

4th February 2010

Attn: The General Manager
Rous Water

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Submission prepared by Jo Immig
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Submission: REF Fluoridation Plants Including the Ballina Shire Council Marom Creek Supply

National Toxics Network (NTN) is a not-for-profit network working for pollution reduction, protection of environmental health and environmental justice for all. NTN has a particular focus on children's environmental health, the precautionary principle and intergenerational equity. We are committed to achieving a *Toxics-Free Future*.

SUMMARY OF OBJECTIONS

NTN opposes the fluoridation of drinking water supplies and subsequently Rous Water's proposal to construct and operate five fluoridation plants at Dorrroughby, Corndale, Clues, Knockrow and Marom Creek.

- Rous Water have not followed the requirements set down in the NSW *Code of Practice for the fluoridation of public water supplies*, Section 4 *Application and approval to fluoride*. Rous Water has not carried out a public consultation process prior to the Application and nor have respective Councils.

Section 4.1.1.1 A Water Supply Authority shall obtain approval from NSW Health prior to fluoridating any water supply.

*It is expected that a Water Supply Authority would have carried out a public consultation process **prior** to the Application to Fluoridate being made to NSW Health.*

- NTN considers that the NSW Department of Health has no authority to direct Rous Water to fluoridate the public water supply as the requirements of the Code have not been followed. The *NSW Fluoridation of Public Water Supplies Act 1957* and subsequent Regulations are totally out of date with respect to current scientific, medical, consumer and legal requirements.
- NTN considers the fluoridation of the water will introduce health risks to the public water supply, as well as occupational health risks, and impacts on the regions environment.
- NTN questions how does Rous Water can ustify adding an uncontrolled dose of a hazardous substance to the water supply. Sodium silicofluoride and sodium fluoride are classified as hazardous substances by the NOHSC.
- NTN considers the project has no sound economic or health basis and is therefore a total waste of public money.
- NTN supports the views internationally that water fluoridation is a form of mass mediation and as such is a violation of human rights, in particular the rights of children.

1. NSW Act out of date

Since the introduction of the NSW *Fluoridation of Public Water Supplies Act* in 1957, fluoride has become abundantly available in toothpaste and mouthwash products and yet, the policy of water fluoridation has not been revisited by NSW Parliament in over 50 years. The Act is predicated on 'old' dogma and out of date scientific research. The actual mechanism of fluoride action is still subject to a great deal of debate.

Epidemiologists have cast doubt on the validity of the 'old' studies and dogma dealing with the systemic use of fluoride. There is increasing evidence that topical fluoride application (in the form of fluoridated dentifrices such as toothpaste and mouthwashes) may be more effective.

"The daily use of an optimally formulated fluoride-containing dentifrice offers the chance for optimum caries prevention on a community and individual level, since it combines oral hygiene with fluoride supplementation"
See 'Systemic Versus Topical Fluoride', *Caries Research* 2004; 38:258-262

The addition of fluoride to water gives people a false sense of security about protection from dental caries and they may neglect oral hygiene, regular dental visits and attention to diet.

NSW Health also recognises the effectiveness of topical fluoride and states, *"Toothpaste containing 400 parts per million fluoride ion is effective as a caries preventative agent"* **Fluoride Supplements, NSW Health, Document No. GL2005-007, 25 January 2005**

2. Uncontrolled dose of fluoride to the water supply

Rous Water has a duty to provide its consumers with safe, clean drinking water. The regulations governing the maximum amount of a substance that may be present in drinking water are not a licence to add that substance to the product up to that maximum. Any consumable product that is subjected to illegal contamination by unregistered medicinal substances, or by known poisons, cannot be considered to be wholesome.

Consumer product liability does not require proof of medical damage or actual bodily harm. Rous Water may be subject to consequential liabilities as a result of introducing an uncontrolled fluoride dose as a 'medicine' to the population.

The fluoride dose to the population cannot be controlled. The optimal *concentrations* of fluoride in drinking water do not take into account the most important parameter, which is the fluoride intake per kg of body mass.

As a result, children and infants drink much larger volumes of liquid, per kg of body mass, than adults and will be at risk of fluoride overdose. Even if you control the *concentration* of fluoride added to the drinking water you cannot control the *dose* of fluoride individuals ingest each day. Therefore, the fluoride dose is *uncontrolled*.

3. Adding hazardous substances to the water supply

Both sodium silicofluoride and sodium fluoride are classified as hazardous substances by the NOHSC and as dangerous goods by ADG Code for Transport by Road and Rail. Both chemicals are toxic by inhalation, in contact with skin and if swallowed.

According to the *NSW Code of Practice for the Fluoridation of Drinking Water Supplies* ('NSW Code') the purity of the fluoridating chemicals added varies: *"Metals [such as lead] are the main impurities of health significance to be found in fluoride chemicals, particularly with hydrofluosilicic acid where the levels of various metals can vary significantly"*. Pg 23

Research has shown that raising children's intake of lead, by only 5 µg/dL significantly increases their risks of dental caries. NB the NSW Code maintains that the levels of lead expected from the addition of fluoride ion at the dose of 1.00 mg/L would result in the addition of 1µg/L of lead also being added to the water. The NSW Code appears to suggest that it's acceptable to intentionally contaminate the drinking water supply with lead, as long as levels remain below the Australian Drinking Water Guidelines, which is 10 µg/L.

The addition of fluoride to the water can change aspects of water quality such as pH and hardness, which in turn impact plumbosolvency (lead solvency in pipes), potentially resulting in higher levels of contaminants such as lead.

4. No health risk assessment

A health risk assessment for fluoridating this Shire's drinking water supply has not been carried out by any authority.

Why is a health risk assessment essential? According to the ***"Review of Water Fluoridation and Fluoride Intake from Discretionary Fluoride Supplements"*** on behalf of the NHMRC (1999):

Conclusion 4: "There is evidence of increased dental fluorosis in communities exposed to a combination of optimally fluoridated drinking water (0.6-1.1 ppm subject to climate) 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."

Conclusion 7: "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."

A comprehensive review of scientific literature by the National Academies of Science in 2006 found many gaps in the scientific data about the long-term health risks associated with exposure to systemically ingested fluoride. The authors found evidence for levels of fluoride exposure from drinking water with increases in tooth enamel fluorosis and called for more research on potential links with skeletal fluorosis, bone fractures, bone cancer, joint pain, thyroid damage, mental and physiological changes and dementia.

Fluoride in Drinking Water: A Scientific Review of EPA's Standards, National Academies of Science, 2006

At the regulatory level there is confusion over what kind of agent fluoride is. The National Industrial Chemicals Notification Scheme (NICNAS) regulates fluoridated toothpaste as a 'cosmetic' if levels are below 1000ppm, while levels above 1000ppm in toothpaste are regulated as 'medicinal substances' by the Therapeutic Goods Administration (TGA).

It's not acceptable the TGA has had no role in determining the health risks associated with drinking water fluoridation as well as verifying the efficacy of the stated claims that it does indeed prevent dental caries.

Recent EU legal cases have found that the addition of fluoride to beverages is the addition of a medicinal substance and not a nutrient.

5. Water fluoridation is not cost effective

NTN disputes the underlying justification for the project (Sec. 2.4):

"The addition of fluoride to public water supplies has been determined by the NSW Department of Health as the most effective, cost effective and socially equitable means of achieving community wide exposure to the preventive effects of fluoride (NSW Health, 2002). The delivery of fluoridated water is expected to have a positive social impact on the local community through a long term reduction in the incidence of tooth decay".

There is no cost benefit analysis available on which to base this statement. A cost-benefit analysis would have looked at issues such as the fact that a large percentage of residents in the Rous Water service area aren't even connected to town water and the high cost of installing and operating the dosing plants per customer.

Is it money well spent when less than 1% of the fluoridated water ever reaches the intended target - young children? The rest is wasted and ends up in unintended places such as the environment where wildlife and domestic animals are exposed to it and where the risks and impacts are unknown.

The addition of fluoride to the drinking water supply has financial and medical implications for people wanting or needing to avoid exposure to it such as infants fed on milk formula reconstituted with water, kidney dialysis patients, people with diabetes and other diseases which involve high water consumption, and, businesses that rely on a clean source of water without fluoride such as organic food manufacturers.

The benefits of delivering fluoride via water supply are disputed in peer-reviewed literature and research indicates that topical fluoride via toothpaste is a more effective means of delivering fluoride to protect against dental caries.

“JADA Study Proves Fluoridation is Money down the Drain”

NEW YORK, Sept. 29 2009 /PRNewswire-USNewswire/ -- Children's cavity rates are similar whether water is fluoridated or not, according to data published in the July 2009 *Journal of the American Dental Association* by dentist J.V. Kumar of the NY State Health Department, reports NYSCOF.

In 2008, New York City spent approximately \$24 million on water fluoridation (\$5 million on fluoride chemicals). In 2010, NYC's fluoride chemicals will cost \$9 million.

Fluoride in water at "optimal" levels (0.7 - 1.2 mg/L) is supposed to reduce tooth decay without creating excessive fluorosis (fluoride-discolored and/or damaged teeth). Yet cavities are rampant in NY's fluoridated populations.

Attempting to prove that fluorosed teeth have fewer cavities, Kumar uses 1986-1987 National Institute of Dental Research (NIDR) data which, upon analysis, shows that 7- to 17-year-olds have similar cavity rates in their permanent teeth whether their water supply is fluoridated or not.

In 1990, using the same NIDR data, Dr. John Yiamouyiannis published equally surprising results in a peer-reviewed journal. He concluded, "No statistically significant differences were found in the decay rates of permanent teeth or the percentages of decay-free children in the F [fluoridated], NF [non-fluoridated], and PF [partially fluoridated] areas."....

"Dr. Kumar's published data exposes more evidence that fluoridation doesn't reduce tooth decay," says attorney Paul Beeber, President, New York State Coalition Opposed to Fluoridation.

"It's criminal to waste taxpayers' money on fluoridation, while exposing entire populations unnecessarily to fluoride's health risks, especially when local and state governments are attempting to balance budgets by cutting essential services," says Beeber.

Analysis of Kumar's data: <http://tinyurl.com/MoneyDownTheDrain>

Source: <http://www.prnewswire.com/news-releases/jada-study-proves-fluoridation-is-money-down-the-drain-62572357.html>

7. Applying the precautionary principle to water fluoridation

In an analysis published in 2006 issue of the *Journal of Evidence Based Dental Practice*, the authors examine the water fluoridation controversy in the context of the precautionary principle.

The authors note that:

- There are other ways of delivering fluoride besides the water supply;
- Fluoride does not need to be swallowed to prevent tooth decay;
- Tooth decay has dropped at the same rate in countries with, and without, water fluoridation;
- People are now receiving fluoride from many other sources besides the water supply;
- Studies indicate fluoride's potential to cause a wide range of adverse, systemic effects;
- Since fluoridation affects so many people, "one might accept a lower level of proof before taking preventive actions."

Tickner J, Coffin M. (2006). What does the precautionary principle mean for evidence-based dentistry? *Journal of Evidence Based Dental Practice*, Issue 6, pages 6-15.

8. Water fluoridation is mass medication

The ethical aspects of the water fluoridation debate cannot be sidelined with quasi-scientific arguments and presentation of questionable statistics. The fact is the mass medication of the drinking water supply with an uncontrolled dose of a medicine, without the community's consent, is unacceptable.

***How Science can illuminate ethical debates: A Case Study on Water Fluoridation* Mark Diesendorf, Canberra, Australia <http://www.fluoride-journal.com/95-28-2/282-87.htm>**

Conclusion

In conclusion, NTN urges Rous Water not to proceed with the installation of the proposed fluoride dosing facilities and to seek legal advice about its position in relation to fulfilling the requirements of the NSW *Code of Practice for the fluoridation of public water supplies, Section 4* as well as its liabilities in relation to the addition of a known hazardous substance to its customers drinking water supply without their consent.