Water 2050: Governance
A better framework for drinking water regulation

Part one of our work on drinking water regulation - a discussion paper.

April 2018

We are.
LGNZ.
Te Kāhui Kaunihera ō Aotearoa.

Water 2050.

Contents

This paper has been prepared with assistance from Sapere Research Group

Foreword

Foreword

LGNZ is now building on our 3 Waters project through Water 2050. Water 2050 proposes that a more integrated water policy framework is needed. There are five components; allocation, water quality, infrastructure, governance and cost/funding. This report, "A better framework for drinking water regulation" explores what a new regulatory system to enable the provision of safe drinking water could look like.

Local government, as the owners of water assets and the primary providers of three waters services, took on the challenge in 2013 of improving the information base about our water infrastructure and water industry service delivery and established the LGNZ 3 Waters project. That project established a clear picture of the state of infrastructure in the three waters sector.

The 2015 position paper looked at regulatory options for the three waters and described how a 'strong, sector-led approach' will improve our regulation of potable and wastewater services and it also proposed a co-regulatory model involving central and local government.

LGNZ is now building on our 3 Waters project through Water 2050. Water 2050 proposes that a more integrated water policy framework is needed. There are five components: allocation, water quality, infrastructure, governance and cost/funding. What this means is that when new standards are set for water quality we need to understand what the costs are to meet these, how will they be paid for, can communities afford them, do they have the tools they need to pay for them and how should water be managed into the future.

We are pleased to be working with the Government on this project.

Governance and water regulation

The Government's Inquiry into the Contamination of Havelock North Drinking Water and LGNZ's 3 Waters project have also identified that the present system of regulation does not ensure water suppliers meet drinking water standards and concluded that a dedicated regulator is needed. As a result, LGNZ has focused initially on governance options to engage with the Government on likely changes to the regulation of water and in particular on the details of what a regulator would look like.

This report, "A better framework for drinking water regulation" explores what a new regulatory system to enable the provision of safe drinking water could look like.

It considers how the regulatory system might be changed to remove the obstacles identified by the Inquiry to improved sector performance and recommends a co-governance model which would continuously evaluate and recommend to the Minister refinements to drinking water standards and mandatory processes. Once approved by the Minister, these standards would be enforced by the regulator.

The co-governance model would bring together the information held by central government policy makers with the knowledge of local issues held by local government and the technical insights of suppliers and assessors. As with the other elements of the regulatory model, careful attention would be needed to the design of these arrangements so they are effective.

This initial report will be followed by a second report which will consider in more granular detail the design of a possible water regulator. We will be talking to the Government as it considers the reform of the water sector and LGNZ's work positions us to have detailed input into this work

Dave Cull
President
LGNZ

Executive summary

Need for better regulation

The consequences of unsafe drinking water are significant in terms of health and economic costs. Providing safe drinking water is therefore a vital public service. A recent Inquiry, following an outbreak of campylobacteriosis in Havelock North, identified widespread systemic failure among water suppliers. Expert advice to the Inquiry was that in addition to mass outbreaks, between 18,000 and 100,000 sundry cases of sporadic waterborne illness occur each year. Nationally, almost 10 years after the 2007 amendments to the Health Act to promote drinking standards, there are still 759,000 people (20 per cent of the serviced population) who are supplied water that is not demonstrably safe to drink.

The Inquiry found that the present system of regulation does not ensure water suppliers meet drinking water standards. It concluded that the Ministry of Health should not continue to regulate drinking water, because of past critical failures, and recommend replacement with a dedicated regulator. However, the details of what such a replacement body would look like are not addressed in the Inquiry's report as the Inquiry considered the design of the regulator was beyond its scope. Because it did not consider the design of the regulator, the Inquiry report does not map the design choices for a regulator against the failures it observed, to identify the best organisational form for addressing those problems.

This report draws out from the Inquiry's report several sources of dysfunction besides the poor performance of the Ministry. We consider how the regulatory system might be changed to remove these obstacles to improved sector performance. The aim is to elaborate how the regulator might be designed to address the problems highlighted by the Inquiry, its prospective functions and its position in the web of relationships between entities in the potable water industry. This report, as with the Inquiry, focuses on networked supplies and does not address self-supply.

Table 1 summarises some elements of the existing regulation of drinking water and their weaknesses.

Setting standards: a co-governance model

Determining standards for drinking water requires information and expertise from multiple disciplines in setting the standard and the acceptable approaches for meeting the standard (eg different treatment options), and determining monitoring and testing processes. The current approach relies on a central agency to seek out that information, including from regional suppliers. Previous studies, such as by the Productivity Commission, have revealed coordination problems and a tendency for central agencies not to effectively engage locally prior to decisions being made.

Table 1: Systemic problems with existing drinking water regulation

Elements of existing regulation	Weakness
Ministry of Health sets drinking water standards (DWNZ)	Recommendations on standards are divorced from detailed knowledge of the costs and means of achieving those standards
Suppliers required to take all practicable steps (the legal standard) to meet drinking water standards	No requirement to meet the standard, hence inevitable that drinking water for some communities will not meet standards.
Supplier deemed to comply with DWNZ if implements approved water safety plan (WSP)	Responsibility of supplier is to implement its plan (not necessarily deliver water to required standard)
WSP approved by Drinking Water Assessor (DWA) – DWA required to be a Health Protection Officer	Responsibility shifted from supplier to approver of the WSP, and assessing effectiveness of plan requires specialist technical and operational knowledge.
DWA employed by District Health Boards, but responsible to Director General of Health	Serving two masters creates range of practical difficulties and blurred accountability
Non-compliance with DWSNZ reported to the Ministry for instruction	No compliance or other enforcement actions taken

In a 2015 position paper on the three waters sector – that is drinking, waste, and storm water - LGNZ set out its preference for a co-regulatory model for elements of regulating the industry[1]. We propose a co-governance model to continuously evaluate and recommend to the Minister refinements to drinking water standards and mandatory processes.

< We propose a co-governance model to continuously evaluate and recommend to the Minister refinements to drinking water standards and mandatory processes. >

Once approved by the Minister, these standards would be enforced by the regulator. This formalised cooperative process would bring together the information held by central government policy makers with the knowledge of regional issues of local government and the technical insights of suppliers and assessors. As with the other elements of the regulatory model, careful attention would be needed to the design of these arrangements so they are effective and not simply another committee.

Regulation should be outcome or performance based

It is clear from the Inquiry, that the current 'principles-based' approach to the regulation of drinking water is not appropriate. Obligations for drinking water expressed in the form of "taking all practicable steps" and "implementing plans" means some communities will continue to be supplied water that does not meet the determined standard for safe drinking water with the consequence risk of a high degree of public harm.

The ability to objectively set and measure performance targets for drinking water suggests that an outcome or performance-based form of regulation is a good starting point. That is, the regulatory requirement should be to meet the standard. The diverse geographical and other aspects of the water sector means flexibility should be retained in how standards are met – for example, it may be cost effective, or more reflective of the community's preferences, for some communities to implement different treatment approaches from other communities, while achieving the required water standard. Although the orientation of the regulation would be outcome focused, some aspects of the sector may be subject to other forms of regulation, such as input- or process-based regulation of sampling practices.

Enforcing compliance should be independent from policy

We consider that the characteristics of the drinking water sector suggest that the entity charged with enforcing compliance with the drinking water standards should be independent from policy-making. This is because the costs of delivering safe drinking water are long-term in nature and there is value in separating the process of enforcing drinking water standards from the pressures of the electoral cycle. Separating enforcement from policy-making also reduces the risk of the standards being reinterpreted to mask inadequacies in the standards (which should be addressed explicitly rather than through variations in enforcement).

< ... the characteristics of the drinking water sector suggest that the entity charged with enforcing compliance with the drinking water standards should be independent from policy-making. >

1 LGNZ, 2015, Improving new Zealand's water, wastewater and stormwater sector: a position paper.

Table 2: Proposed change to elements of drinking water regulation

Elements of existing regime	Proposed regime
• Ministry of Health sets drinking water standards (DWSNZ) • Suppliers required to take all practicable steps to ensure drinking water complies with drinking water standards • Supplier required to monitor compliance with DWSNZ, and to prepare and implement a water safety plan (WSP) • Supplier deemed to comply with DWNZ if implements approved WSP • WSP approved by Drinking Water Assessor (DWA) – DWA required to be a Health Protection Officer (ie public health qualifications) • DWA employed by District Health Boards, but responsible to Director General of Health • DWA do not have enforcement powers • Non-compliance with DWSNZ to be reported to the Ministry for instruction – no compliance or other enforcement actions taken	• Co-governance entity: – to review and recommend to Minister refinements to DWSNZ and mandatory processes (eg testing) – foster knowledge sharing and promote and embed best practice • Suppliers required to meet the standards and comply with proscribed processes – ie, performance based regulation as measures can be set and tested objectively • Monitoring and enforcement by independent entity to ensure consistent and objective regulatory decisions, which is necessary to support long-term investment

Table 2 summarises the regulatory approach developed in this paper and compares it with the existing approach.

< We observe that there may be cost efficiencies and capability improvements available through the geographic consolidation of parts of the drinking water sector and the benefits of existing restrictions on organisational form are not apparent. >

Flexibility in organisation form could assist

How suppliers would be best organised and funded to meet the drinking water standards is beyond the scope of this report. We observe that there may be cost efficiencies and capability improvements available through the geographic consolidation of parts of the drinking water sector and the benefits of existing restrictions on organisational form are not apparent. Removing such restrictions would make it easier to bring specialist expertise into the sector. By adopting an outcome-based approach to regulation and removing organisational restrictions, the organisational forms required to achieve the required standards could then vary to establish the most effective form for a community taking into account the size of the organisation, its water sources, and the interests of the community.

Next steps

We recommend the next steps in evaluating the role and functions of a drinking water regulator would include:

- developing the collaborative mechanisms for recommending drinking water standards and mandatory processes;
- considering Ministerial accountability – developing proposals on which Ministers would be responsible for which parts of the system; and
- developing the role of the independent regulator, including clarifying lines of control over the regulators on the ground and how they operate.

LGNZ will pick up these matters in its next report.

1

Introduction and background

Introduction

Following an outbreak of campylobacteriosis in Havelock North in August 2016, the government established an Inquiry to investigate the outbreak. The Inquiry's Stage 2 Report identified "widespread systemic failure among water suppliers"[2] and concluded that "the administration of the present system of regulation does not ensure that water suppliers comply with the law and the [drinking water standards]."[3]

The Inquiry proposes that a dedicated drinking water regulator be established, but provides little refinement to the proposal. The Stage 2 report also points to and illustrates several sources of dysfunction besides the poor performance of the Ministry, some of which made the Ministry's role harder than it would have been if these other problems had not been present. However, because it did not consider the design of the regulator, the Inquiry report does not map the design choices for a regulator against the failures it observed, to identify the best organisational form for addressing those problems.

< The Inquiry proposes that a dedicated drinking water regulator be established, but provides little refinement to the proposal. >

Water 2050

LGNZ is building on our 3 Waters project through Water 2050. Water 2050 proposes that a more integrated water policy framework is needed. There are five components; allocation, water quality, infrastructure, governance and cost/funding. When new standards are set for water quality we need to understand what the costs are to meet them, how they will be paid for, whether communities can afford them, do they have the tools they need to pay for them and how should water be managed into the future.

This report considers at a high level a number of elements of how a drinking water regulator could operate and other aspects of the organisation of the drinking water sector. We elaborate on the need for a regulator, its prospective functions and its position in the web of relationships between entities in the potable water industry. We consider how the regulatory system might be changed to remove obstacles to improved sector performance. Our report, as with the Inquiry, focuses on networked supplies and does not address self-supply.

In this report we:

- provide a high level description of the structure of the sector and the key responsibilities of the many entities which comprise the New Zealand drinking water sector;
- summarise the problems identified by the Inquiry (an expanded summary is set out in the appendix to this report);
- outline some high level requirements of a regulatory system to ensure the safe supply of drinking water based on the findings of the Inquiry;
- review some aspects of the regulatory policy and institutions for drinking water;
- consider some of the implications for local government; and
- draw conclusions as to main elements of better safe drinking water regulation.

2 Paragraph 924
3 Paragraph 927

Characteristics of the drinking water sector

The drinking water sector in New Zealand comprises many players with differing geographical coverage. This section provides a high level description of the structure of the sector and the key responsibilities of the players.

Drinking water suppliers

Drinking water suppliers tend to be local (often the district or city council), although Watercare in Auckland and Wellington Water are regional drinking water suppliers. Some suppliers meter water and charge for water delivered. The amount charged by suppliers for reticulated drinking water is relatively modest when calculated on a volumetric basis, and relative to the importance to the health and economic activity of safe drinking water; WaterCare for example currently charges $1.48 per 1,000 litres.[4] Many local authorities bundle the costs of infrastructure and treatment processes into rates. In these cases, there is no direct connection between water supply services and the charges for those services – funding is determined through the rate setting process rather than the investment needs and customer interests.

Drinking water suppliers are required to take all practicable steps (the legislated threshold of care) to ensure an adequate supply of drinking water, including ensuring that drinking water complies with the drinking water standards (DWSNZ), notifying risks to supply and carrying out remedial action where water does not comply with DWSNZ. A supplier is deemed to have taken all practicable steps to comply with DWSNZ if it implements the provisions of its approved WSP that relate to DWSNZ. The implication is that the WSP defines the responsibilities of the supplier.

Suppliers must also take reasonable steps to protect the water source and drinking water supply system from contamination or pollution. The drinking water supplier is required to monitor the supply to determine compliance with DWSNZ, and to prepare and implement a water safety plan (WSP).

The Local Government Act (LGA) requires local authorities to assess and plan for the future water needs of their community and creates an accountability regime that requires local authorities to include in their annual report an assessment of the compliance of the drinking water supply with aspects of DWSNZ and details of the number of complaints received about drinking water and the authority's responses.

< The Local Government Act requires local authorities to assess and plan for the future water needs of their community and creates an accountability regime that requires local authorities to include in their annual report an assessment of the compliance of the drinking water supply with aspects of DWSNZ and details of the number of complaints received about drinking water and the authority's responses. >

There is also a continuous supply provision whereby district and unitary councils that provide drinking water must continue to do so. District and unitary councils must assess the adequacy of water services provided, from a public health perspective, from time-to-time.

Regulation of drinking water standards

The Ministry of Health has responsibility for issuing drinking water standards, appointing Drinking Water Assessors, medical officers of health and health protection officers, maintaining registers of drinking water suppliers and laboratories, publishing annual reports on compliance with the drinking water standards and declaring drinking water emergencies.

A Drinking Water Assessor (DWA) verifies and approves suppliers' WSPs and checks that the WSP is being implemented. DWAs do not have enforcement powers; non-compliance is reported to a designated officer (a medical officer of health or health protection officer) and the drinking water supplier. DWAs are responsible to the Director General of Health, but employed by the relevant DHB.

4 https://www.watercare.co.nz/CMSPages/GetAzureFile.aspx?path=~\watercarepublicweb\media\watercare-media-library\fees-charges\domestic_charges pdf&hash=a41f89aaf65d5c3aeb709672f33f460bf500650998888d48dc2069737251f4e6

A medical officer of health may serve a compliance order on a drinking water supplier. Designated officers (medical offers of health and health protection officers) have responsibility for enforcing compliance including bringing proceedings. In practice, the Ministry of Health has directed that all proposed enforcement action be referred to it for instruction. However, in the case of the Havelock North Inquiry, it was found that no compliance orders or other enforcement action have been undertaken.

Testing facilities

Laboratories are (mostly) accredited by International Accreditation New Zealand (IANZ), and the Director General of Health may recognise accredited laboratories to conduct tests and analysis of water. The Director General may specify terms and conditions relating to the recognition of any laboratory and maintains a register of recognised laboratories. Where sampling or testing is undertaken by persons other than a recognised laboratory, DWAs are required to assess their competence and have responsibility for authorising the person. DWAs and designated officers have no powers and functions in relation to testing and analysis by recognised laboratories.

DWSNZ may specify standards for sampling and testing as well as criteria and procedures for demonstrating compliance with the standards. Where any test indicates non-compliance with DWSNZ, the laboratory or tester is required to report this to the Director General. In practice, these results are sent to a DWA.

Regulation of water sources

Regional councils have primary responsibility for the quality and quantity of water in their region under the Resource Management Act (RMA). Drinking water suppliers are required to obtain resource consent from the relevant regional council, which is responsible for the allocation of water. Regional councils are also required to protect sources of drinking water from contamination under the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 (NES Regulations). Regional and district councils have responsibility for enforcing compliance with the RMA, including consents, and the Ministry for the Environment may intervene if the council is failing in this responsibility.

Findings of the Inquiry into the contamination of Havelock North drinking water

The Inquiry observed that drinking water contamination has the potential to affect extraordinary large numbers of people and to cause harm at a level which is extremely serious to individuals, communities, businesses, New Zealand's tourism industry and to society as a whole. Accordingly, very high standards of care are required for water suppliers.

However, the Inquiry's Stage 2 Report identified "widespread systemic failure among water suppliers"[5] and concluded that "the administration of the present system of regulation does not ensure that water suppliers comply with the law and the DWSNZ."[6]. The Inquiry commented that it had received credible evidence indicating that complacency was common within the drinking water supply system in New Zealand; it considered that the risks can be sporadic and poorly understood.

< The Inquiry's Stage 2 Report identified "widespread systemic failure among water suppliers" and concluded that "the administration of the present system of regulation does not ensure that water suppliers comply with the law and the DWSNZ." >

We summarise below some of the findings of the Inquiry that are relevant to the functions and design of a dedicated drinking water regulator; Appendix 1 provides more detail. The issues identified by the Inquiry relate to:

- Provision of leadership to the sector including providing guidance and advice to drinking water suppliers, DWAs, improving national compliance with the standards and implementing best practice.
- Ensuring that suitably skilled persons undertake the various roles within the sector, including by registration (eg laboratories), licensing (eg drinking water suppliers) and accreditation (eg DWAs and samplers) where appropriate.

5 Paragraph 924
6 Paragraph 927

- The level of resources committed to ensuring safe drinking water supply, in particular in relation to industry leadership, monitoring, compliance and enforcement functions.
- The structure of some parts of the sector, in particular the Ministry of Health as the regulator and the employment structure of DWAs were identified as problematic. In addition, the Inquiry considered the structure of drinking water suppliers and establishing dedicated suppliers and the possible consolidation of the suppliers, DWA services and laboratories.
- The lack of an effective enforcement regime, which has allowed poor compliance to be sustained for several years.
- The fact that a number of standards are not mandatory. For example, currently some provisions are subject to an "all practicable steps" threshold, where a step could be deemed not practicable on the basis of affordability (amongst other things), or a standard does not need to be met as it would be addressed over time as part of an approved plan.

Defining the key problem

The Inquiry's Stage 2 report runs to near 300 pages. We consider that the problem identified by the Inquiry is, in essence, that New Zealanders cannot rely on a nationally safe supply of reticulated drinking water.

The problem appears to be principally around four areas as outlined below.

Roles and responsibilities

While conceptually not excessively complex, the structure of the regulation of drinking water has not been successful with confusion over roles and responsibilities resulting in gaps in safe delivery. The location of responsibility in the government's health agencies has limited the level of resources and range of expertise brought to bear on the regulation of the sector, in particular expertise in relation to water supply processes and treatment is limited.

Monitoring and regulation

The level of resources applied to monitoring and regulating the safe supply of drinking water should reflect the potential for significant consequences of an adverse event in terms of health and economic costs. The Inquiry found that the current level of resourcing is insufficient. There is no system for monitoring developments in international best practice. The provision of guidance and advice to suppliers has been poor and once issues become known resolving them is not always accorded urgency.

Investment in infrastructure

The localised supply and monitoring of drinking water has caused problems in terms of the provision of infrastructure and its affordability and the availability of expertise in all areas. Local council-owned providers may be subject to fiscal and political pressure leading to under-investment in infrastructure. Many providers do not have long term plans for investment in water infrastructure, or are unable to afford the needed investments.

< The localised supply and monitoring of drinking water has caused problems in terms of the provision of infrastructure and its affordability and the availability of expertise in all areas. >

Compliance with standards

There is no absolute duty to comply with the DWSNZ, only practicable steps are required, which may exclude those that are deemed unaffordable by a local body. The legislative framework requires only that the supplier implement its approved WSP to be deemed to comply with the DWSNZ. Furthermore there is no evidence of effective enforcement, with no compliance orders issued or prosecutions undertaken since the regime came into effect.

There is a shortage of DWAs which has been exacerbated by the requirement imposed by the Ministry of Health that only health protection officers can be a DWA. The lack of a career structure for a DWA has also diminished the attractiveness of this role.

2

Ensuring a safe supply of drinking water

Ensuring a safe supply of drinking water

This section provides some high level requirements of a scheme to ensure the safe supply of drinking water based on the findings of the Inquiry. Section three considers some aspects of the regulatory policy and institutions for drinking water while the final section of this report looks at some of the implications for local government.

Achieving adequate and appropriate infrastructure

The safe supply of drinking water is achieved through the provision of adequate and appropriate infrastructure. The consequence of getting it wrong is a negative public health outcome. One of the issues identified by the Inquiry is that the regulatory effort has largely been focused on public health. The Inquiry found that this was misplaced. The focus of the regulatory effort should move to ensuring adequate, appropriate drinking water infrastructure (including treatment).

< The focus of the regulatory effort should move to ensuring adequate, appropriate drinking water infrastructure (including treatment). >

This shift in focus would require suppliers and those involved in monitoring and assessing compliance with regulations and standards to have relevant and adequate skills, with more emphasis on knowledge of water infrastructure and the supply process, including treatment, than currently.

We propose a co-governance scheme to allow the expertise of different parties to be brought together in a collaborative approach to standard setting. This is discussed further below.

Overcoming decentralisation of drinking water supply

The highly decentralised nature of drinking water supply is potentially problematic with skill shortages and low levels of resources dedicated to the sector. One solution to this may be to increase resource pooling across regional communities of interest. It is possible that this would be inconsistent with the legislative requirement around continuity of supply by a local authority that is currently supplying drinking water, although we note that regional operators have been formed in some areas. However, resource pooling could still apply to labs and DWAs, reducing the need to build resource capacity.

< We propose a co-governance scheme to allow the expertise of different parties to be brought together in a collaborative approach to standard setting. >

Even if the regulatory effort is focused on infrastructure, there is still a need to coordinate between regulatory agencies as there are also environmental and health aspects to drinking water provision. The Inquiry proposed that Joint Working Groups (JWGs) become mandatory to address issues around lack of co-ordination between public health, environment, and planning agencies. The risk with this approach is that it prolongs or exacerbates current problems with lack of clarity over roles and responsibilities.

Reporting and accountability

There is a lack of clarity about the reporting and accountability structures – for example, if the supplier is responsible for the provision of safe drinking water, what is the reliance that can be placed on the DWA regime by the supplier? The minister, the public and the suppliers should have information about the compliance of the drinking water with the DWSNZ: the current regime does not provide this in a form that is useful to the relevant parties, or arguably that accurately measures compliance, and there is potentially inefficient duplication between the requirements on the local authority and the Ministry.

Industry leadership

The varied size and skill of the drinking water suppliers suggests that industry leadership is required including provision of advice and guidance for example dissemination of specialist knowledge and best practice, provision of templates, answering technical and policy queries.

The Ministry of Health was criticised for not moving swiftly once issues became known. The risk of an adverse event is sporadic resulting in a tendency to complacency and increasing the risk of human error. "Change precedes contamination": active monitoring of the environment is important, and the structure of the sector and its regulation must allow urgent action where issues become known.

International understanding of risks to the safe supply of drinking water and supply process knowledge is evolving. The lack of resources or a system to monitor this knowledge and disseminate and implement it where relevant means that New Zealand's drinking water supply is unnecessarily vulnerable.

3

A drinking water regulator

A stronger regulatory approach

The Productivity Commission (the Commission) undertook an inquiry into regulatory institutions and practices in New Zealand in 2014.[7] This report provides comprehensive guidance in relation to the establishment of a regulator.

The Commission's report describes four different regulatory standards:

- Principles-based regulation – which sets high level qualitative rules that entities must follow in their conduct (such as "taking reasonable care");
- Performance or outcome-based regulation – which sets the goals to be met, but not how to meet them;
- Input-based or prescriptive regulation – which specifies the inputs which must be used to achieve compliance; and
- Process or system based regulation – which requires entities to have systems or processes with specified elements.

It goes on to outline the advantages and disadvantages of each. The choice of the best regulatory standard for a particular situation is affected by a number of factors including the ease with which outcomes can be measured, the trust between the regulator and the regulated parties, the extent to which good practice is likely to change over time, the capability of the regulator and the regulated parties, and the degree to which standardisation is desirable.

The Inquiry was critical of existing principles-based approaches such as taking "all practicable steps" to comply with a standard. We agree that a principles-based regulation is unlikely to be appropriate for drinking water safety as non-compliance creates a high degree of public harm and innovation is not a significant feature of industry practice.

< The ability to objectively set and measure performance targets suggests that an outcome or performance-based form of regulation is a good starting point. >

7 Productivity Commission, 2014, *Regulatory institutions and practices*

The ability to objectively set and measure performance targets (such as concentrations of contaminants) suggests that an outcome or performance-based form of regulation is a good starting point. Mandatory standards could be supported by targeted input and process-based regulation. The Inquiry's Stage 2 report suggested, for example, that a licensing and qualification regime be implemented for drinking water suppliers, and some form of accreditation would be usual practice for laboratories.

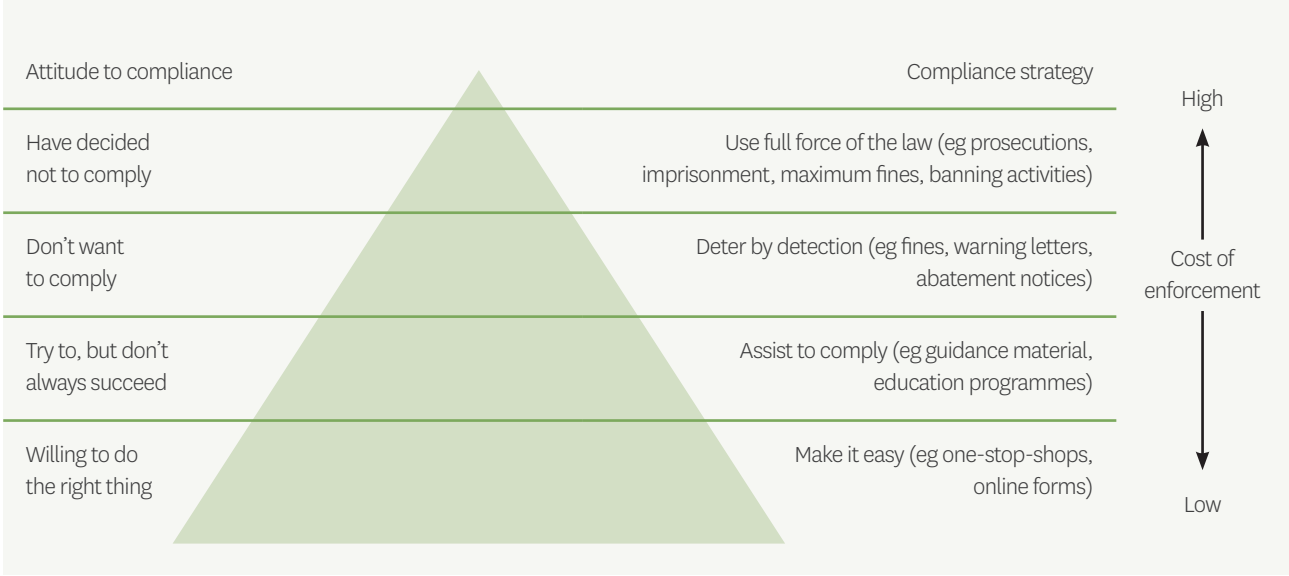
Compliance framework

In addition to the regulatory standard that is adopted, the regulator must choose a strategy for achieving compliance. The two central approaches are compliance or deterrence. In a deterrence model the regulator adopts a largely hands-off approach and sanctions those that do not meet the regulatory requirements. Compliance models can be classified as "responsive" or "risk-based".

< The two central approaches are compliance or deterrence. >

Responsive regulation focuses on the attitude of the regulated party to compliance, and targets maximising compliance. Figure 1 overleaf shows a typical "enforcement pyramid" that reflects this responsive regulation model. Sometimes referred to as a VADE (voluntary, assisted, directed, enforced) model, at the bottom of the pyramid, a large number of parties are willing to comply and voluntary measures are sufficient to ensure compliance. Moving up the pyramid, efforts to comply diminish and the compliance strategy moves to increasing assistance and deterrence threats appealing to the regulated parties' self-interest. Those at the top of the pyramid are the small number who have decided not to comply and amongst whom compliance must be enforced.

Figure 1: Enforcement pyramid



Source: Productivity Commission, 2014, page 56

Risk-based models of compliance focus on identifying and assessing the risk of harm and concentrating regulatory resources on the greater risks and thereby reducing harm. The UK Drinking Water Inspectorate uses a risk-based regulatory model.[8] The usefulness of risk-based mechanisms can depend on the complexity of the system and the ability of the regulator to identify the risks. Risk-based systems can suffer from a lack of political or public understanding of the risks in a regulated environment, especially if the regulator is successful in mitigating the risks. This may lend support to protecting a risk-based regulatory system from political interference.

The Commission argues for greater integration of two approaches – the focus of responsive regulation on the behaviour of regulated parties and the risk-based assessment of activities and sites. It argues that the institutional environment of the regulator – including its capacity, capability and priorities, legal requirements and the extent of its independence from political and public pressures – underpin the regulator's actions.

Responsive regulation recognises that organisational and institutional factors influence the regulatory outcome. This includes recognising that organisational factors influence the behaviour of the regulated parties (not just their attitude to compliance) and the institutional design of the regulator also affects the regulatory outcome (for example resources, decision-making power and role clarity).

Regulatory interventions should have a coherent logic (both within and between regulators). The design of the regulatory institution, the Commission argues, should allow the regulator to assess its own performance and modify its approaches in response, adapt to change in risks and include mechanisms for updating the regulatory regime if required.[9]

Factors that influence regulatory practice include:

- attitude, motivation and capacity of the regulated firm to comply;
- regulator's capacity, capability and prioritisation of efforts;
- constitutional, statutory and legal requirements;
- independent ability to make decisions – extent of political, public, or other pressures;
- role within the wider regulatory system;
- clarity of objectives, mandate; and
- evaluation and assessment to drive adaptation and ensure performance

8 The Drinking Water Inspectorate Business performance report 2016/17, July 2017, http://www.dwi.gov.uk/about/our-strategic-plan/bpr_16-17.pdf accessed 2 February 2018.
9 Productivity Commission, 2014, Box 3.6, pages 75-76.

Institutional independence

The choice of institutional form can be an important signal about the independence of the regulator and about the perception of a change from the status quo. There are two main reasons for delegating regulatory or quasi-regulatory powers from Parliament to government agencies. These two reasons are to:[10]

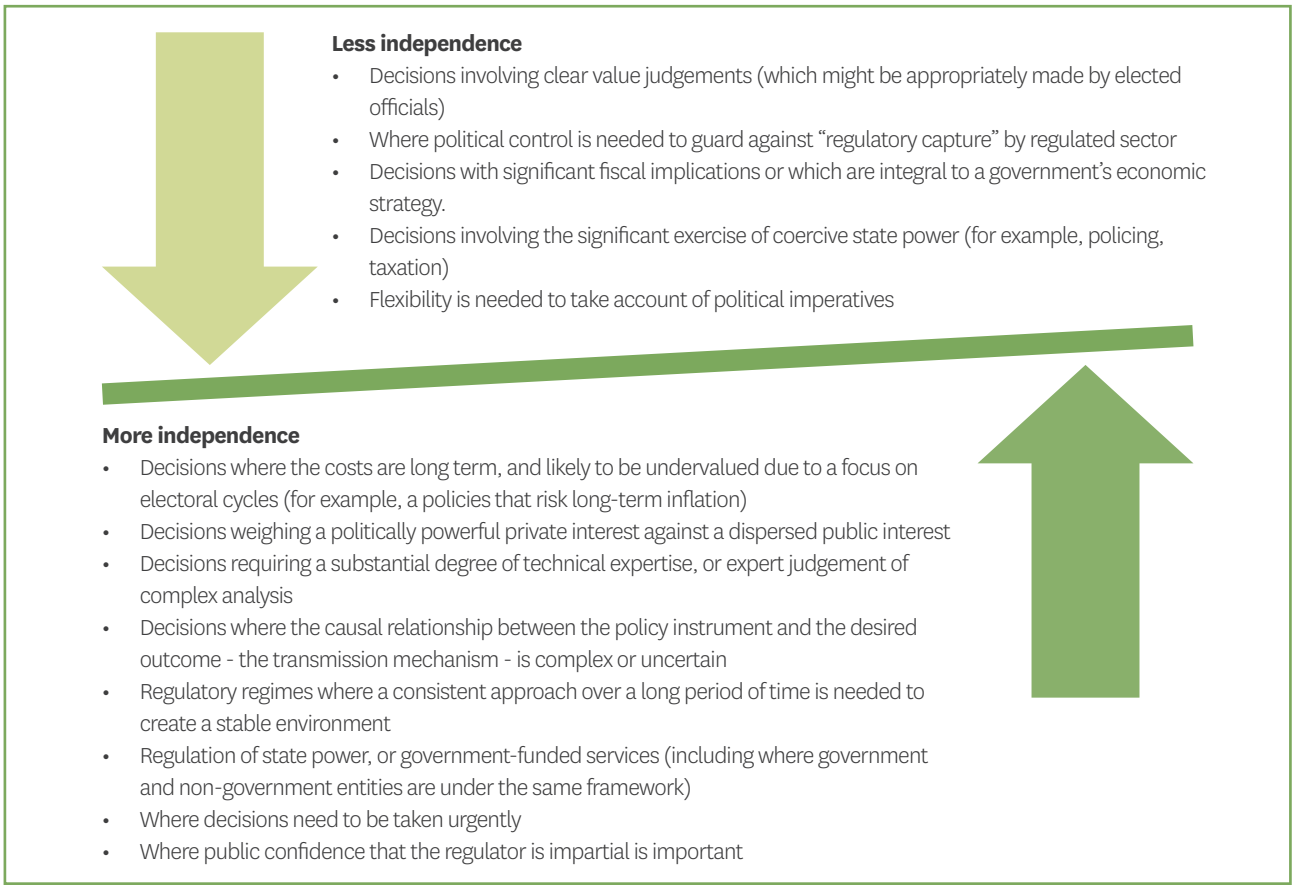
- reduce decision-making costs, for example by taking advantage of agency expertise; or
- enhance the credibility of long-term policy commitments.

Each of these motivations for delegating decisions share a number of common features. In both cases, Parliament remains interested in the competence of the entity making the decision and in the costs of the decision process. However, these two motivations require quite different governance structures.

Where the purpose of the delegation is to reduce decision-making costs, the key problem to be addressed in the governance design is ensuring that the agent (in this case, the regulator) makes decisions that represent the preferences of the delegating principal (in this case the Minister). Hence the governance arrangement should contain various controls that align as much as possible the preferences of the principal and of the agent.

The situation is very different if the main reason for delegating the decisions is to enhance credibility of long-term policy commitments. In these circumstances, the policy preferences of the party to which decisions are delegated may differ from the short-run preferences of the delegating principal. This is why decisions on day to day monetary policy actions and price control of monopolies are not located in policy agencies.

Figure 2: Features indicating a need for more or less regulatory independence



Source: Productivity Commission, 2014, page 218

10 See Giandomenico Majone, 'Strategy and Structure the Political Economy of Agency Independence and Accountability, in Designing Independent and Accountable Regulatory Authorities for High Quality Regulation, OECD Working Party on Regulatory Management and Reform, Proceedings of an Expert Meeting in London, 10-11 January 2005, p 126.

The Commission in its 2014 inquiry report into regulatory institutions and practices presents a useful framework for guiding the extent to which regulatory independence is needed in a specific situation.

The balance of features outlined by the Commission weighs towards independence for a regulator of drinking water. The need for technical, rather than value-based, decisions in the drinking water sector would seem to support this conclusion. The Commission went on to note that there were different dimensions of independence including:

- The ability to set and adjust rules and regulations (regulatory independence);
- The ability to exercise a range of powers without interference (operational independence);
- Funding arrangements that protect the regulator from political or sectoral pressure (budgetary independence); and
- The formal distance from the government and rules around appointment and dismissal of Board members and senior staff (institutional independence). This is the dimension of independence that probably receives the most focus (see following section on Worksafe).

One of the important factors to consider in assessing the need for regulatory independence in the drinking water sector is that the regulated parties (the drinking water suppliers) are principally controlled by local government. The 2013 Productivity Commission inquiry into local regulation found that there was generally a poor relationship and interface between central and local government. The roles, obligations and accountabilities of the two segments of government need to be clear and understood to improve regulatory outcomes (see Section 4 on Implications for local government).

< The roles, obligations and accountabilities of the two segments of government need to be clear and understood to improve regulatory outcomes. >

Institutional form

Concerns with drinking water safety are not the first time policy makers have considered the role of regulation in health and safety outcomes. In 2012, the Royal Commission on the Pike River Coal Mine Tragedy and the Independent Taskforce on Workplace Health and Safety (the Independent Taskforce) found various problems with and made recommendations for improvements to workplace health and safety regulation and the structure of the regulator.

The changes in workplace health and safety regulation were motivated by relatively poor health and safety outcomes and consequent concern about the effectiveness of the way in which the regulator was structured and its overall performance. Prior to the establishment of Worksafe, responsibility for workplace health and safety regulation sat primarily with MBIE, with other agencies (such as the CAA) having specific responsibilities within this. The Independent Taskforce was charged with reviewing whether the system was fit for purpose; it recommended the establishment of a Crown agent.

Parallels between the findings of the Independent Taskforce and the Stage 2 Inquiry suggest that the form of Worksafe and judgements about the success of that form may influence the government's consideration of the structure of the drinking water regulator. For example the Independent Taskforce found:

- A lack of national leadership on workplace health and safety and gaps in and a lack of clarity about regulatory responsibilities.
- Inconsistent practice across agencies and a lack of coordination between them.
- Overlapping jurisdictions and ambiguity from the public's perspective about the lead agency in a specific situation.

The regulatory impact statement (RIS) regarding the establishment of the workplace health and safety regulator (Worksafe) provided analysis of three high-level options for the regulator's structure: a department (which was the status quo), a departmental agency or a Crown agent. Autonomous and Independent Crown Entity structures were discounted because a regulator with one of these structures would have less ability to influence regulatory policy, which was deemed an important feature of the regulator. A second disadvantage of these structures of these structures in this instance was that the government would have less ability to hold the regulator to account for its performance.

The RIS analyses the structural options against the following objectives:

- Regulator independence from day-to-day government interference;
- A primary focus on workplace health and safety;
- Public credibility;
- Policy effectiveness;
- Mitigating risk of poor performance;
- Appropriate level of funding;
- Efficiency of operation;
- Ease of implementation and sustainability;
- Appropriate skills and capability; and
- Management of potential for conflicting roles.

Worksafe is a Crown agency with a governance board appointed by the Minister for Workplace Relations and Safety. This was the structure preferred by MBIE at the time of its establishment, which argued that it was important to create a perception of change as this symbolism would influence attitudes and behaviours. Also, that a Crown agent would have a more durable purpose than the other structures, which MBIE argued was particularly important for low frequency-high impact risks. This argument may also be advanced for drinking water safety.

Treasury and the State Services Commission disagreed, arguing that a departmental agency structure would be lower cost, be more accountable to the Minister, and provide better integration with other government agencies enhancing coordination efforts.

At the present time there is only one departmental agency in New Zealand: the Social Investment Agency, which was launched in July 2017. The Commission has previously expressed concern that this type of agency could create confusion around the respective roles and responsibilities of the chief executives and ministers of the departmental agencies and host departments.[11]

11 Productivity Commission, 2014, op cit., Chapter 9.

4

Implications for local government

Allocation of regulatory roles

The Productivity Commission developed a framework for determining the allocation of regulatory roles between central and local government.[12] This is outlined in Figure 3. Three principles relate to who should be responsible for setting regulatory policy and standards; three principles relate to which level of government should implement and administer the regulations.

Figure 3: Productivity Commission framework for allocating regulatory roles

Principles for allocating the regulatory policy and standard settting role

Consider the distribution of costs and benefits:

When the costs and benefits of a regulatory outcome are contained locally, then local decision makers should have control over the regulatory policy.

When the costs and benefits of a particular outcome spill over outside local boundaries, then decision makers that cover the spillover should have control over the regulatory policy.

Consider the desirability of local variability in outcomes:

The regulatory outcomes sought should be specified as clearly as possible.

Local policy making should occur when local variability for a specific regulatory outcome is likely to lead to better regulatory outcomes.

National limits and bottom-lines should be specified when a more limited range of variability is in the national interest.

Consider who can be held accountable:

Regulators should be responsible for outcomes and have the autonomy to make policy decisions that influence those outcomes.

Policy-making responsibility should be given to the level of government where the electorate has the most interest (and ability) to hold the regulator to account for the policies made.

Regulatory regimes should be designed with the appropriate accountability mechanisms, to enable the regulatory policy maker to be held to account.

Principles for allocating the implementation and administration role

Consider cost:

Implementation and administration of regulation should be consolidated when there are significant cost-efficiences to be gained.

When implementation requirements vary significantly between jurisdictions, locally specific implementation is appropriate.

Allocate responsibility where there is an alignment of incentives for cost-effective delivery.

Consider where capability and information is held:

The implementation ad administration of regulation should be located where there is capability to undertake the task, or where the capability can be built.

Existing implementation capacity should be assessed and considered, with a view to achieving synergies in the administration of regulatory functions of a similar nature.

Regulatory implementation should be aligned close to the source of the required information.

Consider sources of funding:

Match the service delivery funding base with the regulatory benefit distribution as closely as possible.

Where there is a mismatch between service delivery funding and benefit distribution, explicitly consider whether a fiscal transfer between jurisdictions is needed to achieve the objective of the regulation.

Source: Productivity Commission, 2013

12 Productivity Commission, 2013, *Towards better local regulation*.

Table 3 then applies this framework to the regulation of drinking water, providing examples of factors to consider and preliminary analysis. The table suggests that policy and standards setting should be national. Aggregation of some monitoring and testing functions to a regional or national level potentially offers cost efficiencies and scope for better outcomes. Sampling would still be required to be undertaken locally and links with other local government functions in relation to water regulation underscore the need for clarity and cooperation between local and central government.

Table 3: Allocation of responsibility between central and local government

Key questions	Principles	Examples of relevant factors	Preliminary assessment using the principles
Policy and standard setting			
Where is the community of interest? Who bears the costs and benefits? What is the local and national interest in safe drinking water?	When the costs and benefits of a regulatory outcome are contained locally, then local decision-makers should have control over the regulatory policy. When the costs and benefits spill over outside the local boundary, then decision-makers that cover the spillover should have control.	Unsafe drinking water is a health and safety issue which is of national interest. Direct costs of unsafe drinking water fall on centrally-funded agencies (e.g. hospitals). Central government has a clear interest in ensuring that drinking water meets a minimum safe standard. Local communities are also interested in having safe drinking water. Unsafe drinking water has an effect on local businesses, particularly in the food and beverage industry. Tourism could also be affected by unsafe drinking water.	**There is both national and local interest in having safe drinking water. The national importance of a minimum standard of safety for drinking water and the potential costs of unsafe drinking water creates the need for minimum national standards for safe drinking water.**
Should there be local variability of in the minimum standard for safe drinking water?	The regulatory outcomes sought should be specified as clearly as possible. Local policy making should occur when local variability for a specific regulatory outcome is likely to lead to better regulatory outcomes. National limits and bottom-lines should be specified when a more limited range of variability is in the national interest.	There is no rationale for different minimum standards of safe drinking water. Consumers should be able to expect a nationally consistent standard of drinking water.	**The minimum standards in the DWSNZ should be the same for all drinking water throughout New Zealand.**

Key questions	Principles	Examples of relevant factors	Preliminary assessment using the principles
Can central government be held accountable for national drinking water standards?	Regulators should be responsible for outcomes and have the autonomy to make policy decisions that influence those outcomes. Policy-making responsibility should be given to the level of government where the electorate has the most interest and ability to hold the regulator to account for the policies made. Regulatory regimes should be designed with the appropriate accountability mechanisms, to enable the regulatory policy maker to be held to account.	Central government has the overall responsibility for the safety of drinking water and ensuring that the standards reflect public preferences. Large-scale failures within a region, such as the Havelock North outbreak, are of national and local concern. Systemic failures, such as the inaccurate measurement of compliance with DWSNZ, are also of national concern.	**Accountability for setting drinking water standards should be held centrally.** **While implementation of the standards may occur at a local level, when a significant issue arises the public seek central government action.**
Implementation and administration			
Is there significant potential for cost efficiencies in implementation or administration?	Implementation and administration should be consolidated when there are significant cost efficiencies to be gained. When implementation requirements vary significantly between jurisdictions, local specific implementation is appropriate. Allocate responsibility where there is an alignment of incentives for cost effective delivery.	Aggregating delivery functions into a single body or fewer bodies can deliver cost efficiencies where regulatory functions are low frequency but high risk. Local authorities may not develop competence in these functions if they are rarely used. The Inquiry found that the risk to the safety of drinking water was sporadic, but with very costly consequences. The risk of complacency in the face of a sporadic risk suggests that some functions, such as assessment, may be better suited to a more central implementation. Scale efficiencies can be achieved where there is a high volume of geographically independent processes, such as testing water in a laboratory Sampling would still need to be undertaken at a local level.	**Centralising the administration of assessment and testing functions could lower cost. Sampling would still need to be undertaken locally.**

Key questions	Principles	Examples of relevant factors	Preliminary assessment using the principles
What is the current capability to administer DWSNZ? Can the capability be sustained at a local level? Are there other synergies with other regulatory functions? Is the relevant information for implementation of drinking water standards held at a local or national level?	The implementation and administration of regulation should be located where there is capability to undertake the task, or where capability can be built. Existing implementation capacity should be assessed and considered, with a view to achieving synergies in the administration of regulatory functions of a similar nature. Regulatory implementation should be aligned close to the source of the required information	The findings of the Inquiry suggest that there would be benefits in pooling resources such as DWAs and laboratories in terms of improving the availability of expertise. This would also improve national consistency of the expertise and allow learning to be applied between areas. There may be economies of scope with other RMA functions undertaken by regional or local councils in relation to protecting water sources. Local communities are likely to have the best information about the local preferences, but may not have good access to specialists.	**Centralised or more centralised assessment and testing would enable the sharing of information and learning between areas to improve drinking water processes. This may better ensure that all drinking water was tested to the same standard.** **Local authorities have some other functions in relation to water and hold relevant information about water sources and community requirements. It will be important to effectively delineate responsibilities and use local information.**
Are suitable arrangements for funding of safe drinking water within the legal mandate of local or central government?	Match the service delivery funding base with the regulatory benefit. Consider whether a fiscal transfer between jurisdictions is needed to achieve the objective of the regulation.	Local and central government have the ability to fund safe drinking water through rates or metering and taxes respectively. As central government sets a standard to apply across the country there may be a case for funding in areas where the cost cannot be met locally.	**There may be a case for a fiscal transfer from central to local government to achieve a consistent standard of safe drinking water.**

In a 2015 position paper on the three waters sector[13], LGNZ set out their preference for a co-regulatory model where the sector took ownership of regulating the industry.[14] The analysis in this paper suggests a refinement to this model, such that a collaborative approach is taken to standard setting, with the responsibility for enforcement held by a regulator in the form of an independent entity. This model would ensure the safety and quality of drinking water at national standards.

In their position paper, LGNZ used an analogy of the gas sector co-regulatory model. The refinements suggested above are not inconsistent with the model in the gas sector. The Gas Industry Company is the approved industry body under the Gas Act 1992 and may recommend regulations to the Minister of Energy and Resources in relation to the wholesale market, access to infrastructure and consumer outcomes. The safety and quality of gas, including safe supply by gas networks, is regulated by Worksafe NZ under the Gas Act.

A collaborative approach to determining standards in the drinking water sector would be consistent with the observation of the Inquiry that there are environmental, health and infrastructure aspects to the provision of safe drinking water. A collaborative model or process would allow the information and capabilities of relevant regional and local government agencies to be brought together with central government policy makers including the Ministry of Health. This

13 The three waters sector includes drinking water, wastewater and stormwater.
14 LGNZ, 2015, Improving New Zealand's water, wastewater and stormwater sector: a position paper.

would reflect the diverse nature of the sector and is consistent with the outcomes outlined by LGNZ in its position paper, specifically that decision-making processes recognise and resolve trade-offs. At the same time, it would ensure that national objectives are set and consistently enforced to protect the safety of drinking water.

< A collaborative model or process would allow the information and capabilities of relevant regional and local government agencies to be brought together with central government policy makers >

Role clarity

The Introduction and background section of this report notes that there are a number of local and central government agencies involved in the regulation of water. The regulatory framework is contained within the RMA, the LGA and the Health Act. This rather complex regulatory environment means that it is important for there to be clarity in terms of the role of each element of the regime. In establishing any new regulatory arrangements careful consideration should be given to the roles of existing agencies and regulations to ensure that the regimes are consistent and compliance requirements are not duplicated.

Poor role clarity can result in gaps in regulation, monitoring or enforcement as has been seen in the existing drinking water regime where the Inquiry found that there was no effective enforcement.

While there may be sensible arguments for distributing the regulatory functions between central, regional, and local agencies to align with other regulatory frameworks (such as the RMA), it would be wise to consider the whole system as it relates to drinking water and ensure that the regime minimises risk and costs. To the extent that specialised expertise, compliance costs and the need for effective inspection support a distributed model (see framework in the previous section "Allocation of regulatory roles"), the Commission recommends using coordination mechanisms such as memoranda of understanding and a single ministerial point of accountability.

< The Commission recommends using coordination mechanisms such as memoranda of understanding and a single ministerial point of accountability... to clearly set out respective roles and responsibilities, establish processes where there are overlapping interests and agree enforcement approaches or principles. >

In their 2014 report on regulatory institutions and practices the Commission found that co-operative agreements such as memoranda of understanding play an important role in managing regulatory overlaps.[15] These can be used to clearly set out respective roles and responsibilities, establish processes where there are overlapping interests and agree enforcement approaches or principles. The Commission found that this could reduce conflicting or duplicated obligations on regulated parties. The Commission recommended that to be most effective, co-operative agreements should:

- Be regularly reviewed, to ensure they are fit for purpose and being used effectively;
- Be publicly available, so that the relationships are clear and transparent;
- Provide clear guidance to regulated firms and individuals, in plain English, outlining how the agencies will respond in specific circumstances; and
- Be empowered by legislation: "ideally, legislation 'should explicitly empower regulators to cooperate with other agencies and bodies in pursuit of the regulator's objectives. This will allow regulators to simplify their dealings with business and other entities through delegation, information sharing, joint regulation, and co-regulation'".[16]

15 Productivity Commission, 2014, *Regulatory institutions and practices*, page 211.
16 Ibid, quoting Government of Victoria, 2010, *Improving the governance of regulators: principles and guidelines*, Melbourne, VIC, Australia: Department of Premier and Cabinet.

5

Conclusion and next steps

Conclusion

The Stage 2 report of the Inquiry into the outbreak of campylobacteriosis in the Havelock North drinking water supply proposes that a dedicated drinking water regulator be established. A range of responsibilities are suggested, but limited detail is provided about the regulator itself.

In this report, we have considered at a high level a number of elements of how such a regulator could operate and other aspects of the organisation of the drinking water sector.

The characteristics of the drinking water sector suggest that an independent entity would be more a more appropriate institutional structure than the status quo of siting the regulator within a policy department. This is because the costs of delivering safe drinking water are long term in nature and there is value in separating the imperative for such expenditure and the process of enforcing drinking water standards from the pressures of the electoral cycle. This entity would be responsible for enforcing standards but would not set those standards.

The current principles-based approach to regulation is not appropriate, as non-compliance creates a high degree of public harm. The ability to objectively set and measure performance targets suggests that an outcome or performance-based form of regulation is a good starting point. The diverse geographical and other aspects of the water sector means flexibility should be retained in how standards are met, although some aspects of the sector may be subject to other forms of regulation, such as input- or process-based regulation of sampling practices.

We propose a co-governance model to continuously evaluate recommend to the Minister refinements to drinking water standards and mandatory processes. Once approved, these standards would be enforced by the regulator. This cooperative process could bring together the information held by central government policy makers with the knowledge of local issues of local government and the technical insights of suppliers and assessors. As with the other elements of regulatory model, careful attention would be needed to the design of these arrangements so they are effective and not another committee.

There may be cost efficiencies and capability improvements available through the geographic consolidation of parts of the drinking water sector, and the benefits of existing restrictions on organisational form are not apparent. Removing such restrictions would allow appropriate expertise to enter the sector, including private sector expertise. By adopting an outcome-based approach to regulation and removing organisational restrictions, the organisational forms required to achieve the required standards could then vary as appropriate taking into account the size of the organisation, its water sources and the interests of the community.

< We propose a co-governance model to continuously evaluate and recommend refinements to the Minister to drinking water standards and mandatory processes. Once approved, these standards would be enforced by the regulator. This cooperative process could bring together the information held by central government policy makers with the knowledge of local government and the technical insights of suppliers and assessors. >

Next steps

We suggest the next steps in evaluating the role and functions of a drinking water regulator would include:

- developing the collaborative mechanisms for recommending drinking water standards and mandatory processes;
- considering Ministerial accountability – developing proposals on which Ministers would be responsible for which parts of the system; and
- developing the role of the independent regulator, including clarifying lines of control over the regulators on the ground and how they operate.

LGNZ will pick up these matters in its next report.

Appendix

Appendix: Findings of the Government Inquiry into Havelock North drinking water

The Inquiry recommended that the Government establish a dedicated drinking water regulator and identified a number of matters and agencies for which the regulator could have responsibility. These included:[17]

- DWAs
- Water suppliers
- Compliance and enforcement
- Samplers and laboratories
- WSPs
- Leadership for the drinking water industry

The Inquiry focused on networked suppliers (those suppliers supplying multiple properties) as opposed to self-suppliers. Self-suppliers can be relatively large institutions, such as some prisons and hospitals and Lincoln University. Given this, the scope of the regulator's remit was identified as something that should be considered further.

Part 2 of the Inquiry's Stage 2 Report identifies six principles of drinking water safety that should inform reforms and the operation of the sector. These principles are:[18]

- A high standard of care must be embraced
- Protection of source water is of paramount importance
- Maintain multiple barriers against contamination
- Change precedes contamination
- Suppliers must own the safety of drinking water
- Apply a preventative risk management approach

In addition, the Inquiry has stated that simplicity and clarity and ensuring mandatory and effective compliance with legislative requirements are paramount to the regulatory scheme.[19]

Problems identified

The Inquiry's Stage 2 Report identified "widespread systemic failure among water suppliers"[20] and concluded that "the administration of the present system of regulation does not ensure that water suppliers comply with the law and the DWSNZ. The Ministry of Health is incapable of doing so"[21]. The two key recommendations of the Inquiry are "for the treatment of all supplies and the setting up of a dedicated drinking water regulator".[22]

This appendix describes the key issues identified by the Inquiry as they relate to the design of a dedicated drinking water regulator. Lack of leadership by the Ministry of Health

One of the key problems identified by the Inquiry was the lack of leadership in a fragmented regulatory environment. The Inquiry noted that different aspects of drinking water regulation were the responsibility of different bodies, for example local authorities have responsibility for environmental protection while health authorities have a responsibility around public health aspects. This gave rise to issues around co-operation and collaboration between agencies and at times a poor accountability structure.

The Ministry of Health has a key leadership role in the current regulatory regime, and the Inquiry found that it "discharged few of its responsibilities well, and many not at all."[23] Key issues raised in relation to leadership were the lack of urgency in terms of dealing with known issues, limited encouragement of collaboration and cooperation and unresolved questions about the provision of specialist advice to the industry.

A range of problems were identified by the Inquiry's Stage 1 Report in relation to the safety of drinking water in Havelock North and nationally: there was no evidence that the Ministry of Health used its statutory or other powers in relation to any of these matters, nor did it encourage the exercise of powers by designated officers or DWAs. The Ministry did not provide the Inquiry with proposals or initiatives to resolve these issues for reasons that the Inquiry labelled "not valid or reasonable".[24]

17 Paragraph 428
18 Paragraph 31
19 Paragraph 382
20 Paragraph 924
21 Paragraph 927
22 Paragraph 927
23 Paragraph 253
24 Paragraph 263

There was no evidence found by the Inquiry that the Ministry has an effective programme for keeping up-to-date with international best practice. The structure of the Ministry's drinking water team "does not facilitate adequate strategic monitoring of international best practice or instigating changes where international best practice calls for that."[25]

Collaboration between local, relevant environmental, local government and health agencies was considered by the Inquiry as "necessary and important… and a cornerstone of a safe drinking water regime."[26] It found a lack of recognition of the importance of collaboration and of processes and systems to enable it.[27] The Inquiry recommended that regional joint working groups (JWGs) be made mandatory to promote collaboration between environmental, local government and health agencies.[28] The Inquiry considered that a dedicated drinking water regulator would have a role to provide leadership and guidance to JWGs nationally.

The Ministry has a "National Drinking Water Advice and Coordination Service" to provide technical, policy and regulatory advice. The Inquiry found that in concept this should be a valuable service, but that there is "a significant disconnect" between the Ministry and the industry in terms of the availability, quality and relevance of the advice and unresolved questions about the degree of expert knowledge available through the service. [29]

The Ministry's WSP framework "contains no templates, is too complex, and is of no practical use to its intended audience."[30]

Guidance is also needed by water suppliers on how to engage a laboratory, what services they can provide and what to include in the contracts.

Lack of appropriate resources

The drinking water section of the Ministry is substantially under-resourced and lacks the necessary skill levels.[31]

"Despite Mr Chuah's denial, the Inquiry has concluded that the Ministry's drinking water resources are seriously inadequate…. All experts on the panel at the August hearing agreed that 3.5 FTE was nowhere near adequate to properly discharge the statutory functions, let alone also provide effective leadership." [32]

"The officials concerned do not have an adequate appreciation of the range of risks…relevant to the delivery of safe drinking water to the public from source to tap." The Inquiry also expressed concern about inadequate appreciation of the economic and health consequences of those risks.

There has been an undue focus on officials with public health skills to the detriment of skills relating to water infrastructure and the process of supplying drinking water (including treatment).[33]

There is a shortage of DWAs in part resulting from a requirement imposed by the Ministry that they be Health Protection Officers. The Inquiry recommended that this should be abolished as "the primary focus for DWAs should be on the infrastructure systems and processes (including treatment) for ensuring safe supply. These concern microbiological, engineering, technical and environmental/ source protection elements much more than public health issues."[34]

Opportunities were identified to review and improve the training and qualification of DWAs.[35] This function would in the Inquiry's proposal be carried out by the dedicated drinking water regulator as the DWA's employer.[36] Improvement to the structure of DWA services to pool resources and produce "consistency and excellence across the country" was considered by the Inquiry to be a task for the dedicated drinking water regulator.[37] Changes to the structure of DWA services should also provide better opportunities for career progression.

25 Paragraph 319(a)
26 Paragraph 400
27 Stage 1 Report, paragraph 127
28 Paragraph 419
29 Paragraph 306
30 Paragraph 312 (b)
31 Paragraphs 264
32 Paragraph 250
33 Paragraph 319 (b)
34 Paragraph 552
35 Paragraph 561
36 Paragraph 564
37 Paragraphs 594 and 595

Unclear or misunderstood accountability and responsibility structures

There has been some lack of recognition by the Ministry of its role in recognising laboratories that test drinking water under the Health Act. The Inquiry found this position to be at odds with the legislation. The roles of the Ministry and IANZ in assessing, accrediting and registering laboratories were clarified in a memorandum of understanding between the parties.

Dual lines of accountability for DWAs to their employer (DHBs) and the Director General of Health. DWAs are employed by DHBs, but accountable under statute to the Director-General of Health. This clash of management with accountability has led to confusion and practical difficulties. The Inquiry found that the Ministry was slow to respond to a proposed change to make the DHB responsible for the DWA service, which the Inquiry considered would "have offered the prospect of a substantial improvement in the accountability of DWAs, for very little change or burden."[38]

Moreover, the Inquiry found no reason why DWAs should be employed by the DHB (as opposed to the regulator) as it considered "knowledge of WSPs, water supply operations and water treatment of more value and importance [than public health knowledge]".[39]

Drinking water suppliers are not held accountable to a regulator and the reporting requirements of local authorities are inadequate as a measure of accountability. Licensing and accreditation of drinking water suppliers is discussed below.

Licensing and accreditation of drinking water suppliers

There is no licensing of drinking water suppliers or mandatory qualification system for their senior staff. The Ministry has a register of suppliers but only records basic details. There is no training, competency or quality criteria to be a drinking water supplier.

The competency and capability of drinking water suppliers is not regulated or supervised except by DWAs monitoring compliance with DWSNZ, and the production and implementation of WSPs. "The lack of it [a licensing system] is a glaring omission in the current drinking water regime."[40]

"A licensing and qualification system would materially contribute to the safety of the drinking water system in New Zealand."[41]

A feature of a licensing regime noted by the Inquiry was that a regulator should regularly audit and check that license terms are being complied with, and where there was non-compliance the license be revoked or a third-party step-in.[42]

Low compliance and weak enforcement

The Inquiry found that complacency was common within the drinking water supply system.[43] It accepted that the risks were sporadic and poorly understood which resulted in complacency and a tendency to human error.[44] It considered that the highest standards of care and due diligence were required and that this was "an overarching principle informing all issues relating to drinking water supply".[45]

Compliance with DWSNZ is unacceptably low[46] and very low by international standards.[47] It is "dramatically worse" for small suppliers than larger ones.[48] The Inquiry "has been unable to discern any leadership activity by the Ministry, at any time, in relation to those continuing breaches."[49]

There is a reliance on checks by DWAs that a drinking water supplier has produced and is implementing its WSP as evidence of compliance with the DWSNZ. The Inquiry found that "it is wrong in principle to use the implementation of a WSP as the primary criterion for compliance with the DWSNZ."[50] The Inquiry found substantial variations in the quality and stringency of the WSPs, the professionalism of the risk assessment in the WSPs and the approach of DWAs to approval and implementation of the WSPs.[51]

38 Paragraph 291
39 Paragraph 556
40 Paragraph 735
41 Paragraph 736
42 Paragraph 734
43 Paragraph 21
44 Paragraph 56
45 Paragraph 22
46 Paragraph 269
47 Paragraph 267
48 Paragraph 268
49 Paragraph 269
50 Paragraph 342
51 Paragraph 342

Responsibility for enforcement action has been reserved by the Ministry to itself, by requiring that "all proposed enforcement action be referred to it for advice and instruction."[52]

No compliance orders or prosecutions have occurred since the enactment of relevant legislation in 2007. The Ministry has taken a "softly, softly" approach to enforcement and provided poor quality, or inaccessible guidance to DWAs and designated officers about enforcement policy.

Annual reporting of compliance by the Ministry became compulsory in 2007, but was found to have limited practical effect in recent years. The Inquiry considered that despite historical reports holding suppliers to account and "nam[ing] and sham[ing] the worst offenders, in a meaningful and direct way"[53] more recent reports had "limited practical effect".[54] The Inquiry considered that the methodology used to report was flawed, for example the Havelock North water supply was found to be compliant with the DWSNZ despite the outbreak.[55] The reports are not user-friendly from the perspective of small suppliers and customers.[56]

The Inquiry found support for the view that "there was in fact no effective enforcement at all in the period from 1 July 2012 (when Part 2A became mandatory for large supplies) to 2017."[57] It considers that "the position today, however is clear: the drinking water industry needs a firm and effective compliance and enforcement policy."[58] The establishment of a dedicated drinking water regulator would "provide an excellent platform" for this review.[59]

Monitoring and testing regime

Deficiencies in the monitoring and testing regime have been identified. These include:

- two levels of accreditation standards and the lack of a requirement for a professionally qualified microbiologist[60];
- confusion over where non-complying test results are to be reported (when and to what body)[61];
- questions over structure of laboratories, in particular the potential benefits of a public health reference laboratory and a more centralised system in terms of training, expertise, quality and assurance[62]; and
- the absence of a mechanism for training, assessing, certifying and supervising persons undertaking water sampling, despite this being identified by the experts as one of the most important steps in the testing process. The "international norm is that water suppliers hold accreditation for drinking water sampling"[63] This was seen as "'every bit as important' as the accreditation of laboratories".[64]

52 Paragraph 270
53 Paragraph 375
54 Paragraph 371
55 Paragraph 373
56 Paragraph 374
57 Paragraph 271
58 Paragraph 580
59 Paragraph 583
60 Paragraphs 827-832
61 Paragraph 833
62 Paragraph 836-842
63 Paragraph 817
64 Paragraph 815

Glossary

DHB	District Health Board
DWA	Drinking Water Assessor
DWSNZ	Drinking Water Standards for New Zealand 2005 (revised 2008)
IANZ	International Accreditation New Zealand
JWG	Joint Working Group (of public agencies involved in the supply of drinking water)
LGA	Local Government Act
NES Regulations	Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007
PC	Productivity Commission
RIS	Regulatory impact statement
RMA	Resource Management Act
WSP	Water Safety Plan

We are. LGNZ.

Te Kāhui Kaunihera ō Aotearoa.

PO Box 1214
Wellington 6140
New Zealand

P. 64 4 924 1200
www.lgnz.co.nz

We are.

Ashburton.
Auckland.
Bay of Plenty.
Buller.
Canterbury.
Carterton.
Central Hawke's Bay.
Central Otago.
Chatham Islands.
Christchurch.
Clutha.
Dunedin.
Far North.
Gisborne.
Gore.
Greater Wellington.
Grey.
Hamilton.
Hastings.
Hauraki.
Hawke's Bay Region.
Horizons.
Horowhenua.
Hurunui.
Hutt City.
Invercargill.
Kaikoura.
Kaipara.
Kapiti Coast.
Kawerau.
Mackenzie.
Manawatu.
Marlborough.
Masterton.
Matamata-Piako.
Napier.
Nelson.
New Plymouth.
Northland.
Opotiki.
Otago.
Otorohanga.
Palmerston North.
Porirua.
Queenstown-Lakes.
Rangitikei.
Rotorua Lakes.
Ruapehu.
Selwyn.
South Taranaki.
South Waikato.
South Wairarapa.
Southland District.
Southland Region.
Stratford.
Taranaki.
Tararua.
Tasman.
Taupo.
Tauranga.
Thames-Coromandel.
Timaru.
Upper Hutt.
Waikato District.
Waikato Region.
Waimakariri.
Waimate.
Waipa.
Wairoa.
Waitaki.
Waitomo.
Wellington.
West Coast.
Western Bay of Plenty.
Westland.
Whakatane.
Whanganui.
Whangarei.

LGNZ.