

Rural Agricultural Drinking-water Supply Guideline

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1 Introduction

1.1 The need for a rural agricultural drinking-water supply guideline

During the Select Committee consideration of the Health (Drinking-water) Amendment Bill in 2007, concerns were raised that rural agricultural water suppliers would be unfairly burdened by the compliance requirements. Regardless of the size of the drinking-water component of the water supply, all water in the supply would need to be treated to the standard of drinking-water. This would be costly to rural suppliers and wasteful of resources.

To address this issue, the Select Committee recommended establishing a separate class for rural agricultural drinking-water supplies from which 75 percent or more of the water is used for agricultural purposes. Only the water used for drinking-water, domestic¹ and food preparation use would be required to be potable, and the water supplier would therefore not need to treat water not intended for human consumption.

In 2008 the Ministry of Health established an expert working group to develop a draft rural agricultural drinking-water supply standard. In July 2013 the Ministry of Health published the draft *Rural Agricultural Drinking-water Supply Guideline*. Some 44 submissions were received by the time the consultation period ended on 30 September 2013. The Guideline was revised to take account of this consultation.

The development of this Guideline will give water suppliers flexibility in demonstrating compliance with the requirements of the drinking-water provisions of the Health Act 1956. By following the Guideline and implementing a water safety plan, a rural agricultural water supplier would be able to demonstrate that they had taken all practicable steps to comply with the drinking-water provisions of the Health Act 1956, even if they do not fully comply with the *Drinking-water Standards for New Zealand 2005 (Revised 2008)*.

¹ Domestic use includes human consumption, food preparation, preparing products for human consumption or food storage, washing utensils and oral hygiene.

1.2 Definition of a rural agricultural drinking-water supply

The Health Act 1956 defines a rural agricultural drinking-water supply as a:

- a. large, medium, minor, small, or neighbourhood drinking-water supply from which 75 percent or more of the water supplied:
 - i. is used for the purposes of commercial agriculture; and
 - ii. does not enter a dwelling house or other building in which water is drunk by people or other domestic and food preparation use occurs;
- b. but does not include a drinking-water supply using a single connection to provide water to:
 - i. a town; or
 - ii. a village or other place with a permanent population of 50 people or more that is used primarily for residential purposes.

In other words, a rural agricultural drinking-water supply may serve a population of any size, but at least 75 percent of the water must be used for agricultural purposes such as stock water or irrigation. However, a community of 50 or more residents that receives its water supply from a *single connection* cannot be part of a rural agricultural drinking-water supply. Even if 75 percent or more of the water used throughout the entire scheme is used for agriculture, the community must be categorised as a separate water supply.

Although the Health Act 1956 requires the water in a rural agricultural drinking-water supply to be supplied for *commercial* agricultural purposes, the Ministry of Health believes that this Guideline, if implemented in a water safety plan, may be used to demonstrate a water supplier has met its statutory obligation to take all practicable steps to comply with the *Drinking-water Standards for New Zealand*, even if the water supply is used for non-commercial agricultural purposes (such as lifestyle blocks) or a mixture of commercial and non-commercial agricultural purposes.

1.3 Determining water supply usage

A rural agricultural water supply may only be categorised as a rural agricultural drinking-water supply if the supplier can show that at least 75 percent of the water supply is used for agricultural purposes *and* does not enter a building where it may be used for drinking-water, domestic or food preparation use.

To assess the proportion of water used for the household, if a community rural supply uses constant trickle feed to household storage tanks, this could be used to determine the daily volume of water flowing into buildings for domestic and other uses which are not agricultural.

However, most rural houses will not have their water use metered or restricted or have a practical way of demonstrating water usage. The Ministry therefore will accept a usage of 2500 litres per dwelling house per day for domestic purposes based on the number of houses the supply is designed to serve. The rest of the water supply will be assumed to be for agricultural purposes.

2 The Rural Agricultural Drinking-water Supply Guideline

2.1 Options to comply

The *Drinking-water Standards for New Zealand* set different criteria for the different sizes and types of drinking-water supplies. This allows drinking-water suppliers to provide different levels of certainty that water supplies are adequately protected, balancing the risks to public health and costs, as appropriate to the size or type of the drinking-water supply.

In this Rural Agricultural Drinking-water Supply Guideline, water suppliers have the option to:

1. meet the relevant criteria for large, medium, minor, small, or neighbourhood drinking-water supplies, as set out in the *Drinking-water Standards for New Zealand*, sections 4, 5, 7, 8 and 9, or
2. choose to use section 10 of the *Drinking-water Standards for New Zealand* (Small water supplies, alternative criteria), and follow that water safety plan approach, or
3. use this Guideline to develop and implement an approved water safety plan.

2.2 Distinguishing the components of a rural agricultural drinking-water supply

Rural agricultural drinking-water supplies are multi-purpose supplies that include water used for drinking-water and agricultural usage, such as stock water or irrigation. The drinking-water component of a rural agricultural drinking-water supply may supply water for human consumption, food preparation and other domestic uses to individual houses, groups of houses, home stays and other buildings. Under this Guideline, only the drinking-water and the domestic use component of the water supply must meet the criteria; not all of the water. In other words, only water used for human consumption, domestic and food preparation uses needs to meet the requirements.

2.3 Criteria

Sections 2.3.1, 2.3.2 and 2.3.3 describe the various responsibilities involved in the treatment and/or maintenance of a rural agricultural drinking-water supply. Notwithstanding the requirements of this Guideline, all premises must meet all other statutory requirements, including under the Building Act, Food Act, Sale of Liquor Act, Health Act, and associated regulations, to provide potable water.²

² For example, see clause G12 of the Building Code, in Schedule 1 of the Building Regulations 1992.

2.3.1 Responsibilities of a rural agricultural drinking-water supplier

The rural agricultural drinking-water supplier must have an approved water safety plan that identifies and manages any public health risks for the supply, including:

- ensures there is an adequate supply of water for drinking-water use
- ensures the water delivered to the network is of a quality that can be adequately treated by a point-of-use or point-of-entry filter or other treatment system
- provides appropriate water quality information and or advice so that any individual filter or other treatment system chosen is appropriate for the water quality supplied (for example, it complies with the relevant Australia/New Zealand Standard)
- includes a plan for filter or other treatment system maintenance (which depending on the Plan may be collective or individual)
- outlines how water is distributed to buildings, including backflow prevention for the network
- identifies all reasonably foreseeable risks that may arise with the water supply, including the source, distribution and treatment, and how the risks will be managed
- includes the water supply monitoring regime; who will be provided with the results of monitoring; and what response will be made depending on the results
- describes remedial actions to be taken when a public health risk identified for the supply needs to be managed, or if a maximum acceptable value of a Water Quality Standard is exceeded.

The rural agricultural drinking-water supplier may use contractual or other procedures to define the responsibilities of building owners' or occupiers' duties and responsibilities for achieving and demonstrating the drinking-water meets the criteria in this Guideline.

The rural agricultural drinking-water supplier must monitor the water supply, as delivered to the network (at a point that is representative of what quality of water is delivered to the buildings). Monitoring may include *Escherichia coli*, turbidity, pH, free available chlorine (where a supply is chlorinated), and any other parameter indicated in the water safety plan. Monitoring should be carried out:

- at least three-monthly, with a maximum interval between successive samples of 135 days, and
- at any time that an event has affected, or is suspected of having affected, the quality of the water supplied.

Turbidity monitoring is designed to enable the water supplier to be able to provide information for the selection of appropriate treatments systems (whether collective or individual treatment). When sufficient information on likely turbidity variations of the water supplied to the network is available for treatment choices to be made and, depending on the extremes of those variations, future turbidity monitoring may be relaxed.

Monitoring results must be sent to the drinking-water assessor (DWA) of the District Health Board's public health unit. Any monitoring results that are outside the water quality parameters specified in the water safety plan should be promptly advised to the drinking-water assessor.

The results of monitoring must be provided to all those supplied with drinking-water from the rural agricultural water supply at least every six months, and at any time that an event has affected water quality to the extent that its quality is outside the parameters specified in the water safety plan.

2.3.2 Responsibilities of house and building owners who receive water from a rural agricultural drinking-water supply

All house and building owners who receive water from a rural agricultural drinking-water supply have a responsibility to ensure that backflow prevention is in place to ensure no water can flow back from their home or building into the rural agricultural drinking-water supply's supply line.

Information on the type and location of backflow prevention provided by the house or building owner should be given to the water supplier to enable the supplier to judge if the network is adequately protected.

2.3.3 Responsibility for ensuring the water quality of a rural agricultural drinking-water supply

Rural agricultural water that is used for human drinking, domestic or food preparation purposes must not exceed the maximum acceptable values in the Water Quality Standards set out in section 2 of the *Drinking-water Standards for New Zealand*. This responsibility may be fulfilled by the rural agricultural drinking-water supplier, or the building owners, or by any collective of these, as set out in the water safety plan for the supply. The water safety plan may incorporate or refer to contracts or agreements which set out the parties' responsibilities.

It is recommended, where practical, that a customer/shareholder register should be developed as part of the water safety plan.

Where point-of-entry or point-of-use systems are used to treat rural agricultural drinking-water, these systems must conform to the relevant Australian/New Zealand Standard: currently AS/NZS 4348:1995 and AS/NZS 3497:1998.

3 Clarification

3.1 The type of water treatment system

This Guideline does not prescribe a *type* of water treatment system to ensure the drinking-water component of the supply is treated to drinking-water quality: it enables the supplier/community to decide to treat all the water on the supply or just at the household by the use of either point-of-use systems, point-of-entry systems or other suitable treatment systems.

The Ministry of Health recommends point-of-entry treatment systems over point-of-use treatment systems because of the greater public health benefits they offer. Point-of-entry systems treat all water that enters the building, thus ensuring that all water in the building is safe for human consumption, domestic and food preparation uses. By contrast, point-of-use systems are treatment systems installed at individual taps, and so do not ensure that all water in the building is appropriate for drinking-water (unless all taps have point-of-use treatment systems installed).

Point-of-use systems may also have more regular maintenance requirements, whereas point-of-entry systems are more suitable for collective maintenance by the rural agricultural drinking-water supplier, or by a contractor (should this maintenance option be chosen), who would have the necessary equipment and expertise.

3.2 Responsibilities and costs of rural agricultural water supply treatment and maintenance

The Rural Agricultural Drinking-water Supply Guideline allows communities to decide who is responsible for the costs of treating and maintaining a rural agricultural drinking-water supply, with the default responsibility remaining with the rural agricultural drinking-water supplier. The default position under the Guideline is that the supplier will be responsible for treating and maintaining the source water to a level that allows water to be affordably treated by individual building treatment systems to reach drinking-water quality.

Because of the unique nature of rural agricultural water supplies, they are aligned more with drinking-water self-suppliers. Self-suppliers are covered primarily under the Building Act 2004, which requires all dwellings to be supplied with adequate volumes of potable water. For both types of supply, the responsibility for the final water quality is that of the building owner. Under the Rural Agricultural Drinking-water Supply Guideline, however, the supplier has a responsibility to advise the building owner of the quality of water being supplied and what extra treatment may be required by the building owner to make the water safe for drinking. When the water reaches the building, responsibility shifts to the building owner, who must comply with requirements for potable water under the Building Act 2004.

The details of the rural agricultural drinking-water supplier's responsibilities must be set out in the water safety plan required for each rural agricultural drinking-water supply. The water safety plan will outline whether these responsibilities remain solely with the rural agricultural drinking-water supplier, or whether some are held by the building owners, or any collective of these. Many rural agricultural supplies may also have these responsibilities of supplier and house owner also set out in their contract of supply which can then be referenced in the water safety plan.

3.3 Monitoring water quality

This Rural Agricultural Drinking-water Supply Guideline requires the rural agricultural drinking-water supplier to monitor the quality of water delivered to the network and to develop a water safety plan whereby:

- the water quality, as delivered to the network (at a point representative of the water being supplied to all the buildings), is monitored at least three-monthly so that appropriate water treatment units can be obtained to make the water safe for drinking, and
- warnings can be given by the rural agricultural drinking-water suppliers when the water supplied to buildings goes outside the treatment capability of the buildings' treatment units, allowing residents to take appropriate short-term action to ensure the water they are drinking is safe.

Appendix 1: Decision tree

Determining if a water supply is a RADWS

