

Department of Health

health

# The future of Victoria's Safe Drinking Water Regulations

Discussion paper



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# Overview

Access to reliable supplies of good quality drinking water is recognised as a basic human right and is a fundamental requirement for community wellbeing. Communities have a right to expect that their drinking water supplies are affordable and that there are systems in place to ensure it is safe and their health is protected.

The *Safe Drinking Water Act 2003* provides a framework that makes provision for the supply of safe drinking water. The Act requires water suppliers and storage managers to prepare and implement plans to manage risk. It specifies the requirement for these plans to be audited and requires water suppliers to meet water quality standards.

Key to this framework are the Safe Drinking Water Regulations 2005, which support the Act by setting out drinking water quality standards, the requirements and frequency of collecting samples for analysis, the matters that are to be addressed in the risk management plans and aspects of auditing. Regulations in Victoria remain current for 10 years; therefore these regulations will sunset in July 2015.

**The regulations only** are therefore now being reviewed and, through this discussion paper, the Department of Health is seeking your input on the future regulation of drinking water. The department wants to ensure that all drinking water stakeholders are involved and have the opportunity to inform how we best ensure safe drinking water supplies in the future.

The department is engaging with the water industry and other interested parties to hear thoughts and ideas about how we make provision of safe drinking water in a way that is sensible, efficient, clear and transparent.

To help us prepare this discussion paper we asked a number of stakeholders from industry, government and non-government organisations to participate in a steering committee and working groups to gauge their initial thoughts. This has provided us with some understanding of the key aspirations for future arrangements and has guided the discussions in this paper.



# Objectives

The main objective of this discussion paper is to stimulate ideas and comments on how we best provide for the future supply of safe drinking water.

The department is looking for advice in developing Victoria's future arrangements for drinking water quality standards, sampling and testing arrangements and what matters should be included in risk management plans.

The State Government has stated objectives for reduced regulatory burden and for regulatory efficiency. This discussion paper explores approaches that could help meet these objectives, while ensuring the safety, affordability and good reputation of drinking water is retained.

The questions posed in this discussion paper provide a basis for feedback on this review. Written submissions will contribute to the next stage of the process. We invite you to participate in this review, and details on how to do so are provided.

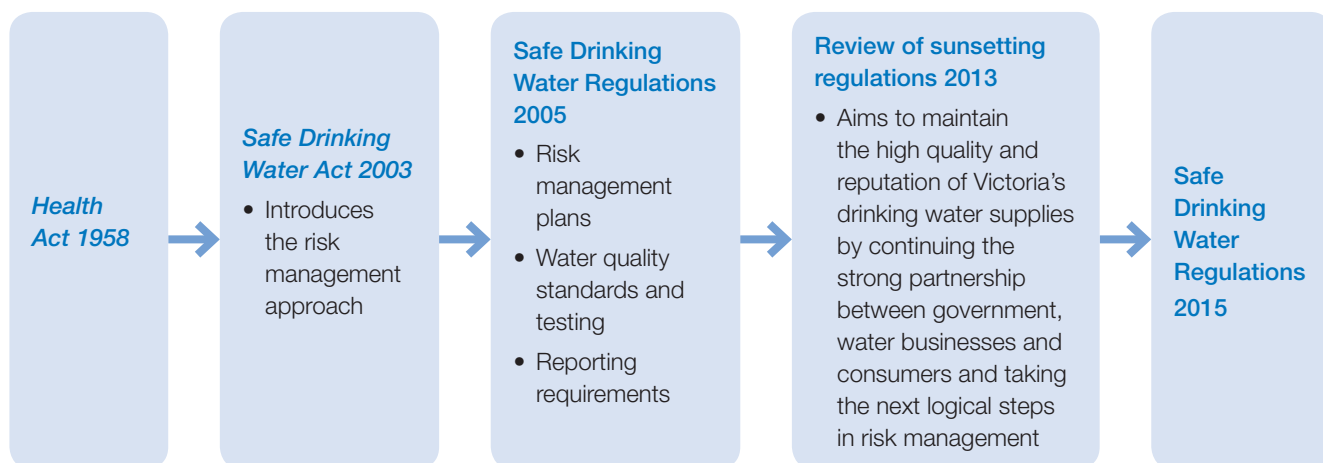
Figure 1 sets out a brief history of drinking water regulation in Victoria.

# Working with this paper

This discussion paper provides some information on the current regulatory framework and considerations for the future. Questions have been presented to help frame your contribution. It is important to remember that when the regulatory framework is right, the outcome complements the interest of the community, the economy and the industry.

To assist you to work through this discussion paper a more detailed technical report – together with other useful documents such as annual reports of drinking water quality and a report into the operational performance of drinking water systems – will be made available on the department's Water Program website at <[www.health.vic.gov.au/water](http://www.health.vic.gov.au/water)>.

Figure 1: A brief history of drinking water regulation in Victoria





# Where we are now

## Fact 1

The community expects safe and affordable drinking water.

## Fact 2

Victorian water storage managers and suppliers have a good record of compliance.

## Fact 3

Incidents affecting the supply of safe drinking water in Victoria are few and minor.

## Fact 4

Treatment technology is improving, is more reliable and becoming more affordable.

## Fact 5

Risk management practices and expectations are improving.

## Fact 6

We are getting better at managing hazards in drinking water.

## Fact 7

The majority of water systems already have filtration and disinfection infrastructure needed for what is proposed.

Access to reliable supplies of good quality drinking water is recognised as a basic human right and is a fundamental requirement for community wellbeing. Communities have a right to expect that their drinking water supplies are safe and that there are systems in place to ensure that their health is protected.

In Victoria drinking water safety is regulated under the *Safe Drinking Water Act 2003*. This legislation requires water businesses to:

- develop and implement risk management plans
- frequently test water quality at accredited laboratories
- report water testing results to the department
- report water incidents to the department
- provide customers with water quality information through drinking water quality annual reports.

The Safe Drinking Water Regulations 2005 provide clarity about these compliance requirements. They describe:

- what is needed in a risk management plan
- approval criteria for risk management plan auditors
- the water quality standards that must be met
- the required frequency of, and where to undertake water quality testing
- what is needed to be an accredited water analyst
- the information that needs to be included in annual reports.

This framework has served Victoria well. Water businesses have a record of working collaboratively with the department to meet the shared goal of ensuring safe drinking water supplies. Victoria has avoided waterborne outbreaks of disease and illness associated with public water supplies as incidents have been contained and controlled.

The rate of compliance by water businesses with their risk management obligations has risen from 60 per cent to 92 per cent. A sustained level of improvement has also been achieved in smaller regional water supplies, demonstrating uniform safe drinking water quality across the state.



## What are the emerging issues?

Currently, about 95 per cent of Victorians have access to a public drinking water supply. Many of these supplies are sourced from catchments with multiple uses, for example, urban development, livestock grazing and horticultural and recreational activities. These multiple uses can place pressure on water resources and impact on water quality. They can also introduce or increase the prevalence of a broad range of hazards that pose a threat to drinking water.

Recent droughts and floods have also placed pressure on the quantity and quality of water supplies and have resulted in an expansion in the range of water resources being used or considered. This in turn has resulted in increasing interest to adopt and apply innovative approaches to water supply.



## What happens if we fail?

The major risk to public health is an outbreak of disease from contaminated drinking water.

Failures have occurred in other Australian states and developed countries creating severe health, social and economic consequences. The detection of cryptosporidium in Sydney's drinking water in 1998 was estimated to cost \$350 million. More recently the Swedish town of Östersund in 2010 experienced a waterborne outbreak of disease caused by the presence of cryptosporidium in the treated drinking water causing estimated associated societal costs of \$31 million. This figure includes assumed costs for discomfort from diarrhoeal illness, lost production due to absenteeism from work and medical costs for hospitalised cases. Based on the most recent available estimate the number of people made ill by the outbreak was 27,000. In 2000 seven people died and 2,300 people became ill in the Canadian town of Walkerton following the contamination of their drinking water supply.

Provision of safe drinking water is a continual challenge, and while incidents are rare and well controlled in Victoria there have been a number of failures described in the department's annual reports on drinking water quality. These incidents may be precursors to more serious conditions and show that it is timely to consider the next sensible and logical maturing in risk management.

Failures can result in a substantial loss in public confidence in the water supply and legislative responses can involve the imposition of increased standards, regulations and oversight.

## Where are the opportunities for improvement?

While the current framework is described as taking a catchment-to-tap approach, compliance is determined by water samples taken at customer taps based on one microbiological, one turbidity and seven chemical standards.

This is problematic for two reasons. First, test results from the laboratory occur well after water has been supplied to customers, which may result in the consumption of unsafe water for a number of days before control steps can be taken. Second, the regulatory focus is on a small number of substances that may not characterise the full range of hazards that need to be managed.

Adopting regulations that provide clear direction for water businesses to characterise hazards and controls throughout water systems would ensure risk management practices and performance monitoring would better guard against unsafe water being distributed to customers.

Adopting less prescriptive standards and providing for flexibility in risk management allows equal outcomes between small rural water systems and communities serviced by large metropolitan water systems.

Adopting less prescriptive regulations also reduces unnecessary administrative effort where it is not needed in:

- gazetting water quality localities
- setting water sampling points
- approval of water analysts
- reporting all water testing results.

## How much change is needed?

In preparation for this work the department's Water Program conducted a survey of current drinking water systems. The survey included 211 (97 per cent) of the state's drinking water supply systems. The results found the majority (95 per cent) of systems had adequate infrastructure to control the hazards likely to be in source waters.

The survey confirmed that it was common practice for water suppliers to undertake planned sequences of measurements and observations to assess and confirm the performance of water treatment processes. However, in some cases monitoring and performance was variable.

A conclusion drawn from the survey is that new regulations should aim to encourage consistent approaches to characterising hazards and optimising treatment.

Table 1 in the following section compares existing regulations with what is proposed.





# Where will we be in the future – the new regulations?

Table 1: Proposed changes to the regulations

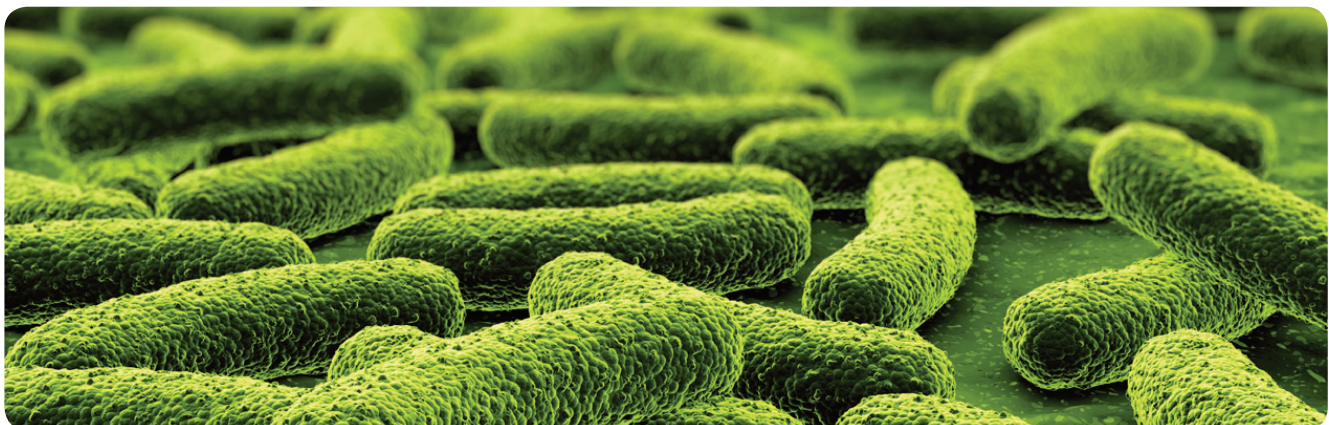
What the Safe Drinking Water Regulations 2005 currently require	Are changes proposed to the current approach?	If changes are being proposed, what are the changes and why are they being proposed?
Gazettal of water sampling localities	No	Not applicable
Approval of water sampling points	Yes	<p>In order to reduce regulatory burden it is proposed that the department would no longer approve water sampling points within water sampling localities.</p> <p>The location of water sampling points is a function of risk management, so it is proposed that the distribution and appropriateness of water sampling points would be checked during risk management plan audits.</p>
Required content of risk management plans	Yes	<p>While the current mandatory content of risk management plans is comprehensive, it reflects a first-generation approach to risk management. The proposal is to require additional mandatory content that will improve the management of hazards and risks. It would require risk management plans to:</p> <ul style="list-style-type: none"> <li>• outline the steps that will be taken to quantify and analyse the risk of each hazard identified in the plan</li> <li>• identify the critical control points (CCPs) within a treatment plant. This would require the inclusion of a definition of a CCP in the regulations</li> <li>• outline the operational procedures and process controls at each CCP. This includes determining the critical limits and performance criteria for each CCP, along with alarming, reporting and mitigation procedures. This would require a definition of a critical limit in the regulations</li> <li>• incorporate water sampling programs</li> <li>• include details of the actions taken to improve employee awareness and training, including training of water treatment operators and water sampling officers.</li> </ul>



What the Safe Drinking Water Regulations 2005 currently require	Are changes proposed to the current approach?	If changes are being proposed, what are the changes and why are they being proposed?
Documents to be reviewed as part of a risk management plan audit	No	Not applicable
Form and content of an audit certificate	No	Not applicable
Approval criteria for risk management plan auditors	No	Not applicable
Compliance with drinking water quality standards	Yes	<p>Performance against the current drinking water quality standards over the life of the current regulations has been reviewed, and the results of this review have demonstrated a high degree of ongoing compliance with most standards. The current standards also reflect an end-point-focused view of risk management.</p> <p>In order to reduce regulatory burden it is proposed to remove drinking water quality standards where there have been high levels of ongoing compliance. The standards that are proposed for deletion are:</p> <ul style="list-style-type: none"> <li>• bromate</li> <li>• formaldehyde</li> <li>• chloroacetic acid</li> <li>• dichloroacetic acid</li> <li>• trichloroacetic acid</li> <li>• aluminium (acid soluble).</li> </ul> <p>If a particular water sampling locality has a compliance issue with one of more of these standards at the end of the current regulations, the department would work with the relevant water supplier to ensure that compliance with any health-based guideline value is achieved.</p> <p><i>(Continued on following page)</i></p>



What the Safe Drinking Water Regulations 2005 currently require	Are changes proposed to the current approach?	If changes are being proposed, what are the changes and why are they being proposed?
<p><i>(Continued)</i></p> <p>Compliance with drinking water quality standards</p>	Yes	<p>While the focus of the next set of regulations will be on the performance of water treatment barriers, it needs to be recognised that risks can arise within the distribution system after treatment. To this end it is proposed to retain three mandatory drinking water quality standards, which will help identify problems within the distribution system:</p> <ul style="list-style-type: none"> <li>• <i>Escherichia coli</i> (<i>E. coli</i>)</li> <li>• turbidity</li> <li>• total trihalomethanes.</li> </ul> <p>The standards that would be associated with these three parameters, per water sampling locality, would be:</p> <ul style="list-style-type: none"> <li>• 100 per cent of samples free of <i>E. coli</i>, based on weekly sampling</li> <li>• all samples below a turbidity of 5.0 NTU, based on weekly samples</li> <li>• total trihalomethanes less than 0.25 mg/L, based on monthly sampling.</li> </ul> <p>The obligation to provide drinking water that does not contain any algal toxin, pathogen, substance or chemical, whether alone or in combination with another toxin, pathogen, substance or chemical, in such amounts that may pose a risk to human health, will be retained. What algal toxin, pathogen, substance or chemicals a water business tested for would be a function of the risk assessment for each individual water supply system, and the frequency of testing would be based on advice in the <i>Australian drinking water guidelines</i>.</p>





What the Safe Drinking Water Regulations 2005 currently require	Are changes proposed to the current approach?	If changes are being proposed, what are the changes and why are they being proposed?
Altering the frequency of sampling	No	Not applicable
Requirements relating to the analysis of water samples	Yes	Any changes would relate to modifying the sampling obligations to reflect any changes made to the drinking water quality standards.
Reporting the results of the analysis of water samples	Yes	When the regulations commenced there was a need to ensure that samples were being collected and analysed as required by the regulations. Now that the system has matured, there is less need to do this level of checking. Therefore, as a regulatory burden reduction measure, it is proposed that monthly reporting ceases and there is a move to an exception reporting model. This could be achieved through existing reporting arrangements under ss. 18 and 22 of the <i>Safe Drinking Water Act 2003</i> .
Approval of water analysts	Yes	<p>When the emphasis of the drinking water quality standards was on end-point testing there was a need to ensure that samples were analysed by competent analysts who were employed at laboratories accredited by the National Association of Testing Authorities, Australia (NATA).</p> <p>While the need to ensure quality results is still important, the regulatory burden associated with approving and reapproving water analysts is significant, relative to the regulatory benefit that is achieved.</p> <p>It is proposed to remove the requirement to approve water analysts and replace it with a generic requirement for water suppliers to have their water samples analysed at a NATA-accredited laboratory that holds accreditation for the relevant parameters.</p>
Content of annual reports	Yes	<p>Any changes would be related to additional content requirements that would reflect any changes made to the regulations, specifically changes to the drinking water quality standards.</p> <p>Other proposed changes relate to including an annual review of the performance of CCPs and providing information on employee training activities.</p>

# Stakeholder questions

## What are the benefits?

### Benefit 1

Protection of public health

### Benefit 2

Retention of community confidence in drinking water supplies

### Benefit 3

Better understanding of risks and better protection against drinking water outbreaks

### Benefit 4

Improved consistency and equity across small, medium and large water supply systems

### Benefit 5

Reduction in regulatory administration

### Benefit 6

Reduction in mandatory water sampling at point of supply

## What are the costs?

Increase in performance monitoring

Characterising hazards and controls

1. Do you think the proposed changes are sufficient? If not, could you suggest other amendments?
2. Should the regulations consider quantifying risk as a part of the risk assessment process?
3. Should the regulations consider defining CCPs as a way of demonstrating that the control measures are appropriate to the identified risks?
4. Should the regulations consider requiring critical limits to be put in place as a way to demonstrate operational performance?
5. If you were not required to consider CCPs and critical limits by the regulations, would you anyway?
6. Should the number of prescribed water quality standards be reduced to those that reflect issues within the distribution system?
7. Is there value in developing a generic standard to address matters related to operational monitoring?
8. Is there value in removing the requirement to register water sampling points? Should this be dealt with in another way?
9. Are there other considerations for the verification of drinking water quality?
10. Is there value in removing the requirement for monthly data submissions? Should this be dealt with in another way?
11. Are there other considerations for annual report content?
12. Would any of the suggested new regulations create a burden?





# Responding to this discussion paper

The department is looking to you for advice in developing new regulations for safe drinking water.

This discussion paper will be available for comment until Friday 27 June 2014.

We encourage you to provide written feedback.

## Written submission

Providing the department with written feedback to this discussion paper is a good way to convey your thoughts and experiences.

This discussion paper provides some background information and poses a series of questions that have been developed to help frame your contributions. Your submission does not need to be limited to these questions.

Written responses can either be emailed to <water@health.vic.gov.au> or posted to:

Manager Water  
Health Protection Branch  
Department of Health  
GPO Box 4541  
Melbourne Vic. 3001

**The submission closing date is Friday 27 June 2014.**

To assist with your submission the department will provide the following material on the Water program website <[www.health.vic.gov.au/water/drinkingwater](http://www.health.vic.gov.au/water/drinkingwater)>:

- Operational performance monitoring survey
- Technical report - background to proposed regulations
- Annual report on drinking water quality in Victoria 2012-2013.

The department is committed to an open and transparent process in the review and development of the Safe Drinking Water Regulations. If you wish to keep your contribution confidential, please make this clear when you provide your written response.

## Next steps

During the consultation period the department will hold a series of facilitated workshops to obtain information and opinions from all water businesses and other stakeholders. Details about sessions are available at [www.health.vic.gov.au/water](http://www.health.vic.gov.au/water)

Information gathered will be used to prepare a regulatory impact statement (RIS).

The RIS will provide an additional opportunity to review and comment on draft regulations together with benefits and costs. It is expected that the draft regulations and regulatory impact statement will be ready for comment in early 2015.

## How to get involved

1. Provide to the department a written response to this discussion paper.
2. Visit the department's Water Program website to follow progress of the review.
3. Review and provide your thoughts on the new draft Safe Drinking Water Regulations and the associated impact assessment when it is released in 2015.



