

Medical Officer of Health Environmental Health ADVICE

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New Standards for Measuring Environmental Sound and Assessing Environmental Noise

Two new Acoustics standards were introduced last year: NZS6801:1999 Acoustics - Measurement of Environmental Sound; and NZS6802:1999 Acoustics - Assessment of Environmental Noise. These standards have implications for local authorities and others concerned with the public health risks associated with environmental (community) noise.



The New Standards

NZS6802: 1991 Assessment of Environmental Sound has been replaced by NZS6802: 1999 Acoustics - Assessment of Environmental Noise.

The main changes are:

- ▶ Local authorities are strongly advised to set noise limits based on consideration of actual sound surveys of areas as well as consideration of actual and desired amenity values for all land uses in an area.
- ▶ L_{eq} noise limits should be used in District Plan Rules and Resource Consent Conditions (rather than L_{10} and "background plus").
- ▶ Where sleep protection is required an L_{max} noise limit should be used in addition to the L_{eq} limit.
- ▶ L_R Rating levels are used to compare measured L_{eq} values with L_{eq} numerical limits. (This allows adjustment for contamination of background levels by the noise of interest, and special audible characteristics such as tonal, impulsive or other annoying sounds)

For NZS6801:1999 Acoustics - Measurement of Environmental Sound, the background sound level is defined as L_{90} , rather than L_{95} (as in NZS6801:1991 Measurement of Sound). The effects of meteorological conditions on sound propagation have been expanded.

Setting Noise Limits to Protect Public Health

It is likely the older 1991 standards will continue to be used by local authorities until District Plan Rules are changed. Where the new standards are adopted local authorities should consider the following:

- ▶ actual sound surveys of the area concerned (NZS6802:1999);
- ▶ actual and desired amenity values for all land uses in an area (NZS6802:1999); and
- ▶ social surveys to assess public health risk associated with environmental noise in a community.

Introduction

Environmental noise can have a significant impact on health as well as having nuisance value. New acoustic standards were introduced last year and a summary of the changes is presented here.

Exposure to lead is a serious health hazard particularly for small children. The Public Health Protection Service is notified of, and investigates, lead poisonings in the Auckland region. This edition discusses potential sources of exposure to lead including lead-based paints.

The illegal storage of polychlorinated biphenyls (PCBs) poses a risk to public health. In this issue we outline the options for identification and the safe disposal of PCBs.

Although social surveys are novel in New Zealand, they are established practice overseas. They are particularly valuable when acoustic surveys are done at the same time (socio-acoustic surveys). The Ministry of Health has produced a mail-drop survey form for use by local authorities and others seeking to establish the public health risks associated with noise in a particular community. For more information contact Megan Owen, Public Health Protection, Auckland District Health Board, phone (09) 262 1855.

Where evidence about the needs of a particular community is lacking, then the lowest noise limit of the following should be used:

- ▶ historical noise limits for the community/area; or
- ▶ relevant New Zealand standards; or
- ▶ World Health Organisation recommendations

PCBs

In 2000, Auckland District Health Board's Public Health Protection Service investigated 3 incidents involving illegal storage of polychlorinated biphenyls (PCBs).

Since January 1994 it has been illegal to store any equipment that contains PCBs. The use and storage of PCBs is prohibited unless exempted in writing by the Director General of Health. All ownership and changes of ownership of PCBs must be notified to the Medical Officer of Health.

PCBs were used as an insulating fluid inside transformers and capacitors installed in electrical equipment, particularly fluorescent light fittings. The Ministry of Health publication Phasing Out Small PCB Holdings lists the results of tests of electrical equipment for PCBs. Not all electrical equipment has been tested. If you possess electrical equipment installed before 1980 which is not listed, you can either have it tested for PCBs (Agriculture phone 04 570 8800) or assume that it contains PCBs and act accordingly. Do not attempt to open sealed units.

PCBs are hazardous to public health and the environment at low concentrations. There is the possibility that PCBs may cause cancer as well as having other longterm health effects. The most likely sources of human exposure to PCBs are handling contaminated equipment and low level contamination of the food chain.

PCBs cannot be landfilled and are exported for high temperature incineration. The ARC operates drop-off points

for small quantities of domestic PCBs phone 0800 806 040. A suitable disposal agent must handle larger quantities or PCBs of commercial origin. In the Auckland region, please contact Tredi N.Z. Ltd phone 525 1550.

▶ For further advice regarding PCBs please contact the Duty Environmental Health Protection Officer, phone (09) 262 1855.

Lead Hazards & the Safe Management of Lead-Based Paint



Auckland District Health Board's Public Health Protection Service is committed to reducing unintentional injury arising from exposure to environmental hazards such as lead. Lead and its compounds are highly toxic, causing health effects, which vary widely in their type and severity.

The health effects of mildly elevated blood lead levels can include reduced IQ, impaired behaviour development and learning deficits, as well as more physical manifestations of severe poisoning. Lead is a significant health hazard and lead poisoning is a notifiable disease under the Health Act 1956 and Health & Safety in Employment Act 1992.

Lead-based paint

Lead-based petrol has been phased out and effective controls of lead in foods have been put in place. Exposure to lead-based paint and associated lead contaminated dust or fumes is the most commonly reported source of exposure in the Auckland region.

The Public Health Protection service investigated 5 cases of lead poisoning related to lead-based paint over the last 12 months. A baby was exposed to lead dust during renovation of a house and 4 adults had elevated blood lead levels following paint stripping activities. There is significant under-diagnosis and under-reporting of lead poisoning in New Zealand based on known levels of laboratory testing. This has been highlighted by several studies of lead poisoning in children both in New Zealand and overseas.

Lead-based paint is almost certain to be present in pre-1945 paintwork and is likely to be present on pre-1980 paintwork; most post 1980 paintwork will have a low lead content if any. Building occupants and others are not normally exposed to the hazards associated with lead in paint. However, risk of exposure increases as lead-based paint films deteriorate, become damaged or are removed unsafely during redecorating or renovation.

Pre-school children are particularly susceptible to poisoning

from lead-based paint because of their learning behaviour patterns i.e. hand to mouth activities and their relative size. Lead based paint has a sweet taste and children may develop a taste for eating flaking paint.

Safe Management of Lead-Based Paint Hazards

Auckland District Health Board's Public Health Protection service provides:

- ▶ a free paint analysis service to householders identifying whether lead is present in submitted paint samples; and
- ▶ a free advisory service on the safe management of lead-based paint hazards.

These services are limited to non-profit organisations or individuals i.e. not contractors or businesses.

For further information and free advice to householders

- ▶ Contact Auckland District Health Board's Public Health Protection service and ask to speak to the Environmental Health Protection Officer (09) 262 1855.
- ▶ Enquiries about occupational situations or commercial premises should be made to Occupational Safety & Health, at the Department of Labour.

Other sources of lead exposure

Children may be exposed to other sources of lead apart from lead based paint in their homes. Activities that may potentially expose children to lead include:

- ▶ Lead lighting
- ▶ Manufacture of lead fishing weights
- ▶ Cleaning and loading of fire arms
- ▶ Soldering
- ▶ Car radiator repairs

Children's exposure to these activities should be avoided.

Name change

Legislation creating 21 new District Health Boards came into existence on January 1, 2001. The Public Health Protection Service is now part of the newly established Auckland District Health Board. The name change does not alter the services provided by Public Health Protection. However there has been internal restructuring over the past year and Public Health Protection now operates as two programmes, Healthy Environments (managed by Virginia Hope) and Disease Management (managed by Kathy Pritchard). Our contact details remain the same.



Website

The Public Health Protection Service has a new website: <http://www.akphp.co.nz>. This provides information on the services offered by the Auckland Public Health Protection Service. The advice publications produced quarterly by the Public Health Protection Service including Nutrition, Food Safety, Imported Products, Public Health and Environmental Health can be downloaded from this site.



Mangere Wastewater Treatment Plant Pond Breach

For a period of six weeks beginning April 23rd, harbour users are advised not to use the area of the Manukau Harbour near the Mangere wastewater treatment plant.

Watercare will be undertaking heavy construction during this time as part of work to reduce the level of effluent in 200 hectares of the southern oxidation ponds and remove the wall between the ponds and the sea. In late May the area will be returned to natural tidal flow.

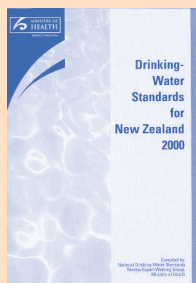
During this time Watercare will have signs at boat ramps and nearby beaches advising the public not to swim or collect shellfish in the harbour between Ihumatao and Blockhouse Bay and requesting that boaties stay clear of the construction area to the south of Puketutu Island. Local boating clubs, businesses and residents will be informed about the process. Construction to rehabilitate the new foreshore will continue over the next 2 - 3 years.

The discharge into the Manukau Harbour will consist of treated effluent and a small residual volume of sludge from the base of the 40 year-old oxidation ponds. Watercare has Resource Consent approval from the ARC, and while the levels of pathogens going into the harbour will be extremely low, prolonged, direct contact should be avoided. The company will undertake extensive monitoring of water quality throughout the works.

The removal of all four ponds will happen in two stages, with the last two ponds removed next winter. The works are part of a \$451 million project to develop a land-based wastewater treatment plant that discharges a high quality of treated effluent into the harbour. Over time, the area currently used for oxidation ponds will become suitable for recreational activities, such as swimming, boating and shellfish gathering, although a permanent precautionary zone will be introduced around the new effluent discharge pumping station on the Northern shores of Puketutu.

Current Notes

Drinking Water Standards for New Zealand 2000



The Ministry of Health has released a new standard for drinking water. It outlines what analyses need to be undertaken and the number of samples. It builds on the 1995 standard, with more detail and a higher level of compliance in some areas. This standard is effective from the first of January 2001 though some parts relating to treatment plants are not effective until 2005. It is relevant to all organisations supplying water to others or catering for 25 or more people for more than 60 days per year.

Copies can be obtained from the Ministry of Health phone (04) 496 2000, email: EmailMOH@moh.govt.nz.

Megan Owens



Megan Owen is a Health Protection Officer (HPO) who joined the Environmental Health team in 1997. Her specialist area is environmental noise and she also has responsibilities in the fields of hazardous substances (including radiation), early childcare centres, air quality and biosecurity. Her public health qualifications include a Postgraduate Diploma in Environmental Health Science from Wellington Polytechnic and a Diploma in Public Health from the University of Auckland. Megan also has a BSc in physics. She has recently returned from a six-month "O.E." in Europe where she attended the Internoise 2000 Conference in Nice.