

Aquacell Pty Ltd

Retail Supply Management Plan



Contents

Document Creation and Review	3
Document Control	3
Retail Supply Management Plan.....	4
1. Introduction.....	4
2. Meeting customer needs	4
3. Potential Risks	5
4. Events and circumstances that could adversely affect the ability of Aquacell to supply water	5
5. Customer complaints and dispute resolution.....	7
6. REVIEW of Retail management plan	7



Document Creation and Review

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Retail Supply Management Plan

1. INTRODUCTION

This Retail Supply Management Plan relates to Aquacell's intention, conduct and practices when supplying water under its Retail Supplier's Licence Number 09_004R under WICA.

In addition, this retail supply management plan addresses the events and circumstances that could adversely affect Aquacell's ability to supply treated water to its customers, and the probability of occurrence of any such event. Included are the measures taken to minimise the effect of the occurrence and arrangements made to arrange alternate supplies. This document was prepared to comply with the WICA legislation Schedule 2 clause 8.

This is an assessment of the ability of Aquacell to supply the customer with fit for purpose water in adequate supply. It identifies the control measures for the identified risks and ensures that health and quality targets are met.

Aquacell has a series of management plans that describe actions that need to be taken during normal operations or incident conditions. These include:

- Recycled Water Quality Management Plan
- Environmental Management
- Monitoring
- Communication
- Training

This develops an understanding of each specific system and its capabilities. Potential sources of contamination can be identified and controls formulated.

Validation of these control measures form part of the Recycled Water Quality Management Plan (RWQMP). These plans are developed for each specific recycled water treatment plant. Included in the RWQMP is a hazard assessment for the plant, where specific control measures are identified. This allows for corrective actions to be implemented. The water quality is verified according to a testing protocol agreed to by the relevant regulatory agencies.

2. MEETING CUSTOMER NEEDS

As part of the scheme implementation, Aquacell reviews the availability of the water source, and the ability to meet the customer's needs in terms of:

- Volume
- Source quality
- Required treatment
- Fitness of treated water for its intended purpose
- Seasonal fluctuations
- Continuity of Supply (see below)

This review is part of the engineering analysis at the inception of the project, and is reviewed from time-to-time as the project matures.



3. POTENTIAL RISKS

Water quality risks may range from:

Aesthetic problems (odour / colour / taste), operational nuisance (sediment) and chemical related damage to the plants (salts / corrosion). In a worst case situation these can include acute or chronic health problems.

Potential water quality risks include:

- Physical characteristics: colour, foam, suspended solids, odour, bad taste, eye or skin irritation.
- Chemical contaminants: excessive salts (chlorides, sulphates, nitrates), heavy metals (Iron, cadmium, chromium, copper, lead, mercury, nickel, zinc), poisons (arsenic cyanide, pesticides) and in rare cases radioactive substances.
- Microbial infestations: bacteria (cholera, dysentery, gastro-enteritis, salmonella, or streptococcal infections, hepatitis)
Viruses (hepatitis, rotaviruses, MS2 choliphages, clostridia)
- Parasites that may cause gastro-enteritis:
(giardia, cryptosporidia)
- Intestinal worms: (Tape worm)
- Toxic bacteria: cyanobacteria

These risks are addressed in the RWQMP, by implementation of treatment plants and recycled water schemes that meet the 12 elements of the Australian Recycled Water Guidelines.

4. EVENTS AND CIRCUMSTANCES THAT COULD ADVERSELY AFFECT THE ABILITY OF AQUACELL TO SUPPLY WATER

Aquacell has identified the following as potential reasons for non supply of treated water to its customers and the contingency planning associated with each of the identified issues:

Continuity of Supply and preventative measures in place:

Below is a list of potential issues which may affect continuity of supply.

Scenario	Reason	Probability of this occurring	Preventative measures	Alternative supply for the customer
Loss of feed	Feed out of spec	Can occur periodically	Aquacell follows a maintenance schedule documented in the Operations and Maintenance Manual prepared specifically for the plant. Appropriate redundancy is built-in (such as duty/standby pumps).	The plant switches over to potable water when the low level in the storage tank is reached
	No waste water produced			
	mechanical issues (pumps, screens)			
Failure of key components of the plant	The microbes in the biology tank die from lack of feed or low DO, or are killed by off spec influent	Can occur periodically	The plants need to have a minimum feed and the DO in the biology tank is a QCP as defined in the HACCP. The influent is	The plant switches over to potable water when the low level in the storage tank is reached until the failed component is



Scenario	Reason	Probability of this occurring	Preventative measures	Alternative supply for the customer
			monitored as described in the RWQMP for the site. Off spec feed is not fed to the biology tank. The plant is reseeded if necessary	replaced
	The pumps can fail	Can occur periodically	Critical pumps are designed in duty / standby configuration. Aquacell follows a maintenance schedule documented in the Operations and Maintenance Manual prepared specifically for each plant	The plant switches over to potable water when the low level in the storage tank is reached until the failed component is replaced
	The membranes can develop a pinhole or tear	Can occur, although very seldom	Aquacell follows a maintenance schedule documented in the Operations and Maintenance Manual prepared specifically for the plant	The plant production is stopped and supply switches over to potable water as soon as the turbidity is > 2 NTU. This is an Aquacell standard CCP
	The disinfection units can fail	Can occur although seldom	Aquacell follows a maintenance schedule documented in the Operations and Maintenance Manual prepared specifically for the plant	The plant production is stopped and supply switches over to potable water as soon as this failure is detected. This is an Aquacell standard CCP
CCP's out of range	Off spec water identified at a CCP	Can occur periodically	Aquacell conducted a HACCP for the plant and identified CCP's and corrective actions. These actions are documented in the RWQMP for the site	The plant immediately ceases production and switches over to potable water back up
Electrical / Mechanical failure	Power outages can occur	Seldom	The building has a backup generator to supply emergency power to the plant	The plant Control System will reboot and the plant will resume operation if all the controls are within limits. If any CCP's are out of range, the plant immediately switches over to potable water back up
Natural disaster	In the case of a natural disaster that renders the treatment plant inoperable, it is assumed that the requirement for treated water will be reduced. A switch to potable water, if available, is required			
Loss of supply during maintenance (1-2 days during annual service)	Aquacell standard operations involve ensuring the storage tank is as full as possible in order to minimize the amount of potable make-up water required while the treatment plant is offline			
Cancellation of licence to supply treated water	Loss of technical, financial or organisational capacity to carry out the activities as authorised by the licence.			
Cancellation of operating contract with the scheme owner	IPART to be notified and appropriate licensing changes made.			



5. CUSTOMER COMPLAINTS AND DISPUTE RESOLUTION

An Aquacell procedure for debt recovery and dispute resolution exists. Aquacell will follow the procedures outlined in this document to resolve any dispute and recover any debt owed.

6. REVIEW OF RETAIL MANAGEMENT PLAN

Aquacell will review this Management Plan annually or sooner, as part of its annual compliance review.