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Report to the Utility Services Committee
from Murray Kennedy, Strategy and Asset Manager

Hutt City Fluoridation

1 Purpose

To review the Wellington Regional Council's (WRC) water fluoridation policy in conjunction with the water supply source to Hutt City's new Rahui reservoir.

2 Background

In the context of this report the "region" refers to the four cities of Hutt, Porirua, Upper Hutt and Wellington.

2.1 Introduction of Fluoride in the Hutt Valley

Part of Lower Hutt City was the first area of the region to have a fluoridated water supply - this was in 1959. Fluoridation started generally in the rest of the region, except for Petone, in 1965.

Lower Hutt City was challenged over the addition of fluoride in 1960, the case being finally decided in the City's favour by the Privy Council. The Privy Council read the word "pure" to be synonymous with "wholesome". The addition of fluoride made the water wholesome by improving dental health.

In the early 1990's Hutt City indicated they expected to complete the new Rahui Reservoir to serve Petone and other parts of the City in 1993. Completion is now planned for July 1999.

2.2 1993 Fluoride Review Process

In 1992 and 1993 the source of the water to be supplied to the new Rahu reservoir was under review. The WRC operations staff favoured using water from the Wainuiomata Water Treatment Plant (WTP). This was also the lowest cost source of supply and required the minimum additions to the WRC water supply infrastructure.

A section of the Petone community was opposed to this on the grounds that the water would contain both chlorine and fluoride. In response, the WRC established an external review panel of prominent citizens to consider the fluoridation issue and the source of supply for the new reservoir.

The 1993 WRC Fluoridation Review was extensive. Newspaper advertisements seeking submissions were supported by editorial comment. A total of 248 submissions were received and there were also public hearings. The Panel met with a range of technical experts. They had access to the results of a 1989 Heylen Research opinion poll. This poll was conducted for the New Zealand Dental Association by polling people residing in several fluoridated areas in New Zealand.

The WRC received the independent review panel report in June 1993 including the following recommendations:-

The Panel recommends to the WRC that:

1. *It does not review its policy of the fluoridation of the public water supply. The Panel recommends that fluoridation continue and be extended to Petone.*
2. *It does not connect Petone to the Wainuiomata supply when the new treatment station is opened. Rather, Petone continue to be supplied from an artesian bore.*
3. *No further public consultation on the fluoridation policy is required at this time.*
4. *The Council promote the monitoring of the impact of the adjustment of fluoride levels in water supplies by the appropriate national, regional and Maori health authorities.*
5. *The Council undertake an education programme on its fluoridation policy, with special reference to Petone prior to the fluoridation of its artesian water supply.*
6. *Untreated water be supplied at taps at the Buick Street and Gear Island treatment stations in Petone and a new point of supply of untreated water be provided at the Waterloo pumping station in Lower Hutt.*

2.3 WRC Resolves to Provide Fluoridated Water to Petone

At the June 1993 meeting of the Regional Council Wellington Metropolitan Bulk Water Supply Committee resolved to recommend:-

That Council does not review its policy of the fluoridation of the public water supply.

The Council subsequently adopted this recommendation.

Also, following further public consultation in Petone, the same Committee at its October meeting resolved to recommend.

The Committee recommends to Council that:

1. *The Buick Street Pumping Station remain in service until:-*
 - a) *completion of the new Rahui Reservoir;*
 - b) *a major failure of equipment;**whichever is earliest.*
Water supplied to Petone will be at the lower cost sourced from the WRC trunk mains, normally from Wainuiomata.

This was subsequently adopted by Council.

Essentially this should have resolved the fluoridation and water source issue for the new Rahui reservoir. Unfortunately, with the ongoing delay in building the new reservoir, the fluoridation issue has been raised again.

2.4 **WRC's 1998 Position**

The WRC's Utility Services Committee more recently approved Waterloo water as the source of supply for the Rahui reservoir. A change of source was accepted because Hutt City indicated the new Rahui reservoir would serve, in time, an area greater than Petone. Rahui, Gracefield and Naenae reservoirs are all at the same elevation and will supply the wider Hutt Valley as a single supply zone. Consistency in the water produce is highly desirable. Waterloo water is fluoridated but not chlorinated. Hutt City Council has accepted that water from the Waterloo WTP can supply the Rahui reservoir.

2.5 **Hutt City Seeks Region Wide Consultation on Fluoride**

Hutt City Council passed the following recommendations at its Works and Services Committee meeting on 2 December 1998.

That the Committee:-

1. *notes that the WRC, as the bulk supplier of water, is responsible for the decision on fluoridation of water supplies;*
2. *agrees that, in view of the proposed changes to the Petone water supply source, and that the decision to fluoridate water supplies was made 38 years ago, it is now appropriate to revisit the issue;*
3. *agrees that consultation on the issue of fluoridation of the water supply should be undertaken by the WRC;*
4. *requests the WRC to carry out an effective consultation programme on the issue of fluoridation of the water supply on a water supply source basis; and*

5. *requests the WRC consult with the local Councils to obtain agreement on proposed consultation programme details and timeframes before consultation is carried out.*

This information was conveyed to Utility Services Division in a letter dated 9 February 1999.

3 **Developments in Fluoridation Since 1993**

Since 1993 there have been a few developments of note in the use fluoride in water supplies which have come to our attention.

- In 1994 the New Zealand Public Health Commission published a 128 page report titled “An Analysis and Monitoring report - Water Fluoridation in New Zealand”. Councillors have been provided with a copy of the publication.
- An approach to the local Public Health Service resulted in the attached letter, **Appendix 1**. Of particular significance is the new information that fluoridation is effective throughout a person’s life. It therefore offers benefits to anyone with their natural teeth.
- In 1996 the State of California legislated for the mandatory addition of fluoride in water systems supplying over 10,000 people. The City of Los Angeles (2.4 million population) is currently installing fluoride dosing equipment. Los Angeles is the largest U.S. Metropolitan area currently not adding fluoride to its water supply.
- 43 of the largest 50 US cities reticulate fluoridated water. Seventy five percent of the USA population is expected to receive fluoridated water by the year 2000. (Worldwater and Environmental Engineering Jan-Feb 1995)
- No real change in the UK or Europe with regard to fluoride.
- The New Zealand 1995 Drinking Water Standards recognised that people were consuming fluoride from sources other than water. For example fluoride in toothpaste. Consequently, the fluoride added to the region’s water was reduced from a target average of 1 milligram per litre to 0.85 mg/L (range of 0.7 to 1.0mg/L).
- Two publications “Fluoride and Oral Health” by the New Zealand Public Health Commission in 1995 and “Preventive Dental Strategies for older populations “ by W M Thomson et.al. are both fully supportive of fluoridated water supplies.

The Public Health Service, as our health advisor, has reviewed this list and considers it to be a fair reflection of the situation. It is important to note that fluoridation is not a water supply issue but a dental health issue. This is why professional health advice is presented to the Committee.

- Research by P. Dennison, Community Dental Service Hutt Valley Health, compares the impact on five year olds of non fluoridated water in Petone, Korokoro and Paekakariki with five year olds in other areas receiving fluoridated water. The comparison is across similar socio-economic groups based on school deciles. On average, the severity of deciduous (baby) tooth decay (decayed, missing, filled – DMFT) in the non-fluoridated areas was double that of fluoridated areas, and the number of teeth extracted because of decay in non-fluoridated areas was three times more than in fluoridated areas. These differences were statistically significant. Some of the charts presented by P Dennison at a Councillor workshop are attached as **Appendix 2**.

4 **Consultation with Other Parties Regarding Fluoridation**

An informal approach to the Utility/Water Supply Managers of the other three cities indicates that fluoridation is not a current issue in these cities. Also, there has been minimal correspondence to the WRC on the subject over the last few years.

Within Hutt City itself the fluoridation issue seems to have a higher profile in the Petone area.

5 **WRC's Fluoridation Policy**

In summary, the 1993 fluoridation review was a very robust process. The process is also mentioned in the 1994 Public Health Commission report on Fluoride where it is held up as an example of effective consultation. Since the 1993 review there has not been any significant new knowledge about the effects of fluoride. The knowledge which has been gained though is positive, in that it reinforces earlier work. The effect of fluoride on teeth of five year olds in the Wellington area highlights the benefits to young persons. Our health advisors remain strongly in support of fluoridation.

On the basis of all this information, officers are of the firm view that there should not be any change in the WRC's fluoridation policy.

6 **Implications of Creating a Hutt Valley Water Supply Zone**

6.1 **Hutt Valley Zone**

Hutt City has decided to incorporate the new Rahui reservoir into a Hutt Valley water supply zone. This means there should be a consistent product supplied to all reservoirs. Resource consent constraints and recent capital works limit the supply to the Waterloo WTP, if aquifer water is supplied. Therefore, all the Hutt Valley should have water which is at the natural aquifer fluoride level or enhanced by the addition of fluoride at a water treatment plant.

6.2 Fluoride Options for Hutt City

It is possible to stop the addition of fluoride at Waterloo and Wainuiomata but still continue to supply the other cities in the region with fluoridated water. This can be achieved as follows;

- Stop fluoridating at the Waterloo and Wainuiomata Water Treatment Plants.
- Construct a fluoride dosing plant at the Gear Island WTP to dose water for consumption in Wellington City. A preliminary estimate suggests the capital costs will not exceed \$400,000.
- Hutt City can supply the suburb of Stokes Valley with Waterloo WTP water by strengthening the City's distribution system. At present Stokes Valley is supplied from the Te Marua WTP.

The outcome is that all of Hutt City, apart from the suburb of Manor Park, can receive non-fluoridated water.

The WRC can differentiate between our customers and offer Hutt City a choice of fluoridated or non-fluoridated water.

7 Water Supply Options for Hutt City

If non-fluoridated water is supplied to all of Hutt City apart from Manor Park, then some changes to where fluoride is added for our other customers is required. Those changes though will not affect the fluoride content of water supplied to our three other city customers.

The other option available to Hutt City is to continue to receive fluoridated water from Waterloo. If the City chooses this option then Rahui reservoir would receive fluoridated water continuously. This decision then has to be conveyed to the residents of Petone. It is suggested that the WRC indicates to Hutt City it would join the City in explaining the WRC fluoridation policy at a public meeting in Petone.

8 Recommendations

It is recommended that the Committee;

- (i) *Notes that the 1993 fluoride consultation process was independent, comprehensive and had full community representation and that there have been no significant changes since that date.*
- (ii) *Notes that the Public Health Service, as our health advisor, fully supports the addition of fluoride to water supplies.*
- (iii) *Endorses the Council's policy of adding fluoride to the water supply to provide a dental health benefit.*

- (iv) *Notes that preparations are well advanced to supply the Rahui reservoir with water from the Waterloo Treatment Plant when the reservoir is completed in about two months.*
- (v) *Indicates to Hutt City Council that it is feasible to supply the City, except for the suburb of Manor Park, with non-fluoridated water should that be its requirement.*
- (vi) *Indicates to Hutt City Council that if it wishes to receive fluoridated water, then the WRC will assist the Hutt City Council, when it conveys its decision to the residents of Petone.*

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Attachments: Appendix 1 Letter from Public Health Service
 Appendix 2 Charts presented by P Dennison at a Councillor workshop