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## **Report 01.670**

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

### **Ministry of Health Water Quality and Risk Initiatives**

#### **1. Purpose**

To advise the Committee about several Ministry of Health (MoH) water supply initiatives and seek approval for a submission on the grading of Drinking-Water Supplies.

#### **2. Background**

Over the past few years, the MoH has been working on a number of initiatives to improve reticulated drinking water quality and reduce the risk of unsatisfactory water being supplied.

Each year the MoH publishes a Register of Community Drinking-Water Supplies. All supplies serving 25 or more people for at least 60 days a year are included. There were 1,752 supplies recorded in the 2000 register but many of the smaller supplies are not graded.

Attempts by the MoH to improve water standards should be supported. Unfortunately, just publishing the grades over the last eight years with the supplier name has not been sufficient to stir some suppliers with low grades into action. For example, one District Council has four graded supplies, three of these are "E" and the fourth is "D". "E" is defined as "completely unsatisfactory very high level of risk". It is not surprising, therefore, that the MoH is proceeding with taking a more regulatory approach.

Over the last few years, the Water Group has placed considerable emphasis on quality and risk management. It appears that there will now be some possible conflicts with the MoH's intended approach and the Water Group's approach. The outcomes sought by the MoH and what the Water Group has achieved are similar.

### 3. **Water Group's Quality and Risk Systems**

A few years ago, the Water Group achieved ISO 9002 accreditation relating to the wholesale water supply function. This was followed by accreditation against the ISO 14001, for Environmental Management, for wholesale water supply. The Water Group's laboratory holds an IANZ accreditation which is appropriate for its type of work.

A new standard ISO 9001 : 2001 has been introduced to replace ISO 9002. It is expected the Water Group will work towards adopting the new standard in 2002/03 in line with the transition period.

Various reports have been presented to the Utility Services Committee over the past few years concerning risk. In particular:

Report No. 98.490 Water Treatment Plants : Security of Supply  
Report No. 98.492 Risk Management Programme

An earlier report, which the Committee accepted, targeted an A or A1 grading for water treatment plants.

Report 00.815 outlined the Water Group's Incident Management System.

Other Water Group quality and risk documentation includes the Earthquake Response Plan and the safety review of the Te Marua storage lakes.

From an operational point of view, there is extensive monitoring of water at the water treatment plants and at places along the distribution system. In the event water falls outside the specification, then a water treatment plant will go off line and treated water is prevented from entering the distribution system. There is sufficient redundancy in the system to operate using any two of the three main water treatment plants supported by Gear Island, which is normally in standby mode.

Particular attention is paid to raw water quality through an active programme of catchment management and close monitoring of the water from the Waterloo and Gear Island wellfields.

All these features add up to a comprehensive quality and risk management system.

### 4. **Ministry of Health Initiatives**

The MoH has, or is proposing, a number of initiatives.

#### 4.1 **Drinking Water Standards for New Zealand 2000**

In August last year, the Drinking-Water Standards for New Zealand 2000 (DWSNZ) were published and supersede the 1995 Standards. These new standards took effect from 1 January 2001. Provision is made to tighten the turbidity requirements from 1 January 2005.

## 4.2 **Legislative Charges**

According to the MoH, a Bill is expected to be tabled in Parliament later this year which will amend the Health Act. The DWSNZ are to become mandatory. At this stage it is not known whether or not there will be penalties for non-compliance. A section of the Bill will relate to requiring suppliers of potable water to produce a comprehensive suite of Public Health Risk Management plans (PHRMPs). Provision will be made for auditing these by MoH appointed assessors. Larger suppliers, such as the Water Group, will have two years to develop the plans. A time frame for implementing the plans, once developed, has not yet been defined. Mention was made in the Divisional Manager's Report to the February 2001 Committee meeting that the PHRMPs were being promoted by the MoH.

Attachment 1 sets out how the various PHRMPs interrelate. Not all the plans are applicable to the Water Group.

## 4.3 **Grading of Drinking Water Supplies**

The MoH's third initiative is to update the system for grading drinking water supplies. Current procedures were last updated in 1993 and are not compatible with the DWSNZ : 2000. As part of the updating, the MoH has indicated it would like to incorporate the PHRMPs into the grading process.

A discussion paper about grading the supplies was made available by the MoH in July. It extends to over forty pages and is rather technical in places. Four grading protocols were advanced for consideration. Alternatively submitters can suggest other protocols. Initially the Water Group had a number of concerns about two of the protocols, but these were clarified at the public meeting in mid-August.

The view of the Water Group is that the prime recipient for the grading information is the general public. Therefore, the grading system should be relatively straightforward and easy to understand. Following the public meeting, a provisional submission was completed and submitted by the closing date of 31 August. It has been indicated it will remain provisional until approved by the Council. Attachment 2 is the submission.

## 5. **Impact of the MoH Initiatives on the Water Group**

### 5.1 **Drinking Water Standards 2000**

It is unfortunate that the MoH published the new Drinking-Water Standard in August 2000 to take effect from 1 January 2001. The changes between the 1995 and 2000 standards may appear minor. In reality they have involved the Water Group in a substantial amount of work, in order to achieve compliance. For example, previously, turbidity was measured at the point water left the water treatment plant. It is now measured after each individual filter. Consequently the dilution factor through running multiple filters has been removed. Therefore, the water leaving each filter has to meet the DWSNZ.

There are six filters at Te Marua and five at Wainuiomata. Operational changes required to meet the turbidity requirement have now been completed.

Information required to show compliance with the standards has expanded enormously. A new data warehouse and computerised reporting system is being installed at present. Requirements for confirming a chlorine residual have changed. New chlorine monitoring equipment and pH meters are on order.

With one possible exception, it is expected the Water Group will be fully compliant with the new DWSNZ by the end of the calendar year.

It was mentioned in the Divisional Manager's report for the period ended 31 March 2001, that the water from the Hutt aquifer may no longer be classified as secure groundwater under the new DWSNZ. Results from water age testing are expected in October.

## 5.2 **Public Health Risk Management Plans**

Comprehensive guidelines have been published by the MoH for preparing PHRMPs. Although there is no requirement to use them, the MoH risk assessors will be familiar with them. It may not be prudent, therefore, to depart too far from the guidelines. Section 3 of this report outlined how the Water Group ensures water is of appropriate quality and risks are within acceptable bounds. It is likely that most of the outcomes the MoH are mandating have already been achieved by the Water Group, but in a different way. In addition, risk is currently managed in part through sophisticated monitoring and control systems and a level of infrastructure redundancy. Similar resources may not be available to a small water supplier with one water source, one treatment plant and a single main distribution pipeline. It is expected there will be an opportunity for the Council to make a submission on the Health Amendment Bill at the Select Committee stage.

In the meantime, a process has started to see if it is practical to incorporate the PHRMPs into the ISO 9002 procedures.

## 5.3 **Grading of Drinking Water Supplies**

The Water Group is not expecting any major issues with a new grading system. To some extent though, this depends on which protocol is adopted.

## 6. **Recommendations**

*That the Committee:*

- (1) *Receive the report and note its contents.*
- (2) *Approve the provisional submission to the Ministry of Health on Public Health Risk Management Plans.*

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**Attachments**

Attachment 1: Source/Treatment/Distribution System Flow chart

Attachment 2: Submission on Protocols for the Public Health Grading of  
Drinking-Water Supplies