

Report No. 99.361

16 July 1999

File: B/19/6/1 [HK\Reports\MDK usc99.361]

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

Disaggregation of the Wholesale Water Supply System

1 Purpose

To respond to Hutt City's request to operate its own wholesale water system for the Petone area.

2 Background

This report has been prepared in response to a request from Hutt City to implement an alternative means of addressing the Petone fluoridation issue. The decision as to whether or not Petone's water supply should be fluoridated clearly rests with Hutt City. The Wellington Regional Councils (WRC) policy is to fluoridate all water leaving the water treatment plants. However, Petone's water is not fluoridated at present. Hutt City has been given a number of options which would allow this situation to continue when Buick Street Pump Station is closed in a few weeks time.

The identified options for providing Petone with unfluoridated water cost between about \$0.35 M and \$2.0 M. Officer's preferred option, based on efficient use of the aquifer, costs \$0.55 M. All the options involve changes to the way the wholesale system is operated to allow unfluoridated water to be supplied to Hutt City's new Rahui Reservoir. We do note that if unfluoridated water is delivered to Rahui Reservoir this will cause problems in future when Rahui is connected to the rest of the Hutt system which will then blend unfluoridated water with fluoridated water.

The Mayor of Hutt City has written to the WRC requesting WRC's position with regard to Hutt City taking over the Buick Street Pump Station. Since the receipt of the Mayor's letter, officers of Hutt City have indicated that the request should be slightly less specific – effectively it is to take over the provision of water to the Petone area from a source chosen by Hutt City. The Petone area, which includes Korokoro, takes about 3.6 percent of the water supplied by the WRC.

3 Policy Analysis

Hutt City's request needs to be considered within the context of existing WRC policies and the business framework. In this regard the Water Group of the WRC is committed to providing a quality, cost effective water supply for the benefit of the people of the region.

Over the last few years the WRC has also championed an integrated water supply system for the region. The issue was considered by the Council's Policy and Finance Committee in 1998. The first two recommendations of a report were:

That the Committee recommend, in the interests of Wellington metropolitan ratepayers, that the Wellington Regional Council:

- (1) *Notes that Ernst and Young has estimated that the cost savings of an integrated water entity on an annual basis would equate to \$55 million over a 15 year period which in turn equates to \$6 million per annum after three years.*
- (2) *Resolves that it wishes to find a way to deliver the benefits from integrated water management to Wellington metropolitan ratepayers.*

From a legislative point of view Hutt City's request has to be considered in relation to the 1972 Wellington Regional Water Board Act (WRWBA).

4 Development of the Wholesale Water Supply System since 1972

The WRWBA brought various aquifer and river sourced water schemes under the control of a single authority. At the time, the area serviced by the new Water Board also included the Horowhenua County.

Over the last 25 years or so there has been major capital expenditure in treatment plants in metropolitan Wellington (Te Marua, Waterloo, Wainuiomata) pipeline renewals and some pipeline extensions, and attention to security of supply (Te Marua storage lakes, Ngauranga Reservoir and Ngauranga Pump Station). All this work was carried out with the approval of appointed Councillors when the Water Board was active, or subsequently elected Councillors when the Regional Council assumed responsibility for wholesale water supply. It was therefore a community decision to strategically develop the wholesale system to the benefit of all water consumers and citizens.

The area previously covered by Horowhenua County is no longer supplied with water by the WRC.

We now have a modern water supply system with no deferred maintenance. Also, there is sufficient flexibility in the network so that water from the three main water treatment plants and the Gear Island Pump Station can, if needed, be pumped to any customer's supply point. A truly resilient system.

These extensive capital developments have come at a price, which is reflected in the wholesale water charges. Revenue from the supply of water is applied to operating costs, depreciation, and capital works funding. Any excess income in a particular year is applied to debt reduction.

In some ways the wholesale water supply system can be likened to a “club” or joint venture, except the assets are the property of the Regional Council which clearly represents the community. A club can have membership fees and under some circumstances exit fees. Hutt City has now asked to exit part of the water wholesale water supply system.

5 **Can Hutt City Legally Operate a Standalone Water Supply System?**

Section 42 of the WRWBA states;

42. Constituent authorities not to carry out Board's functions –
(1) Notwithstanding anything to the contrary in the Municipal Corporations Act 1954 or the Counties Act 1956, no constituent authority shall carry out any of the Board's functions under this Part of this Act without the written consent of the Board.
(2) Except as otherwise provided in subsection (1) of this section, the provisions of Part XVII of the Municipal Corporations Act 1954 or of Part XVIII of the Counties Act 1956, as the case may require, shall apply in respect of the constituent authorities and their districts.

This section was incorporated in the Act because of the particular circumstances when the Water Board was constituted. Some of the Constituent Authorities did not initially transfer their wholesale water supply assets to the Board. Instead, they continued to operate them until the Board was in a position to take over the function.

It is difficult to envisage that the section was ever intended to allow any local Council to disaggregate part of the system at a later date. Notwithstanding this point, Section 42 provides Hutt City, with some legal basis to perform a wholesale water supply function, provided the WRC agrees.

6 **Why Does Hutt City wish to provide Petone with Water?**

Several options have been presented to Hutt City which will provide Petone with unfluoridated water. So non-fluoridation does not seem to be the issue. Neither is the source of the water. Artesian water has already been committed for the new supply.

Rather, it must be concluded that the issue is one of cost ie, lower cost water for Petone but at the expense of the rest of the region.

At present the wholesale cost of water for Petone is about \$0.87 M a year. After the marginal cost of production is deducted the sum is \$0.76 M.

Costs for a new water treatment plant in Petone depend on where the plant is sited. Part of the capital cost includes linking the plant with a pipeline to the new rising main for the Rahui Reservoir. Total capital costs are likely to be in the order of \$2 M. Given the capital cost, and the current income, no doubt many of the international water companies would welcome the opportunity to provide water at a slightly lower cost to Petone than the WRC presently charges. This could be seen as a backdoor attempt at privatising the water supply system. A concept that has been soundly rejected in the WRC resident's survey last year.

However, as explained later in the report, allowing Hutt City to proceed has a consequence for our other customers.

7 **Should the WRC Agree to Hutt City's Request?**

7.1 **The Water Board Act**

The WRWBA confers an exclusivity on the WRC to supply water to the four city customers, unless the WRC agrees otherwise. This exclusivity though comes with conditions. Section 38 of the Act states in part;

... if and when water is available under the operation of this Act, supply water to every constituent authority on such terms and conditions as may be fixed by the Board after consultation with the constituent authority.

Section 26 states in part;

It shall be the function of the Board to investigate, construct, extend, enlarge, maintain, and repair waterworks for the bulk supply of pure water to constituent authorities.

These two sections provide the four cities with a high degree of comfort that they can depend on the wholesaler to meet their water requirements. Or put another way, the legislative framework leaves the WRC with no excuse not to provide water under most circumstances. Hutt City would be unable to match the overall product security offered by the WRC.

7.2 **Non Discrimination of Supply**

In substantially enhancing the quality of the water supply system over the last 25 years there has not been any discrimination between customers. The policy has been one of evaluating how the overall needs of the community can be met at the 37 points of supply within the four cities.

Examples of these non discriminatory policies include:

- Targeting an ‘A’ grading for all water treatment plants where it is practical to do so.
- Security of supply so that on a statistical basis a drought will only have a minor impact during one year in every fifty years.
- A level of reserve capacity in the water treatment plants so that any one of our three main water treatment plants could be unavailable and the community’s base water demand (150 ML/day) still met.

7.3 Pricing Methodology Comparison with Other Water Authorities

The delivered product is sold to WRC’s customers at a uniform price, as required by the WRWBA. Notwithstanding this constraint, a strong case can still be made for uniform charging on the basis of regional good. Pricing policies of some other water authorities are as follows:

- | | |
|--|--|
| • Watercare Auckland (wholesale) | – uniform pricing |
| • Christchurch (wholesale/retail combined) | – uniform pricing |
| • Dunedin (wholesale/retail combined) | - uniform pricing |
| • Melbourne Water (wholesale) | – differential pricing |
| • North of Scotland Water (wholesale & retail combined)
(several schemes both metropolitan & rural, 424 ML/day) | – one uniform price |
| • Goulburn Valley Water (Victoria, Australia)
(41 provincial and rural schemes) | – uniform pricing |
| • Los Angeles (City owned)
(part wholesale/retail) | – uniform pricing by user types within the city boundary |

Thus, uniform pricing of water is a relatively common approach. The North of Scotland Water and Goulburn Valley Water are mentioned because they were explained in some depth at the water conference in Wellington, April 1999.

7.4 Pricing Methodology Comparison with Other Utilities

Some utilities have decided it is more equitable to charge on a geographic basis. The electricity industry is a case where single prices for the North Island and South Island were disaggregated a few years ago into nodal pricing at each Transpower substation. It should be noted though, that the difference between the wholesale spot price of electrical energy at Transpower’s substations in Upper Hutt and Wellington City normally varies by one to two percent. North Island reticulated gas is also a case where, at the wholesale level, there is distance based pricing.

Although competition has created some distortions in pricing local telephone services, generally there is uniform pricing throughout each city or metropolitan area. Residential toll calls are a case where there has been aggregation of pricing. Clear Communications for example has a very simplified structure with New Zealand divided up into just a few areas.

7.5 WRC’s Water Charging Methodology

WRC's uniform charge for water is often referred to as a bundled charge, in that it is a total price for a number of products. These products include:

- Collection and treatment of raw water
- Distribution of water from treatment plants to the point of sale
- Security of supply

It is the comprehensive security of supply aspect which Hutt City would not be able to provide by themselves, but which is available under the current arrangement.

7.6 Security of Supply

Officers of Hutt City have verbally requested information on whether or not water could be made available to the Petone area in the event of an emergency. If the emergency only relates to Petone, then excess water is likely to be available in the rest of the region. Under these circumstances the water can be sold to Hutt City and delivered to Petone.

If the emergency or shortage affects all our customers it is possible we will have allocated all the available water. If this type of emergency occurs the WRC will have to make some water available to the residents of Petone, regardless of how imprudent past decisions of other politicians may have been. Not to do so would be socially unacceptable. It is apparent therefore, that Petone will require security of supply.

From an equity point of view security of supply is difficult to price through an annual charge. If the charge is too low then our other customers will know they are being charged for a portion of our sunk costs which are currently attached to the sale of Petone water. If the charge is too high then Hutt City Council will refuse to pay it. Hutt City knows that when an emergency occurs, which may be many years away, that some water will be supplied. Trying to then claim an amount for previous payment avoidance may be impossible.

7.7 Sunk Costs

Preparation work by the WRC for supplying water to Hutt City's new Rahui Reservoir is virtually complete. Costs for this work amount to nearly \$0.7 M.

Should Hutt City supply water to Petone through the new Rahui Reservoir, then the WRC can avoid the marginal cost of water production. This amounts to about 12 percent of the present water levy. Petone, including Korokoro, consumes about 3.6 percent of the region's water. Avoiding other fixed costs is very difficult for such a small percentage of the total sales. Recent upgrading work at the Waterloo Water Treatment Plant has resulted in increased production capacity but without increasing the staffing or similar type costs. Costs for the upgrading exceeded \$1.6 M. Water from the Waterloo Water Treatment Plant normally supplies Hutt and Wellington Cities.

It is apparent that stopping production of water for Petone will not lead to any significant reduction in WRC costs, apart from avoiding the marginal costs, in this case power and chemicals.

7.8 Investment Costs

Fluoridated water can be provided to the Petone area without any costs additional to the \$0.7 M mentioned in section 7.7

Unfluoridated water is also available to Petone. WRC's preferred scheme to achieve this is through alterations to the fluoridation system. The estimated cost is \$0.55 M which would be a charge to Hutt City.

Hutt City's proposal for a new Petone supply will cost about \$2 M but deliver the same aquifer water as in the WRC's \$0.55 M scheme. Hence there is additional capital expenditure of approximately \$1.5 M, which must be paid for by the community, but does not produce any additional benefits.

Annual operating costs for Hutt City's scheme are likely to be slightly higher than the WRC proposal.

7.9 Potential Impact on Other WRC Customers

Under the present uniform pricing methodology any revenue forgone from supplying water to Petone would be passed on to our other customers.

Appendix 1 shows the impact of this after the marginal cost of production is deducted. There is no reason why our other three customers and the other residents of Hutt City should incur additional costs.

Unless Hutt City was prepared to meet the total forgone overhead contribution from the Petone supply of approximately \$0.76 M a year, our other customers are likely to challenge how the annual water levy is calculated.

8 Community Wishes

Notwithstanding all the rational argument presented in this report, it is apparent that this is an issue of community choice as seen by some Petone residents. Clearly, the economics are very much weighted towards the benefit and welfare of the majority of metropolitan water consumers and this is entirely consistent with the original intent of the Water Board Act and its subsequent application. There is a clear choice for all Petone residents, at a price, to continue to receive unfluoridated water. There is no certainty that all Petone residents support such a proposition but clearly, some do. The price which would have to be paid (\$0.55 M) may well not be acceptable to many Petone residents.

The long standing unfluoridated water supply delivered to Petone has created a wish in some minds to continue that availability. The Wellington Regional Council supports

and appreciates the need for, wherever possible, responding positively to community choice. In this regard, it may be appropriate for the committee to recommend that a financial contribution be made towards a public feature for making available untreated and unchlorinated water to those Petone residents who have a strong position on the matter. Such a feature is incorporated in the Hutt City's Annual Plan for 1999/2000 and the Wellington Regional Council's contribution to enhancing such a feature may well go some way towards accommodating those Petone residents who feel strongly about the issue of water fluoridation. It will also allow a wider range of alternatives for all members of the community to choose from.

9 Conclusions

Hutt City's request, if approved, would start disaggregating the wholesale water supply system. This is completely at variance with WRC's policy of promoting integration of the water supply systems of the WRC and the four cities.

The four cities have engaged consultants at the present time to assist them with reaching a common position on integration, and the Mayor of Hutt City has been publicly very supportive of water integration.

Many of the points in section 7 of the report highlight the reasons why the local authorities in the early 1970's sought the formation of the Water Board. The reasons of that time are just as relevant as today, if not more so.

Over the years there has been substantial development of the wholesale water supply system resulting in the production and delivery of a high quality product with a high degree of supply reliability. The cost of these developments has been partly funded by debt, which will be paid off over a longer term. This ensures intergenerational equity. Our customers were recently consulted about debt repayments as part of the Proposed Annual Plan process. Of our four customers, Hutt City wanted the largest reduction in water price. A consequence of their recommended wholesale water price decrease was virtually no reduction in the wholesale water debt over the next 20 years. It is surprising that they have now requested Petone should be set aside from its share of these obligations.

Hutt City has in the past expressed concerns about the uniform pricing methodology for the water supplied by the WRC.

The reason Hutt City desire to supply the Petone area with water could be construed as being more related to pricing than issues of infrastructure. Indeed, the cost to the community of Hutt City's requested option to provide unfluoridated water is in the order of \$1.5 M higher than the WRC scheme. Other avenues are available to Hutt City to address any concerns they have with the wholesale pricing methodology, rather than trying to duplicate parts of the wholesale supply system.

Hutt City is to consult with Petone residents about whether or not they want fluoridated or unfluoridated water. The WRC is able to provide either. There is no need for Hutt

City to build a separate water supply scheme to meet the needs of the Petone community.

10 Recommendations

That the Committee:

- (1) *Reaffirms to Hutt City Council the WRC policy of promoting integration of the wholesale and retail water supply functions in the Wellington area.*
- (2) *Notes that the WRC is able to supply unfluoridated water to the Petone community at a substantially lesser cost to the region than Hutt City Council's scheme of a standalone water supply.*
- (3) *Notes that the impact of Hutt City Council building a standalone water supply scheme would be to partly disaggregate the wholesale water supply system to the detriment of the three other customer City Councils.*
- (4) *Recommends to Council that it:*
 - (a) *Declines the request by the Mayor of Lower Hutt that the Hutt City Council take over the wholesale water supply function for the Petone area.*
 - (b) *Offers to contribute to the cost of a water feature in Petone, such as that proposed in Hutt City Council's 1999/2000 Annual Plan, for supplying untreated artesian drinking water.*

Report prepared by:

Approved for Submission by:

MURRAY KENNEDY
Strategy and Asset Manager

DAVID BENHAM
Divisional Manager, Utility Services

Attachments: Appendix 1 Financial Impact from a Standalone Petone Water Supply