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1. Introduction

Greater Wellington Regional Council (GWRC) is the wholesale supplier of water to the cities of Wellington, Hutt, Upper Hutt and Porirua, which in turn distribute the water to approximately 370,000 consumers.

GWRC has a policy of complying with the Drinking Water Standard (currently DWSNZ:2005), and has done so consistently over many years.

2. Justification

The publication *Safe Drinking Water – Lessons from recent outbreaks in affluent nations* by Steve Hruddy and Elizabeth J Hruddy, presents 70 case studies of water supply contamination incidents that have occurred in the western world over the past 30 years. Only one, involving between 95 and 185 people, occurred in NZ.

No attempt has been made in the preamble to the Bill to evaluate the cost of compliance and the cost of preparing Public Health Risk Management Plans (PHRMPs) has been grossly underestimated at \$500 per Drinking Water Supplier (DWS). A consultant working actively in this area puts the cost at between \$5,000 and \$10,000 per supply. That is, the total cost of one small aspect of the implementation of the Bill is between \$1.3M and \$2.6M. We submit that this order of magnitude difference is indicative of a lack of understanding by the Ministry of Health (MOH) of the issues surrounding the adoption of this Bill.

3. General Comments

GWRC supports the government's efforts to provide greater surety for people that their water is safe to drink and believes that this Bill, in conjunction with the Drinking Water Technical Assistance Programme (TAP) and the Drinking Water Capital Assistance Programme (CAP), will achieve significant improvements. However GWRC notes that there is little documented evidence of community illness being attributed to drinking water and suggests that a more measured introduction of the provisions of the Bill, in line with the TAP timeframe would be more appropriate. This would also allow (DWSs) time to include provision for any necessary changes to levels of service or to

make provision for new investment in their Long Term Council Community Plan (LTCCP) planning.

In our view, the overriding tenor of the Bill is that water suppliers are irresponsible and untrustworthy. GWRC, as a professional and highly competent organisation with a water supply staff of 50 trained professional people, finds this unfortunate.

The Bill places considerable power in the hands of Drinking Water Assessors (DWAs) Designated Officers, Medical Officers of Health and the Director General of Health. In a number of cases the powers overlap and there is limited recourse available to challenge decisions or instructions.

We note that almost all water supplies listed in the Register of Community Drinking Water Supplies 2006, recently published by MOH, are listed as ungraded. We believe this is very largely due to a lack of resources within the District Health Boards (DHBs) charged with undertaking these gradings on behalf of the MOH. The current grading rules have been in place since 2003.

GWRC submits that a substantial increase in resources must be made available to the DHBs if the duties imposed on DWAs are to be successfully undertaken in the future. It is also noted that MOH aspirations for DWA involvement in the TAP programme will require further additional resources.

4. Complexity of modern water treatment plants

A modern water treatment plant is a complex industrial installation, embodying process design and engineering, civil, electrical and mechanical engineering, instrumentation, electronics and automation. In larger organisations, such as GWRC, these plants are operated and managed by a trained, experienced staff of technicians and professional engineers, backed by specialist consultants.

It is quite naïve to believe that a DWA with basic training in water treatment and little if any experience of water treatment plant operation will be competent to carry out all the roles envisaged in the Bill in relation to large water treatment plants. In short, one size will not fit all.

5. Proposal for Very Large Suppliers

As a way of focussing the limited DWA resources onto smaller supplies that are more likely to need their attention and which the DWAs appear better equipped to deal with, GWRC proposes the introduction of a further category of suppliers called **Very Large Water Supplies** or **Accredited Water Supplies**. This category would apply to supplies servicing more than 50,000 people, and certified as complying with a recognised quality management system such as ISO 9001(2000).

This concept is very similar to that contained in the Building Act 2004, which includes a provision for large dam owning companies with considerable in-house expertise to become *Accredited Dam Owners* and essentially be self regulating.

ISO 9001 is a quality and risk management system based on processes and procedures designed to achieve the appropriate objective, in this case compliance with the current NZ drinking water

standard. Adherence to these processes and procedures is achieved through regular internal audit and external surveillance audits. External recertification audits are carried out every three years. The merit of ISO 9001 is recognised in “*Public Health Grading of Community Drinking Water Supplies 2003*” (MOH), which sets compliance with ISO 9001 as one of two requirements for the achievement of an A1 grading, the highest available. It is effectively an alternative to the development of PHRMPs. The latest version of ISO 9001 published in 2000 also contains a very strong emphasis on meeting customer needs and expectations. In respect of water supply, these are basically an adequate supply of safe, good quality water.

GWRC submits that water suppliers who supply water to more than 50,000 consumers and who hold certification to a recognised quality management system such as ISO 9001:2000 be exempt from the provisions of the Bill relating to adequacy of supply and PHRMPs, specifically Sections 69S, 69Z, 69ZC, 69ZD (c), 69ZE, 69ZF, 69ZL (1) (a) (iii), 69ZL (1) (e), 69ZL (1) (f), and 69ZL (1) (g).

6. Surfeit of powers

Wide ranging powers are conferred on a number of government agencies and officials by the Bill, many of which are duplicated or overly prescribed.

- The Minister has powers under section 69ZZA in relation to DW emergencies.
- The Director General of Health has powers under sections 69ZK (to appoint DWAs), 69ZW (to review the decisions of DWAs) and 69ZY (to recognise laboratories).
- Medical Officers of Health have powers under sections 69ZA (to require PHRMPs), 69ZJ (with respect to temporary supplies) and 69ZZH (to issue compliance orders).
- Designated Officers have powers under 69ZO (wide ranging powers over DWS’s), 69 ZP (wide ranging powers of investigation) and 69ZZD (in relation to emergencies)
- Drinking Water Assessors have powers under 69ZL (powers to assess drinking water compliance and review PHRMPs), 69ZP (wide ranging powers of investigation and 69ZQ (ancillary powers)

Of particular concern are the powers conferred on “Designated Officers”. Designated Officers can be Medical Officers of Health, in which case they should be referred to as such, since there are a number of functions only they can perform, or Health Protection Officers, who may be totally unqualified to make judgements or decisions in relation to drinking water.

GWRC submits that all references to “Designated Officers” should be deleted and the powers conferred on other officers rationalised, simplified and clarified.

7. Detailed comments

7.1 Section 69G Interpretation

7.1.1 Adequate supply

Clarity on what comprises and adequate supply of water is urgently required. This is an on-going issue for most network suppliers faced with a minority of consumers who default on the payment of water charges, refuse to repair leaks or otherwise waste water or whose actions present a high risk of contamination to the water supply.

GWRC submits that the extent to which supply to consumers in default can be restricted needs to be quantified urgently.

7.1.2 Potable water

The definition of Potable water is not suitable. It implies that drinking water should be tested for all the determinands in the DWSNZ:2005. However compliance with DWSNZ:2005 does not require this.

GWRC submits that potable water should be defined as water meeting all the requirements of the current DWSNZ:2005 except those relating to aesthetic guideline values.

7.1.3 Small and very small drinking water supplies

These definitions are very difficult to interpret in the context of, for example, GWRC's regional parks, where there are sometimes significant numbers of day visitors and a few overnight campers. Day visitors may stay for an hour or two or all day, they may drink water or, much more likely, they will bring their own beverages or boil water for tea/coffee. The numbers of day visitors is imperfectly understood, being based on vehicle counts, if available, and estimates of vehicle occupancy.

Campers on the other hand are much more likely to drink park water, or to use it for food preparation and/or oral hygiene. The numbers of campers are well known as they (typically) pay camping fees, generally based on the number of people occupying a camping site.

GWRC submits that the numbers of people listed in the definitions of *small drinking water supply* and *very small drinking water supply* should refer only to people present overnight.

7.1.4 Wholesome water

The definition of wholesome water should also include:

- (c) when tested in accordance with Appendix B of *Public Health Grading of Community Drinking-water Supplies 2003*.

7.2 Section 69H All practicable steps

This is a key element of the Bill. As drafted, it takes no account of the ability of a community to fund or source funds to pay for an upgrade, or the need to assess the priority of an upgrade against other priorities for spending within a community.

Additional criteria should be added as follows:

- 1. the ability to fund or to access funds to meet the cost of achieving the result, and**
- 2. the relative priority of achieving the result compared with other priorities for improving the wellbeing of the community.**

7.3 Section 69Q Drinking Water Standards

In adopting a new standard, the Director General of Health must ensure that adequate time is provided between adopting the standard and the date at which it applies, to give DWSs time to understand the new requirements, make any investment necessary to ensure compliance and to make changes to control systems and reporting mechanisms. At least twelve months is suggested.

Add to section 69Q sub-section (4) “new standards must be published and made available at least one year before they come into force.”

7.4 Section 69S (3) Restriction of water supply

Wholesale water suppliers such as GWRC provide water directly to a small number of “wayside” consumers. These are typically rural properties located close to the route of a bulk main in areas not serviced by a reticulation network.

Servicing or repairing large wholesale water mains takes many hours, as several hours may be required to isolate and drain the main, several hours to make a repair, and several further hours to recharge the main, possibly up to 24 hours in all.

GWRC submits that bulk suppliers should be exempt from the provisions of Section 69S (3).

7.5 Section 69S (4) Restriction of Water Supply

The Civil Defence and Emergency Management Act requires that lifeline utilities (including water supplies) must be able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency. It is not clear how this requirement reconciles with the requirement of this Bill to take all practicable steps.

7.6 Section 69W Supply of wholesome water

This section requires that all reasonable steps be taken to supply wholesome water. There is no indication what reasonable steps might include as there is in Section 69U.

7.7 Section 69Y (1) (b) Monitoring

This section requires monitoring to “*detect and assess public health risk generally*”. This sub-Section is impossible to interpret. By way of contrast monitoring required to determine whether a supply meets the DWSNZ:2005 (69Y (1) (a)) is clearly set out in the standard. Monitoring to show compliance with the DWNZ:2005 is all that is necessary by way of monitoring.

GWRC submits that sub-section 69Y (1) (b) should be deleted.

7.8 Section 69Z (2) (a) (iv) Costs and Benefits

This section requires the costs and benefits of mechanisms available for reducing risk to be estimated. However no purpose is stated for such an analysis. Normally a cost benefit analysis is performed to establish the relative priority of a certain course of action, and this is presumably the intention of this sub-section.

Add: “to establish the relative merits of available mechanisms and their priority in relation to other measures contemplated to improve the wellbeing of the community receiving water from the water supplier.

7.9 Section 69Z (4), (5) and (6)

There are no time constraints or limitations placed on DWAs in respect to processing approval of PHRMPs. The almost total lack of progress with grading of water supplies (see *General comments* above) suggests that DWAs may be unable to meet reasonable time frames.

GWRC submits that time frames for approval and for seeking additional information should be set in a similar manner to those contained in the Resource Management Act.

7.10 Section 69Z (6) (b) Implementation programme

The requirement that the implementation of PHRMPs should commence within one month after the date of approval is unreasonable and impractical. The precise definition of “*start to implement*” is unclear. The implementation of a PHRMP may involve capital works, necessitating consultation through the LTCCP process before they can even be included in a capital works programme.

GWRC submits that 1 month in section 69Z should be changed to 12 months.

7.11 Section 69Z (1) (c) Compliance records

It is difficult to conceive of a situation where a water supplier would be required to produce records showing compliance with another person’s PHRMP.

Delete “or other persons” from 69Z (1) (c)

7.12 Section 69ZE Complaints

This section requires a water supplier to take all practicable steps to improve the wholesomeness of drinking water. It is inconsistent with section 69W which requires only that **all reasonable** steps be taken to provide wholesome water. As written, section 69ZE assumes that the complaint is justified and that the water is either in contravention of the DWSNZ or the DW aesthetic requirements. In many cases complaints will be either unfounded or transient and difficult to diagnose.

In sub-clause (a) insert after ---water, “and the complaint is substantiated” and delete “all practicable” and insert “all reasonable”.

In sub-clause (b) insert after ---water standards, “and is substantiated”

7.13 Section 69ZD (4) Availability of records and Section 69ZL (1) (c) Supply of records to the Director General of Health

Any plant supplying over 10,000 people (and any plant supplying more than 5,000 people from 1 January 2008) is required to monitor chlorine and turbidity continuously. Chlorine concentrations are required to be measured every five minutes and turbidity every minute on each filter. For a plant with six filters this represents almost 9,000 data points per day, or 270,000 per month. Realistically, this data can only be stored and analysed electronically, and it is impractical to expect it to be supplied to a DWA, a designated officer or to the D-G of Health.

GWRC submits that sections 69ZD (4) and 69ZL (1) (c) should be deleted. Section 69ZD (4) should be replaced by the following:

“Records kept under this section must be made available for inspection or audit by a drinking water assessor.”

7.14 Section 69ZL (1) (e) DWA to assess competence of laboratory technicians and operators.

Section 69ZZ requires that all compliance testing must be carried out by a registered laboratory. Section 69ZY makes provision for the Director General of Health to register laboratories. To obtain registration a laboratory must be accredited by International Accreditation NZ (IANZ) and this accreditation includes certification of individual scientists to carry out particular tests. It is therefore quite inappropriate for DWAs to be given power to assess the competence of laboratory personnel.

It is the responsibility of the water supplier’s management to employ competent people to carry out the various tasks required to comply with the standard. Training courses are provided by the Water ITO, and the grading guidelines incorporate requirements for operator competence. It is submitted that on the basis of their limited training, DWAs are not equipped to assess the competence of treatment plant operators.

GWRC submits that section 69ZL (1) (e) should be deleted.

7.15 Section 69ZL (1) (f) Authorisation of competent people

The implication of this section is that all staff involved in the production or distribution of water must first be authorised to do so by the DWA. This is clearly not appropriate.

GWRC submits that section 69ZL (1) (f) should be deleted.

7.16 Section 69ZL (1) (g) Approval of PHRMPs

The performance of DWAs in grading water supplies shows that they do not have sufficient resources to undertake that task, let alone the extra duties imposed by this Bill. In fairness to water suppliers, timeframes should be placed on this approval process.

Add to section 69ZL (1) (g) after “persons” the words “within three months, or if additional information is required, request such information within 30 days”

7.17 Section 69ZO (1) (a) Reason to exercise powers

There is potential for confusion and for conflicting instructions under this section. DWSs are required to prepare and gain approval of a PHRMP through the DWA. The PHRMP will deal with all the identified risks associated with a water supply. However section 69ZO gives another person power to issue instructions about those same risks. This sub-section should be amended to refer only to risks that are not identified in a PHRMP or are not being addressed as set out in a PHRMP.

Insert after risk “not identified in a PHRMP or not being addressed in accordance with a PHRMP.”

7.18 Section 69ZP (1) (a) Entering land

There are hazardous chemicals present at most water treatment plants. Provision should be included to require DWAs to consult with DW suppliers before entering sites of this nature. Similarly DW suppliers should be required to provide health and safety advice applicable to any site a DWA may want to inspect.

7.19 Section 69ZP (2) (a) Reasonable time

A “reasonable time” should be limited to normal working hours. Sub-section (b) will adequately cover all other times.

GWRC submits that “during the hours of daylight” should be deleted and “during normal working hours” inserted.

7.20 Sections 69ZP, 69ZR and 69ZS Power to enter a dwelling house

This power is extreme and considered unnecessary. If a serious situation that requires action of this nature has arisen, such action should follow the laying of a prosecution, and be left to the NZ Police to undertake in the course of their investigations.

GWRC submits that all references to entering dwelling houses and the gaining of warrants to do so should be deleted.

7.21 Section 69ZW Review of DWA decisions

This section should include an appeal provision similar to that contained in section 69ZZK. DWAs are appointed by the Director General of Health, and he/she may not be impartial in undertaking a review of a DWA decision.

GWRC submits that a provision for appeal to the District Court should be added to this section.

7.22 Section 69ZZ (1) Compliance testing

The DWSNZ:2005 requires water treatment plants supplying more than 10,000 people to continuously monitor turbidity and chlorine in drinking water for the purpose of compliance. This monitoring is carried out by automatic electronic instruments that record the information required to demonstrate compliance with specific provisions contained in the DW standard. A registered laboratory will have no part in this testing. In effect sub-section (b) requires the Director General of Health to approve a mechanism already required by the standards published under the provisions of the Bill.

GWRC submits that the provisions of this section be altered to recognise that, as required by the DWSNZ:2005, a good deal of compliance monitoring is carried out by means of continuous monitoring rather than laboratory testing.

7.23 Section 69ZZ (2) Requirement for laboratories to submit test results

This requirement is unreasonable and unrealistic for several reasons

- 1) A laboratory technician carrying out tests may not have collected the sample, and may not know where it has come from.
- 2) A laboratory technician or manager may be unaware of the context of the tests, for example whether or not the plant or facility from which the sample was obtained was producing drinking water at the time of sampling.
- 3) A laboratory technician or manager may not be aware of the particular aspect of the standard the test is intended to prove compliance with, for example, what turbidity standard is being targeted.
- 4) Compliance is assessed over a period of time, generally a year. A single non-complying test result does not necessarily mean that a supply is non-complying.
- 5) This requirement is an unwarranted imposition on laboratories and potentially forces them to compromise their ethical, professional and commercial standards.

- 6) The DWSNZ:2005 requires DWSs to advise DWAs in the event of a transgression. Separate notification by the laboratory to the Director General of Health is not necessary and may not be practical.

GWRC submits that section 69ZZ (2) should be deleted.

7.24 Section 69ZZD (2) (d) Recovery of costs

In many cases emergencies will arise because of circumstances outside the DW suppliers control, such as earthquakes or floods. In such cases it is not reasonable to seek to recover costs from the DW supplier.

Insert after “---water, and”, “if the emergency is attributable to the actions or inaction of the DW supplier”

7.25 Section 69ZZZB (1) Annual Report

The D-G of Health should be required to publish the Annual Report for the year ending 30 June, since this corresponds to the reporting year of local authorities, the organisations to whom the report is the most relevant.

Delete “at least once every 12-month period.” and insert “for the 12 months ending 30 June each year.”