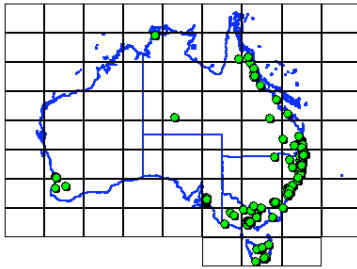


NATIONAL TOXICS NETWORK



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5th July 2007

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Public Consultation Draft: Fluoridation of Public Water Supplies Regulation 2007 and Regulatory Impact Statement

NTN is a community based network working for pollution reduction, protection of environmental health and environmental justice for all. NTN, as a national and regional network, supports community and environmental organisations across Australia, New Zealand and the South Pacific. NTN provides non-government organisations (NGOs) with a national and international voice on chemical and toxics issues.

The National Toxics Network Inc. (NTN) welcomes the opportunity to comment on the review of the NSW *Fluoridation of Public Water Supplies Regulation 2007* and the *Regulatory Impact Statement (RIS)*.

The *Fluoridation of Public Water Supplies Act 1957* is 50 years old and in need of urgent review as is the Fluoridation Code (2002). Since the time of making the Act, contemporary discretionary sources of fluoride have become widely available which has changed the priorities and risks associated with the NSW public water fluoridation programme.

NTN advocates that fluoride intake should be a community choice and urges government to adopt a user pays approach because of the inequity associated with the costs to the whole community of water fluoridation; the incomplete nature of the science in relation to the benefits and dis-benefits; and, the widespread availability of discretionary sources of fluoride.

In summary, we have concluded that the *Regulatory Impact Statement* presents a one-sided and incomplete assessment of the regulation of water fluoridation in NSW for the following reasons:

- ❖ No assessment has been made of the costs of increasing rates of dental fluorosis (recognised by the NHMRC and stated in the RIS) and other adverse health impacts of over-fluoridation balanced against the decreasing rates of dental caries;
- ❖ Data used to support the argument for the benefits of water fluoridation in NSW is out of date (report refers to a 1993 study in NSW only);

- ❖ No assessment has been made of the costs of delivering educational messages to fluoridated communities in relation to contemporary discretionary sources of fluoride exposure and the potential for over-dosing, especially in children;
- ❖ No assessment has been made of the health risks and costs associated with exposing infants to fluoridated water;
- ❖ No assessment has been made of the costs of undertaking research to determine the rates of dental fluorosis in fluoridated communities;
- ❖ No assessment has been made of the costs to public health of exposing communities to contaminants such as heavy metals in fluoride products used for water fluoridation;
- ❖ No assessment has been made of the potential impacts from the release of the majority of the fluoridated water supply into the environment.

Dis-benefits not assessed in RIS

Section 4.2 of the RIS is headed '**Benefits of water fluoridation**' however some of the points listed under the heading are actually examples of dis-benefits, which have not been assessed and should have been.

Point 4 states: "There is evidence of increased dental fluorosis in communities exposed to a combination of optimally fluoridated drinking water and contemporary discretionary sources of fluoride. In a population with low caries experience, any marginal benefit from further exposure to discretionary fluoride comes with the greater risk of dental fluorosis with its attendant social and economic costs".

Point 5 states: "There is a continued need for some children to avoid excessive intake of fluoride from discretionary sources of fluoride such as infant formulae, toothpaste and inappropriate use of fluoride supplements".

Point 6 states: "Reduction of long term-term exposure to fluoride would be best achieved by reducing the use of supplements and the level of fluoride in infant formulae and toothpaste. Reduction in long-term exposure of the community to fluoride through lowered concentrations in reticulated drinking water should be considered only after assessing the effects on dental health of the above strategy:.

Point 7 states: "There is a continued need in Australia for improved monitoring of the dental health of both children and adults, in particular to monitor fluoride intake and the occurrence of dental fluorosis, to identify risk factors and retain a dental health scheme which is both cost beneficial and effective."

Community costs and equity issues

While arguments have been made to support the benefits to the community of water fluoridation, the dis-benefits have not been adequately assessed in the RIS and what is presented is essentially a one-sided argument based on incomplete data.

While the potential benefits of fluoride are for a proportion of the community, it is the whole community who pays for the service and is also exposed to a chemical for which there is scientific evidence that it may actually do harm in some sections of the community.

The community pays twice for water fluoridation – via their state taxes and council rates. Those living in areas with tank water pay for a service that has no benefit to them. Of the fluoridated tap water used, less than 1% is used for drinking water, and the other 99% of fluoridated water is released into the environment where it may be causing harm.

Poor performance in regional areas

The installation and operation of fluoridation equipment carries significant occupational health and safety risks and requires precision management and monitoring. According to the latest report from NSW Chief Health Officer, regional areas do not perform well in meeting the requirements for ensuring fluoridation is delivered at the required dose 95% of the time.

In regional areas the Chief Health Officer reported that the required dose of fluoride is only achieved around 68% of the time. Has an assessment been made of why this occurs and what risks this poses?

No risk assessment for drinking water fluoridation

Unlike the majority of other chemical issues NTN considers, the fluoride issue stands out because there is no risk analysis for fluoridation of drinking water supplies. While the NSW Health Department and the Australian Dental Association claim that fluoridation is 'safe', they have not performed a systematic risk assessment. Indeed the NSW legislation on which fluoridation rests came into force in 1957 and is out of date and in need of urgent review. Risk assessment has come a long way since the 1950s.

The majority of literature the RIS refers to relates to fluoride's ability to prevent dental caries. However there is no systematic assessment of the peer-reviewed literature which does not support fluoridation and which raises health concerns. The National Health and Medical Research Council (NHMRC) would usually carry out such a risk assessment to ensure a rigorous approach for such a significant health programme, but they have not done a risk assessment either.

In recent discussions with the NHMRC, a spokesperson said they were preparing a statement which would address some of the concerns, notably the inability to control the overall fluoride dose since the introduction of fluoridated toothpastes and the discovery that some foods and beverages have high levels of fluoride. The NHMRC also acknowledges that dental fluorosis needs to be monitored to determine the extent of the problem in Australia.

Health concerns

There is a considerable body of peer-reviewed literature, which points to health problems as a result of fluoride exposure. Two recent peer-reviewed studies which point to serious concerns about the health impacts of fluoride exposure from drinking water which are not cited in the RIS are:

A 2006 study by Bassin et al, *Cancer Cause and Control* (2006) 17:421-428, "Age-Specific fluoride exposure in drinking water and osteosarcoma" found an association between exposure to fluoride in drinking water and the incidence of osteosarcoma (malignant tumours of the bone) in boys, with a peak in the odds ratio for exposure at ages 6-8 years when they are experiencing rapid growth.

Another study by the highly respected National Academies of Science, Board on Environmental Studies and Toxicology (2006) '*Fluoride in Drinking Water: A Scientific Review of EPA's Standards*' (2006), has found many gaps in the health data. The authors found associations between relatively low levels of fluoride exposure from drinking water with increases in tooth enamel fluorosis, skeletal fluorosis bone fractures, joint pain, thyroid damage, mental and physiological changes, dementia and a range of other serious health effects. The authors conclude that fluoride levels in drinking water [in the USA] need to be dramatically lowered and further research done to ensure the safety of the practice even at lower levels.

Contaminants in fluoride products

The *Fluoridation of Public Water Supply 1957 Act*, *Fluoridation Code* and *Regulations* all refer to use of the element fluorine (F-F) but the chemical being used is never fluorine (because that is a gas) but rather silicofluoride H_2SiF_6 or Na_2SiF_6 , which are both sourced as the otherwise defined pollutant by-products of fertiliser manufacture.

These compounds have never been tested for safety in human consumption but are now listed for review by US

National Toxicology Program because "historical assumptions of safety have not been upheld by the experimental evidence". They contain contaminants such as Arsenic, Lead, Beryllium, Cadmium, Vanadium, Mercury, Silicon and Radionuclides. Arsenic and Beryllium are known human carcinogens; Lead and Mercury are neurotoxins and all accumulate in the body. Many people who suffer with chronic illnesses cannot tolerate these dangerous and toxic additives. This waste product is illegal to dispose of at sea and does not biodegrade in the environment.

The purity of the fluoride agent varies according to the *NSW Code of Practice for the Fluoridation of Drinking Water Supplies* (NSW Code page 21). According to the Code, the fluoride chemicals added to water supplies are likely to be contaminated with heavy metals such as lead.

The NSW Code seems to suggest that it is acceptable to contaminate the water supply with lead, as a result of fluoridation agents, to the limit of the Australian Drinking Water Guidelines, which is 10 µg/L (see page 21). Yet numerous studies indicate that children are adversely affected by lead exposure at extremely low levels. Any addition of lead to the water supply should not be condoned and could result in lead levels that exceed the Australian Drinking Water Guidelines.

Children's exposure to lead has also been shown to cause dental caries. (See Moss et al, *Journal of the American Medical Association*, Vol. 281 No. 24 1999 "Association of Dental Caries and Blood Lead Levels".

Infants, children and fluoride

NTN is particularly concerned about infants and children's wellbeing as they are at greatest risk from exposure to any chemical, including fluoride. Public health policies must take into account children's unique sensitivity and risks of over-exposure to chemicals such as fluoride.

It is impossible to control a child's 'dose' of fluoride because they are exposed to it from many sources including soft drinks and toothpaste. Pediatric dentists have reported that it's common for children to swallow up to 50% of the toothpaste they use, which may already contain high levels of fluoride.

Bottle fed infants are at greatest risk from fluoridated water and there is no equitable alternative because it can't be filtered out and parents should not be asked to buy bottled water to feed their babies.

In conclusion, in light of the inadequacy and omissions in the RIS, NTN be asking the Health Minister to refer this **Fluoridation of Public Water Supplies Regulation 2007** to the Legislation Review Committee.

Yours sincerely

JO IMMIG
Co-ordinator, National Toxics Network

Cc
Minister for Health, The Hon Reba Meagher MP
Opposition Minister for Health, Ms Jillian Skinner MP