 0.5 fibres per mL of air be applied to synthetic mineral fibres (ceramic fibres, glassfibre and rockwool).

"For non-respirable fibres, in situations where almost all the airborne material is fibrous, a secondary, yet complementary, TWA exposure standard of 2 mg/m³ (inspirable dust) is proposed."

PESTICIDES: If exposure to pesticides is suspected, blood samples can be analysed to determine the extent of exposure.

When "building cavity dust" is an actual listed item in all these government guidelines, the Australian Dust Removalists Association will have had success! ■



Classification of Building Cavity Dust for Waste Disposal

By Elizabeth O'Brien, National Coordinator, The LEAD Group Inc.

Extract of Report of Multi-element Analysis of Flue Dust and Ceiling Cavity Dust

[NB mg/kg = milligrams per kilogram, which is the same as parts per million (ppm) or micrograms per gram (µg/g)]

| | EPA Inert Waste <u>maximum</u> Total Concentration Threshold | EPA Solid Waste <u>maximum</u> Total Concentration Threshold | EPA Industrial Waste <u>maximum</u> Total Concentration Threshold | FLUE DUST SAMPLE | CEILING CAVITY DUST SAMPLE |
|------------------------|---|---|--|---------------------|----------------------------------|
| Lead (mg/kg) | 10 | 100 | 400 | → 6434 | → 1381 |
| Chromium (mg/kg) | | | | 65 | 38 |
| Chromium (VI)* (mg/kg) | 10 | 100 | 400 | | |
| Cadmium (mg/kg) | 2 | 20 | 80 | 7 | → 22 |
| Nickel (mg/kg) | 4 | 40 | 160 | → 516 | < 0.5 |

* These limits apply to chromium in the +6 oxidation state only. "Chromium (0 and III oxidation states) have deliberately not been listed in this table [Table A3] and need not be tested for" according to the EPA guidelines.

The EPA Concentrations listed in the above table are taken from Table A3: Contaminant threshold values for waste classification of non-liquid wastes without doing the leaching test on pp 64-65 of Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes, (May 1999) by NSW EPA. The bolded figures are where the threshold is exceeded by one of the sample results – the particular sample result is indicated by an arrow.

The above results - for a flue dust sample from a coal gas burner that had a flue vented into the ceiling cavity of a house, and the ceiling dust from that cavity are taken from Report of Analysis of Flue Dust and Ceiling Cavity Dust (5th February 1998), published in LEAD Action News vol7 no2.

According to the EPA guidelines on classification of waste, the ceiling dust and flue dust analysed in the table above would be classified as Solid Waste because the dust was "Waste contaminated with lead from residential premises..."

If however, the dust had been taken from a commercial building, church, library, Early Childhood Health Centre (ECHC), etc, the person responsible for the

dust would need to ensure that the dust was analysed (total concentration) for a number of contaminants. If the results showed the same levels of contaminants as listed above:-

- on the basis of its cadmium content, the **ceiling dust** would initially be given a provisional classification as **industrial waste**, but, classification is not actually possible without further testing because the lead concentration exceeds the maximum for **industrial waste**
- the **flue dust** would not be given a provisional classification because the nickel and lead content exceed the maximum for **industrial waste**.

Both types of dust waste would then require classification using leachable concentration (TCLP) test – this costs up to \$800 for one element, or \$300 each if 4 elements are tested. To my knowledge, there are no results of TCLP tests for lead or any other heavy metal in building cavity dust waste and this lack of testing is of concern, considering the tonnes of commercial and industrial building cavity dust that are released during building work or demolition and moved around our cities every day.

| | EPA Inert Waste <u>maximum</u> Specific Contaminant Concentration | EPA Solid Waste <u>maximum</u> Specific Contaminant Concentration | EPA Industrial Waste <u>maximum</u> Specific Contaminant Concentration | FLUE DUST SAMPLE | CEILING CAVITY DUST SAMPLE |
|----------------|---|---|---|------------------------|-------------------------------------|
| Lead (mg/kg) | 1500 | 1500 | 6000 | → 6434 | 1381 |
| Nickel (mg/kg) | 1050 | 1050 | 4200 | 516 | < 0.5 |

Again, in the hypothetical case that this dust came from a commercial building and the results showed the same levels of contaminants as listed above:-

- regardless of the lack of a TCLP result the **flue dust** would be given a provisional classification as **hazardous waste** on the basis of its lead content; (since the maximum Specific Contaminant Concentration (SCC) – Industrial Waste - has been exceeded)
- due to the lack of a TCLP result the **flue dust** cannot be given a provisional classification on the basis of its nickel content, though the classification as **hazardous waste** on the basis of the lead content is the highest category of waste that can be assigned anyway.
- due to the lack of a TCLP result the **ceiling dust** cannot be given a provisional classification on the basis of its lead content.

This hypothetical situation leading to an inability to classify the ceiling dust is a **very good argument** for TCLP testing of ceiling dust being carried out. Also, to my knowledge, no samples of ceiling dust have ever been assessed for the total concentration of pesticides. If the total concentration of a pesticide listed in EPA's waste guidelines Table A7 exceeds one milligram per kilogram, then the dust would be classified as a **scheduled chemical waste**. The disposal of **scheduled chemical wastes** is dealt with in Scheduled Wastes Chemical Control Order 1994, under the *Environmentally Hazardous Chemicals Act 1985*.

Two other documented examples of building cavity dust were also reported in LEAD Action News v7 n2. They were:

- wall cavity dust from a major harbourside residential re-development had a lead (total) concentration of 10,000 mg/kg, and
- ceiling cavity dust from an Early Childhood Health Centre (ECHC) in inner Sydney had a lead (total) concentration of 20,000 mg/kg.

My understanding of the EPA's waste guidelines is that both these dust wastes should have been provisionally classified as **hazardous waste**. I hazard a guess that neither of them was treated as such.

The ADRA Development Committee calls on the NSW EPA to do TCLP testing where appropriate, as well as total concentration testing for all the contaminants that no-one has tested for in building cavity dust (such as pesticides and other organic compounds, asbestos and other fibres).

Wastes which exceed the TCLP maximum value for Industrial Waste and / or the total specific contaminant concentration, need to have the contaminant immobilised and the immobilisation must be approved by the EPA. Without EPA approval of immobilisation, the waste is classified as **hazardous**. Hazardous waste is no longer permitted to go to landfill and must be stored or treated appropriately. If treated, it must again

be classified before disposal. Since no building cavity dust waste to my knowledge has ever been correctly classified as **hazardous waste**, I am not aware of any approved immobilisation process for building cavity dust. Only one hazardous waste facility with a licence to accept building cavity dust has come to my attention – the ARA smelter at Alexandria has a hazardous waste facility licence and recycles the lead out of building cavity dust. As for what happens to the other contaminants in cavity dust, that is anyone's guess.

One ceiling dust contractor commented - "If ceiling dust was classified as **hazardous waste [or even as industrial waste]**, people would treat it properly. Knowing that if the dust comes from a residence, childcare centre or educational institution it can be put in the rubbish bin for council to pick up, means no-one takes it seriously." ■

Queensland Ceiling Dust Contractor's Experience

By Elizabeth O'Brien, The LEAD Group Inc.

On the 27th October 1999, Verne Byrne of Spout Vac Services from Brisbane, dropped into The LEAD Group's office to deliver the survey of ceiling dust contractors, pick up some fact sheets on ceiling dust and get the latest information on what was happening with the Australian Dust Removallist's Association. He had the first information I'd heard about the ceiling dust removal scene in Brisbane, including:-

- Verne has been working removing ceiling dust in Brisbane for the past 18 months;
- The Queensland Dept of Housing has paid for ceiling dust removal in all the houses they've recently removed the asbestos sheeting roofs from. Verne did the vacuuming and bagged the dust and disposed of it in the same large skip that the plastic wrapped asbestos sheeting was placed in, for appropriate disposal;
- Verne vacuumed the dust in an 1864 Queenslander with tongue and groove ceilings and the day after got a call from the householder to say that it was the first day for years that she had not woken up wheezing with asthma. Previously dust from the ceiling could be observed as a fine film every day on the bedspread under the tongue and groove ceiling;
- As far as Verne knows, there is no plan by the Airport authority in Brisbane to undertake an aircraft noise insulation project, even though the very few houses around the airport are quite old and would presumably require ceiling dust removal if insulated. ■

Letters

Ceiling Dust Industry Training Course

30th August 1999

Dear Elizabeth,

Sorry I can't attend your meeting but I would like to express my interest in joining and having input in an Industry Association for Ceiling Dust removalists.

I would like to see some regulation in the industry and think an Association is a good vehicle for this as Government departments I have spoken to have no interest in this issue.

My suggestion would be to have members comply with Construction Industry Induction Training Code of Practice, which should be complied with anyway.

The Association could write a Work Activity Industry Training Course for members use. This would satisfy the need for formal training and help members comply with WorkCover requirements "killing 2 birds with 1 stone". I would go further and insist on members having equipment inspected by Association delegate using a guide written by Association to ensure equipment has HEPA Filtration of the correct area and particulate-trapping capacity. HEPA filtration is ineffective if filter does not have correct surface area for the airflow passing through it. Custom designed equipment as well as some professionally designed equipment I have seen may be lacking in this area.

In my opinion membership criteria should be as above or similar. Pricing protocol may be a sticky one but if Association members conform to suggested membership criteria and Government and Industry support the Association the pricing structure each member chooses will be comparable to other members and not "cowboys".

Yours faithfully,

PHIL HIBBERD NOBAC CLEANING PTY LTD
CARPET CLEANING & LEAD REMEDIATION
119 Chloride Street BROKEN HILL NSW 2880
Phone: 08 8087 4369 Mobile: 0418 858 383

Fax: 08 80871033

Burning Lead Painted Wood in "Home Incinerators"

1 Nov 99

From: Isabelle Albert

Enclosed in Isabel's letter was the following letter published in the Wentworth Courier, Wed Sep 22, '99.

What on earth is going into those trendy wood heaters?

Visiting friends for dinner, I saw the glass-fronted wood heater being loaded with painted wood – probably the old back fence. An acquaintance offered an unwanted wardrobe, saying: "If no one wants it, I'm just going to smash it up and use it for firewood." Is this the latest in high-tech garbage disposal? Quicker and easier than a rubbish skip or waiting for council clean-up days. Cuts firewood costs too.

Enclosed wood heaters allow the burning of just about anything without the occupants smelling it. Lead paint, treated wood (arsenic, copper), plyboard (embedded with glue), old floors (treated with pesticides) are going up the chimney to spew on neighbours.

Who needs the Waterloo incinerator? Some residents are creating their own mini incinerators in their lounge rooms.

I. Albert, Bondi Junction

Hello Elizabeth,

Sent this letter to the local paper a few days after the dinner by lead paint firelight mentioned. We left the dinner immediately we noticed, we had our new baby with us. Found out from the EPA that the burning of lead paint and other toxic substances in home heaters is not illegal.

My 8 year-old told me that the elder siblings of one kid she visits, collect old wood from rubbish skips they pass in the street walking home. There are plenty of these skips as renovating the old houses (1890-1920) here is booming. That's a lot of layers of lead paint thrown into their wood heater.

This could be partly undoing all the good work that The LEAD Group has put in.

Isabelle

Lead Audits for Tarptown CCC's

18/5/99

The following is an extract of a letter from NSW Department Of Community Services (DoCS) to Child Care Centres (CCC's) / Services in **South East Sydney Area**, following the April 1999 hailstorms.

Dear Service Provider,

...It is imperative that Child Care Centres built prior to 1970 that sustained roof or ceiling damage have a Lead audit done and forward a copy of the Lead Safety Certificate to this office as soon as possible. This Certificate is also required for services built prior to 1970 where water has entered the building and either seeped through the ceiling and/or run down the walls.

Dawn Juratowitch,

Area Manager, DoCS, REDFERN NSW 2106,

Phone: (02) 9381 0410 Fax: (02) 9381 0445

Air Toxics Forum = Canberra May 26th 1999

By James Whelan. Queensland Conservation Council, National Environment Consultative Forum Delegate's Report

Background: Senator Hill's "Our Living Heritage" statement foreshadowed the Government's intention to address air toxics under the new Living Cities Program. The overall objective of this program is to deliver a national strategy which will monitor, establish the levels of community exposure to, and manage emissions of selected air toxics. The program will run over 3 years and has a budget of \$5M. To date, states have no budget to participate in the process.

The two recently developed National Environment Protection Measures (NEPM's) failed to address air toxics comprehensively. The Ambient Air set Australia's first national standards, but was restricted to the five 'criteria' pollutants which are present in the greatest mass in urban environments but which are perhaps the least toxic. The National Pollutant Inventory NEPM (referred to as the NPI) requires voluntary reporting of emissions of 90 toxics and estimation by government agencies of diffuse pollution sources including cars, lawn mowers, etc.

The Air Toxics Forum was convened during the initial scoping period by Environment Australia (EA). Invitations were extended to state agencies, industry and environment groups (through the NECF). I believe Bronwen Machin (of Environment Victoria) negotiated for a larger number of green delegates – from four to six. ACF's representative could not attend due to the GST negotiations, so we had delegates from the National Toxics Network, Greenpeace, QCC and The LEAD Group. And were hopelessly outnumbered by industry delegates.

Issues:

- Which air toxics will be included? The EA project team attempted to set a starting list of just 90 pollutants. This was successfully broadened to 400, including agricultural and veterinary chemicals, diesel emissions, woodsmoke, neutral particles, the criteria pollutants and persistent organic compounds.
- Will the scope of the air toxics program extend to national standards, monitoring protocols and regulations?
- Will the air toxics response turn into a NEPM? States and industry appear reluctant to go down this path. Which is a surprise as neither of the NEPM's mentioned above are particularly interventionist.
- Will the development process adhere to the NEPC's protocol for consultation. It appears Environment Australia is happy to make up a

consultation program as they go along.

- Will a steering group be established, involving stakeholders in managing the project? If so, who will the green representatives be? Delegates on the day agreed Matt Ruchel [of Greenpeace] and Elizabeth O'Brien [of The LEAD Group] would be excellent representatives.
- Will sitting fees be paid? NB The Democrats' deal concerning the Diesel NEPM includes sitting fees for conservation rep's.

Conclusions:

The first step will be the compilation of a 'state of knowledge' report by December 1999, pulling together information on current state programs (monitoring, NPI trials, etc) and identifying gaps in the knowledge.

Following this, consultancies will be determined to address gaps. Proposed studies include: studies of diesel emissions and woodsmoke, developing a protocol for personal exposure assessment and motor vehicle emissions (picking up corridors and hotspots which the NEPM omitted).

Editor's Note: lead is a "criteria pollutant". ■

POETRY CORNER

A Mother's Defence

By Kim Creighton, Boolaroo (Boolaroo is home to a large lead and zinc smelter), NSW, Australia

Who gave you the right to come to my home?
Invade every corner with poisons unknown.
What is that smell that I cannot ignore?
That seeps through my ceiling and blankets my
floor.
Who gave you the right to bring harm to my soil,
The blood of my children, the core of my toil?
Prepare yourself well, for my will is intense
Doubt not the strength of a mother's defence
To fight for what's right, should I lose should I
win,
But God help you the day that you answer to Him.

■

“Yes Minister” - Toxics Service Funding

By Elizabeth O'Brien, National Coordinator, The LEAD Group Inc.
Seas Grants.

Environment Minister, Tim Hartley: Herbert, what do you think about this proposal to set up a Toxics Information and Referral Service of Australia [TIRSA]?

Department Head, Herbert Ham: I haven't read it but I know The LEAD Group won't stop badgering us until there's no more toxics being emitted – it's preposterous! My Department has toxics in hand – we're setting up a web-site. People can get their information from that – when it's ready.

Tim: Gerard, what do you think?

Ministerial Advisor Gerard: Well, along with climate change and biodiversity, **toxics are** what people are concerned about Minister. Some people even say they're inter-related. People do like to be informed and to have their personal questions answered. The LEAD Group does have a proven track record at answering curly questions for us – even answering our own questions on lead. They seem to have the systems and the network to expand to other toxics. TIRSA could be just the thing to announce around those high air pollution days we're expecting in the Summer. A good thing to mention to those rural people who keep on about the woodsmoke and garbage incineration too.

Herbert: Did you hear me Minister? WE'VE GOT TOXICS IN HAND.

Tim: Yes, well if you mean anything like the National Pollutant Inventory Herbert – I have every reason to be concerned. After 10 years of promises we're still not going to have anything up on **that** website that's worth reading.

Herbert: Yes, well, there were some delays on that Minister but you can't expect busy industry people to just be able to produce an industry handbook on the reporting requirements – it takes time Minister. They have their factories, mines and smelters to run. It's only been two years.

Tim: I guess we should count our blessings that most of the people in those industrial towns don't vote for us anyway. But what about the cities, Herbert? We've got to win the hearts and minds of the young people just buying their first house and trying to work out if they can survive with a mortgage and without a car if the wife gets pregnant and takes leave.

Gerard: They're the ones who want to know where to buy a house in which it will be safe to breathe the air, and how to renovate safely, and how to reduce indoor air pollution – it's lucky we're not responsible for public transport Minister – it's abysmal.

Tim: Perhaps we should be responsible...

Herbert: [RAPIDLY CHANGING THE SUBJECT] About this Proposal from the smelter in South Australia – they just want a couple of hundred thousand extra to what we already gave them to improve the emissions to the sea as part of our Clean

Tim: Shouldn't they be controlling emissions to the ocean anyway, with their own money? They make enough profits.

Herbert: That may be so Minister but we can't be seen to be always taking from industry and never giving anything back.

Tim: Don't be so absurd Herbert, it's the miners and smelters who take everything from this land and sell it off overseas, leaving us with the mess to clean up. I'd much rather give this money to TIRSA for all the people they'll help.

Herbert: It's a bit late for that Minister, you've already signed away all the Clean Seas money and it will take all of the Clean Air \$5million to pay for the research we have to do in the next 3 years to put on the website.

Tim: So you admit it – the people will have no source of information for 3 years?

Herbert: Oh no Minister – we'll open the web-site in a month – it's purpose will be to flag the various answers we'll get from the research, over time.

Gerard: You might be interested to know Minister, that The LEAD Group has started to work **with** industry on this ceiling dust issue. If we don't keep them happy, who knows? They might start convincing the environment groups in other major cities that the Federal Government should pay for all the ceiling dust to be removed in the houses around the airports like we paid that extra \$12 million for it in Sydney. Perhaps if we give them the money to run a telephone advisory service, they'll be so busy with calls they won't have time to lobby other groups.

Tim: So, all in all, we should fund the Toxics Information and Referral Service then?

Gerard: YES MINISTER! ■

Costs of Contaminating Canada

Dr Andrew Gilman, an environmental health expert from Canada, said at a recent conference in Brisbane (23 Nov 1999) that there are extensive similarities between Canada and Australia and a key focus of the Canadian Sustainable Development strategy is cooperation between government, industry and communities. He said that among environmental issues air contaminants, such as smog and haze, were significant concerns to Canada.

“Recent estimates tell us that air contaminants account for up to 6,000 premature deaths annually in Canada.

“Also, it is estimated that overall, environmental contaminants could account for 10-15% of cancer incidence, 20-25% of birth defects and 30% of miscarriages now reported in Canada, costing up to \$4 billion annually” said Dr Gilman. ■

Port Kembla Fire in Smelter

By IRATE (Illawarra Residents Against Toxic Environments Inc) PO Box 85, Port Kembla NSW 2505
ph 02 4275 1110

Fired Up and Fed Up

Today, (31/08/99), Port Kembla Residents experienced the hazards of having a heavy industrial plant on its doorstep.

Thick, dark toxic smoke belched from the Port Kembla Copper plant blanketing the town.

Today, just like the "Big Burn Day" at BHP (1997), the community had a taste (literally) of the very real danger that can be caused from something going wrong.

To date, the Environment Protection Authority has not advised of what action it will take against BHP and that incident was nearly 2 years ago. How long will it take for the truth of this current incident to be revealed?

Given the EPA's reluctance to prosecute the big polluting industries, the community has sought advice from a leading Sydney Barrister on what legal action is

available to the community to ensure our safety.

Maybe the NSW Labor Government can remind us again of how important it is to have a Copper Smelter so close to a residential area. When the Hon. Mr Debus (Minister of the Environment) was confronted by IRATE members Olive Rodwell & Helen Hamilton, at the opening of the Illawarra Heritage & Environment Centre, about the Port Kembla Copper fire he retorted;

"It was just a fire just like any other fire!"

Ask any fireman about the hazards from the toxic smoke created from burning plastic. Cyanide gases and Dioxins are just two of the many dangerous toxics emitted.

Mr. Debus should educate himself on the hazards of toxic smoke before casually dismissing it. ■

Macedonian Radio Talks on Lead and Air Pollution

From 2 short radio documentaries in the Macedonian language by the Environmental Defender's Office (EDO) Sydney

Your Environment, Your Health, Your Rights

The first documentary is about air pollution, outlining the different types of air pollution, how it is controlled and what the public can do about ensuring that pollution control laws are enforced. It is based on a series of interviews with the EPA, the EDO, Healthy Cities in Wollongong and Helen Hamilton of Illawarra Residents Against Toxic Environments (IRATE) in Port Kembla. Helen is a local resident who, for many years, has been active in fighting for a cleaner environment in Port Kembla.

The second documentary is a fictional role play about lead, how it can affect your health and what can be done about it.

Both radio programs were made following extensive discussion with the community in Port Kembla to determine their information needs and how best to convey that information. Due to the lack of information available in Macedonian, the majority of the Macedonian community seem unaware of the existence of the

environmental laws which control pollution emissions, and of the role the public can play in ensuring the laws are enforced. While there is some awareness that lead can be dangerous, there is little knowledge of how to minimise its impact through practical steps in homes and backyards. These radio programs provide useful and practical information to encourage the Macedonian community to become involved in protecting their environment and their health.

The release of the programs is particularly timely with the Port Kembla Copper Smelter due to re-open before the end of 1999. The Port Kembla stack is located directly adjacent to the residential area where many of the Macedonian community live. The community has enjoyed several years of improved health and cleaner air since the smelter closed down in 1995. The reopening of the smelter is of concern to local residents because of the potential impact of pollution emissions.

Contact Tessa Bull at EDO (02) 9262 6989 for tapes. ■

US \$50M Lead Budget, 1997

Extracts from US Department of Housing and Urban Development (HUD) News, Nov 1997

WASHINGTON – In November 1997, the Clinton Administration launched a campaign to protect America's children from the health hazards of lead-based paint with \$50 million in aid to localities, a public education program and a new agreement to develop a national enforcement strategy for lead paint disclosure requirements.

Throughout the campaign, HUD, EPA, state and local governments, and industry, environmental and public health groups will work in partnership in the Campaign for a Lead-Safe America – with the slogan, "Take the Lead Against Lead".

Nearly 5 percent of American children ages 1-5 suffer from lead poisoning -- amounting to almost 1 million children. Among low-income children living in older housing, 16 percent suffer from lead poisoning. For African American children living in older housing, the lead poisoning rate soars to 22 percent.

The \$50 million in HUD grants will help private owners of low-income housing built before 1978 (when lead-based paint was outlawed as a health hazard) to remove lead-based paint hazards, which can include lead-contaminated paint, dust and soil.

In addition, the funds can be used for blood testing of young children, inspection and testing of homes for lead hazards, temporary relocation of families during lead control work, community education and outreach, and collection and analysis of data on lead hazards.

The new public education program unveiled today will feature: public service advertising in publications throughout the nation; videos featuring Sesame Street characters; educational materials distributed by major hardware retailers (Lowe's, Home Depot, Sears and ACE) in over 6,000 stores; distribution of an illustrated book called Maintaining a Lead-Safe Home to 3,500 libraries; distribution of a new interactive video training course for maintenance workers to teach them to do their work safely; and campaigns involving the National Association of Realtors, the Consumer Federation of America and other groups.

In addition, HUD and EPA are jointly funding a toll-free phone line to give callers information about lead hazards and about disclosure requirements for people selling and renting homes. Information is also available on HUD's website at www.hud.gov/lea/leahome.html and on EPA's site at www.epa.gov/opptinter. The tag line on the public service material is: "Learn before you rent, buy or renovate."

The "right to know" rule requires home sellers and landlords to disclose known lead hazards to prospective homebuyers and tenants, so people can protect their families from exposure to lead.

An estimated 64 million homes and apartment units in the United States built before 1978 are covered by the lead-based paint disclosure rule. About 20 million of these dwellings have lead-based paint in a hazardous condition. About 3.8 million dwellings with lead-based paint are currently occupied by children under age six.

An estimated 9 million new tenants and 3 million homebuyers should receive information under the "right to know" disclosure rule each year. The rule also requires that sellers and landlords of most housing built before 1978 give buyers and tenants a pamphlet about lead-based paint hazards, and requires that prospective homebuyers be given the opportunity to inspect a home for lead-based paint before signing a sales contract.

Twenty-five cities with high concentrations of homes with potential lead hazards will be targeted for special attention. HUD will work with health departments in each city to seek their assistance in providing information about lead poisoning cases, to further the compliance strategy.

One mother of two young sons who have suffered serious health problems from lead poisoning is Margaret Sauser, who is President of National United Parents Against Lead, and founder of United Parents Against Lead of Michigan. Jon and Margaret Sauser's sons -- Jonathan, now age 9, and Cameron, age 6, -- suffered lead poisoning after the couple renovated a 67-year-old home they purchased in 1990 in Kalamazoo, MI. The lead poisoning caused Jonathan to experience behavior problems, learning difficulties, insomnia, stomach problems, and other ailments. Cameron, who was born into the lead-contaminated home, experienced slowed growth, difficulties with speech and motor skills, and other problems.

After learning of the lead contamination of their home three years after they moved in, the Sausers moved and declared bankruptcy when they were told they would be unable to sell the contaminated home.

"If only we had known in 1990 what we know now about lead, our sons would never have been poisoned," Mrs. Sauser said. "No parent and no child should have to go through this. By making more parents aware of the dangers of lead, this new federal initiative will benefit children around the nation. Our precious youth must no longer remain our lead detectors. We must find the lead before it finds our children."

For further info, phone: +1 (202) 708-1420, or see the HUD site on the web at <http://www.hud.gov/>

For a HUD Update as at September 1999, see the next page for **Exciting News on Changes to** ↗

HUD Lead in Dust Levels

By Elizabeth O'Brien and Carol Bodle, The LEAD Group Inc. See http://www.hud.gov/lea/1012_3final.pdf

The US Department of Housing and Urban Development (HUD) have recently (Sept 99) revised clearance lead dust levels and have issued interim values, pending US EPA standards (expected in 2000). These values are:

- Floors: 40 µg/ft² Roughly equivalent to: 0.4 mg/m²
- Interior Window Sills: 250 µg/ft² Roughly equivalent to: 2.5 mg/m²
- Window Troughs: 800 µg/ft² Roughly equivalent to: 8 mg/m²

Although these values are only interim, US HUD are anticipating incorporating these values into their

Guidelines next year, and do not expect US EPA (Environmental Protection Agency) values to differ significantly. As these values are now available, it would be advisable to use them in Australia as the Australian Standard on Lead Paint Management AS 4361.2 (1998) used the previous US HUD-based levels of:

- Interior Floors: 1 mg/m²
- Interior Window Sills: 5 mg/m²
- Exterior Surfaces: 8 mg/m²

If Standards Australia starts now, they may be able to update the clearance levels at the same time as the US EPA in the year 2000. ■

Carpets: Recycling or Landfill?

A letter to TEC from Elizabeth O'Brien, National Coordinator, The LEAD Group Inc

To: Jeanette Neave, Waste Campaigner, Total Environment Centre (TEC) Fax No (02) 9299 4411

Date: 6/10/99

Dear Jeanette,

You may recall that I asked NSW Environment Minister Bob Debus at the TEC's Greenprint conference whether the wet or dirty carpet from thousands of hail-damaged homes in Eastern Sydney was being recycled or reused or just taking up valuable landfill space. His answer was that he didn't know and I got the same answer from councils and the Disaster Recovery Centre. So I rang the only 2 carpet re-use companies in Sydney and between them they had only done two commercial jobs as a result of the hail, as neither of them deals with household quantities of carpet. They just vacuum it and cut it up and resell carpet from commercial buildings to whoever will buy it, thus passing the fine particle contamination on.

My questions for the waste management inquiry are:

- Can the Smith Family be given some assistance to bring to fruition their 5 years of research on actually re-cycling carpets (ie dissolving the glue between the fibres and the backing and separating the two for reprocessing into carpets or other products)?
- If carpet re-use is viable on a commercial building, why can't councils get together household quantities of old carpet to make residential carpet re-use viable?

- Could some research and development money be given to, for instance, Elite Maintenance Service (a carpet cleaning company) to develop a system of cleaning fine particulate contamination out of carpets and even recycling lead and other pollutants removed from the carpets? This would be more ecologically sustainable than current practice.
- Could TEC be given some research funding to find out the tonnage of carpet that has gone to landfill say, in the last year, and, since the 14-4-99 hailstorm? And to find out if it's significantly shortened the lives of landfills used by Sydney.

Yours Sincerely, Elizabeth O'Brien ■

China Environment Yearbook '98

The English edition of China's Environment Yearbook 1998 is now available. The 300 page hardcover book (ISSN 1006-3927) costs US\$165.50 and consists of 28 sections including:- the establishment and enforcement of environmental policies, statutes and standards, major environmental accidents, statistics, treatment and control of the urban environment, monitoring, publicity and education, newspapers, etc.

For further information contact: Hans Consultants Inc. 19-1-3, East Section, Xiaohongshan, Wuchung, Wuhan, Hubei 430071, China. Fax +1 (530) 579 7132, Email: han_con@yahoo.com Web <http://china-ebusiness.8m.com> ■

WHO Knows About Thallium

Notes about Thallium from Environmental Health Criteria document 182 by WHO

By Allan Gow, 27/1/99

Allan Gow was an active contributor to the North Lake Macquarie Environmental Health Liaison Meetings held near Newcastle in NSW, until the meetings were cancelled by the Health Department in early 1999. Allan was a neighbour of the Pasmenco Lead Smelter at Boolaroo who discovered that 0.6 tonnes of Thallium was stored on the site of the smelter. He summarised the World Health Organisation (WHO) Criteria Document on Thallium, for the benefit of other residents. We reproduce his notes here also because **thallium has been found in ceiling dust in Sydney homes that have been tested.** Only the results from one of the 40 homes tested has been published (see LEAD Action News vol 7 no 2, 1999). The results were **Thallium in the Flue Dust** (dust sitting inside the flue pipe that vented from a coal gas burner into the ceiling cavity) **Sample: 3 mg/kg** (milligrams per kilogram) and **Thallium in the Ceiling Dust Sample: <0.5 mg/kg.** "Normal" soil range: 0.1 – 0.8 mg/kg.

Notes about THALLIUM:

- Rapidly absorbed via Stomach, Lungs & Skin & affects all internal organs progressively.
- Thallium 1 carbonate induces chromosomal aberrations plus Gene mutation.
- 0.5 gram is a fatal dose in 1 to 2 days.
- At 10-15 mg/Kg of Body Weight (Daily) = Dead in 10-12 days.
- Leaves the body through Urine (non cumulative) (30 days?) if you're not dead.
- Above background levels it is recommended that Bio monitoring of population living in the vicinity of the source be carried out.
- World production 10→15 tonnes. Pasmenco = 0.6 tonne at Boolaroo suggests Blood, Urine, Hair Testing and Saliva is necessary.
- U.S.A. stopped production in 1981.
- Average daily intake for adults is estimated to be 0.005 mg/Day (= 5 µg/Day)
- 1 µg/Day can be tolerated by Vast Majority of Humans. Exposure to small amounts → eat more potassium foods.
- Speeds up ingestion of selenium in kidneys and liver where thallium is released significantly.
- 1.0 µg/Litre in water can deliver effects. Detection limit in 1987 was 5µg/Litre. Better analysis techniques are used now.
- 0.01 µg/Litre can be found in some "unpolluted" fresh water.
- 5mg/kg has been found in sediments.
- Pale Blue in Colour. Fumes are Odourless * Colourless * Tasteless.
- In research laboratories, for amounts greater than 0.01 mg (= 10 µg) - storage containers are to be sealed and clearly marked. Access to rooms where used should be restricted.
- Has high specific gravity (Heavy metal). Has 2 isotopes:- 203 and 205.
- Increased levels were found around H₂SO₄ (sulphuric acid) plant.
- Flue dust is a source of thallium as it is released in concentrations of the smallest particles that pass through filters.
- Even wool is not a satisfactory filter material.
- Vapours and dust similar texture to Lead and melts at 303°C, that is ½ the melting point of aluminium (Al). Melted thallium accumulates in top levels of soil, decreases at depth.
- The weather side of a hill opposite a smoke-stack is a Collector.
- Accumulates in the chlorophyll as it is taken up by Plants. Uptake by plants increases as soil pH decreases.
- Thallium in soil and vegetables from "acid rain" areas should be determined.
- Does leak from soil into local water. Easily soluble in Acid soil. Trees can be a long term reservoir of thallium.
- Plant uptake increases with increased use of sewage sludge and Potash Fertilizers.
- Waste material from mining mercuric oxide and coal containing 25-106 mg/kg resulted in chronic poisoning in China (1981?).
- Prussian blue used as treatment is suspect.

N.B. Cadmium: One of the most toxic of heavy metals in the "Freshwater environment."

Editor's note: perhaps cadmium will be Allan's next project. It is also found in ceiling dust. Thallium is no longer used in developed countries due to concerns about its toxicity – however it is still used in developing countries as a rodenticide (rat poison) due to its cheapness.

Survey of Hail Victims re: Ceiling Dust Insurance Claims

By Rosemary Ayoub, The LEAD Group Committee

The LEAD Group attempted to contact 92 hail area residents who had contacted The LEAD Group's telephone advisory service about ceiling dust. Unfortunately, many hail victims have had to relocate during repairs so contacting them proved difficult.

RESULTS

The results were:

a) unsuccessful calls:-

- No phone number specified and insufficient information to obtain the number from Directory Assistance - 15
- Wrong numbers / no answers - 11
- Number of callers who failed to return calls after answering machine messages - 14

b) callers actually surveyed (total of 52):-

- Number of callers who didn't require ceiling replacement - 9
- Number of callers requiring replacement of at least one ceiling - 43

c) breakdown of the 43 callers needing ceiling replacement:-

- Of the 43 callers who required ceiling replacement all but 3 had submitted or intended to submit quotes for ceiling dust extraction. **1 of the 3 people not intending to submit quotes had decided not to do so because he already knew that NRMA wouldn't pay.** 2 were tenants in a rental property.
- There were 13 callers who had not yet submitted quotes and all agreed to contact The LEAD Group as soon as they had a decision.
- 2 callers of the 27 who had submitted quotes for ceiling dust extraction hadn't been advised yet of the decision. 1 of these callers was insured with NRMA.

d) breakdown of the 25 callers who had been advised about their claims:-

- All but 7 of those 25 callers who had submitted quotes for ceiling dust extraction and had been advised about the claim had had them approved for payment by the insurer. Of those 18 that were accepted, 3 callers had submitted the quote within the builder's quotation.

Those insurance companies that had approved ceiling dust extraction were:

GIO, ROYAL AND SOUTHERN, ZURICH, MERCANTILE MUTUAL, WESTPAC, QBE, COMMONWEALTH BANK INSURANCE and ROYAL AUSTRALIAN ALLIANCE

- Of the 7 unaccepted quotes for ceiling dust extraction, 6 were from NRMA and one was from QBE. There were no surveyed callers who had claims approved for ceiling dust extraction from NRMA. The callers were given a number of explanations for this (none as yet in writing, one caller is still waiting and fighting): the following verbal responses from NRMA were passed on to the LEAD Group by four different residents (names withheld):-

"They don't believe it's a health hazard and even if it was they argue that it's a maintenance problem."

"They said their health and law codes don't require that they pay for it."

"They won't pay for ceiling dust extraction. They won't pay until the ceilings have come down - for clean up."

"NRMA are not doing anything - It's not a problem they say."

The rejected QBE caller asked verbally if they would pay for extraction and they said "no".

Another QBE caller had been accepted for ceiling dust extraction but not for clean up after repairs were carried out without her knowledge. Old building materials were dumped on her front yard. QBE will not pay for topsoiling (name withheld). ■

No Response to Complaint to ICA

The LEAD Group wrote (by email) on the 20th August 1999 to Chris Henri of the Insurance Council of Australia (ICA) to advise ICA of the insurance survey results (above) and to complain about the inconsistency of policies on ceiling dust removal among ICA's membership. The biggest complaint was about policies not being put in writing. To date, no response has been forthcoming (3 months later). On 25th November 1999, the complaint was faxed to ICA and a day later still no acknowledgment or response has been received. ■



Australian Dust Removalists Association (ADRA)

The Formation of ADRA

In August 1999 over 50 ceiling dust contractors from around Australia were invited by The LEAD Group to a meeting to discuss a proposal by the Lead Reference Centre, The LEAD Group and a number of ceiling dust contractors in Sydney, that ceiling dust contractors set up their own association. At the proposal meeting the name Australian Dust Removalists Association (ADRA) was chosen and the date was set for the inaugural meeting of 5th October 1999. Again, all ceiling dust contractors in The LEAD Group's database were invited to the inaugural meeting and at that meeting it was decided that a Development Committee be formed to get the association started and to clarify and begin to implement its role and goals.

The ADRA Development Committee consists of 5 members (with no two members from the same dust removal company):-

- Peter Kearns of the new Lead Dust Centre, a division of Young and Bracey
- Chris Lawrence of Insulvac
- Colin Rule of Lead Alert
- John Kessey of Australian Lead Free Services
- Elizabeth O'Brien of The LEAD Group

The ADRA Development Committee has set about investigating training possibilities for ceiling dust contractors and deciding on a structure or affiliation that will help achieve the following:-

◆ Certified training for ceiling dust contractors and requests to Standards Australia and WorkSafe (National Occupational Health and Safety Commission) to fast track the development of a Standard and Code of Practice on Building Cavity Dust Removal which between them includes:-

1. guidance on circumstances which trigger the removal of building cavity dust,
2. how to remove it,
3. equipment required,
4. waste recycling and / or disposal,
5. clearance guidelines or other methods of determining the safety of the property for inhabitants during and following the dust removal process, and
6. health monitoring requirements for ceiling dust contractors and other building, demolition and emergency workers who are regularly exposed to building cavity dust.

By Elizabeth O'Brien, ADRA Development Committee

At its inaugural meeting on 26th October 1999, the ADRA Development Committee drafted a Code of Practice for the association to address the majority of the six points listed above, and agreed on a financial support mechanism for the association during its development phase.

At the second meeting of the Development Committee on 9th November 1999, CTI Consultants presented a proposal for an ADRA-accredited training course to be developed before April 2000 for the limited market of around 50 dust contractors. Representatives of the Lead Reference Centre (LRC) (a part of the NSW EPA) and WorkCover NSW also joined the discussion and the draft Code of Practice was able to be distributed to all ceiling dust contractors with the minutes of the meeting. WorkCover has already provided comments on the draft and it will be attached to the WorkCover Guidelines on Dust Removal due out at the end of 1999. At the NSW Lead Service Planning Meeting (12th November, 1999) meeting attended by Elizabeth O'Brien the EPA's Graeme Head made it clear that ADRA would need to make it's own approaches to each relevant government body (eg Waste Section of NSW EPA, WorkCover Authority, TAFE, Standards Australia) as the Lead Reference Centre is closing and lead issues are being "mainstreamed" back into each relevant government department.

Graeme Head, now Assistant Director General of the EPA, (in charge of waste and contaminated sites policies) agreed to meet with one member of the ADRA Development Committee to discuss the ceiling dust issues raised by The LEAD Group in a letter to Environment Minister Bob Debus. A factsheet on waste disposal was drafted by Patricia Parkinson, Master of Environmental Law, at the Lead Advisory Service for discussion at the meeting. Graeme Head viewed favourably the desire and effort at simplifying the EPA's waste guidelines in a special publication for ceiling dust contractors. Education about ceiling dust for renovators was also suggested as a possibility by Graeme.

The second full ADRA meeting was held on 23rd November 1999 and representatives of ARCA Asbestos Removal Contractors Association (affiliated with the Master Builders Association) and BISCO were asked to write their affiliation offers for the Committee to review on 14th Dec 1999. TAFE advised that if training for ceiling dust removalists was made

mandatory in regulation (like asbestos training is) and if 2000 contractors looked like attending the course in the next few years, then they could offer cheaper training than CTI, some time down the track.. ■

The Current State of Chelation in Australia

By Prof Brian L. Gulson, Graduate School of the Environment, Macquarie University, Sydney NSW 2109, Australia

The following speech was given by Prof. Gulson at "Lead Poisoning: An International Conference on Prevention and Treatment", organised and hosted by The George Foundation, and held on 8th - 10th February, 1999 in Bangalore, India.

Introduction

- Chelation is not as widespread in Australia as in USA, especially not provocation/challenge testing. Challenge testing is rarely carried out in Australia by "mainstream" medical professionals.
- Australian College of Paediatricians has recommended guidelines which follow the old CDC guidelines of chelation for blood lead concentrations (PbB) >55 µg/dL (Authors: Alperstein and Vimpani)
- Standard protocols are not really in place and there is a wide variety of treatments.

TREATMENT GROUPS

There are four main groups of treatment subjects:

1. Occupational
2. Point Source/Accidental
3. Nutritional and Environmental Medicine
4. Petrol sniffing in Aboriginals

Occupational

- Patients are usually male adults
- PbB (Lead in blood) is the exposure measure
- Occupational Health and Safety guidelines are for removal from exposure at PbB>50 µg/dL [micrograms per decilitre]
- Smelter workers / miners
- Pb paint removalists from structures
- Firearm instructors
- Number of subjects chelated per year usually in the 10's (K. Wooller, pers. comm. 1999)

Point Source/Accidental

- Patients are mostly adults and young children
- Children from smelter communities (e.g. Port

Pirie, Mount Isa); chelation may be undertaken at a PbB >50 µg/dL

- Children from mining communities (e.g. Broken Hill, Mount Isa); chelation may be undertaken at a PbB >50 µg/dL
- Home renovators / pica in children. If asymptomatic, mainstream doctors may recommend removal from exposure (G. Duggin, pers. comm., 1999). Otherwise chelation may be undertaken if PbB >55 µg/dL
- Swallowing of objects such as lead sinkers; PbB may be >100 µg/dL, especially if the object is not passed
- One case of consumption of Kombucha tea, prepared in a ceramic vessel; PbB >100 µg/dL.

Nutritional and Environmental Medical Practitioners

- Patients are usually adults but in the past few years there have been an increasing number of children as young as 6 years undergoing chelation
- "Diagnosed" with metal toxicity (based on hair analysis) often followed up with an EDTA challenge test
- Practitioners suggest that several conditions may be treated with chelation including: ischemic heart disease, chronic fatigue syndrome, Parkinson's disease and Alzheimer's disease
- Symptoms of subjects undergoing chelation: neurological problems, unexplained fatigue, hypertension, learning difficulties, recurrent infections
- More than 10,000 treatments over 8 years in one clinic; compare with occupational treatments of 10's per annum.

Two "Camps"

1. Doctors who chelate at >50 µg/dL (or 60 or 70 µg/dL), or not at all if asymptomatic (but with children, if PbB >55 µg/dL, are usually chelated)
2. Nutritional & Environmental Medicine (NEM) doctors who chelate at any level (10+µg/dL). Often no PbB is taken because of concern over the relatively short half-life of lead in blood.

Chelating Agents

- CaEDTA (+/- BAL) still used in some cases (Infuse 1g 12 h, repeat 48 h, 5d; NEM doctors follow international protocol)
- DMSA (Succimer) most common now - if available!! (problems with supply from local agent)
- NEM clinics, EDTA Intravenous infusion (commonly 6 treatments), then oral DMSA

Concerns

1. EDTA

- depletion of essential metals (Zn, Cu, Fe)
- mobilisation Pb from bone to brain (?no longer valid - Lasman et al. 1997 SOT)
- inconvenience
- cost

2. Succimer

- none of the above

Petrol Sniffers

- Patients are mostly adolescents but can be up to 30 years old
- Major problem still amongst Aboriginal communities especially in outback areas in Central Australia
- Over the period 1991-94 there were 70 admissions to the Darwin Hospital and 7 deaths
- Leaded petrol is still widely used especially outside of major cities
- Numbers hospitalised are decreasing with introduction of unleaded petrol and AVGAS (high Pb but causes severe headaches and stomach cramps)
- Cases flown to Darwin in the period 1991-1992. Symptoms - some unconscious and severely ill with encephalopathy - ataxia, hyperreflexia, coarse tremor, frontal lobe signs (positive palmomental reflex); seizures common (e.g. 70% in one group)
- PbB ranged from 85-115 µg/dL (n=24)
- EDTA + BAL treatment in the past; Succimer has been successfully used recently
- Prechelation (day 0) mean 100 µg/dL
- Postchelation (day 20) mean 40 µg/dL
- Regained consciousness within 1 or 2 days of treatment (cf >1 week if unchelated)
- Observed faster neurological recovery but no

controlled trial has been undertaken to verify this effect

- Little or no success with EDTA + BAL treatment for petrol sniffers in Perth, Western Australia.

Special Thanks to:

- The George Foundation (Fairfield, New Jersey, USA and Bangalore, India)
- Drs. Bart Currie and Chris Burns - Royal Darwin Hospital.
- Elizabeth O'Brien - The LEAD Group (Sydney)
- Dr. Garth Alperstein and Prof. Geoffrey Duggin - Royal Prince Alfred Hospital (Sydney)
- Dr. Emmanuel Varipatis - Omnicare Clinic (Sydney)
- Prof. D. Thomas - Women and Childrens Hospital (Adelaide)
- Dr. Tristan Pawsey - Flinders Medical Centre (Adelaide)
- Dr. Kelvin Wooller - WorkCover Authority NSW (Sydney) ■

Check out all the Indian Lead Conference information at www.leadpoison.org including:-

“Why Measure Pb Deposition Rates Over Short Time Periods?” and “Identifying the Source of Lead Poisoning in Each Individual Case” (August 9, 1999) by Mike van Alphen. Like Professor Gulson, Mike is a member of The LEAD Group's Technical Advisory Board who spoke at the Indian Lead Conference.

The 440 page book of the conference proceedings is available by sending US\$20 to The George Foundation, 2 Penny Lane, Boonton Township, New Jersey, USA 07005.

Find out about The George Foundation at www.tgf.world.org

Quotable Quote - Prof. Brian Gulson: “The Indian Lead Conference was the best conference I've ever been to.” (15/2/99) ■

DMSA of Benefit in Childhood Lead Poisoning

A report by Anna Priest, [PO Box 448, Grafton, Australia, 2460. ph +61 (02) 6643 3924 Email: priest@nor.com.au] on an abstract by Graziano J. et al. "Oral 2,3-dimercaptosuccinic acid (DMSA) for the Management of Moderately Severe Childhood Lead Poisoning." In *The Toxicologist*, 10:271, Abstract 1081, Feb. 1990

A study at the College of Physicians and Surgeons, Columbia University, New York, reported on the benefits of using DMSA over EDTA in children with lead poisoning. Twenty three children with blood lead concentrations of 50-69 ug/dl (micrograms per decilitre) took part in a study to determine the safety and efficacy of oral DMSA in comparison to intravenous EDTA. Evaluated as having moderately severe lead toxicity, the children were admitted to hospital for the first five days of treatment. Graziano and colleagues reported that during this time their average blood lead concentrations declined by 61% in

response to DMSA, and by 46% with EDTA. Upon discharge, the children in the DMSA group received varying doses of DMSA capsules over a period of two weeks. The authors reported that the DMSA treatment was extremely well tolerated by all the children, even in some who were compromised in other ways. As a result of their findings, Graziano and colleagues concluded, "Thus, DMSA should ultimately simplify the clinical management of childhood lead poisoning." *Author's Note: Dr Noel Campbell in Melbourne has had some experience using DMSA to lower heavy metal levels in children. Anna Priest* ■

Case Study — Lead Homeopathics

By Anna Priest, Secretary ASOMAT (Australian Society for Oral Medicine and Toxicology)
PO Box 448, Grafton, Australia, 2460. ph: +61 (02) 6643 3924 Email: priest@nor.com.au

My Experiences with Lead Homeopathics

I was advised to take the following homeopathic treatment after assessment by the VEGA system a bio-feedback electro-magnetic frequency analyser – to say whether for instance, lead is affecting the pancreas, or the liver etc. You need to warn people when taking homeopathic treatment to not drink coffee, use toothpaste or expose themselves to strong fumes. There's very little lead in it – it's diluted down so that only the vibration is there.

10g enthalten contains:

Plumbum chloralum Dil. D6/D12* je 555 mg. - Pb chlorate
Acidum sulfuricum Dil. D6/D12 je 555 mg. - Sulphuric acid

Benzinum crudum Dil. D6/D12 je 555 mg. - Benzopyrene
Benzopyren Dil. D10/D30 je 555 mg. - Benzopyrene
Benzollum Dil. D6/D12 je 555 mg. - Benzolate (tar)
Petroleum relictum Dil. D10/D30 je 555 mg. - Kerosene
Plumbum metallicum Dil. D10/D30 je 555 mg. - Metallic Pb
Plumbum phosphoricum Dil. D8/D12 je 555 mg-Pb phosphate
Vanaduni metallicum Dil. D8/D12 je 555 mg - Metallic Vanadium

Dose: 5 drops every 2 days on skin of inner arms. (Can be taken orally if not too sensitive to Pb.)

The three week course of homeopathics for lead - which was no picnic - certainly moved something out. This was a potent brew, made in Germany (where homeopathy is widely practiced) and designed to

address the type of lead pollution originating from transport and industry. This mixture contained lead chlorate, lead phosphate, metallic lead, crude benzene, benzopyrene, benzoate (tar), sulphuric acid, kerosene, and metallic vanadium. Throughout this course I experienced headaches, and sudden "hot spots", generally on the head and temple area, and severe sharp pains in the feet, as well as tingling in the feet. As around 90 percent of lead is stored in the bones, and I'd had pain in my legs and feet for many years, I wondered if this lead homeopathic was targeting the lead stored there.

The Homeopathic Principle

Homeopathic medicine is a combination of extremely detailed diagnosis and pharmaceuticals which utilises minute amounts of various materials to stimulate the body's natural defences.

Homeopathy takes into account the individual's physical and mental reactions to his or her internal and external environment. It recognises that each person is unique in personality and psycho-physical construction which is determined by the interplay of hereditary tendencies and factors of disease. Rather than suppressing symptoms, homeopathy works by building up the body and its immune defences.

By the law of similars, using the concept of "like cures like", homeopathic dilutions may be drawn from plant, mineral, chemical, metal, animal, bacterial and viral substances. Despite their highly diluted nature, when appropriately used, homeopathic remedies can exert a very powerful effect on the body, which is why they are widely used and have stood the test of time. Many homeopathics are diluted so that they no longer

* D6/D12 means use somewhere between a D6 and a D12 tincture. The "mother tincture" is created, and from that a D1 tincture contains 1 drop of the mother tincture and 9 drops of water. A D2 Tincture contains 1 drop of D1 and nine drops of water, and so on. At each step, the mixture is succussed (shaken) ten times.

contain any molecule of the original substance. Although very little of the original material may remain in the remedy (merely what is known as the "vibration" of the original substance), they can still have a strong influence on the body and mind. As part of the healing response to the remedy, initially homeopathics may cause a reaction to occur, which is generally a short-lived exacerbation of symptoms (known as "proving" the remedy).

Homeopathy can aid in detoxification. In skilled hands, homeopathic remedies can greatly assist the body to deal with the effects of toxic metals in various

ways. For example, German studies have shown through clinical studies that homeopathic medications are capable of restoring damaged enzyme systems by their ability to open up enzyme pathways in the body. Homeopathics can be used to strengthen and support the function of individual organs or systems such as the digestive, circulatory, immune, or lymphatic system. For example, a lymphatic complex can aid the lymphatic removal of heavy metals from tissues and reduce adverse reactions from liberated metals. A remedy for the liver, kidneys or other organs can be tailored for the individual patient. ■

Screening for Elevated Blood Lead Levels

The following is the abstract and an extract (reprinted with permission) from Pediatrics, Vol101 No6 Jun 1998 p1072.

AMERICAN ACADEMY OF PEDIATRICS

Committee on Environmental Health

ABSTRACT. Although recent data continue to demonstrate a decline in the prevalence of elevated blood lead levels (BLLs) in children, lead remains a common, preventable, environmental health threat. Because recent epidemiologic data have shown that lead exposure is still common in certain communities in the United States, the Centers for Disease Control and Prevention recently issued new guidelines endorsing universal screening in areas with $\geq 27\%$ of housing built before 1950 and in populations in which the percentage of 1- and 2-year-olds with elevated BLLs is $\geq 12\%$. For children living in other areas, the Centers for Disease Control and Prevention (CDC) recommends targeted screening based on risk-assessment during specified pediatric visits. In this statement, The American Academy of Pediatrics supports these new guidelines and provides an update on screening for elevated blood lead levels (BLLs). The American Academy of Pediatrics (AAP) recommends that pediatricians continue to provide anticipatory guidance to parents in an effort to prevent lead exposure (primary prevention). Additionally, pediatricians should increase their efforts to screen children at risk for lead exposure to find those with elevated BLLs (secondary prevention).

RECOMMENDATIONS TO GOVERNMENT

1. Testing and treating children for lead exposure must be coupled with public health programs to ensure environmental investigation, transitional lead-safe housing assistance, and follow-up for individual cases. Lead screening programs in high-risk areas should be integrated with other housing and public health activities.
2. The AAP supports efforts of environmental and housing agencies to eliminate lead hazards from housing and other areas where children may be exposed. These include financial incentives that can be used to promote environmental abatement. Training and certification of abatement workers are needed to

avoid additional lead exposure during deleading activities. Local health authorities should provide oversight of abatement activities to ensure that additional environmental contamination does not occur. Also, less expensive, safe technologies for abatement are needed to make primary prevention efforts more cost-effective.

3. The AAP supports legislation to reduce the entry of lead into the environment and into consumer products with which children may come in contact.

4. Government, like the medical community, should focus its efforts on the children who are most at risk. To do this, more data about the prevalence of elevated BLLs in specific communities are needed. A better understanding of the distribution of lead in the environment would allow more efficient screening efforts.

5. Research is needed to determine the effectiveness of various strategies to prevent and treat lead poisoning, to compare methods for abating lead in households, and to determine the effectiveness of chelating agents with long-term follow-up through controlled trials. Studies to determine the effectiveness and cost of educational interventions also are needed.

6. The CDC should review studies of the efficacy of lead screening and monitor the scientific literature to ensure that screening is being performed in the most public health-protective, least intrusive, and most cost-effective manner possible. In particular, the risk-assessment questions, follow-up recommendations, and models of case management need periodic reevaluation.

7. Federal and state government agencies and legislative bodies should require coverage of lead testing for at-risk children by all third-party payors, by statute or by regulation.

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate. ■

NY Gun Range Contends With Perils of Lead

By Joseph Berger, 2nd August 1993. Copyright © 1993 by the New York Times Co. Reprinted by permission

Removal May Cost Over \$2Mill

CORTLANDT, NY --- The hills around here are the backwoods of Westchester County, a place where the trim suburban streets seem to thin out and a terrain emerges that is closer to the rawness of the Adirondacks.

It is here that the county government 31 years ago chose to locate a public firing range that defies the genteel golf and tennis image the nation has of Westchester. Over the years, hunters and shooting enthusiasts have pierced countless bull's-eyes and shattered innumerable clay pigeons, and their spent ammunition has dropped a mother lode of lead in the moist black soil of the range.

That lead --- 500 tons by some estimates --- has now been called a danger to the health of children and wildlife by Federal and state authorities, and it has become the center of a local dispute that is echoed in many of the 8,000 recreational ranges elsewhere in the nation. Not so far from Cortlandt, the Rodman's Neck range in the Bronx and the former Remington Arms range in Stratford, Connecticut, have also come under official or judicial scrutiny because of the lead that shooting enthusiasts leave behind.

Here, in this town near Peekskill, the debate has pitted parents with no particular affection for the sport, including many of the newer commuting families, against the older rural families who have a tradition of hunting and shooting. And it has pitted environmentalists, who look out for the Hudson River's nurturing wetlands, against the government officials in the county seat 15 miles to the south in White Plains.

Tradition of Shooting

The environmentalists contend that the lead is seeping into the groundwater, ponds and marshes that feed the animal life of the Blue Mountain Reservation, a 1,500-acre range, known officially as the Sportman Center.

More ominously, they say, substantial quantities of lead have been found in the sediment of a stream a half-mile from the range and next to an elementary school. Schoolchildren sometimes play in the stream, hunting for tadpoles.

"I find it appalling that the enjoyment of sportsmen outweighs the health of young children," Joan Ann Mazza, the president of the Furnace Woods School parents association, said in a letter to Andrew P. O'Rourke, the County Executive.

Damage From Lead

A suit brought by Sean Bevenin, a onetime shooting enthusiast who is in a custody fight with his wife, Lisa, the range's cashier, contends that his two daughters now have double the normal levels of lead in their bloodstreams because they lived for a time in an apartment used by range employees. Lead causes brain and other neurological damage and can diminish IQ's.

The county officials maintain the children acquired the lead from toy animals. And while the county has not conducted testing, no student at the school has been found to have elevated levels of lead by a personal paediatrician.

The county's parks and health commissioner also argue that the perils have been exaggerated, and that none of the lead poses an imminent danger to either wildlife or human beings.

Still, the county was ordered in December by the Federal Environmental Protection Agency to come up with a plan to remove the lead, and it hired a consultant to recommend ways to do so without further disturbing the area's ecology.

Last week the consultant confirmed there were high levels of lead on the site. The consultant said removing lead would probably cost taxpayers more than \$2 million.

"There is a potential problem and the county recognizes that and is moving forward to remove the lead," said Dr. Mark S. Rapoport, the county's Health Commissioner. "The question is whether there is an imminent danger."

Concerns About Cost

In an area with deep fondness for guns and hunting, no one is calling for the range to be shut down.

But one unspoken concern is that the eventual cost of removing lead on a systematic basis will make the price of sustaining the range prohibitive. Operating the range now costs the county \$125,000 a year.

"If we close the center, people will be hunting in the reservation," warned Clare Palermo Flower, Mr. O'Rourke's spokeswoman.

The dispute has been given added luster by the presence of Robert F. Kennedy Jr., the nephew of the late President and a professor at Pace University in White Plains who specializes in environmental law.

He represents Courtlandt Watch, an association of homeowners, and the Hudson Riverkeeper's Fund, an environmental group, in a suit against the county filed last July in Federal District Court that contends the lead violates the Clean Water Act and other Federal Statutes.

"You don't leave this stuff on the ground for 50 years," Mr. Kennedy said "We now know that even infinitesimal levels of lead exposure cause permanent retardation in children."

The dispute also threatens to become a local campaign issue since Mr. O'Rourke, the county executive, is expected to run for re-election and one challenger is likely to be Assemblyman Richard L Brodsky, the new head of the Assembly environmental committee.

"The county has been dragging its feet for years," Mr. Brodsky said of the lead on the range. "They know this may set a national precedent for handling this kind of place."

The range, hidden in dense woods, opened in 1962 and draws more than 200 shooters on a weekend day. It is actually several ranges --- for large-bore rifles, small-bore rifles, pistols, and trap and skeet.

The ground of the trap and skeet range, where the Frisbee-like orange clay pigeons are catapulted into the air as a speeding target for shotgun shooters, is covered with lead pellets that look like caviar. Over time, the lead crumbles in contact with the soil.

An investigation by the state's Department of Environmental Conservation last spring concluded that the level of lead in some of the soil was extremely high and 'poses a threat to humans or wildlife.'

The agency also directed the county to warn parents and schoolchildren of the presence of lead near the school, which the county did by letter on January 25.

Mr Rapoport says that since the lead is confined to the muddy bed of the stream, the danger to schoolchildren is, for the moment, remote. "If a child were to crawl into the stream and take a handful of sediment and put it into his mouth, that would be a problem," he said.

But parents say that scenario may not be so far-fetched.

"How many kids do you know of that play in the water before lunch and then wash their hands before they eat?" said Mrs. Mazza, the mother of three. ■

"The Green [Leadex Australia] Machine"

Leadex Australia is high in contention for the tender for collecting (for recycling) lead shot from the Olympics clay target site at Cecil Park in Sydney.

Readers of LEAD Action News may recall the article from LEAD EX Australia Pty Ltd that appeared in LEAD Action News vol 7 no 1 p 15. The article mentioned a video that is available from: Errol McClelland, Leadex Australia, PO Box 999, Strathfieldsaye, Victoria, 3551 ph (03) 5439 5896, fax (03) 5439 3901. Briefly, the video mentions the popularity of clay target shooting and it's "unfortunate bi-product - the tonnes of lead shot left behind to leach into the ground and waterways causing untold environmental damage."

The "Green Machine", by Leadex, extracts approximately 95 percent of lead shot from the ground. It is collected in 44 gallon drums weighing 1.25 tonnes each, and recycled "for such purposes as bullets, batteries, boat keels, ballast and even straight back to new shot gun cartridges."

We'll really be able to cheer when every one of the 500 clay target shooting clubs in Australia has a contract for annual clean-up of their lead shot and lead shot is no longer just shot into waterways or out to sea (as is the practice at some clubs).

When will state and federal governments step in to ensure this happens? ■

WA Lead Mine Tailings Poisoning Scare

Patricia Parkinson, The LEAD Group Inc

A lead contamination scare shook the town of Northampton (WA) in November 1999, after a dog died of lead poisoning. Blood lead testing of the family, including two children, revealed elevated blood lead levels. The family had to be evacuated from their house pending remediation. Eleven other properties are to be inspected by the WA Department of Environmental Protection following the incident.

Lead mine tailings, a legacy of the lead mining history of the town, incorporated in fill and used on the property is believed to be the source of the contamination. A

public meeting will be held on 13th December 1999. The Health Department is developing a fact sheet to be distributed to residents.

An environmental consultant, Mark Douglas, of Douglas Land and Water Conservation Services, has again called for contaminated sites legislation to be put in place in Western Australia and for an environmental levy to support it. He says the legislation has been put in the too hard basket by government and this one family probably represents the tip of the iceberg in terms of tailings dumpings causing human exposure to lead. ■

Lead Aware Travel News

Western Bulldogs Go Green

In June 1999, for the first time, the Western Bulldogs asked their fans to catch the tram and train to the team's home match at Optus Oval against Fremantle on June 19, instead of driving cars.

The Bulldogs are one of the first companies in Australia recruited by the national Smogbusters program, to help reduce urban air pollution.

The alliance between a major AFL club and a national environment program has never been seen before in Melbourne.

Around 70% of Melbourne's air pollution comes from cars and trucks, making them the major cause of smog.

"Small changes in people's behaviour make a difference to our air quality. By catching public transport to the game, Bulldogs fans will do their bit to keep the air clean," said Bulldogs chairman, Mark Patterson.

Fans who went to the match on June 19 by tram and train received a gift pack and went in the draw for a major prize. Prizes included a training session with the Bulldogs, a new mountain bike, and Fila sports wear.

The promotion of the Smogbusters Way to the Game was carried out by displays on the big screen at Optus Oval and leaflet hand-outs prior to the game, and through announcements on trams.

For further information:

Karl Charikar, (Smogbusters, Melbourne) 03 9348 9044 or 015 833 985

SMOGBUSTER'S

Smogbusters is a joint program between the Conservation Councils in Brisbane, Sydney, Melbourne, Adelaide and Perth, and the Federal Government through the Natural Heritage Trust. ■

Work Best from Home

by Dr David Watson MLA Leader of the Queensland Liberal Party

Source: Courier Mail, Date Issue: 22/04/99, Page 15

MANY people in Brisbane are working up to 10 hours longer each week and taking up to 90 minutes longer to get to work compared with just two years ago.

That means less time for themselves, their families and their communities. That is why I proposed at the Liberal Party forum last weekend that, where practicable, public servants and private sector employees be encouraged to telecommute (work from home) one day each week.

Labor has vowed to get people out of their cars but has not come up with any way of doing this. I believe getting people out of their offices, on a one-day-a-week rotational basis, is a practical way to ease the strains on our roads and the stresses on our families. It can also raise productivity and lower pollution.

All major Brisbane arteries are choking. Brisbane City Council figures show average speeds at 8am have plummeted since 1995: Oxley Road has slowed from 37.3km/h to 19.4km/h, Waterworks Road from 31.5 to 21.4 and Kingsford Smith Drive from 37.3 to 28.8.

If we could encourage one in five Brisbane CBD workers to telecommute each day of the week, traffic flow could be cut by 20 percent.

Payroll tax breaks are one way to encourage the private sector to embrace telecommuting. There is a proposal before the New Jersey state legislature, in the US, which grants a tax credit for employers who allow their employees to telecommute.

But telecommuting's benefits extend far beyond traffic matters. A worker who is trusted to do the job without the boss watching often rewards the employer with better performance.

In the US, where 11 million people are telecommuting at least one day a month, some studies put productivity increases as high as 40 percent.

Of course, not everyone and not every job is suited to telecommuting. Some people are not self-starters or they don't have the right home environment. Telecommuting is certainly not a substitute for child-care.

Because people still need the social interaction of a workplace and the opportunity to keep their face in front of the boss, I believe telecommuting for one or two days a week is the best option in city areas.

The extra time freed up by telecommuting is its greatest strength. A recent Morgan and Banks survey found that, compared with two years ago, 74 percent of Queenslanders are working an extra five to 10 hours a week. A Federal Government study found fathers work an average of 47 hours a week.

Any policy that can lower stress, raise productivity, lower pollution and leave people with more time for their families and their communities deserves bipartisan support.

The telecommuting technology is already available and there is ample worldwide experience and data for the Queensland Government to implement workable guidelines. ■

Suggestion from Dr Chloë Mason: check out the US EPA [Smart Travel Resource Center](#) on the web. It lists programs by targeted

Residential Tribunal Lead Paint Case

Extracts from a NSW Residential Tribunal Hearing: 25/5/1999 by Tom Kelly, Member, 3 June 1999. The full text of the decision will soon be available from www.austlii.edu.au

Fitness for Habitation

Reasons for Decision

The tenant applied to terminate the lease pursuant to section 70 of the Residential Tenancies Act for landlord's breach of the lease. The breach alleged by failure to provide premises fit for habitation and/or failure to maintain the premises pursuant to section 25 of the Act. The tenant also sought compensation.

The landlord applied to terminate the lease pursuant to section 61 of the Act on the basis the premises were wholly or partly uninhabitable.

Mr Turner, a tenant's advocate appeared for the tenant and Mr Pretti, a Real Estate Agent appeared for landlord.

Essentially the facts were mostly not in dispute and I find:

1. Residential tenancy commenced on 21 November 1998. Each party had its differing views on the state of the outside paint. From the photos I find it was peeling and did not look good but did not appear as bad as tenant would have me believe. There is no evidence that the rent was not realistic for the condition of the house.
2. The premises had previously been painted in 1992 by a professional painter who used paint with an excessive lead content.
3. At some time the peeling paint flaked off the outside walls. This did not come to tenant's notice until March 1999 when her young child was seen to eat a flake in the garden. The tenant then told a friend who told her this could be medically dangerous and consequently the tenant referred this issue to the local council which got an analysis from the Department of Health which said the lead content was 2.48% and the recommended maximum level was 1%.
4. Consequently the council gave 30 days notice to landlord on 16 April to rectify which caused the landlord to serve a termination notice on tenant on 13 April. This is the first time either party became aware of the seriousness of the problem.
5. In view of the Department of Health's report; the councils notice; and the orders sought by both landlord and tenant I find premises were not fit for

habitation and were rendered uninhabitable and as the amount of lead in paint does not change, this has been the situation since 1992 and was the situation on 21st November 1998; and further that the outside of the house is unlikely to have been in a better condition on 21st November 1998 than it was in March 1999.

I find landlord has not breached section 25(1)(6) in failing to maintain the premises as tenant had not requested an action and, as soon as the landlord found out about the seriousness of the problem they sought to terminate the lease.

I further find that, pursuant to section 25(1)(a) the landlord did not provide the premises that were fit for habitation. This was the situation when the tenancy commenced on 21st November 1998 as the lead of the paint would have been no different than at the time of the analysis and the extent of flaking from the walls would not have been likely to be different to that in March 1999.

Furthermore the fitness for habitation should be considered in the content of the provisions of the lease which stated:

"no more than 1 adult and 3 children may ordinarily live in the premises"

Flaking paint is much more serious with young children playing in the yard.

It was contended on behalf of the landlord that to breach section 25(1)(a) the landlord had to intend to do so. It was further contended that the landlord had to know the premises were not habitable. This is rejected. Habitability is a physical not mental state and should be judged objectively not subjectively.

Section 61 can not apply if the landlord has breached the lease and the breach of section 25 excludes the provisions of section 61.

As the parties agreed to a termination I have done this as a consensual variation of the lease.

On the question of damages the tenant brought evidence of:

1. Removal costs of \$450
2. Reconnection of services of \$85

These were not disputed by the landlord. ■

STOP PRESS: NSW Forests to Burn!

There's been an alarming decision to use wood from NSW State Forests in power stations to replace 5% of the coal used! (See Sydney Morning Herald 25/11/99 p1) Which is worse – coalsmoke or woodsmoke? ■

Lead Advisory Service Staff Award & Activities



THE ROTARY CLUB OF HABERFIELD

1999 Pride of Workmanship Award

was presented to:

David **RATCLIFFE**

His employer, The LEAD Group, stated in their nomination

David began working with The LEAD Group as a volunteer six years ago. In those early days he worked out of a converted bedroom in cramped conditions and for no pay. He is now the Office Manager of the service which has five paid staff and numerous volunteers.

His dedication to the cause of preventing childhood lead poisoning is still as strong as ever. His fellow workers commented on his amazing memory for library items on various

topics and his quiet, unflappable manner in an office, which is often in crisis management due to the nature of the work.

He epitomises commitment and loyalty

President

30th April, 1999.

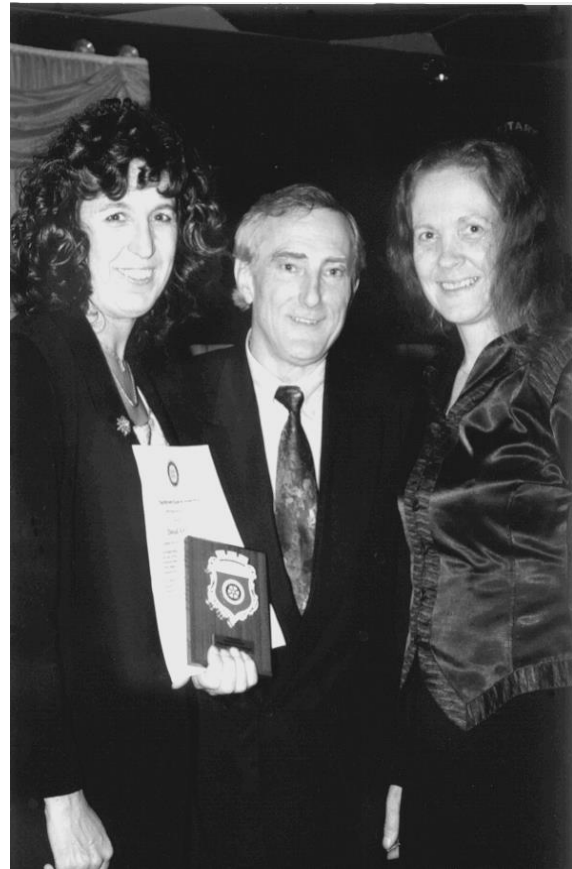


Photo at right (from left to right) Michelle Calvert, David Ratcliffe, Elizabeth O'Brien at David's Award Ceremony. Unfortunately, Michelle's position as the Community Outreach & Education Officer was not funded for financial year 1999/2000. The staff miss Michelle's wonderfully positive input to our service and the way she made us so "out there"!



NSW EPA's funding for 2 info stalls and 18 talks for this financial year by Helen Escreza of the Lead Advisory Service enabled Helen to be at the Our House Expo in Sydney, Aug 1999 (above). Ensuring the presence of the Lead Advisory Service in the places where people at risk of lead poisoning are looking for information provides the community with minimal service. Events such as baby shows or home shows are / should be an essential part of any lead education strategy.

