

## Key Personnel

### Colin Fisher – Aquacell CEO and Project Manager

Colin Fisher founded Aquacell in 1996 and is the CEO, based in Australia. Aquacell designs, builds and operates water recycling schemes in Australia and USA, and holds private water utility licenses.

Colin holds a Bachelor of Chemical Engineering with a biotech major and has over 30 years' experience in process engineering and business management. He has been involved in water treatment projects in 20 countries, and in 40 USA states. His water re-use background reaches back to the first water recycling scheme in a sand quarry in California in 1992 and the first zero-discharge pulp mill in the world, in northern Canada.

Colin has been a guest lecturer at Stanford University, and has contributed to development of technology and regulatory frameworks for decentralized water re-use in many jurisdictions around the world.

### Tass Meli – Operations Manager

Tass is a Chemical Engineer with more than 20 years' experience in operations management and the water industry. His experience includes plant operations, contract management, process troubleshooting, continuous improvement, commissioning and technical support. As an engineer with both management and process experience, his diverse skills are valuable for managing both the technical and staff challenges that are key to maintaining plant operations. Alongside these skills, Tass has the ability to liaise with customers, regulators and suppliers to ensure efficient management and compliance of all Aquacell operating contracts and sites.

Prior to joining Aquacell, Tass worked in water industry consulting projects with CH2M and as an Operations Manager at Trility Pty. Ltd. where he managed a variety of water and wastewater operating plants under contract to various clients.

### Warren Johnson – Technical Manager

Warren holds a Bachelor's degree in Chemical Engineering and has more than 25 years experience in the water and wastewater industry, specialising in membrane technology. He is an inventor on 13 granted and 15 pending patents in the field, and has authored or co-authored more than 20 papers on membrane processes and applications including membrane bioreactors.

Warren is also an experienced manager having held the position of Global Director of R&D for Siemens Memcor Products (previously Memtec) and as CEO of a technology start-up company developing products for the solar industry.

Warren's responsibilities include the engineering and operating functions within Aquacell, directing the design of the system, as well as supporting the commissioning and ongoing operation of the installation.

### Justin Taylor – Production Manager

Justin holds an Engineering degree in Mechatronics from ANU and spent 14 years working in the manufacturing industry for Caroma Industries. After an initial tenure as the sites Quality Engineer responsible for maintaining the company's quality and safety systems, he moved into the role of Project Engineer and ultimately, Engineering Manager. As Engineering Manager he was responsible for plant maintenance in a 24/7 operation and for delivering capital upgrade projects including a \$25 million plant upgrade.



Justin moved into the water industry and spent 4 years as an Operations and Project Manager at Chatoyer Water. His role involved delivering water and wastewater projects to remote mine camp sites for EPCM clients such as Brookfield Multiplex and Bechtel. He was also responsible for development of business systems.

Justin's engineering and project experience give him a sound working knowledge of quality, safety and environmental compliance required to deliver water treatment plants.



# Aquacell– Kurrajong Sewerage Scheme

## **2020 Operational Audit**

#20004-10-001 Version 2.0

Independent Pricing and Regulatory Tribunal

July 2020



## Document History

### Aquacell– Kurrajong Sewerage Scheme

2020 Operational Audit

### Independent Pricing and Regulatory Tribunal

This document has been issued and amended as follows:

Version	Date	Description	Created by	Checked by	Approved by
1.0	5 July 2020	Draft	Jim Sly	-	Jim Sly
2.0	13 July 2020	Final	Jim Sly	Dan Deere	Jim Sly

**Cobbitty Consulting Pty Ltd**  
ABN: 45 164 692 488

PO Box 561, Bayswater VIC 3153  
Telephone: +61 (0) 423 326 693  
Email: [jim.sly@cobbittyconsulting.com.au](mailto:jim.sly@cobbittyconsulting.com.au)

Cobbitty Consulting has prepared this document in accordance with the instructions of *Independent Pricing and Regulatory Tribunal* for its sole and specific use. Any other persons who use the information contained herein do so at their own risk.

© Cobbitty Consulting Pty Ltd, 2020



## Contents

<b>1. Executive Summary</b>	<b>1</b>
1.1 Auditor Declaration	1
1.2 Major Findings	1
1.3 Recommendations	1
<b>2. Introduction</b>	<b>2</b>
2.1 Objectives	2
2.2 Licensee's Infrastructure, Systems and Procedures	2
2.3 Audit Method	3
2.4 Regulatory Regime	4
2.5 Quality Assurance Process	4
2.6 Audit Findings	5
<b>3. General Obligations of a Network Operator</b>	<b>6</b>
3.1 Summary of Findings	6
3.2 Review of Actions	6
3.3 Opportunities for Improvement	6
<b>4. Sewerage Infrastructure</b>	<b>7</b>
4.1 Summary of Findings	7
4.2 Review of Actions	7
4.3 Opportunities for Improvement	7
 <b>Appendix A Detailed Audit Findings – General Obligations of a Network Operator</b>	 <b>9</b>
Table A.1 General Obligations – WIC Reg Sched 1 cl.16	11
Table A.2 General Obligations – WIC Reg Sched 1 cl.1(2)(a), (b), (c) and (e)	14
Table A.3 General Obligations – WIC Reg Sched 1 cl.2(1), 2(2)(a) and 2(2)(b)	19
Table A.4 General Obligations – WIC Reg Sched 1 cl.3(c)	21
 <b>Appendix B Detailed Audit Findings – Sewerage Infrastructure</b>	 <b>25</b>
Table B.1 Sewerage Infrastructure – WIC Reg Sched 1 cl.13(2)(a)	27
Table B.2 Sewerage Infrastructure – WIC Reg Sched 1 cl.14(3)(a)	33





# 1. Executive Summary

## 1.1 Auditor Declaration

This report presents the findings of an Operational Audit of Aquacell Pty Ltd's compliance with the requirements of its Network Operator's Licence (Licence No: 15\_032) and the relevant provisions of the *Water Industry Competition (General) Regulation 2008* as they relate to the sewerage scheme at Kurrajong.

The auditor confirms that:

- the auditor was provided with sufficient evidence on which to base the conclusions reached during the audit;
- the audit findings accurately reflect the professional opinion of the auditor;
- the auditor has conducted the audit, determined the audit findings and prepared this report in accordance with the requirements of the *WIC Act Audit Guidelines*<sup>1</sup> and the provisions of the Audit Deed; and
- the audit findings have not been unduly influenced by the Licensee and/or any of its associates and express the auditor's opinion as to whether the Licensee has met the Licence conditions and regulatory requirements as specified in the scope.

## 1.2 Major Findings

The Licensee, Aquacell Pty Ltd, was found to be operating and maintaining the sewerage scheme at Kurrajong in full compliance with the assessed audit criteria (no design or construction activities were undertaken during the audit period). No non-compliances were identified and the infrastructure was found to be operating safely.

## 1.3 Recommendations

No recommendations have been made as a result of this audit.

Four (4) opportunities for improvement, which the Licensee may wish to consider, are identified in the body of the report.

---

<sup>1</sup> IPART, *Audit Guideline; Water Industry Competition Act 2006*, September 2018.

## 2. Introduction

### 2.1 Objectives

This report presents the findings of an Operational Audit undertaken for the Independent Pricing and Regulatory Tribunal (IPART) under the provisions of the *Water Industry Competition Act 2006*.

The objective of the audit was to assess compliance of the Licensee, Aquacell Pty Ltd (Aquacell), in meeting the requirements of the relevant legislation (the *Water Industry Competition Act 2006* and *Water Industry Competition (General) Regulation 2008*) and its Network Operator's Licence (Licence No: 15\_032) for the sewerage scheme at Kurrajong during the period 1 May 2019 to 31 March 2020.

### 2.2 Licensee's Infrastructure, Systems and Procedures

The infrastructure, systems and procedures subject to audit are those related to the sewerage scheme at Kurrajong (refer <http://aquacell.com.au/resources/community-information/kurrajong/>). Aquacell provides sewage treatment and disposal services to the Tallowood Community Estate, a residential development located some 70 kilometres north-west of the Sydney CBD.

Wastewater, which is collected from all residences within the development, is treated on-site to a high standard prior to disposal via subsurface irrigation. The treatment plant uses Membrane Bioreactor (MBR) technology to achieve the required water (effluent) quality. All effluent is disposed of within the boundaries of the Tallowood Community Estate.

Aquacell Pty Ltd (ACN 072 487 015) is the Licensee, holding Network Operator's Licence No: 15\_032. As Licensee, Aquacell is responsible for the ongoing operation and maintenance of the treatment facility in accordance with its Licence Plans; those in place during the audit period were:

- *Infrastructure Operating Plan:*
  - Aquacell, *Infrastructure Operating Plan; Blackwater Recycling Scheme; Tallowood Residential Community Development, Kurrajong NSW 2758* (Revision 4), 28 January 2016; and
  - Aquacell, *Infrastructure Operating Plan; Blackwater Recycling Scheme; Tallowood Residential Community Development, Kurrajong NSW 2758* (Revision 5), 4 June 2019; and
- *Sewage Management Plan:*
  - Aquacell, *Tallowood Residential Community Development – Kurrajong NSW; Sewage Management Plan* (Revision 3), 7 January 2016; and
  - Aquacell, *Tallowood Residential Community Development – Kurrajong NSW; Sewage Management Plan* (Revision 4), 4 June 2019.

## 2.3 Audit Method

### 2.3.1 Audit Scope

The audit comprised an Operational Audit conducted pursuant to the *WIC Act Audit Guidelines*.<sup>2</sup> The specific scope of the audit was as defined in IPART's letter to Aquacell (reference D20/8174) dated 23 April 2020. The nominated scope addresses selected requirements of:

- the *Water Industry Competition (General) Regulation 2008*; and
- *Network Operator's Licence No: 15\_032*.<sup>3</sup>

The audit period (period during which compliance has been assessed) is 1 May 2019 to 31 March 2020.

### 2.3.2 Audit Standard

The audit has been undertaken in accordance with the principles/guidance presented in:

- ISO 19011:2011 *Guidelines for auditing management systems*; and
- IPART, *Audit Guideline; Water Industry Competition Act 2006*, September 2018 (WIC Act Audit Guidelines).

### 2.3.3 Audit Steps

The audit has been undertaken generally in accordance with the procedure outlined in the *WIC Act Audit Guidelines*.

Following approval of an *Audit Proposal* by IPART, an *Information Request* was sent to both the Licensee and IPART approximately two weeks prior to the audit fieldwork being undertaken. The Licensee provided an information pack in response to the request several days prior to the audit fieldwork.

Audit fieldwork was undertaken remotely via online video conferencing on 18 June 2020. Pre-recorded video and photographs of the infrastructure were viewed and discussed; this was followed by review and discussion (audit) of relevant documentation/records. Some additional items of information and/or clarification were requested following the audit fieldwork and subsequently provided.

A draft audit report was prepared and submitted to the Licensee for review, before being finalised and issued to both the Licensee and IPART.

The audit process involved seeking objective evidence that the Licensee had complied with the obligations identified for audit by IPART. Evidence was obtained through interview, review of relevant documentation and records, and site inspection.

### 2.3.4 Audit Team

The audit was conducted by Jim Sly and the peer/quality assurance review was undertaken by Dr Dan Deere. Both auditors hold relevant Lead Auditor accreditation on IPART's Technical Services and Water Licensing Panel.

---

<sup>2</sup> IPART, *Audit Guideline; Water Industry Competition Act 2006*, September 2018.





<sup>3</sup> New South Wales Government, *Network Operator's Licence No: 15\_032* (as issued on 26 July 2015).

Aquacell was represented by Tass Meli and Adriana Maras. IPART representative Nick Singer attended as an observer during the audit fieldwork.

### 2.3.5 Audit Grades

Audit grades have been awarded in accordance with guidance presented in the *WIC Act Audit Guidelines*. The compliance grades applicable for the purposes of this audit were as identified in **Table 2.1**.

**Table 2.1 Audit Compliance Grades**

Compliance Grade	Description
 <b>Compliant</b>	Sufficient evidence is available to confirm that the requirements have been met.
 <b>Non-compliant (non-material)</b>	Sufficient evidence is not available to confirm that the requirements have been met and the deficiency does not adversely impact the ability of the Licensee to achieve defined objectives or assure controlled processes, products or outcomes.
 <b>Non-compliant (material)</b>	Sufficient evidence is not available to confirm that the requirements have been met and the deficiency does adversely impact the ability of the Licensee to achieve defined objectives or assure controlled processes, products or outcomes.
 <b>No Requirement</b>	There was no requirement for the Licensee to meet this criterion during the audit period.

## 2.4 Regulatory Regime

The sewerage scheme at Kurrajong operates in accordance with the provisions of a Network Operator's Licence (Licence No: 15\_032) issued under the *Water Industry Competition Act 2006* (NSW). Other relevant regulatory instruments and standards/guidelines include:

- *Water Industry Competition (General) Regulation 2008 (NSW)*;
- IPART, *Audit Guideline; Water Industry Competition Act 2006*, September 2018;
- *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006*;
- *Plumbing Code of Australia*;
- *Plumbing and Drainage Act 2011 (NSW)*; and
- NSW and national water industry and environmental regulations and codes of practice as applicable.

## 2.5 Quality Assurance Process

The quality of this audit report was assured through a professional review process. The report has been independently reviewed by a Lead Auditor who holds relevant accreditation on IPART's Technical Services and Water Licensing Panel.

## 2.6 Audit Findings

Audit findings are summarised in the following **Sections 3** and **4**, and are presented in full detail in **Appendices A** and **B**.

## 3. General Obligations of a Network Operator

### 3.1 Summary of Findings

There were no identified non-compliances in respect of the audited clauses of the *Water Industry Competition (General) Regulation 2008* that address the *General Obligations of a Network Operator* (refer to **Appendix A** for detailed audit findings).

### 3.2 Review of Actions

The Licensee has not made any suggestions for corrections or clarifications following issue of the draft report and prior to the final report being issued.

### 3.3 Opportunities for Improvement

The following opportunities for improvement have been identified in respect of the audited *WTC Regulation* clauses that address the *General Obligations of a Network Operator*:

- **OFI-KSS-2020.01:** It is suggested that, if Aquacell chooses to make copies of Operational Audit Reports available on its website (which it is not obliged to do), it would be appropriate ensure that the most recent report is available at any time.
- **OFI-KSS-2020.02:** It is suggested that Aquacell prepares a consolidated list of contact details for all stakeholders that may need to be notified in the event of any incident in relation to the Kurrajong Sewerage Scheme that threatens, or could threaten, water quality, public health or safety. Such a list should be included or referenced in the *Sewage Management Plan* and *Incident and Emergency Management Procedure*. Furthermore, such contact details should be confirmed, and where necessary updated, at least annually as part of Aquacell's internal annual regulatory review process.

## 4. Sewerage Infrastructure

### 4.1 Summary of Findings

There were no identified non-compliances in respect of the audited clauses of the *Water Industry Competition (General) Regulation 2008* related to *Sewerage Infrastructure* (refer to **Appendix B** for detailed audit findings).

### 4.2 Review of Actions

The Licensee has not made any suggestions for corrections or clarifications following issue of the draft report and prior to the final report being issued.

### 4.3 Opportunities for Improvement

The following opportunities for improvement have been identified in respect of the audited *WTC Regulation* clauses related to *Sewerage Infrastructure*:

- **OFI-KSS-2020.03:** It is suggested that Aquacell revises its standard form *Maintenance Service Checklist* to provide for recording the details, including serial number (or other unique identifier), of the specific hand held instrument(s) used for calibration purposes.
- **OFI-KSS-2020.04:** It is suggested that Aquacell takes action to ensure that all relevant fields on water quality sample Chain of Custody records are consistently completed.






## **Appendix A   Detailed Audit Findings** **– General Obligations of a Network Operator**

Detailed audit findings in respect of the audited *General Obligations of a Network Operator* are presented in this Appendix.



**Table A.1 General Obligations – WIC Reg Sched 1 cl.16**

Clause	Requirement	Compliance Grade
<b>WIC Reg Sched 1 cl.16</b>	<p>The Licensee must have an internet website on which the following matters are available for inspection by members of the public:</p> <ul style="list-style-type: none"><li>(a) a plan showing the nature and general location of the separate components of the infrastructure (that is, each component that is used for the treatment, storage, conveyance or reticulation of sewage),</li><li>(b) the licensee's infrastructure operating plan,</li><li>(c) the licensee's sewage management plan,</li><li>(d) the most recent auditor's report under clause 13 that applies to the licensee,</li><li>(e) the most recent auditor's report under clause 14 that applies to the licensee.</li></ul>	<div></div> <div><b>Compliant</b></div>
<b>Risk</b>	<b>Target for Full Compliance</b>	
Non-compliance with the requirements of this clause presents low (if any) risk. The availability the requisite information for inspection by members of the public does, however, ensure transparency in respect of any potential risks to public health and/or the environment.	Evidence that the Licensee has maintained an internet website on which the requisite information is available for inspection by members of the public.	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"><li>▪ Interviews with Aquacell personnel on 18 June 2020.</li><li>▪ Aquacell’s website for the Kurrajong Sewerage Scheme at: <a href="http://aquacell.com.au/resources/community-information/kurrajong/">http://aquacell.com.au/resources/community-information/kurrajong/</a>.</li><li>▪ Water Futures/Cobbitty Consulting, <i>WICA Audit Report to IPART; Licence Plan Audit (Sewerage); Aquacell (Kurrajong)</i> (Version 4), 2 February 2016.</li><li>▪ Cobbitty Consulting, <i>Aquacell – Kurrajong Sewerage Scheme; 2019 Operational Audit</i> (Version 2.0), 17 July 2019.</li></ul>		
<b>Summary of reasons for grade</b>		
<p>Aquacell maintains a website in respect of the Kurrajong Sewerage Scheme, review of which confirmed that requisite information including a plan that meets the requirements of paragraph a) and a Licence Plan Audit Report that meets the requirements of paragraphs d) and e) was available at the time of reporting. Accordingly, Aquacell is assessed have been fully compliant with this obligation.</p>		
<b>Discussion and notes</b>		
<p><i>Note: the audit scope, as defined by IPART, requires assessment of compliance with paragraphs a), d) and e) only. Furthermore, in defining the audit scope, IPART noted that:</i></p> <p><i>“The auditor should audit this clause, which was awarded a ‘non-compliant insignificant’ compliance grade in the 2018 operational audit of the Kurrajong scheme, to determine if the non-compliance has been rectified.</i></p>		

---

*The non-compliance was the subject of a voluntary undertaking. Following our approval of the voluntary undertaking, Aquacell advised that it had rectified the non-compliance.*

*As of 20/4/20, Aquacell had the following Kurrajong related documents on its website:*

- Operational Audit Report (March 2018)*
- Licence Plans Audit (February 2016)*
- Area of Operations.”*

A ‘Google’ search for “Kurrajong Sewerage Scheme”, undertaken on 25 May 2020, readily led to Aquacell’s website for the Kurrajong Sewerage Scheme.<sup>4</sup> The website was viewed to assess compliance with this obligation. Each auditable requirement is assessed in the following:

***Clause 16(a) – Plan showing general arrangement of the infrastructure:***

Review of the website reveals that it provides a clear and simple overview of the scheme and how it operates; it also provides a plan showing the area of operations and the general location of the separate components of the infrastructure, specifically the sewage treatment plant and effluent disposal area.

Accordingly, Aquacell is assessed as being compliant with this requirement.

***Clause 16(d) – Licence Plan Audit Report – Infrastructure Operating Plan:***

WIC Reg. Sched 1 clause 13 requires the preparation of a report as to the adequacy of the Licensee’s *Infrastructure Operating Plan*. The most recent Licence Plan Audit Report<sup>5,6</sup> in respect of adequacy of the *Infrastructure Operating Plan* (which also addresses the *Sewage Management Plan*) was available on the website.

Accordingly, Aquacell is assessed as being compliant with this requirement.

***Clause 16(e) – Licence Plan Audit Report – Sewage Management Plan:***

WIC Reg. Sched 1 clause 14 requires the preparation of a report as to the adequacy of the Licensee’s *Sewage Management Plan*. As noted above, the most recent Licence Plan Audit Report in respect of the adequacy of the *Sewage Management Plan* (which also addresses the *Infrastructure Operating Plan*) was available on the website.

Accordingly, Aquacell is assessed as being compliant with this requirement.

Aquacell is therefore assessed to have maintained compliance with this obligation (Schedule 1, clause 16 of the Regulation) having previously demonstrated full compliance at the time of the 2019 Operational Audit.<sup>7</sup>

It is noted that, in addition to the Licence Plan Audit Report, a copy of the Operational Audit Report (dated March 2018) is also available on the website. It is noted that this is not the most recent Operational Audit Report. Whilst Aquacell is not obliged to make Operational Audit Reports available on its website, as an opportunity for improvement (**OFI-KSS-2020.01**), it is suggested that if Aquacell chooses to do so, it would be appropriate to ensure that the most recent report is available at any time.

---

## **Recommendations**

There are no recommendations in respect of this obligation.

---

---

<sup>4</sup> Aquacell’s website for the Kurrajong Sewerage Scheme at: <http://aquacell.com.au/resources/community-information/kurrajong/>.

<sup>5</sup> Water Futures/Cobbitty Consulting, *WICA Audit Report to IPART; Licence Plan Audit (Sewerage); Aquacell (Kurrajong)* (Version 4), 2 February 2016.

<sup>6</sup> The auditor is aware (and confirms) that this is the most recent Licence Plan Audit Report in respect of the Kurrajong Sewerage Scheme.

<sup>7</sup> Cobbitty Consulting, *Aquacell – Kurrajong Sewerage Scheme; 2019 Operational Audit* (Version 2.0), 17 July 2019, table A.1.


---

### Opportunities for improvement

The following opportunity for improvement has been identified in respect of this obligation:

- **OFI-KSS-2020.01:** It is suggested that, if Aquacell chooses to make copies of Operational Audit Reports available on its website (which it is not obliged to do), it would be appropriate ensure that the most recent report is available at any time.
-

**Table A.2 General Obligations – WIC Reg Sched 1 cl.1(2)(a), (b), (c) and (e)**

Clause	Requirement	Compliance Grade
<b>WIC Reg Sched 1 cl.1(2)(a), (b), (c) and (e)</b>	<p>[1(2)(a)] The licensee must immediately notify IPART of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.</p> <p>[1(2)(b)] The licensee must immediately notify the Minister administering the <i>Public Health Act 2010 (NSW)</i> and the <i>Public Health Regulation 2012 (NSW)</i> of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.</p> <p>[1(2)(c)] The licensee must immediately notify the Minister administering Part 2 of the <i>Water Industry Competition Act 2006 (NSW)</i> of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.</p> <p>[1(2)(e)] The licensee must immediately notify any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator's infrastructure of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.</p> <p><i>Note: cl.1(2)(d) is not applicable for the purposes of this scheme.</i></p>	<div> <b>No Requirement</b></div>
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a high operational risk. It is essential that relevant stakeholders are made aware of incidents that threaten, or could threaten, water quality, public health or safety.	In the event that a notifiable incident has occurred, evidence that the Licensee provided the required notifications.	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"><li>Interviews with Aquacell personnel on 18 June 2020.</li><li>Virtual site inspection of the infrastructure at Kurrajong on 18 June 2020.</li><li>Aquacell, <i>Infrastructure Operating Plan; Blackwater Recycling Scheme; Tallowood Residential Community Development, Kurrajong NSW 2758</i> (Revision 5), 4 June 2019.</li><li>Aquacell, <i>Tallowood Residential Community Development – Kurrajong NSW; Sewage Management Plan</i> (Revision 4), 4 June 2019.</li><li>Aquacell, <i>Tallowood Hamlet; Tallowood Residential Estate; Operation and Maintenance Manual; Sewage Network, Water Treatment Plant, Irrigation Disposal</i> (Revision A0069-3), 28 January 2016.</li><li>Document: <i>A.2.1 Turbidity-Whole Period.png</i>.</li><li>Document: <i>A.2.2 Turbidity-Whole Period-Filtered.png</i>.</li><li>Document: <i>Turbidity Spikes Summary.docx</i>.</li><li>Document: <i>Monthly Maintenance Log - S0069 May19-Mar20.pdf</i>.</li><li>MS Excel workbook: <i>All Sample Results Summary - Kurrajong May19-Mar20.xlsx</i>.</li><li>EnviroLab Certificates of Analysis as referenced.</li></ul>		

- 
- Aquacell, *Incident and Emergency Management Procedure* (Revision 5), 31 March 2018.
  - Cobbitty Consulting, *Aquacell – Kurrajong Sewerage Scheme; Operational Audit* (Version 2.0), 2 March 2018.
  - Cobbitty Consulting, *Aquacell – Kurrajong Sewerage Scheme; 2019 Operational Audit* (Version 2.0), 17 July 2019.
  - IPART, *Incident Notification by Network Operators and Retail Suppliers; Water Industry Competition Act 2006* (Issue No: 5), February 2018 [now superseded].
  - Email dated 22 June 2020 from Aquacell to Cobbitty Consulting (re: *Aquacell Kurrajong Audit*).
  - IPART, *Network Operator's Reporting Manual under the Water Industry Competition Act 2006 (NSW)* (Issue No: 10), November 2019.
  - IPART, *Form A. Incident written notification within 24 hours of immediate verbal notification*, February 2018 [now superseded by November 2019 version].
  - IPART, *Form B. Incident written notification within 5 days of incident ending*, February 2018 [now superseded by November 2019 version].
  - Document: *NSW HEALTH - PHU for Kurrajong - NepeanHospital-Penrith.docx*.
- 

### Summary of reasons for grade

Aquacell advised that no notifiable incidents had occurred during the audit period. Review of SCADA data trends for the sole critical control point and the results of monthly microbiological testing confirmed this to be the case.

Accordingly, there was “No Requirement” in respect of these obligations.

---

### Discussion and notes

#### **Overview:**

The auditor questioned whether there had been any incidents arising from the conduct of the network operator's activities during the audit period that threatened, or could have threatened, water quality, public health or safety and, if so, whether IPART, the Minister administering the *Public Health Act 2010 (NSW)* and the *Public Health Regulation 2012 (NSW)*, the Minister administering Part 2 of the *Water Industry Competition Act 2006 (NSW)* and any connected network operator or public water utility had been notified as required.

Aquacell advised that there had been no such incidents during the audit period.

#### **Review of Water Quality Data:**

##### SCADA Records for Critical Control Points:

A review of SCADA data trends for treated water turbidity, the sole critical control point (CCP) for the plant, across the audit period was undertaken to confirm Aquacell's advice. In undertaking this review, it is noted that the critical limit for turbidity in the treated water is <5 NTU and an alert level at >2 NTU is maintained in the SCADA system to provide warning of any potential problem.<sup>8</sup> A 5 minute delay applies in each case; i.e. a second exceedance reading (turbidity is logged at 5 minute intervals) is required before an alert alarm or plant shutdown is initiated, consistent with typical practice.

Aquacell provided two versions of the turbidity SCADA trend for the duration of the audit period; the first showed all turbidity readings,<sup>9</sup> whilst a second showed turbidity only during period that effluent was being discharged to the treated water storage (i.e. when plant status was 'Filtration').<sup>10</sup> Aquacell identified

---

<sup>8</sup> *Sewage Management Plan*, section 11.1.3.

<sup>9</sup> Document: *A.2.1 Turbidity-Whole Period.png*.

<sup>10</sup> Document: *A.2.2 Turbidity-Whole Period-Filtered.png*.

---

fifteen (15) occasions on which the recorded turbidity exceeded the critical limit of 5 NTU, and provided explanations as to why these did not constitute notifiable incidents, as follows:<sup>11</sup>

- in nine (9) cases, the plant ceased ‘filtering’ (i.e. discharge to the treated water storage) in response to the exceedance after a 5-minute delay in accordance with the operational control arrangements;
- in one (1) case, the exceedances correlated to periods when the plant was in critical alarm and was not producing water;
- on one (1) occasion, whilst the Service Engineer was on site, air bubbles were found to be entering the turbidimeter, thereby causing high readings. Readings using a hand-held instrument confirmed that the effluent being produced was well within the critical limit. It was further concluded that plant shutdown due to high turbidity readings on two previous occasions were also due to air bubble entrainment;
- the remaining four (4) exceedances were recorded during periods that the Service Engineer was undertaking maintenance activities including an MBR CIP (membrane clean in place) and removal of the effluent pump filter. Effluent (treated water) is not typically discharged to the treated water storage during these activities, the conduct of which was confirmed by reference to the *Maintenance Log*.<sup>12</sup>

On the basis of this analysis, the auditor is satisfied that no water was delivered into supply during any period that the correctly recorded turbidity exceeded the critical limit.

#### Microbiological Monitoring:

A review of the monthly laboratory test results for *E. coli* in the treated water, which has been adopted as an ongoing verification test parameter, found them to be well below the target value of <1,000 CFU /100 mL. Review of a tabulated summary of these results revealed that the maximum value during the audit period was 160 CFU/100 mL, which was recorded in July 2019.<sup>13</sup>

More specifically, review of the following laboratory test certificates confirmed that results were well below the target (limit), and that they had been correctly recorded in the above referenced summary tabulation:

- Envirolab, *Certificate of Analysis 216879*, dated 14 May 2019 for sample taken 6 May 2019 – result 52 CFU/100 mL;
- Envirolab, *Certificate of Analysis 224220*, dated 22 August 2019 for sample taken 19 August 2019 – result 41 CFU/100 mL;
- Envirolab, *Certificate of Analysis 2316429*, dated 3 December 2019 for sample taken 26 November 2019 – result approximately 1 CFU/100 mL; and
- Envirolab, *Certificate of Analysis 236603*, dated 19 February 2020 for sample taken 12 February 2020 – result approximately 5 CFU/100 mL.

On the basis of this assessment, the auditor is satisfied that the target limit for *E. coli* was not exceeded during the audit period.

#### Summary:

On the basis of this analysis of SCADA data trends for the CCP parameter (MBR effluent turbidity) and the results of monthly verification testing (*E. coli*), Aquacell’s assessment that there had been no reportable incidents is considered to have been demonstrated.

---

---

<sup>11</sup> Document: *Turbidity Spikes Summary.docx*.

<sup>12</sup> Document: *Monthly Maintenance Log - S0069 May19-Mar20.pdf*.

<sup>13</sup> MS Excel workbook: *All Sample Results Summary - Kurrajong May19-Mar20.xlsx*.



---

### ***Notification Arrangements:***

Arrangements for the management of incidents and emergencies, including notification requirements in the event of any incident that potentially places public health at risk, are outlined in the *Sewage Management Plan*.<sup>14</sup> Aquacell also has in place an *Incident and Emergency Management Procedure*,<sup>15</sup> which identifies the requirement to report notifiable incidents, responsibility for which is assigned to Aquacell's Technical Manager.

However, as reported in respect of the 2018 Operational Audit,<sup>16</sup> there were some shortcomings in respect of reference to a superseded IPART document and outdated/incomplete stakeholder contact details in the *Sewage Management Plan*. Similarly, the *Incident and Emergency Management Procedure* does not list all relevant contact details.

As reported in respect of the 2019 Operational Audit,<sup>17</sup> Aquacell had partially but not fully addressed the identified issues in the most recent update of the *Sewage Management Plan* (albeit the actions had been taken subsequent to the audit period, i.e. within the current audit period). Reference to IPART's *Incident Notification by Network Operators and Retail Suppliers*<sup>18</sup> was corrected and contact details for Aquacell personnel updated.

Notwithstanding these updates, contact details for stakeholders that would require notification pursuant to this obligation (WIC Reg Sched 1 cl.1(2)) were still not documented in the *Sewage Management Plan* or elsewhere at the time of this audit.

Following explanation of the specific requirement, Aquacell provided the following documents/information, which detail the required notification arrangements and contact details:<sup>19</sup>

- The abovementioned *Incident Notification by Network Operators and Retail Suppliers*;<sup>20</sup> however, reference to the IPART website indicates that this document has now been superseded. Incident notification requirements previously detailed in this document are now included in the latest version of the *Network Operator's Reporting Manual*.<sup>21</sup>
- Copies of *Incident Notification Form A*<sup>22</sup> and *Form B*,<sup>23</sup> which include contact details for relevant stakeholders; however, reference to the IPART website indicates that these forms have subsequently been updated (November 2019), and contact details have changed.
- Contact details for the applicable NSW Health Public Health Unit for the Kurrajong scheme, i.e. Penrith Public Health Unit (Nepean Blue Mountains LHD).<sup>24</sup>

Aquacell further advised that it will incorporate relevant details (specifically contact details for the Public Health Unit) into its notification forms and contact lists, and will review and update them as part of the annual regulatory review process or as otherwise required.

In view of the action taken by Aquacell to address the previously identified issues (although they have not yet been fully addressed), a non-compliance has not been identified. However, as a further opportunity for improvement (**OFI-KSS-2020.02**), it is suggested that Aquacell prepares a consolidated list of contact details for all stakeholders that may need to be notified in the event of any incident in relation to the

---

<sup>14</sup> *Sewage Management Plan*, section 12.

<sup>15</sup> Aquacell, *Incident and Emergency Management Procedure* (Revision 5), 31 March 2018, section 4.

<sup>16</sup> Cobbitty Consulting, *Aquacell – Kurrajong Sewerage Scheme; Operational Audit* (Version 2.0), 2 March 2018, table B.1.

<sup>17</sup> Cobbitty Consulting, *Aquacell – Kurrajong Sewerage Scheme; 2019 Operational Audit* (Version 2.0), 17 July 2019, table A.2.

<sup>18</sup> IPART, *Incident Notification by Network Operators and Retail Suppliers; Water Industry Competition Act 2006* (Issue No: 5), February 2018.

<sup>19</sup> Email dated 22 June 2020 from Aquacell to Cobbitty Consulting (re: *Aquacell Kurrajong Audit*).

<sup>20</sup> IPART, *Incident Notification by Network Operators and Retail Suppliers; Water Industry Competition Act 2006* (Issue No: 5), February 2018.

<sup>21</sup> IPART, *Network Operator's Reporting Manual under the Water Industry Competition Act 2006 (NSW)* (Issue No: 10), November 2019, section 3.1.

<sup>22</sup> IPART, *Form A. Incident written notification within 24 hours of immediate verbal notification*, February 2018.

<sup>23</sup> IPART, *Form B. Incident written notification within 5 days of incident ending*, February 2018.

<sup>24</sup> Document: NSW HEALTH - PHU for Kurrajong - NepeanHospital-Penrith.docx.

---

Kurrajong Sewerage Scheme that threatens, or could threaten, water quality, public health or safety. Such a list should be included or referenced in the *Sewage Management Plan* and *Incident and Emergency Management Procedure*. Furthermore, such contact details should be confirmed, and where necessary updated, at least annually as part of Aquacell's internal annual regulatory review process.

---

### **Recommendations**

There are no recommendations in respect of these obligations.



---

### **Opportunities for improvement**

The following opportunity for improvement has been identified in respect of these obligations:

- **OFI-KSS-2020.02:** It is suggested that Aquacell prepares a consolidated list of contact details for all stakeholders that may need to be notified in the event of any incident in relation to the Kurrajong Sewerage Scheme that threatens, or could threaten, water quality, public health or safety. Such a list should be included or referenced in the *Sewage Management Plan* and *Incident and Emergency Management Procedure*. Furthermore, such contact details should be confirmed, and where necessary updated, at least annually as part of Aquacell's internal annual regulatory review process.
-

**Table A.3 General Obligations – WIC Reg Sched 1 cl.2(1), 2(2)(a) and 2(2)(b)**

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.2(1), 2(2)(a) and 2(2)(b)	[2(1)] The licensee must not bring any new water or sewerage infrastructure into commercial operation without the written approval of the Minister.	Clause 2(1):  <b>Compliant</b>
	[2(2)(a)] The licensee must provide to the Minister a report, prepared by an approved auditor that indicates that the infrastructure complies with the requirements of the Regulation and any licence conditions.	
	[2(2)(b)] The licensee must provide to the Minister a report, prepared by an approved auditor that indicates that the infrastructure is capable of operating safely and in accordance with its infrastructure operating plan and its water quality or sewage management plan, as the case requires.  <i>WIC Reg Sched 1 cl.2(2) to be audited if new infrastructure has been brought into operation.</i>	Clauses 2(2)(a) and 2(2)(b):  <b>No Requirement</b>
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a high operational risk. The Minister’s written approval is only provided when the Licensee has demonstrated that the infrastructure complies and can be operated in accordance with the relevant requirements. Accordingly, the absence of the Minister’s written approval may mean that the infrastructure has not been so assessed.	Evidence that the written approval of the Minister was obtained prior to bringing new water or sewerage infrastructure into service.	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"><li>Interviews with Aquacell personnel on 18 June 2020.</li><li>Virtual site inspection of the infrastructure at Kurrajong on 18 June 2020.</li><li>Aquacell, <i>Infrastructure Operating Plan; Blackwater Disposal Scheme; Tallowood Residential Community Development, Kurrajong NSW 2758</i> (Revision 5), 4 June 2019.</li><li>New South Wales Government, <i>Network Operator’s Licence No: 15_032</i> (as issued on 26 July 2015).</li><li>Cobbitty Consulting, <i>Aquacell– Kurrajong Sewerage Scheme; 2019 Operational Audit</i> (Version 2.0), 17 July 2019.</li></ul>		
<b>Summary of reasons for grade</b>		
No new infrastructure (water or sewerage) was brought into commercial operation during the audit period; accordingly, Aquacell was assessed as being compliant with the provisions of clause 2(1). Furthermore, as no new infrastructure had been brought into operation, there was “No Requirement” for compliance with the provisions of clauses 2(2)(a) or 2(2)(b) during the audit period.		

---

## Discussion and notes

Aquacell advised that no new infrastructure had been brought into commercial operation during the audit period.

Observations made during inspection of the infrastructure at Kurrajong revealed no evidence to the contrary. Furthermore, the infrastructure in service at the time of the audit remained consistent with that identified in the *Network Operator's Licence*.<sup>25</sup>

It is noted that the existing infrastructure was operating commercially under the provisions of section 68 of the *Local Government Act 1993* prior to the Licence being issued.<sup>26</sup> In these circumstances, the approval of the Minister to commence commercial operation of the existing infrastructure was not required. As reported in respect of the 2019 Operational Audit,<sup>27</sup> although some new reticulation sewers have been constructed in the “Nugget Hill” area (i.e. the area west of Vincents Road) subsequent to granting of the Network Operator's Licence ( and prior to the current audit period), under the provisions of WIC Reg Sched 1 cl.(3) this did not constitute “new infrastructure”.

Accordingly, it was evident that Aquacell had not, during the audit period, brought any new infrastructure into commercial operation without the approval of the Minister and was therefore compliant with clause 2(1). Furthermore, there was no requirement for any action under the provisions of clause 2(2).

---

## Recommendations

There are no recommendations in respect of these obligations.

---

## Opportunities for improvement

No opportunities for improvement have been identified in respect of these obligations.

---


---

<sup>25</sup> New South Wales Government, Network Operator's Licence No: 15\_032 (as issued on 26 July 2015), Table 2.

<sup>26</sup> The scheme was licensed under the WICA as a “brownfield” scheme.

<sup>27</sup> Cobbitty Consulting, *Aquacell– Kurrajong Sewerage Scheme; 2019 Operational Audit* (Version 2.0), 17 July 2019, table A.3.

**Table A.4 General Obligations – WIC Reg Sched 1 cl.3(c)**

Clause	Requirement	Compliance Grade
<b>WIC Reg Sched 1 cl.3(c)</b>	The licensee must ensure that its water or sewerage infrastructure is properly designed and constructed, operated in a safe and reliable manner and maintained in a proper condition, having regard to any publicly available standards or codes relating to its design, construction, operation and maintenance.	 <b>Compliant</b>

#### Risk

This requirement reflects a high operational risk. Proper design and construction, safe and reliable operation, and maintenance of infrastructure in proper condition is essential to the effective (safe and reliable) delivery of agreed levels of service.

#### Target for Full Compliance

Evidence that the Licensee has procedures in place for ensuring that practices are kept up to date with changes to such standards or codes.

#### Evidence sighted

- Interviews with Aquacell personnel on 18 June 2020.
- Virtual site inspection of the infrastructure at Kurrajong on 18 June 2020.
- Aquacell, *Infrastructure Operating Plan; Blackwater Disposal Scheme; Tallowood Residential Community Development, Kurrajong NSW 2758* (Revision 5), 4 June 2019.
- Aquacell, *Tallowood Residential Community Development – Kurrajong NSW; Sewage Management Plan* (Revision 4), 4 June 2019.
- Aquacell, *Tallowood Hamlet; Tallowood Residential Estate; Operation and Maintenance Manual; Sewage Network, Water Treatment Plant, Irrigation Disposal* (Revision A0069-3), 28 January 2016.
- Water Futures/Cobbitty Consulting, *WICA Audit Report to IPART Licence Plan Audit (Sewerage) Aquacell (Kurrajong)* (Version 4), 2 February 2016.
- Property No: 604764: *Application for Network Connection* dated 30 May 2019 and *Certificate of Compliance* dated 18 December 2019.
- Property No: 604916: *Application for Network Connection* dated 30 May 2019 and *Certificate of Compliance* dated 25 July 2019.

#### Summary of reasons for grade

Although no new infrastructure was designed or constructed during the audit period, on the basis of observations made during the audit it was apparent that the infrastructure had continued to be operated in a safe and reliable manner and maintained in proper condition having regard for publicly available standards and codes, and typical industry practice.

Arrangements employed by Aquacell for ensuring that codes and standards it references are current appear to be consistent with other organisations of its size.

Accordingly, Aquacell was assessed as having demonstrated full compliance with this obligation.

#### Discussion and notes

##### ***Design and Construction of Infrastructure:***

As noted in Table A.3, no new infrastructure was brought into commercial operation during the audit period.

The arrangements in relation to design and construction of the infrastructure that was in operation during the audit period was assessed as part of a Licence Plan Audit undertaken in January 2016, which also assessed the condition of the infrastructure. As previously reported,<sup>28</sup> the infrastructure had been:

*“...developed (designed and constructed) under approvals granted by Hawkesbury City Council pursuant to Section 68 of the Local Government Act.”*

The further assessment presented in the Licence Plan Audit Report indicates that the infrastructure would have been assessed as having been properly designed and constructed having regard for publicly available standards and codes.

### **Operation and Maintenance of Infrastructure:**

Operation and maintenance of the infrastructure is undertaken in accordance with the general principles (maintenance strategy) outlined in the *Infrastructure Operating Plan*,<sup>29</sup> which further indicates that Aquacell is solely responsible for maintenance activities. More specific guidance is provided in the *Operation and Maintenance Manual*.<sup>30</sup> Roles and responsibilities are documented in more specific detail in the *Sewage Management Plan*.<sup>31</sup>

Although there are general references, there are no specific references to codes and standards related to operation and maintenance of the infrastructure in the *Infrastructure Operating Plan*. This is consistent with other similar schemes, for which available standards relate to primarily to occupational health and safety requirements rather than the technical operation of the infrastructure.

Codes and standards specifically referenced in the *Operation and Maintenance Manual* include (for example):<sup>32</sup>

- *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006;*
- *AS/NZS 3500:2015 Plumbing and drainage;*
- *NSW Confined Space Code of Practice 2011.*

On the basis of observations made during the audit site inspection,<sup>33</sup> it was apparent that the infrastructure had been/was being operated in a safe and reliable manner and maintained in a proper condition. Furthermore, on the basis of the auditor's experience, it appeared that such operation and maintenance had been/was generally being undertaken having regard to relevant publicly available standards and/or codes.

Specific observations, which demonstrate compliance with relevant standards and codes and/or typical industry practice, include the following (for example):

- A hard copy of the *Operation and Maintenance Manual* was available at the treatment plant, housed within the electrical/control cabinet.
- Above ground pipework between the treated water storage outlet and the irrigation pump comprised cream striped polyethylene pipe, which is appropriate for sewage or sewage effluent.
- All other process pipework, fittings and instruments appeared to be code compliant and consistent with industry practice.
- It was confirmed that no chemicals are stored on site, thereby negating the implementation of any code requirements in respect of storage. Chemicals are brought to site on an 'as needed' basis, such as when (for example) a membrane Clean in Place (CIP) process is to be undertaken.

<sup>28</sup> Water Futures/Cobbitty Consulting, *WICA Audit Report to IPART Licence Plan Audit (Sewerage) Aquacell (Kurrajong)* (Version 4), 2 February 2016, table A1.1.

<sup>29</sup> *Infrastructure Operating Plan*, section 5.2.

<sup>30</sup> Aquacell, *Tallowood Hamlet; Tallowood Residential Estate; Operation and Maintenance Manual; Sewage Network, Water Treatment Plant, Irrigation Disposal* (Revision A0069-3), 28 January 2016.

<sup>31</sup> *Sewage Management Plan*, section 5 (table 1).

<sup>32</sup> *Operation and Maintenance Manual*, sections 2.1 and 2.3.4.

<sup>33</sup> As reported in Section 2.3.3, the site inspection was undertaken virtually, i.e. pre-recorded video and photographs of the infrastructure were viewed and discussed remotely using online video conferencing.

---

Aquacell demonstrated that it implements processes to ensure that customer's installations are compliant with the *Plumbing Code of Australia*, as required pursuant to WIC Reg Sched 1 cl.11. Documentation comprising an *Application for Network Connection* and a *Certificate of Compliance for Plumbing and Drainage Work* was provided for two properties (Aquacell references 604764 and 604916) that were connected to the sewerage network during the audit period. In each case, a Department of Fair Trading standard form *Certificate of Compliance* was used, and compliance with AS/NZS 3500 (Plumbing and drainage code) was indicated.<sup>34,35</sup>

On the basis of the above observations and maintenance records (which are discussed in Table B.1), it is apparent that operation and maintenance of the infrastructure has continued to be undertaken having regard to any publicly available standards or codes and industry practice.

***Currency of Standards and Codes:***

Aquacell has previously demonstrated that it maintains a directory on its server in which copies of relevant codes and standards are held. Aquacell also advised that it holds membership and/or is on the email lists for organisations such as the Australian Water Association (AWA), the Association of Hydraulic Services Consultants and IPART, which typically advise of major changes to significant documentation that may affect its operations.

This approach is considered typical of the arrangements adopted by organisations of Aquacell's size.

---

**Recommendations**

There are no recommendations in respect of this obligation.

---

**Opportunities for improvement**

No opportunities for improvement have been identified in respect of this obligation.

---

---

<sup>34</sup> Property No: 604764: *Application for Network Connection* dated 30 May 2019 and *Certificate of Compliance* dated 18 December 2019.

<sup>35</sup> Property No: 604916: *Application for Network Connection* dated 30 May 2019 and *Certificate of Compliance* dated 25 July 2019.






## **Appendix B   Detailed Audit Findings – Sewerage Infrastructure**

Detailed audit findings in respect of the obligations related to *Sewerage Infrastructure* are presented in this Appendix.



**Table B.1 Sewerage Infrastructure – WIC Reg Sched 1 cl.13(2)(a)**

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.13(2)(a)	The licensee must ensure that its infrastructure operating plan is fully implemented and kept under regular review and, in particular, that all of the network operator’s activities are carried out in accordance with that plan.	 Compliant
Risk	Target for Full Compliance	
This requirement reflects a high operational risk. Implementation of the <i>Infrastructure Operating Plan</i> ensures the effective (safe and reliable) delivery of agreed levels of service.	Evidence that the <i>Infrastructure Operating Plan</i> is fully implemented and the Licensee’s activities are carried out in accordance with that <i>Plan</i> ; evidence that the <i>Plan</i> is kept under regular review.	
Evidence sighted		
<ul style="list-style-type: none"><li>Interviews with Aquacell personnel on 18 June 2020.</li><li>Virtual site inspection of the infrastructure at Kurrajong on 18 June 2020.</li><li>Aquacell, <i>Infrastructure Operating Plan; Blackwater Disposal Scheme; Tallowood Residential Community Development, Kurrajong NSW 2758</i> (Revision 5), 4 June 2019.</li><li>Aquacell, <i>Tallowood Residential Community Development – Kurrajong NSW; Sewage Management Plan</i> (Revision 4), 4 June 2019.</li><li>Aquacell, <i>Tallowood Hamlet; Tallowood Residential Estate; Operation and Maintenance Manual; Sewage Network, Water Treatment Plant, Irrigation Disposal</i> (Revision A0069-3), 28 January 2016.</li><li>Aquacell, <i>Maintenance Service Checklists</i> for servicing undertaken on 9 July 2019, 26 November 2019, 2 January 2020 and 3 March 2020.</li><li>Document: <i>Portable Water Quality Analysers Calibrations-Validations Logbook 20-06.pdf</i>.</li><li>Aquacell, Maintenance Log for <i>S0069 Kurrajong</i> (latest entry 23 January 2018).</li><li>Aquacell, <i>Monthly Report (for August 2019)</i>, 25 September 2019 (reports for May 2019, December 2019 and March 2020 also provided and reviewed).</li><li>Aquacell, <i>Minutes of the Weekly Service Meeting</i> for meetings held on 19 July 2019, 25 October 2019, 31 January 2020 and 27 March 2020</li><li>Aquacell, <i>Periodic Review of Regulatory Documentation</i> register, record of review dated 4 June 2019.</li></ul>		
Summary of reasons for grade		
<p>Aquacell demonstrated that it is fully implementing, and is carrying out its infrastructure management activities in accordance with principles documented in, the <i>Infrastructure Operating Plan</i>. This was evident from the effective operation of the infrastructure and the implementation of maintenance practices. An opportunity for improvement identified during a previous audit had also been implemented.</p> <p>Aquacell also demonstrated that the <i>Infrastructure Operating Plan</i> is kept under regular review, with a record of each review maintained. The review frequency has now been documented within the <i>Plan</i>.</p> <p>Accordingly, Aquacell was assessed to have demonstrated compliance with this obligation.</p>		

---

## Discussion and notes

### Overview:

The auditor checked for evidence that the *Infrastructure Operating Plan* was being fully implemented and kept under regular review and that all of the Network Operator's activities are carried out in accordance with that *Plan*.

### Design and Construction:

The infrastructure that comprises the Kurrajong Sewerage Scheme was already operational at the time it was licensed in July 2015. As reported in Table A.4, no design or construction activity was undertaken during the audit period.

### Operation and Maintenance:

As noted in Table A.4, operation and maintenance of the infrastructure is undertaken in accordance with the general principles (maintenance strategy) outlined in the *Infrastructure Operating Plan*.<sup>36</sup> More specific guidance provided in the *Operation and Maintenance Manual*<sup>37</sup> and associated procedures.

Review of the *Operation and Maintenance Manual*, a hard copy of which was available at the treatment plant, reveals that it includes detailed guidance in respect of:

- Plant operation – including (for example) plant control; online monitoring of plant status and instrument data; set point control; changing process variables; membrane management; and water sampling.
- Maintenance procedures – including (for example) membrane cleaning; instrument calibration; irrigation system maintenance; and troubleshooting.

The adopted operation and maintenance strategy comprises daily remote monitoring of plant operation via SCADA, monthly inspections and minor maintenance, periodic maintenance (generally in accordance with equipment manufacturer recommendations), periodic inspection of the irrigation field and reactive maintenance in response to alarm conditions.<sup>38</sup> The majority of equipment is operated on a 'run to fail' basis; duty/standby configuration (for some equipment) enables ongoing plant operation in the event of equipment failure.<sup>39</sup>

Aquacell provided evidence of ongoing operation and maintenance activities, including a sample of *Maintenance Service Checklists*. Review of checklists for servicing undertaken on 9 July 2019, 26 November 2019, 2 January 2020 and 3 March 2020 revealed that (for example):

- The standard checklist provides for recording of service activities including: sample collection (for verification testing); parameter analysis (check of online readings versus hand held instrument readings); technical service check items/actions; assessment of MBR aeration performance; instrument calibration and cleaning; and other site observations/comments.
- In all cases, the checklists were fully completed and the 'comments' field had been used extensively to record observations and details of additional activities undertaken. Such records, which enable effective ongoing monitoring of plant behaviour and performance, included (for example):
  - "Drained 1.5 m of MLSS into the sludge tank from MBR and bio tanks. Let sit for ~ 3 hours. MLSS now low. Shut filtrate valve. Will let fresh let fresh feed digest for ~ 6 h." (9 July 2019).
  - "Brandster on site for sludge removal. 12 kL removed. Sludge tank emptied, some more removed from buffer tank." (9 July 2019).

---

<sup>36</sup> *Infrastructure Operating Plan*, section 5.2.

<sup>37</sup> Aquacell, Tallowood Hamlet; Tallowood Residential Estate; *Operation and Maintenance Manual; Sewage Network, Water Treatment Plant, Irrigation Disposal* (Revision A0069-3), 28 January 2016.

<sup>38</sup> *Sewage Management Plan*, section 11.1.

<sup>39</sup> *Infrastructure Operating Plan*, section 5.2.

- 
- “MLSS concentrations across tanks unusual, but may be due to process interruptions. Check next month so see if back to normal.” (26 November 2019).
  - “Conduit repaired next to irrigation tank.” (26 November 2019).
  - “DO was around 1.5 mg/L higher in bio1 than 2. Recirc from MBR, but not major issue.” (2 January 2020).
  - “Inspected filtrate valve. Valve motor and ball look good, working okay. Relays switched.” (3 March 2020).
  - Comments indicate that action had been taken in response when process performance had been assessed to have been either ‘fair’ or ‘poor’.
  - Recorded online parameter readings are as taken prior to any required re-calibration. Only minor discrepancies that did not require re-calibration were identified in the checklists reviewed.

It was noted that, although instrument calibration readings are recorded (‘Parameter Analysis’ section of the checklist) for each monthly service, details of the particular hand held instrument used for calibration is not; this may limit traceability in the event that it is required. As an opportunity for improvement (OFI-KSS-2020.03), it is suggested that Aquacell revises its standard form *Maintenance Service Checklist* to provide for recording the details, including serial number (or other unique identifier), of the specific hand held instrument(s) used for calibration purposes.

It is further noted that Aquacell maintains a record of hand held (portable) instrument calibrations in its *Portable Water Quality Analysers Calibrations Logbook*.<sup>40</sup> The *Logbook* outlines the calibration requirements for each instrument; details of each calibration undertaken are also recorded. Records indicate that calibration has been appropriately maintained.

Maintenance activity undertaken in addition to standard tasks (which are recorded on the *Maintenance Service Checklists*) is recorded in an ongoing *Maintenance Log*, an extract from which detailed the activities undertaken throughout the audit period (i.e. from May 2019 through to March 2020).<sup>41</sup> Specific maintenance activities undertaken during the audit period included (for example):

- 16 May 2019 – “Returned to perform CIP on membranes.”
- 17 May 2019 – “Returned to check aeration in membrane tank 2. Checked MLSS (4000 mg/L), has dropped following CIP. Delay sludge tank pump out until further monitoring of MLSS. Turbidity spikes occurring during filtration –bubbles entering turbidimeter. Manually took turbidity reading and was okay ~1 NTU. Chlorine wash was completed on both streams. Turbidity cuvette cleaned.”
- 17 June 2019 – “High turbidity ~3 NTU. Plant shutdown over weekend. Pump filter was removed, a biofilm layer was evident. The pump was cleaned. Turbidity cuvette cleaned. A chlorine maintenance was done on the filtrate lines.”
- 11 November 2019 – “Inspected faulty level transmitter in Feed Tank. Cleaned transmitter. Still not working. Added 5 kg soda ash to buffer tank. Feed to biology must be manually pumped.”
- 20 November 2019 – “Replaced level transmitter. Add soda ash 0.5kg to feed/ bio tanks.”
- 4 March 2020 – “Checked filtrate valve operation. Valve fails to close, but PLC operating correctly. A replacement is required.”
- 10 March 2020 – “Replaced automatic filtrate valve.”

These records demonstrate that both regular planned maintenance activities (e.g. membrane cleaning (CIP); chlorine wash of filtration lines; and cleaning of turbidity cuvette) and corrective maintenance activities (e.g. inspection and subsequent replacement of feed tank level transmitter; and inspection and subsequent replacement of filtrate valve) were undertaken.

---

<sup>40</sup> Document: *Portable Water Quality Analysers Calibrations-Validations Logbook 20-06.pdf*.

<sup>41</sup> Aquacell, Maintenance Log for S0069 Kurrabung (latest entry 23 January 2018).

Furthermore, review of the *Maintenance Service Checklists* and *Maintenance Log* confirmed that inspection/servicing had been undertaken at least monthly during the audit period, which is consistent with the maintenance strategy outlined in the *Infrastructure Operating Plan*.

Aquacell also conducts Weekly Service Meetings, during which operational and maintenance issues associated with each of the schemes it operates, including the Kurrajong Sewerage Scheme, are discussed. Review of minutes of meetings held on 19 July 2019, 25 October 2019, 31 January 2020 and 27 March 2020 (provided as examples) revealed that each meeting addressed an agenda including Monthly Operations Summary; Site Issues, Actions and Variations; Administrative/Regulatory; OHSE; and Reporting/Sampling. Entries in respect of the Kurrajong scheme included (for example):

- 19 July 2019 – the Monthly Operations Summary indicated that the scheme continued to be available to operate; the daily throughput was 7 kL compared to a KPI daily flow rate of 6 kL, and that the KPI monthly production is “per demand”.
- 19 July 2019 – Site Issues, Actions and Variations included:
  - “Sludge pump installation project required (Priority 3); MBR aeration lift, inspection and clean/replace required. Carried out successfully on 29/7” (Priority 2).
  - “Kurrajong WICA Audit complete; Follow up on OFIs required”.
- 25 October 2019 – Site Issues, Actions and Variations included: “2” valve for recirc line” (Priority 3).
- 31 January 2020 – Site Issues, Actions and Variations included: “Still having issues with low pH. Over-aeration, low feed, poor biomass health? Check calibration of pH probe on next service” (Priority 1).
- 27 March 2020 – Site Issues, Actions and Variations included: “Stormwater ingress is still an issue. 4”. Have had discussions with Garry at Tallowood. Send an email advice to Garry in case it is potable water leak/break”. Aquacell advised during the audit interviews that the ingress has not comprised system capacity, but nonetheless needs to be addressed (or at least understood).

These minutes further demonstrate that effective operational monitoring and adjustments are undertaken, and that asset condition is monitored and preventative and corrective maintenance activities are planned and implemented accordingly.

Pursuant to the requirements of the *Infrastructure Operating Plan*,<sup>42</sup> Aquacell provides monthly reports to its customer, the Tallowood Community Association. Review of a sample of these reports (May 2019, August 2019, December 2019 and March 2020) confirmed that they include details of the water supplied (quantity and quality), details of activities undertaken at the plant and identification of maintenance work that needs to be undertaken, which is consistent with the reporting requirements identified in the *Infrastructure Operating Plan*.

Operation and maintenance activity documented in these monthly reports is extracted from the *Maintenance Service Checklists* and *Maintenance Log*, with some additional detail added for explanatory/readability purposes. Collectively, these documents provide a formal record of all activity undertaken at the site.

Review of the monthly report for August 2019<sup>43</sup> revealed that (for example):

- 149 kL of treated water had been produced in August, with a maximum daily production of 5.9 kL.
- *E. coli* concentration in the treated water was 41 CFU/100 mL, which is well below the limit of 1,000 CFU/100 mL. MBR effluent turbidity remained less than 0.5 NTU throughout the month, which is well below the limit of 5 NTU.
- The plant was in production (‘filtering’) state for 86%, ‘digesting’ for 3%, ‘awaiting feed’ for 3% and in ‘standby’ for 8% of the time during the month.

<sup>42</sup> *Infrastructure Operating Plan*, section 4.

<sup>43</sup> Aquacell, *Monthly Report (for August 2019)*, 25 September 2019.

- 
- The site had been attended on three occasions during the month, with an inspection undertaken on 9<sup>th</sup> August, the monthly servicing undertaken on 19<sup>th</sup> August and further investigation/maintenance activity undertaken on 21<sup>st</sup> August.
  - During the month, maintenance work was required in respect of the biology blower, sump tank pump and MBR recirculation line gate valve.

As reported in Table A.4, on the basis of observations made during the audit site inspection,<sup>44</sup> it was apparent that the infrastructure had been/was being operated in a safe and reliable manner and maintained in a proper condition with appropriate reporting and oversight occurring.

***Previously identified Opportunity for Improvement:***

An opportunity for improvement (OFI-KSS-2019.01) in respect of the infrastructure was identified during the 2019 Operational Audit. It was suggested that Aquacell should inspect all exposed cable conduit and replace any damaged conduit using new conduit of a suitably robust material (or implement an alternative cable protection mechanism).

Aquacell demonstrated (via the virtual site inspection) that it had repaired the damaged conduit identified during the previous audit. No other damaged conduits were observed during the site inspection.

It is noted that, as reported above, completion of the repair work was recorded in the *Maintenance Service Checklist* for servicing undertaken on 26 November 2019.

***Capability and Training:***

The *Infrastructure Operating Plan*<sup>45</sup> indicates that Aquacell is solely responsible for operation and maintenance of the infrastructure. Roles and responsibilities are documented in more specific detail in the *Sewage Management Plan*.<sup>46</sup>

Based on discussions with Aquacell personnel, including the operators (service engineers), during this and previous audits confirmed that they hold appropriate knowledge and skills to operate and maintain the infrastructure.

***Regular Review of Infrastructure Operating Plan:***

The *Infrastructure Operating Plan* was reviewed and updated to the current version early in the audit period. A minor change was made in response to an opportunity for improvement (OFI-KSS-2018.03) identified at the time of the 2018 Operational Audit, which suggested that Aquacell identifies the review frequency for the *Infrastructure Operating Plan* within the *Plan*. It is now stated that:<sup>47</sup>

“A review of the IOP will be conducted annually and noted in the review table in Section 1.”

Review of the *Periodic Review of Regulatory Documentation* register<sup>48</sup> revealed that a review had been undertaken and the *Infrastructure Operating Plan* updated to Revision 5 on 4 June 2019. The review comment indicated:

“Minor edits including a statement on the review frequency of the *Infrastructure Operating Plan*. Reviewed by Adriana Maras/Tass Meli.”

It was therefore apparent that the *Infrastructure Operating Plan* had continued to be kept under regular review during the audit period.

---

## Recommendations

---

---

<sup>44</sup> As reported in Section 2.3.3

, the site inspection was undertaken virtually, i.e. pre-recorded video and photographs of the infrastructure were viewed and discussed remotely using online video conferencing.

<sup>45</sup> *Infrastructure Operating Plan*, section 5.2.

<sup>46</sup> *Sewage Management Plan*, section 5/table 1.

<sup>47</sup> *Infrastructure Operating Plan*, section 2.

<sup>48</sup> Aquacell, *Periodic Review of Regulatory Documentation* register, record of review dated 4 June 2019.

---

There are no recommendations in respect of this obligation.

---


### **Opportunities for improvement**

The following opportunity for improvement has been identified in respect of this obligation:

- **OFI-KSS-2020.03:** It is suggested that Aquacell revises its standard form *Maintenance Service Checklist* to provide for recording the details, including serial number (or other unique identifier), of the specific hand held instrument(s) used for calibration purposes.
-



**Table B.2 Sewerage Infrastructure – WIC Reg Sched 1 cl.14(3)(a)**

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.14(3)(a)	The licensee must ensure that its sewage management plan is fully implemented and kept under regular review and, in particular, that all if its activities are carried out in accordance with that plan.	<div></div> <div>Compliant</div>
Risk		Target for Full Compliance
This requirement reflects a high operational risk. Implementation of the <i>Sewage Management Plan</i> ensures that the treated effluent supplied complies with the specified quality requirement.		Evidence that the <i>Sewage Management Plan</i> is fully implemented and the Licensee’s activities are carried out in accordance with that <i>Plan</i> ; evidence that the <i>Plan</i> is kept under regular review.
Evidence sighted		
<div><div></div><div>Interviews with Aquacell personnel on 18 June 2020.</div></div> <div><div></div><div>Virtual site inspection of the infrastructure at Kurrajong on 18 June 2020.</div></div> <div><div></div><div>Aquacell, <i>Infrastructure Operating Plan; Blackwater Disposal Scheme; Tallowood Residential Community Development, Kurrajong NSW 2758</i> (Revision 5), 4 June 2019.</div></div> <div><div></div><div>Aquacell, <i>Tallowood Residential Community Development – Kurrajong NSW; Sewage Management Plan</i> (Revision 4), 4 June 2019.</div></div> <div><div></div><div>Aquacell, <i>Tallowood Hamlet; Tallowood Residential Estate; Operation and Maintenance Manual; Sewage Network, Water Treatment Plant, Irrigation Disposal</i> (Revision A0069-3), 28 January 2016.</div></div> <div><div></div><div>Document (SCADA screenshot): <i>Kurrajong screen.jpg</i> (taken at time of the audit).</div></div> <div><div></div><div>Document: <i>A.2.1 Turbidity-Whole Period.png</i>.</div></div> <div><div></div><div>MS Excel workbook: <i>All Sample Results Summary - Kurrajong May19-Mar20.xlsx</i>.</div></div> <div><div></div><div>EnviroLab Certificates of Analysis as referenced.</div></div> <div><div></div><div>Chain of Custody records as referenced.</div></div> <div><div></div><div>New South Wales Government, <i>Network Operator’s Licence No: 15_032</i> (as issued on 26 July 2015).</div></div> <div><div></div><div>IPART, <i>Network Operator’s Reporting Manual under the Water Industry Competition Act 2006 (NSW)</i> (Issue No: 10), November 2019.</div></div> <div><div></div><div>Aquacell, <i>Periodic Review of Regulatory Documentation</i> register, record of review dated 4 June 2019.</div></div>		
Summary of reasons for grade		
Aquacell demonstrated that it is fully implementing, and is carrying out its sewage management activities in accordance with principles documented in, the <i>Sewage Management Plan</i> . This was evident from the effective monitoring and testing processes that are being implemented.		
Aquacell also demonstrated that the <i>Sewage Management Plan</i> is kept under regular review, with a record of each review maintained.		
Accordingly, Aquacell was assessed to have demonstrated compliance with this obligation.		

---

## Discussion and notes

### Overview:

The auditor checked for evidence that the *Sewage Management Plan* was being fully implemented and kept under regular review and that all of the Network Operator's activities are carried out in accordance with that *Plan*.

### Operational Monitoring:

As identified in the *Sewage Management Plan*,<sup>49</sup> operational monitoring of treated water turbidity, the sole Critical Control Points (CCP), is used to monitor and control operation of the plant. This parameter is continually monitored via the SCADA system. The target turbidity value (critical limit) for the treated water is <5 NTU and an alert level at >2 NTU is maintained in the SCADA system to provide warning of any potential problem;<sup>50</sup> these values were reflected by the SCADA alarm set points (maximum turbidity of 2.0 NTU, subject to a 5 minute response delay).<sup>51</sup> Any breaches of the critical limit are alarmed and water is diverted from supply.

Although not specifically documented in the *Sewage Management Plan*, Aquacell also continuously monitors (via the SCADA system) the following parameters as quality control points (QCPs):

- Incoming sewage pH;
- Outgoing effluent pH;
- Dissolved oxygen (in the biological tanks); and
- Flow (cumulative volume).

Observations made during the audit site inspection<sup>52</sup> confirmed that monitoring instrumentation was in place and (as far as could be assessed) operational. Of particular interest was the turbidity meter used for motoring of the sole CCP; this showed a reading of 0.53 NTU at the time of inspection (this was not confirmed against the SCADA system).

Observations at the time of the audit revealed:

- Filtrate Turbidity (CCP): 0.8 NTU, i.e. well below the alert limit of 2.0 NTU;
- Filtrate pH: 6.5 pH units, i.e. at lower bound limit setting;
- Dissolved Oxygen (biological tanks): 1.7 mg/L, i.e. above the 'high', but less than the 'maximum' limit setting; and
- Feed tank pH: 7.5 pH units, i.e. within the acceptable range.

Aquacell provided a turbidity SCADA trend for the duration of the audit period.<sup>53</sup> This demonstrated that this CCP parameter had been monitored throughout the audit period consistent with the requirement documented in the *Sewage Management Plan*.<sup>54</sup>

It is therefore apparent that operational monitoring was undertaken in accordance with the arrangements set out in the *Sewage Management Plan* throughout they audit period.

### Water Quality Verification Monitoring:

Water quality verification monitoring is being undertaken in accordance with the *Sewage Management Plan*.<sup>55</sup> The Plan requires at least quarterly sampling and testing to monitor *E. coli*; in practice, testing is

---

<sup>49</sup> *Sewage Management Plan*, section 11.1.3.

<sup>50</sup> *Sewage Management Plan*, section 11.1.3.

<sup>51</sup> Document (SCADA screenshot): *Kurrajong screen.jpg* (taken at time of the audit).

<sup>52</sup> As reported in Section 2.3.3, the site inspection was undertaken virtually, i.e. pre-recorded video and photographs of the infrastructure were viewed and discussed remotely using online video conferencing.

<sup>53</sup> Document: *A.2.1 Turbidity-Whole Period.png*.

<sup>54</sup> *Sewage Management Plan*, section 11.1.

---

undertaken at (nominally) monthly intervals.

The target value for *E. coli* in the treated water is <1,000 CFU/100 mL.<sup>56</sup> As reported in Table A.2, review of a tabulated summary of these results revealed that the maximum value during the audit period was 160 CFU/100 mL; this was recorded in July 2019.<sup>57</sup>

As also reported in Table A.2, review of the following laboratory test certificates confirmed that results were well below the target (limit), and that they had been correctly recorded in the above referenced summary tabulation:

- Envirolab, *Certificate of Analysis 216879*, dated 14 May 2020 for sample taken 6 May 2019 – result 52 CFU/100 mL;
- Envirolab, *Certificate of Analysis 224220*, dated 22 August 2019 for sample taken 19 August 2019 – result 41 CFU/100 mL;
- Envirolab, *Certificate of Analysis 2316429*, dated 3 December 2019 for sample taken 26 November 2019 – result approximately 1 CFU/100 mL; and
- Envirolab, *Certificate of Analysis 236603*, dated 19 February 2020 for sample taken 12 February 2020 – result approximately 5 CFU/100 mL.

It is therefore apparent that water quality verification monitoring was undertaken in accordance with the arrangements set out in the *Sewage Management Plan* throughout the audit period. Furthermore, the quality of the treated water remained compliant with the target limit for *E. coli* during this time.

From a procedural perspective, *Chain of Custody* records for samples correlating to each of the above *Certificates of Analysis* were reviewed. It is noted that, whilst some information required pursuant to clause B8.2 of the *Network Operator's Licence*<sup>58</sup> is captured, the date on which the sample was taken and the time at which the sample was collected were not always recorded on the *Chain of Custody* form. Aquacell advised that the date and time details were recorded on the sample bottle labels as a means to advise Envirolab of this information; however, the information was not always transcribed to the *Chain of Custody* record.

This shortfall would have been assessed as a non-compliance if clause B8.2 of the *Network Operator's Licence* had been subject to audit; however, for the purposes of this audit an opportunity for improvement (**OFI-KSS-2020.04**) has been identified. More specifically, it is suggested that Aquacell takes action to ensure that all relevant fields on water quality sample Chain of Custody records are consistently completed.

### **Permitted Uses:**

The *Sewage Management Plan* identifies the acceptable uses for the treated water as follows:<sup>59</sup>

*“The treated water is intended only for disposal by subsurface irrigation in the designated area within the Tallowood development. The treatment process and associated risk has been assessed on that basis, and although the water quality may exceed the requirements, it is not intended for reuse or disposal by any other means.”*

Observations made during the audit site inspection identified no evidence that the treated water was being used other than subsurface irrigation within the designated area.

It is also noted that the *Maintenance Service Checklist* includes an item ‘Walk Irrigation Field (checking for wet areas, pooling etc.)’. Annotations against this checklist item indicate that the condition of the irrigation field is regularly monitored.

---

---

<sup>55</sup> *Sewage Management Plan*, section 11.1.3.

<sup>56</sup> *Sewage Management Plan*, section 11.1.3.

<sup>57</sup> MS Excel workbook: *All Sample Results Summary - Kurrajong May19-Mar20.xlsx*.

<sup>58</sup> New South Wales Government, *Network Operator's Licence No: 15\_032* (as issued on 26 July 2015).

<sup>59</sup> *Sewage Management Plan*, section 7.2.

---

### ***Regular Review of Sewage Management Plan:***

The *Sewage Management Plan* was reviewed and updated to the current version early in the audit period. The minor changes were in response to opportunities for improvement identified at the time of the 2018 Operational Audit, including suggestions that Aquacell:

- revise its *Sewage Management Plan* to reference the current version of the IPART *Incident Notification by Network Operators and Retail Suppliers*, or alternatively, to reference the document generically (i.e. exclude the version details) (OFI-KSS-2018.01); and
- review and update the incident/emergency contact lists presented in the *Sewage Management Plan* and *Operation and Maintenance Manual* (OFI-KSS-2018.02).

It is noted that, whilst the Plan has been updated in respect of the *Incident Notification by Network Operators and Retail Suppliers* protocol, as discussed in Table A.2, this document has now been superseded; incident requirements are now documented in the *Network Operator's Reporting Manual*.<sup>60</sup>

Review of the *Periodic Review of Regulatory Documentation* register<sup>61</sup> revealed that a review had been undertaken and the *Sewage Management Plan* updated to Revision 4 on 4 June 2019. The review comment indicated:

*“Minor edits changes and update to Aquacell contacts lists. Reviewed by Adriana Maras/Tass Meli.”*

It was therefore apparent that the Infrastructure Operating Plan had continued to be kept under regular review during the audit period.

---

### **Recommendations**

There are no recommendations in respect of this obligation.

---

### **Opportunities for improvement**

The following opportunity for improvement has been identified in respect of this obligation:

- **OFI-KSS-2020.04:** It is suggested that Aquacell takes action to ensure that all relevant fields on water quality sample Chain of Custody records are consistently completed.

---

<sup>60</sup> IPART, *Network Operator's Reporting Manual under the Water Industry Competition Act 2006 (NSW)* (Issue No: 10), November 2019, section 3.1.

<sup>61</sup> Aquacell, *Periodic Review of Regulatory Documentation* register, record of review dated 4 June 2019.







# Aquacell (1 Bligh Street) Non-Potable Water Scheme

## **Operational Audit**

#14081-10-001 Version 3.0

Independent Pricing and Regulatory Tribunal

May 2019





## Document History

### Aquacell (1 Bligh Street) Non-Potable Water Scheme

#### Operational Audit

#### Independent Pricing and Regulatory Tribunal

This document has been issued and amended as follows:

Version	Date	Description	Created by	Checked by	Approved by
1.0	17 May 2019	Draft	Jim Sly	-	-
2.0	22 May 2019	Final (draft)	Jim Sly	-	Jim Sly
3.0	27 May 2019	Final	Jim Sly	Dan Deere	Jim Sly

**Cobbitty Consulting Pty Ltd**  
ABN: 45 164 692 488

PO Box 561, Bayswater VIC 3153  
Telephone: +61 (0) 423 326 693  
Email: [jim.sly@cobbittyconsulting.com.au](mailto:jim.sly@cobbittyconsulting.com.au)

Cobbitty Consulting has prepared this document in accordance with the instructions of *Independent Pricing and Regulatory Tribunal* for its sole and specific use. Any other persons who use the information contained herein do so at their own risk.

© Cobbitty Consulting Pty Ltd, 2019



## Contents

<b>1. Executive Summary</b>	<b>1</b>
1.1 Auditor Declaration	1
1.2 Major Findings	1
1.3 Recommendations	1
<b>2. Introduction</b>	<b>2</b>
2.1 Objectives	2
2.2 Licensee's Infrastructure, Systems and Procedures	2
2.3 Audit Method	2
2.4 Regulatory Regime	4
2.5 Quality Assurance Process	4
2.6 Audit Findings	4
<b>3. General Obligations of a Network Operator</b>	<b>5</b>
3.1 Summary of Findings	5
3.2 Review of Actions	5
3.3 Opportunities for Improvement	5
<b>4. Licence Specific Risks – Non-Potable Water Supply Infrastructure</b>	<b>6</b>
4.1 Summary of Findings	6
4.2 Review of Actions	6
4.3 Opportunities for Improvement	6
<b>5. Schedule B to the Network Operator's Licence</b>	<b>7</b>
5.1 Summary of Findings	7
5.2 Review of Actions	7
5.3 Opportunities for Improvement	7

<b>Appendix A</b>	<b>Detailed Audit Findings – General Obligations of a Network Operator</b>	<b>9</b>
Table A.1	General Obligations – WIC Reg Sched 1 cl.1(2)(a), (b), (c) and (e)	11
Table A.2	General Obligations – WIC Reg Sched 1 cl.2(1), 2(2)(a) and 2(2)(b)	15
Table A.3	General Obligations – WIC Reg Sched 1 cl.3(c)	17
Table A.4	Water Supply Infrastructure – WIC Reg Sched 1 cl.7(4)(a)	23
Table A.5	Water Supply Infrastructure – WIC Reg Sched 1 cl.8(1), 8(2)(a) and 8(2)(c)	27
Table A.6	Water Supply Infrastructure – WIC Reg Sched 1 cl.11	29
<b>Appendix B</b>	<b>Detailed Audit Findings – Non-Potable Water Supply Infrastructure</b>	<b>33</b>
Table B.1	Non-Potable Water Supply Infrastructure – WIC Reg Sched 1 cl.10(a)	35
<b>Appendix C</b>	<b>Detailed Audit Findings – Schedule B to the Network Operator’s Licence</b>	<b>37</b>
Table C.1	Schedule B to the Network Operator’s Licence – Clause B1	39
Table C.2	Schedule B to the Network Operator’s Licence – Clause B4	42
Table C.3	Schedule B to the Network Operator’s Licence – Clause B6	44
Table C.4	Schedule B to the Network Operator’s Licence – Clause B7	46
Table C.5	Schedule B to the Network Operator’s Licence – Clause B8	48
Table C.6	Schedule B to the Network Operator’s Licence – Clause B9	51
Table C.7	Schedule B to the Network Operator’s Licence – Clause B10.5	53
Table C.8	Schedule B to the Network Operator’s Licence – Clause B11	56
Table C.9	Schedule B to the Network Operator’s Licence – Clause B12	58
Table C.10	Schedule B to the Network Operator’s Licence – Clause B13	60

# 1. Executive Summary

## 1.1 Auditor Declaration

This report presents the findings of an Operational Audit of Aquacell Pty Ltd's compliance with the requirements of its Network Operator's Licence (Licence No: 09\_003) and the relevant provisions of the *Water Industry Competition (General) Regulation 2008* as they relate to the non-potable (recycled) water scheme at 1 Bligh Street, Sydney.

The auditor confirms that:

- the auditor was provided with sufficient evidence on which to base the conclusions reached during the audit;
- the audit findings accurately reflect the professional opinion of the auditor;
- the auditor has conducted the audit, determined the audit findings and prepared this report in accordance with the requirements of the *WIC Act Audit Guidelines*<sup>1</sup> and the provisions of the Audit Deed; and
- the audit findings have not been unduly influenced by the Licensee and/or any of its associates and express the auditor's opinion as to whether the Licensee has met the Licence conditions and regulatory requirements as specified in the scope.

## 1.2 Major Findings

The Licensee, Aquacell Pty Ltd, was found to be operating and maintaining the non-potable (recycled) water scheme at 1 Bligh Street, Sydney in full compliance with the assessed audit criteria (no design or construction activities were undertaken during the audit period). No non-compliances were identified and the infrastructure was found to be operating safely (notwithstanding that the treatment plant was shut down at the time of the audit inspection).

It is noted, however, that the treatment plant produced recycled water for periods totalling only 20 percent (approximately) of the audit period. Service was maintained through the use of potable water as a top-up supply at other times.

## 1.3 Recommendations

No recommendations have been made as a result of this audit.

Three (3) new opportunities for improvement, which the Licensee may wish to consider, are identified in the body of the report. A number of previously identified opportunities for improvement remain applicable.

---

<sup>1</sup> IPART, *Audit Guideline; Water Industry Competition Act 2006*, September 2018.

## 2. Introduction

### 2.1 Objectives

This report presents the findings of an Operational Audit undertaken for the Independent Pricing and Regulatory Tribunal (IPART) under the provisions of the *Water Industry Competition Act 2006*.

The objective of the audit was to assess compliance of the Licensee, Aquacell Pty Ltd (Aquacell), in meeting the requirements of the relevant legislation (the *Water Industry Competition Act 2006* and *Water Industry Competition (General) Regulation 2008*) and its Network Operator's Licence (Licence No: 09\_003) for the non-potable (recycled) water scheme at 1 Bligh Street, Sydney.

### 2.2 Licensee's Infrastructure, Systems and Procedures

The infrastructure, systems and procedures subject to audit are those related to the non-potable (recycled) water scheme at 1 Bligh Street, Sydney, a high-rise office building located in the CBD (refer <http://aquacell.com.au/resources/community-information/1-bligh-street/>). The infrastructure comprises principally of a wastewater treatment plant, which is located in the building basement, together with connecting pipework.

Wastewater, which is collected from the office building and sewer mined from Sydney Water's Bondi Ocean Outfall Sewer (BOOS), is treated to a high standard using a multi-stage process that includes Membrane Bioreactor (MBR), Ultra Violet (UV), Reverse Osmosis (RO) and Chlorination technologies. After treatment, the recycled water is stored for distribution throughout the building where it is used for toilet flushing and cooling towers.

Aquacell Pty Ltd (ACN 072 487 015) is the Licensee, holding Network Operator's Licence No: 09\_003. As Licensee, Aquacell is responsible for the ongoing operation and maintenance of the treatment facility in accordance with its Licence Plans including:

- Infrastructure Operating Plan – Aquacell, *Infrastructure Operating Plan; Blackwater Recycling Scheme; 1 Bligh Street, Sydney NSW 2000 (Revision 4)*, 23 June 2015; and
- Water Quality Plan – Aquacell, *1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan (Revision 8)*, 24 June 2015.

### 2.3 Audit Method

#### 2.3.1 Audit Scope

The audit comprised an Operational Audit conducted pursuant to the *WIC Act Audit Guidelines*.<sup>2</sup> The specific scope of the audit was as defined in IPART's letter to Aquacell (reference D19/5239) dated 1 March 2019. The nominated scope addresses selected requirements of:

- the *Water Industry Competition (General) Regulation 2008*; and
- Network Operator's Licence No: 09\_003.

---

<sup>2</sup> IPART, *Audit Guideline; Water Industry Competition Act 2006*, September 2018.

The audit period (period during which compliance has been assessed) is 1 June 2018 to 29 March 2019.

### 2.3.2 Audit Standard

The audit has been undertaken in accordance with the principles/guidance presented in:

- ISO 19011:2011 *Guidelines for auditing management systems*; and
- IPART, *Audit Guideline; Water Industry Competition Act 2006*, September 2018 (WIC Act Audit Guidelines).

### 2.3.3 Audit Steps

The audit has been undertaken generally in accordance with the procedure outlined in the *WIC Act Audit Guidelines*.

Following approval of an *Audit Proposal* by IPART, an *Audit Agenda* and *Information Request* were sent to both the Licensee and IPART approximately a week prior to the audit fieldwork being undertaken. Audit fieldwork comprising a site inspection of the infrastructure and a desktop audit of relevant documentation/records was undertaken on 2 May 2019. Some additional items of information and/or clarification were requested both during and following the audit fieldwork and subsequently provided.

A draft audit report was prepared and submitted to the Licensee for review, before being finalised and issued to both the Licensee and IPART.

The audit process involved seeking objective evidence that the Licensee had complied with the obligations identified for audit by IPART. Evidence was obtained through interview, review of relevant documentation and records, and site inspection.

### 2.3.4 Audit Team

The audit was conducted by Jim Sly and the peer/quality assurance review was undertaken by Dr Dan Deere. Both auditors hold relevant Lead Auditor accreditation on IPART's Technical Services and Water Licensing Panel.

Aquacell was represented by Colin Fisher, Tass Meli and Roger Phelps.<sup>3</sup> IPART representative Nick Singer attended as an observer during the audit fieldwork.





### 2.3.5 Audit Grades

Audit grades have been awarded in accordance with guidance presented in the *WIC Act Audit Guidelines*. The compliance grades applicable for the purposes of this audit were as identified in **Table 2.1**.

---

<sup>3</sup> Roger Phelps attended for the site inspection only.

**Table 2.1 Audit Compliance Grades**

Compliance Grade	Description
 <b>Compliant</b>	Sufficient evidence is available to confirm that the requirements have been met.
 <b>Non-compliant (non-material)</b>	Sufficient evidence is not available to confirm that the requirements have been met and the deficiency does not adversely impact the ability of the Licensee to achieve defined objectives or assure controlled processes, products or outcomes.
 <b>Non-compliant (material)</b>	Sufficient evidence is not available to confirm that the requirements have been met and the deficiency does adversely impact the ability of the Licensee to achieve defined objectives or assure controlled processes, products or outcomes.
 <b>No Requirement</b>	There was no requirement for the Licensee to meet this criterion during the audit period.

## 2.4 Regulatory Regime

The non-potable (recycled) water scheme at 1 Bligh Street operates in accordance with the provisions of a Network Operator's Licence (Licence No: 09\_003) issued under the *Water Industry Competition Act 2006* (NSW). Other relevant regulatory instruments and standards/guidelines include:

- *Water Industry Competition (General) Regulation 2008* (NSW);
- IPART, *Audit Guideline; Water Industry Competition Act 2006*, September 2018;
- *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006*;
- *Plumbing Code of Australia*;
- *Plumbing and Drainage Act 2011* (NSW); and
- NSW and national water industry and environmental regulations and codes of practice as applicable.

## 2.5 Quality Assurance Process

The quality of this audit report was assured through a professional review process. The report has been independently reviewed by a Lead Auditor who holds relevant accreditation on IPART's Technical Services and Water Licensing Panel.

## 2.6 Audit Findings

Audit findings are summarised in the following **Sections 3 to 5**, and are presented in full detail in **Appendices A to C**.



## 3. General Obligations of a Network Operator

### 3.1 Summary of Findings

There were no identified non-compliances in respect of the audited clauses of the *Water Industry Competition (General) Regulation 2008* that address the *General Obligations of a Network Operator* (refer to **Appendix A** for detailed audit findings).

### 3.2 Review of Actions

The Licensee has not made any suggestions for corrections or clarifications following issue of the draft report and prior to the final report being issued.

### 3.3 Opportunities for Improvement

The following opportunities for improvement have been identified in respect of the audited *WTC Regulation* clauses that address the *General Obligations of a Network Operator*:

- **OFI-1BS-2019.01:** It is suggested that Aquacell considers adjusting the polling and/or logging interval for all flow monitoring and water quality instrumentation to enable closer correlation between flow and water quality parameter readings and that it further ensures that it can demonstrate that recycled water is not supplied during periods in which critical limits are not being demonstrably met.
- **OFI-1BS-2019.02:** It is suggested that Aquacell reviews its procedures and their implementation to ensure that the *Recycled Water Quality Plan* is reviewed, and if necessary updated, annually and that all reviews are recorded.

Furthermore:

- The previously identified opportunities for improvement (OFI-1BS-2018.02 and OFI-1BS-2018.03) in relation to regular update of the *Contact Information List* and update of the *Infrastructure Operating Plan* and *Recycled Water Quality Plan* remain applicable.
- It is suggested that Aquacell continues to pursue implementation of the previously identified opportunities for improvement:
  - (OFI-2017.06 and OFI-1BS-2018.05) in relation to update of the *1 Bligh Street House Rules*; and
  - (OFI-2017.07 and OFI-1BS-2018.06) in relation to the provision of certificates of compliance for plumbing works;with DEXUS.

## **4. Licence Specific Risks – Non-Potable Water Supply Infrastructure**

### **4.1 Summary of Findings**

There were no identified non-compliances in respect of the audited clauses of the *Water Industry Competition (General) Regulation 2008* related to *Non-Potable Water Supply Infrastructure* (refer to **Appendix B** for detailed audit findings).

### **4.2 Review of Actions**

The Licensee has not made any suggestions for corrections or clarifications following issue of the draft report and prior to the final report being issued.

### **4.3 Opportunities for Improvement**

No opportunities for improvement have been identified in respect of the audited *WIC Regulation* clauses related to the *Non-Potable Water Supply Infrastructure*.

## 5. Schedule B to the Network Operator's Licence

### 5.1 Summary of Findings

There were no identified non-compliances in respect of the audited clauses of *Schedule B to the Network Operator's Licence* (refer to **Appendix C** for detailed audit findings).

### 5.2 Review of Actions

The Licensee has not made any suggestions for corrections or clarifications following issue of the draft report and prior to the final report being issued.

### 5.3 Opportunities for Improvement

The following opportunity for improvement has been identified in respect of the audited clauses of *Schedule B to the Network Operator's Licence*:

- **OFI-1BS-2019.03:** It is suggested that Aquacell takes action to ensure that it holds copies of all agreements relevant to the licensed activities, including (for example) a copy of the current *Trade Waste Agreement*.




## **Appendix A   Detailed Audit Findings** **– General Obligations of a Network Operator**

Detailed audit findings in respect of the *General Obligations of a Network Operator* are presented in this Appendix.



**Table A.1 General Obligations – WIC Reg Sched 1 cl.1(2)(a), (b), (c) and (e)**

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.1(2)(a), (b), (c) and (e)	[1(2)(a)] A network operator must immediately notify IPART of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.	 <b>No Requirement</b>
	[1(2)(b)] A network operator must immediately notify the Minister administering the <i>Public Health Act 2010 (NSW)</i> and the <i>Public Health Regulation 2012 (NSW)</i> of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.	
	[1(2)(c)] A network operator must immediately notify the Minister administering Part 2 of the <i>Water Industry Competition Act 2006 (NSW)</i> of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.	
	[1(2)(e)] A network operator must immediately notify any licensed network operator or public water utility whose infrastructure is connected to the licensed network operator's infrastructure of any incident in the conduct of its activities that threatens, or could threaten, water quality, public health or safety.	
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a high operational risk. It is essential that relevant stakeholders are made aware of incidents that threaten, or could threaten, water quality, public health or safety.	In the event that a notifiable incident has occurred, evidence that the Licensee provided the required notifications.	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"><li>Interviews with Aquacell personnel on 2 May 2019.</li><li>Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li><li>Aquacell, <i>Infrastructure Operating Plan; Blackwater Recycling Scheme; 1 Bligh Street, Sydney NSW 2000 (Revision 4)</i>, 23 June 2015 [<i>Infrastructure Operating Plan</i>].</li><li>Aquacell, <i>1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan (Revision 8)</i>, 24 June 2015 [<i>Recycled Water Quality Plan</i>].</li><li>SCADA data trends as referenced.</li><li>Document: <i>Site Service Visit Log; S0047 Bligh Street</i> (for period 1 June 2018 to 12 March 2019).</li><li>Cobbitty Consulting, <i>Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit</i> (Version 2.0), 17 August 2018.</li><li>Email dated 9 May 2019 from Aquacell to Cobbitty Consulting (re: <i>Aquacell Bligh St Audit Files – Item A1</i>).</li><li>EnviroLab Certificates of Analysis (refer Table C.5 for details).</li><li>Aquacell, <i>Incident and Emergency Management Procedure</i> (Revision 5), 31 March 218.</li></ul>		

- 
- IPART, *Incident Notification by Network Operators and Retail Suppliers* (Issue No: 5), 14 February 2018.
  - Aquacell, *Bligh Street Contact Information Sheet* (version 5), undated.
- 

### Summary of reasons for grade

Review of SCADA trends and laboratory test results confirmed that no notifiable incidents had occurred during the audit period. Accordingly, there was “No Requirement” in respect of these obligations.

It was noted that, although not required to implement them, Aquacell has documented incident management (including notification) procedures in place, and its *Bligh Street Contact Information Sheet* has been recently updated.

---

### Discussion and notes

The auditor questioned whether there had been any incidents arising from the conduct of the network operator’s activities during the audit period that threatened, or could have threatened, water quality, public health or safety and, if so, whether IPART, the Minister administering the *Public Health Act 2010 (NSW)* and the *Public Health Regulation 2012 (NSW)*, the Minister administering Part 2 of the *Water Industry Competition Act 2006 (NSW)* and any connected network operator, retail supplier or public water utility had been notified as required.

Aquacell advised that there had been no such incidents during the audit period.

A review of a sample of SCADA data trends (printed from Tableau software) for operational monitoring parameters associated with each of the critical control points (CCPs) across the audit period did not reveal any contrary evidence; nor did a review of a sample of laboratory test results.

Aquacell provided SCADA trends for continuous monitoring of CCP parameters as follows:

- trends covering the full extent of the audit period for all CCPs;
- for CCP1 (MBR Permeate Turbidity), CCP2 (Reverse osmosis (RO) Permeate Electrical Conductivity (EC)) and CCP3 (Ultra Violet Intensity (UVI)), trends filtered to remove data for non-production periods as indicated by RO operation;
- for CCP4 (Final Water Free Chlorine) and CCP5 (Final Water pH), trends filtered to remove data for periods when water was not being delivered into supply; and
- a trend showing cumulative discharge of water into supply.

Review of these data trends revealed:

- CCP1 (MBR Permeate Turbidity) – turbidity levels remained well below the critical limit of 2.0 NTU during all production periods.
- CCP2 (Reverse osmosis (RO) Permeate Electrical Conductivity (EC)) – conductivity levels were predominantly less than the critical limit of 100  $\mu\text{S}/\text{cm}$  during production periods; there were, however, some exceedances during mid-January and early February.

During the audit site inspection (prior to review of the SCADA trends) Aquacell advised that the RO instruments had been problematic during the audit period which had resulted in apparently incorrect readings and false alarms; in particular, there had been issues with the conductivity probes/transmitters that resulted in a “noisy” signal. A new conductivity unit was installed to RO Unit No: 2 on 31 December 2018,<sup>4</sup> however, it appears that the issue was ongoing as the apparent large fluctuations in readings are not feasibly reflective of RO unit operation.

Had the RO CCP been required to be relied upon for the bulk of the required pathogen reduction across the sum of the treatment processes these discrepancies in EC critical limit measurements would have been considered to represent a non-compliance. However, given that the RO CCP is

---

<sup>4</sup> Document: *Site Service Visit Log: S0047 Bligh Street* (for period 1 June 2018 to 12 March 2019).



---

only relied upon for 0.6 and 1.0 of the 4.6 and 6.0 log reduction required for protozoa and viruses respectively, the readings were sporadic and not indicative of systematic failure, and that Aquacell was able to provide a plausible explanation for these discrepant readings, recording a non-compliance in this audit was not considered constructive. Nonetheless, such discrepancies at a CCP need to be resolved to prevent future non-compliances and Aquacell should promptly take steps to ensure that in the future, EC readings outside of the critical limit can be clearly shown not to be correlated with periods of delivery of recycled water.

Based on advice from Aquacell, the apparent exceedances are also likely to have been impacted by the difficulty in correlating conductivity and flow readings on a time basis due to different polling and/or logging intervals. This issue was discussed in the report on the last Operational Audit conducted in August 2018<sup>5</sup> and an opportunity for improvement (OFI-1BS-2018.01) identified; however, the suggested improvement has not been implemented. Given the potential monitoring benefits, that opportunity for improvement is restated (and broadened); i.e. it is suggested that Aquacell considers adjusting the polling and/or logging interval for all flow monitoring and water quality instrumentation to enable closer correlation between flow and water quality parameter readings (now identified as **OFI-1BS-2019.01**).

- CCP3 (Ultra Violet Intensity (UVI)) – UVI levels remained greater than the critical limit of 12.2 mV during production periods with the exception of two points; these minor excursions appear to be the result of the abovementioned polling and/or logging interval issue. As for the RO CCP, Aquacell should promptly take steps to ensure that in the future UVI readings outside of the critical limit can be clearly shown not to be correlated with periods of delivery of recycled water.
- CCP4 (Final water free chlorine) – free chlorine levels remained within critical limits of 0.65 to 5.0 mg/L during periods that product water was being delivered into supply; two minor exceedances correlated to times at which servicing of probes was being undertaken. It is important that Aquacell continues to record periods when instruments are being serviced or are otherwise reading with discrepancies to ensure that it can explain such records.
- CCP5 (Final water pH) – pH levels remained within the critical limits of 6.5 to 8.5 pH units during periods that product water was being delivered.

It is noted, based on the flow discharge trend, that the plant was producing recycled water for a total of only 20 percent of the audit period.

Aquacell also provided laboratory test results for monthly verification testing for *E. coli* undertaken throughout the audit period; no test was undertaken in March 2019 as the plant was off-line.<sup>6</sup> All results returned an *E. coli* value of <1 cfu per 100 ml (i.e. none detected), consistent with the target requirement. Details of these tests are documented in Table C.5.

On the basis of this analysis of SCADA data trends for CCP parameters and the results of the monthly verification testing, Aquacell's assessment that there had been no reportable incidents is agreed.

Aquacell continues to have in place an *Incident and Emergency Management Procedure*, which identifies the requirement to report notifiable incidents, responsibility for which is assigned to Aquacell's Technical Manager, as follows:<sup>7</sup>

- *Ensuring that a notifiable incident is reported by phone to the IPART and the local public health unit and EPA and local water authorities, if required, immediately (major incident), and by email within 24 hours of the incident occurring.*
- *Ensuring that major incidents are formally reported to the EPA, IPART, NSW Health or relevant authorities specific to the site, if required, within 3 days of the incident ending.”*

---

These requirements are consistent/more stringent than those identified in IPART's *Incident Notification by*

---

<sup>5</sup> Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 17 August 2018, Table A.1.

<sup>6</sup> Email dated 9 May 2019 from Aquacell to Cobbitty Consulting (re: *Aquacell Bligh St Audit Files - Item A1*).

<sup>7</sup> Aquacell, *Incident and Emergency Management Procedure* (Revision 5), 31 March 2018, section 4.

---

*Network Operators and Retail Suppliers*, which requires reporting within 24 hours and 5 working days respectively.<sup>8</sup>

Aquacell has in place a site specific *Contact Information List*,<sup>9</sup> which is referenced generically in the *Incident and Emergency Management Procedure*.<sup>10</sup> The *Contact Information List*, which has been recently updated to reflect a change in Aquacell personnel (specifically the Operations Manager) includes “Incident Response Contact Details” specific to the scheme.

Arrangements for the management of incidents, including notification requirements, are in place. Notwithstanding, as previously identified during the 2018 Operational Audit,<sup>11</sup> there remain opportunities for improvement (refer OFI-1BS-2018.02 and OFI-1BS-2018.03).

---

## Recommendations

There are no recommendations in respect of these obligations.

---

## Opportunities for improvement

The following opportunity for improvement has been identified in respect of these obligations:

- **OFI-1BS-2019.01:** It is suggested that Aquacell considers adjusting the polling and/or logging interval for all flow monitoring and water quality instrumentation to enable closer correlation between flow and water quality parameter readings and that it further ensures that it can demonstrate that recycled water is not supplied during periods in which critical limits are not being demonstrably met.

The previously identified opportunities for improvement (OFI-1BS-2018.02 and OFI-1BS-2018.03) in relation to regular update of the *Contact Information List* and update of the *Infrastructure Operating Plan* and *Recycled Water Quality Plan* remain applicable.

---

---



<sup>8</sup> IPART, *Incident Notification by Network Operators and Retail Suppliers* (Issue No: 5), 14 February 2018, section 2.2.

<sup>9</sup> Aquacell, *Bligh Street Contact Information Sheet* (version 5), undated.

<sup>10</sup> Aquacell, *Incident and Emergency Management Procedure* (Revision 5), 31 March 2018, section 5.

<sup>11</sup> Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 17 August 2018, Table A.1.

**Table A.2 General Obligations – WIC Reg Sched 1 cl.2(1), 2(2)(a) and 2(2)(b)**

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.2(1), 2(2)(a) and 2(2)(b)	[2(1)] A network operator must not bring any new water or sewerage infrastructure into commercial operation without the written approval of the Minister.	Clause 2(1):   <b>Compliant</b>
	[2(2)(a)] The network operator must provide to the Minister a report, prepared by an approved auditor that indicates that the infrastructure complies with the requirements of the Regulation and any licence conditions.	Clauses 2(2)(a) and 2(2)(b):   <b>No Requirement</b>
	[2(2)(b)] The network operator must provide to the Minister a report, prepared by an approved auditor that indicates that the infrastructure is capable of operating safely and in accordance with its infrastructure operating plan and its water quality or sewage management plan, as the case requires.  <i>WIC Reg Sched 1 cl.2(2) to be audited if new infrastructure has been brought into operation.</i>	
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a high operational risk. The Minister’s written approval is only provided when the Licensee has demonstrated that the infrastructure complies and can be operated in accordance with the relevant requirements. Accordingly, the absence of the Minister’s written approval may mean that the infrastructure has not been so assessed.	Evidence that the written approval of the Minister was obtained prior to bringing new water or sewerage infrastructure into service.	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"><li>Interviews with Aquacell personnel on 2 May 2019.</li><li>Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li><li>Aquacell, <i>Infrastructure Operating Plan; Blackwater Recycling Scheme; 1 Bligh Street, Sydney NSW 2000 (Revision 4)</i>, 23 June 2015 [<i>Infrastructure Operating Plan</i>].</li><li>Aquacell, <i>1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan (Revision 8)</i>, 24 June 2015 [<i>Recycled Water Quality Plan</i>].</li><li><i>Network Operator’s Licence 09_003</i>, issued to Aquacell Pty Ltd (as varied 26 July 2015).</li><li>Minister for Finance and Services, <i>Notice of approval to bring new infrastructure into commercial operation</i>, 23 August 2012.</li></ul>		
<b>Summary of reasons for grade</b>		
No new water or sewerage infrastructure had been brought into commercial operation during the audit period; accordingly, Aquacell was assessed as being compliant with the provisions of clause 2(1). Furthermore, as no new infrastructure had been brought into operation, there was “No Requirement” for compliance with the provisions of clauses 2(2)(a) or 2(2)(b) during the audit period.		

---

## Discussion and notes

Aquacell advised that no new water or sewerage infrastructure had been brought into commercial operation during the audit period.

Observations made during inspection of the infrastructure at 1 Bligh Street revealed no evidence to the contrary; the sewage collection/sewer mining facilities, treatment plant and treated water storage facilities were all inspected as part of the audit. Furthermore, the infrastructure in service at the time of the audit remained consistent with that identified in the *Network Operator's Licence*<sup>12</sup> and referenced in the *Notice of approval to bring new infrastructure into commercial operation*.<sup>13</sup>

Accordingly, it was evident that Aquacell had not brought any new infrastructure into commercial operation without the approval of the Minister and was therefore compliant with clause 2(1). Furthermore, there was no requirement for any action under the provisions of clause 2(2).

---

## Recommendations

There are no recommendations in respect of these obligations.

---

## Opportunities for improvement

No opportunities for improvement have been identified in respect of these obligations.


---

---

<sup>12</sup> *Network Operator's Licence 09\_003*, issued to Aquacell Pty Ltd (as varied 26 July 2015), Table 1.2.

<sup>13</sup> Minister for Finance and Services, *Notice of approval to bring new infrastructure into commercial operation*, 23 August 2012.

**Table A.3 General Obligations – WIC Reg Sched 1 cl.3(c)**

Clause	Requirement	Compliance Grade
<b>WIC Reg Sched 1 cl.3(c)</b>	The water or sewerage infrastructure is properly designed and constructed, operated in a safe and reliable manner and maintained in a proper condition, having regard to any publicly available standards or codes relating to its design, construction, operation and maintenance.	 <b>Compliant</b>
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a high operational risk. Proper design and construction, safe and reliable operation, and maintenance of infrastructure in proper condition is essential to the effective (safe and reliable) delivery of agreed levels of service.		Evidence that the Licensee has procedures in place for ensuring that practices are kept up to date with changes to such standards or codes.
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>Interviews with Aquacell personnel on 2 May 2019.</li> <li>Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li> <li>Aquacell, <i>Infrastructure Operating Plan; Blackwater Recycling Scheme; 1 Bligh Street, Sydney NSW 2000 (Revision 4)</i>, 23 June 2015 [<i>Infrastructure Operating Plan</i>].</li> <li>Aquacell, <i>1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan (Revision 8)</i>, 24 June 2015 [<i>Recycled Water Quality Plan</i>].</li> <li>Minister for Finance and Services, <i>Notice of approval to bring new infrastructure into commercial operation</i>, 23 August 2012.</li> <li><i>Building Services Contract</i> between DEXUS Funds Management Limited and Aquacell Pty Ltd, signed 12 December 2014.</li> <li>CBRE Service No: SO7078601_231206, dated 30 July 2018.</li> <li>Aquacell, <i>1 Bligh Street; Operation and Maintenance Manual; Recycled Water Treatment (Revision D)</i>, 25 June 2015.</li> <li>Document: <i>Site Service Visit Log: S0047 Bligh Street</i> (for period 1 June 2018 to 12 March 2019).</li> </ul>		
<b>Summary of reasons for grade</b>		
<p>Although no new infrastructure was designed or constructed during the audit period, Aquacell demonstrated that the infrastructure had continued to be operated in a safe and reliable manner and maintained in proper condition having regard for publicly available standards and codes during the audit period. It is, however, noted that the recycled water was not produced for approximately 80 percent of the audit period; service was maintained through the use of potable water as a top-up supply.</p> <p>Arrangements employed by Aquacell for ensuring that codes and standards it references are current appear to be consistent with other organisations of its size.</p> <p>Accordingly, Aquacell was assessed as having demonstrated full compliance with this obligation.</p>		

---

## Discussion and notes

### ***Design and Construction of Infrastructure:***

As noted in Table A.2, no new infrastructure was brought into commercial operation during the audit period; nor was any new infrastructure designed or constructed.

The infrastructure that was in operation during the audit period would have been assessed as having been properly designed and constructed, having regard for publicly available standards and codes, prior to approval to commence commercial operation being given in August 2012.<sup>14</sup>

### ***Operation and Maintenance of Infrastructure:***

Operation and maintenance of the infrastructure is undertaken in accordance with the general principles (maintenance strategy) outlined in the *Infrastructure Operating Plan*, which further indicates that Aquacell is solely responsible for maintenance activities.<sup>15</sup> Aquacell provides operation and maintenance services under the provisions of a *Building Services Contract*<sup>16,17</sup> with the owner/its client, DEXUS.

More specific guidance is provided in the *Operation and Maintenance Manual*<sup>18</sup> and associated procedures. Roles and responsibilities are documented in more specific detail in the *Recycled Water Quality Plan*.<sup>19</sup>

On the basis of observations made during the audit site inspection, it was apparent that the infrastructure had been/was being operated in a safe and reliable manner and maintained in a proper condition (although the treatment plant was not operating at the time of inspection and had only produced water intermittently for periods amounting to approximately 20 percent of the audit period). Furthermore, on the basis of the auditor's experience, it appeared that such operation and maintenance had been/was generally being undertaken having regard to relevant publicly available standards and/or codes.

The following specific observations, which demonstrate compliance with relevant standards and codes, were made:

- Pipework within the treatment plant room was generally clearly and appropriately labelled.
- Bunding was in place around chemical storage areas and remained effective; there was no material within the bunded areas to compromise capacity (refer Figure A.3.1 for example).
- Eye wash stations were appropriately located adjacent to chemical storage areas (refer Figure A.3.2).
- Recycled water pipework connected to the storage tanks is appropriately coloured lilac (refer Figures A.3.3, for example). Potable water pipework in the tank storage areas is coloured green or otherwise identified.
- The potable water supply used for top-up of the recycled water storage tanks is protected by both RPZD backflow prevention devices and air gaps (refer Figures A.3.4 and A.3.6).
- RPZD backflow prevention devices have been regularly tested, as evidenced by tag affixed to the devices (refer Figure A.3.5, for example); these show that testing was undertaken in June 2017 and June 2018.

Review of Aquacell's *Site Service Visit Log*<sup>20</sup> confirms that servicing and maintenance (including repair/replacement activities) had been undertaken throughout the audit period. It is noted, however, that persistent issues resulted in significant periods during which recycled water was not produced by the treatment plant; these issues related principally to the RO filtration and chlorine disinfection processes.

---

<sup>14</sup> Minister for Finance and Services, *Notice of approval to bring new infrastructure into commercial operation*, 23 August 2012.

<sup>15</sup> *Infrastructure Operating Plan*, section 5.2.

<sup>16</sup> *Building Services Contract* between DEXUS Funds Management Limited and Aquacell Pty Ltd, signed 12 December 2014.

<sup>17</sup> The *Building Services Contract* was most recently extended to cover the period from 1 August 2018 to 30 June 2019 under CBRE Service No: SO7078601\_231206, dated 30 July 2018.

<sup>18</sup> Aquacell, *1 Bligh Street; Operation and Maintenance Manual; Recycled Water Treatment (Revision D)*, 25 June 2015.

<sup>19</sup> *Recycled Water Quality Plan*, section 2/table 1.

<sup>20</sup> Document: *Site Service Visit Log; S0047 Bligh Street* (for period 1 June 2018 to 12 March 2019).



---

Although recycled water was not produced for approximately 80 percent of the audit period, service was maintained through the use of potable water as a top-up supply. It is considered that under the contractual arrangements between Aquacell and DEXUS, the non-production of recycled water constitutes a commercial issue and did not compromise the quality of water delivered into supply. On that basis it is not deemed in this case to constitute non-compliance against this clause.

***Currency of Standards and Codes:***

Although not sighted, Aquacell has previously advised that it maintains a directory on its server with relevant codes and standards. Aquacell also advised that it holds membership and/or is on the email lists for organisations such as the Australian Water Association (AWA), the Association of Hydraulic Services Consultants and IPART, which typically advise of major changes to significant documentation that may affect its operations.

This approach is considered typical of the arrangements adopted by organisations of Aquacell's size.

---

**Recommendations**

There are no recommendations in respect of this obligation.

---

**Opportunities for improvement**

No opportunities for improvement have been identified in respect of this obligation.

---



**Figure A.3.1 Bunding around chlorine solution storage container, which is located adjacent to the chlorine contact/finished water tank.**



Figure A.3.2 Readily accessible eye wash facilities located adjacent to chemical storage areas.

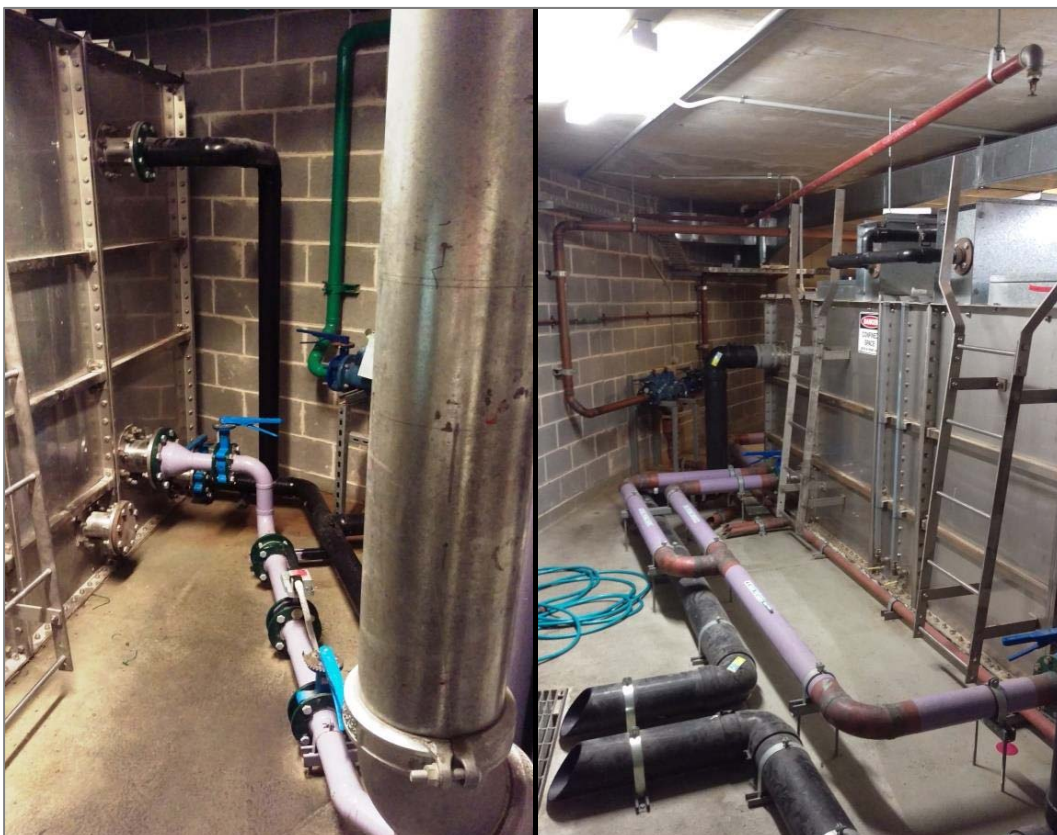


Figure A.3.3 Recycled water pipework connected to storage tanks (both inlet and outlet) is coloured lilac. Potable water pipework is coloured green.





Figure A.3.4 Potable water supply used for top-up of the recycled water storage tanks is protected by an RPZD backflow prevention device (as well as air gaps).




Figure A.3.5 RPZD backflow prevention devices are tested annually.



**Figure A.3.6** Potable water supply used for top-up of the recycled water storage tanks is protected by air gaps (as well as an RPZD backflow prevention device).  
Note top-up in operation in bottom view.

**Table A.4 Water Supply Infrastructure – WIC Reg Sched 1 cl.7(4)(a)**

Clause	Requirement	Compliance Grade
<b>WIC Reg Sched 1 cl.7(4)(a)</b>	The network operator must ensure that its water quality plan is fully implemented and kept under regular review and the network operator's activities are carried out in accordance with that plan.	 <b>Compliant</b>
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a high operational risk. Implementation of the <i>Water Quality Plan</i> ensures that the water supplied complies with the specified quality requirement.		Evidence that the <i>Water Quality Plan</i> is fully implemented and the Licensee's activities are carried out in accordance with that <i>Plan</i> ; evidence that the <i>Plan</i> is kept under regular review.
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>Interviews with Aquacell personnel on 2 May 2019.</li> <li>Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li> <li>Aquacell, <i>1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan (Revision 8)</i>, 24 June 2015 [<i>Recycled Water Quality Plan</i>].</li> <li>Cobbitty Consulting, <i>Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit (Version 2.0)</i>, 19 July 2017.</li> <li>Cobbitty Consulting, <i>Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit (Version 2.0)</i>, 17 August 2018.</li> <li>Document: <i>Site Service Visit Log: S0047 Bligh Street</i> (for period 1 June 2018 to 12 March 2019).</li> <li>SCADA critical limit settings.</li> <li>SCADA data trends (as referenced in Table A.1).</li> <li>EnviroLab Certificates of Analysis (refer Table C.5 for details).</li> <li>DEXUS, <i>1 Bligh House Rules</i>, undated (as downloaded from SASSI Induction portal on 27 July 2018).</li> <li>Aquacell, <i>Aquacell Monthly Report (for August 2018)</i>, 17 October 2019.</li> <li>Aquacell, <i>Aquacell Monthly Report (for January 2019)</i>, 5 April 2019.</li> <li>Aquacell, <i>Aquacell Monthly Report (for March 2019)</i>, 9 April 2019.</li> <li>Aquacell, <i>Periodic Review of Regulatory Documentation</i> register, record of review dated August 2017.</li> </ul>		
<b>Summary of reasons for grade</b>		
<p>Aquacell demonstrated that it is fully implementing, and is carrying out its water quality management activities in accordance with principles documented in, the <i>Recycled Water Quality Plan</i>. This was evident from the operational monitoring and testing processes that are being implemented and the response (plant shut down and maintenance activities) to any excursions of monitored parameters beyond the identified critical limits.</p> <p>Accordingly, Aquacell was assessed to have demonstrated compliance with this obligation.</p>		



## Discussion and notes

The auditor checked for evidence that the *Recycled Water Quality Plan* was being fully implemented and kept under regular review and that all of the Network Operator's activities are carried out in accordance with that *Plan*.

### **Operational Monitoring:**

As identified in the *Recycled Water Quality Plan*,<sup>21</sup> operational monitoring of five Critical Control Points (CCPs) is used to monitor and control operation of the plant, as follows:

- CCP1 – MBR Turbidity;
- CCP2 – Reverse osmosis (RO) Permeate Electrical Conductivity (EC);
- CCP3 – Ultra Violet Intensity (UVI);
- CCP4 – Final water free chlorine; and
- CCP5 – Final water pH.

These parameters are continually monitored via the SCADA system. Any breaches of the critical limits are alarmed and water is diverted from supply.

To confirm consistency with the requirements of the *Recycled Water Quality Plan*,<sup>22</sup> current parameter settings for CCPs were checked against the documented critical limits.

A summary of these checks is as follows:

CCP	Parameter (Units)	SCADA Critical Limit	Critical Limit Compliance with <i>Recycled Water Quality Plan</i>
CCP1	MBR Turbidity (NTU)	>2	Settings consistent with requirement
CCP2	Electrical Conductivity (µS/cm)	>100	Settings consistent with requirement
CCP3	Ultra Violet Intensity (mA)	<12.2	Settings consistent with requirement
CCP4	Final water free chlorine (mg/L)	<0.65 and >2.00	Upper limit setting lower (more stringent) than the requirement (>5 mg/L)
CCP5	Final water pH (pH units)	<6.8 and >8.5	Settings consistent with requirement

As the plant was shut down at the time of the audit inspection, the following checks were not made on this occasion:

- consistency between observed instrument readings with those reported in the SCADA system.
- compliance of observed readings with the critical limits.

It is noted that the upper limit setting for final water free chlorine (CCP4) is set lower (more stringent) than the critical limit documented in the *Recycled Water Quality Plan* (>2.0 mg/L compared to >5.0 mg/L). This setting has been changed since the 2017 Operational Audit,<sup>23</sup> at which time the limit was set at 5.00 mg/L. If this setting is to be adopted in the longer term, it would appropriate to consider updating the *Recycled Water Quality Plan* accordingly.

As reported in more detail in Table A.1, review of SCADA trends revealed issues related to difficulty in correlating conductivity and flow readings on a time basis due to different polling and/or logging intervals. An opportunity for improvement (**OFI-1BS-2019.01**) has been identified in respect of this issue and is reiterated in respect of this obligation.

<sup>21</sup> *Recycled Water Quality Plan*, section 7.1.

<sup>22</sup> *Recycled Water Quality Plan*, section 7.1.

<sup>23</sup> Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 17 August 2018, table B.2.

It is further noted that, as reported in Table A.1 and Table A.3, the treatment plant was producing water for only 20 percent (approximately) of the audit period. This observation, together with review of the *Site Service Visit Log*<sup>24</sup> supports the assessment that the plant appropriately responded to any CCP exceedances.

### **Water Quality Verification Monitoring:**

Water quality verification monitoring is being undertaken in accordance with the *Recycled Water Quality Plan*.<sup>25</sup> As reported in Table A.1, review of the results of monthly tests for *E. coli* (the nominated verification test parameter) throughout the audit period revealed values of less than one (<1) cfu per 100 ml (i.e. none detected),<sup>26</sup> which indicates that the water delivered for use remained within safe quality limits. Details of these tests are documented in Table C.5.

### **Permitted Uses:**

The *Recycled Water Quality Plan*<sup>27</sup> identifies the purposes for which recycled water will be used as “*toilet flushing and cooling towers*”. There was no evidence to indicate that the recycled water was being used for any other purposes.

Identification of the presence of recycled water is a key barrier to inadvertent cross connections, as is effective communication. As reported in respect of the 2017<sup>28</sup> and 2018<sup>29</sup> Operational Audits, the *1 Bligh House Rules*,<sup>30</sup> which all contractors must read and acknowledge as part of the induction process prior to gaining access to undertake work at 1 Bligh Street,<sup>31</sup> does not make any reference to the presence of recycled water in the building. Aquacell advised that it has not yet been able to have DEXUS address previously identified opportunities for improvement in respect of this obligation. Those opportunities for improvement (OFI-2017.06 and OFI-1BS-2018.05) suggested that: “...*Aquacell encourages DEXUS building management to include advice in respect of the presence of recycled water and its permitted uses in the 1 Bligh House Rules document*”. It is understood that any resolution of this issue has been hampered by unavailability of the relevant DEXUS personnel to discuss the issue.

### **Monthly Reporting:**

Consistent with the requirements of the *Building Services Contract*<sup>32,33</sup> between Aquacell and its client, DEXUS, the *Recycled Water Quality Plan*<sup>34</sup> documents the requirement to provide monthly reports to DEXUS. As evidence of compliance with this requirement, Aquacell provided copies of the monthly reports for August 2018,<sup>35</sup> January 2019<sup>36</sup> and March 2019.<sup>37</sup>

In each case these reports provide a Performance Summary and a Production Summary, Treated Water Sampling Results, Trade Wastewater Sampling Results, details of Maintenance Works Required and Operation and Maintenance Works undertaken, Performance Indicators and Online Monitoring Records, as appropriate. These reports fulfil the contractual requirement to “*Provide report to Client on plant performance, maintenance and water quality*”.<sup>38</sup>

<sup>24</sup> Document: *Site Service Visit Log: S0047 Bligh Street* (for period 1 June 2018 to 12 March 2019).

<sup>25</sup> *Recycled Water Quality Plan*, section 4.1.

<sup>26</sup> Envirolab Certificates of Analysis No: 172707 and 188832.

<sup>27</sup> *Recycled Water Quality Plan*, section 1.2.1.

<sup>28</sup> Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 19 July 2017, table C.2.

<sup>29</sup> Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 17 August 2018, table B.2.

<sup>30</sup> DEXUS, *1 Bligh House Rules*, undated (as downloaded from SASSI Induction portal on 27 July 2018).

<sup>31</sup> The auditor was required to read this document as part of the site induction process.

<sup>32</sup> *Building Services Contract* between DEXUS Funds Management Limited and Aquacell Pty Ltd, signed 12 December 2014.

<sup>33</sup> The *Building Services Contract* was most recently extended to cover the period from 1 August 2018 to 30 June 2019 under CBRE Service No: SO7078601\_231206, dated 30 July 2018.

<sup>34</sup> *Recycled Water Quality Plan*, section 12.2.

<sup>35</sup> Aquacell, *Aquacell Monthly Report (for August 2018)*, 17 October 2019.

<sup>36</sup> Aquacell, *Aquacell Monthly Report (for January 2019)*, 5 April 2019.

<sup>37</sup> Aquacell, *Aquacell Monthly Report (for March 2019)*, 9 April 2019.

<sup>38</sup> *Building Services Contract* between DEXUS Funds Management Limited and Aquacell Pty Ltd, signed 12 December 2014; annexure A, section 3.

---

### ***Regular Review of Water Quality Plan:***

The *Recycled Water Quality Plan* remained unchanged throughout the audit period. It is noted within the Plan<sup>39</sup> that: “*The RWQMP is reviewed and updated annually.*” The *Infrastructure Operating Plan*<sup>40</sup> also indicates that: “*The RWQMP will be updated annually, at a minimum ...*”.

Aquacell confirmed that the *Recycled Water Quality Plan* is reviewed annually and provided a *Periodic Review of Regulatory Documentation* register,<sup>41</sup> which indicated that Revision 8, dated 24 June 2015, of the *Recycled Water Quality Plan* had been reviewed in July 2016 and August 2017. The review comment in each case indicated: “*No changes to operation. All information current. No update to document required.*”

There was, however, no record of a review having been undertaken during 2018 (i.e. within the audit period). Whilst this technically reflects a failure to comply with the provisions of the *Recycled Water Quality Plan*, given that:

- the Plan has previously been regularly reviewed without change; and
- there have been no apparent changes in circumstances that would warrant an update of the Plan (other than minor administrative issues previously identified as opportunities for improvement);

recording non-compliance in this instance is not considered constructive.

Nonetheless, as an opportunity for improvement (**OFI-1BS-2019.02**), it is suggested that Aquacell reviews its procedures and their implementation to ensure that the *Recycled Water Quality Plan* is reviewed, and if necessary updated, annually and that all reviews are recorded. Repeated failure to review and, if required, update licence plans will need to result in findings of non-compliance.

---

### **Recommendations**

There are no recommendations in respect of this obligation.

---

### **Opportunities for improvement**

The following opportunity for improvement has been identified in respect of this obligation:

- **OFI-1BS-2019.02:** It is suggested that Aquacell reviews its procedures and their implementation to ensure that the *Recycled Water Quality Plan* is reviewed, and if necessary updated, annually and that all reviews are recorded.

Furthermore, it is suggested that Aquacell continues to pursue implementation of the previously identified opportunities for improvement (OFI-2017.06 and OFI-1BS-2018.05) in relation to update of the *1 Bligh Street House Rules* with DEXUS.


---

<sup>39</sup> *Recycled Water Quality Plan*, section 13.

<sup>40</sup> *Infrastructure Operating Plan*, section 2.

<sup>41</sup> Aquacell, *Periodic Review of Regulatory Documentation* register, record of review dated August 2017.

**Table A.5 Water Supply Infrastructure – WIC Reg Sched 1 cl.8(1), 8(2)(a) and 8(2)(c)**

Clause	Requirement	Compliance Grade
<b>WIC Reg Sched 1 cl.8(1), 8(2)(a) and 8(2)(c)</b>	<p>[8(1)] Any water meter that is connected to a licensee’s water main must comply with the requirements of the <i>Plumbing Code of Australia</i>.</p> <p>[8(2)(a)] While water is being supplied to premises in respect of which a water meter has been installed, the licensee must ensure that the water meter is properly maintained and periodically tested.</p> <p>[8(2)(c)] While water is being supplied to premises in respect of which a water meter has been installed, the licensee must ensure that written notice of each meter reading is sent to the relevant licensed retail supplier.</p>	<p>Clauses 8(1), 8(2)(a) and 8(2)(c):</p> <div><p><b>No Requirement</b></p></div>
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a medium business risk. Non-compliant and/or inaccurate water meters may result in incorrect water consumption readings which are then reflected in customer billing.	Evidence that meters are compliant with the <i>Code</i> . Documented procedures for management of the meter fleet and/or evidence that performance monitoring and maintenance (when required) is undertaken. Evidence that meter readings are passed on to the relevant retail supplier.	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"><li>▪ Interviews with Aquacell personnel on 2 May 2019.</li><li>▪ Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li><li>▪ Cobbitty Consulting, <i>Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit</i> (Version 2.0), 19 July 2017.</li><li>▪ Cobbitty Consulting, <i>Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit</i> (Version 2.0), 17 August 2018.</li><li>▪ <i>Building Services Contract</i> between DEXUS Funds Management Limited and Aquacell Pty Ltd, signed 12 December 2014.</li><li>▪ CBRE Service No: SO7078601_231206, dated 30 July 2018.</li><li>▪ IPAC Solutions, <i>Flowmeter Verification Certificate</i> in respect of Promag 50 W DN50, serial no: V2.03.00; verification date 13 June 2019.</li><li>▪ Document: <i>Goods Inward Note</i> for Purchase Order No: PO20106846, completed 13 June 2018.</li></ul>		
<b>Summary of reasons for grade</b>		
Under the contractual arrangements between Aquacell (the Licensee) and DEXUS (its sole customer) there is “No Requirement” for compliance with the requirements of the <i>WIC Regulation</i> in relation to water metering. Aquacell provides operation and maintenance services to the infrastructure owner (DEXUS) for an annual fee, thereby negating any requirement for volumetric metering.		

---

## Discussion and notes

### ***Clause 8(1) – Water Meter Compliance:***

As reported in respect of the 2017<sup>42</sup> and 2018<sup>43</sup> Operational Audits, there are no meters connected to the Licensee's water mains/pipework as they relate to this obligation. Whilst there are meters installed within the Licensee's delivery pipework, these are not used for billing purposes; they are used for monitoring and reporting purposes only.

Under the provisions of the *Building Services Contract*<sup>44,45</sup> with the infrastructure owner/its client, DEXUS, Aquacell operates and maintains the infrastructure for an agreed annual fee (which may be subject to variation). Accordingly, there is no need to maintain meters for billing purposes.

Notwithstanding, as part of its reporting regime to DEXUS (this does not appear to be a requirement under the *Building Services Contract*), Aquacell includes details of the recycled water produced on a monthly basis.

### ***Clause 8(2)(a) – Water Meter Maintenance:***

As there are no meters used for the purpose of billing for water supplied to the Customer's premises, there is no specific requirement to have any meters maintained or periodically tested.

Notwithstanding, Aquacell demonstrated that its trade waste flowmeter (required for reporting purposes) is regularly calibrated. As evidenced by the service provider's *Test Certificate*,<sup>46</sup> flowmeter operation was verified on 13 June 2018. Aquacell's *Goods Inward Note*<sup>47</sup> in respect of Purchase Order No: PO20106846 also recorded completion of the service.

### ***Clause 8(2)(c) – Water Meter Readings:***

Aquacell holds both Network Operator and Retail Supplier Licences in relation to the non-potable water scheme at 1 Bligh Street. Accordingly, there is (in effect) no need to provide written notice of any meter readings.

### ***Summary:***

In summary, given the contractual arrangements between Aquacell (the Licensee) and DEXUS (its sole customer) there is no requirement for compliance with the requirements of the *WTC Regulation* in relation to water metering.

---

## Recommendations

There are no recommendations in respect of this obligation.

---

## Opportunities for improvement

No opportunities for improvement have been identified in respect of this obligation.

---

---

<sup>42</sup> Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 19 July 2017, table C.3.

<sup>43</sup> Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 17 August 2018, table B.3.

<sup>44</sup> *Building Services Contract* between DEXUS Funds Management Limited and Aquacell Pty Ltd, signed 12 December 2014.


<sup>45</sup> The *Building Services Contract* was most recently extended to cover the period from 1 August 2018 to 30 June 2019 under CBRE Service No: SO7078601\_231206, dated 30 July 2018.

<sup>46</sup> IPAC Solutions, *Flowmeter Verification Certificate* in respect of Promag 50 W DN50, serial no: V2.03.00; verification date 13 June 2019.

<sup>47</sup> Document: *Goods Inward Note* for Purchase Order No: PO20106846, completed 13 June 2018.



**Table A.6 Water Supply Infrastructure – WIC Reg Sched 1 cl.11**

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.11	The licensee must not allow a customer's installation to be connected to a licensee's water main unless the installation is code compliant (within the meaning of the <i>Plumbing and Drainage Act 2011</i> ).	 Compliant
<hr/>		
Risk	Target for Full Compliance	
This requirement reflects a high operational risk. Compliance of customer installations with appropriate standards is essential to ensuring safe and reliable service delivery.	Evidence of customer installation compliance with the <i>Plumbing and Drainage Act</i> (or such other legislative or statutory guidance that may be applicable).	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none"><li>Interviews with Aquacell personnel on 2 May 2019.</li><li>Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li><li>Aquacell, <i>Infrastructure Operating Plan; Blackwater Recycling Scheme; 1 Bligh Street, Sydney NSW 2000 (Revision 4)</i>, 23 June 2015 [<i>Infrastructure Operating Plan</i>].</li><li>Cobbitty Consulting, <i>Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit</i> (Version 2.0), 19 July 2017.</li><li>Cobbitty Consulting, <i>Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit</i> (Version 2.0), 17 August 2018.</li><li>Minister for Finance and Services, <i>Notice of approval to bring new infrastructure into commercial operation</i>, 23 August 2012</li><li>DEXUS, <i>1 Bligh House Rules</i>, undated (as downloaded from SASSI Induction portal on 27 July 2018).</li><li>Australian/New Zealand Standard AS/NZS 3500.1, <i>Plumbing and drainage – Part 1: Water services</i>.</li></ul>		
<hr/>		
Summary of reasons for grade		
On the basis that there is a requirement in place for certificates of compliance in respect of any plumbing works undertaken to be provided to the building owner, previously assessed compliance of the customer's installations and observations made during the audit, Aquacell was assessed to be complaint with this obligation.		
<hr/>		
Discussion and notes		
As reported in respect of the 2017 <sup>48</sup> and 2018 <sup>49</sup> Operational Audits, Customer's installations for the purposes of the recycled water system at 1 Bligh Street are deemed to comprise the recycled water tanks and all downstream plumbing within the building. It is understood that there is no distribution of recycled water to other sites.		
Granting of approval <sup>50</sup> to commence commercial operation of the infrastructure would have been predicated on compliance of Customer's installations at that time. Notwithstanding, any subsequent modifications to such Customer's installations must also be demonstrated to be compliant.		

<sup>48</sup> Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 19 July 2017, table C.4.

<sup>49</sup> Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 17 August 2018, table B.4.

<sup>50</sup> Minister for Finance and Services, *Notice of approval to bring new infrastructure into commercial operation*, 23 August 2012.

Aquacell has no direct control over plumbing installations within the building; however, these are controlled and overseen by DEXUS building management (owner of the licensed infrastructure and Aquacell's client). Review of the *1 Bligh House Rules*,<sup>51,52</sup> which all contractors must read and acknowledge as part of the induction process prior to gaining access to undertake work at 1 Bligh Street, reveals that the document includes a requirement to provide certificates of compliance upon the completion of any fitout works, including plumbing works.

Aquacell advised that it was not aware of any works undertaken, and DEXUS building management had not provided copies of any compliance certificates, during the audit period.

Aquacell further advised that it has not yet been able to address previously identified opportunities for improvement in respect of this obligation in conjunction with DEXUS. Those opportunities for improvement (OFI-2017.07 and OFI-1BS-2018.06) suggested that: "... *Aquacell (in conjunction with DEXUS) develops, documents and implements a mechanism to ensure that certificates of compliance are obtained in relation to all plumbing works undertaken at 1 Bligh Street, and copies of all certificates of compliance are provided to Aquacell*". Such a mechanism would provide a means by which Aquacell can be confident of ongoing compliance of the building plumbing (customer's installations). The ability to address them has been restricted by availability of the relevant DEXUS personnel to discuss the issue.

It is noted that cross-connections continue to occur nationally at a rate of multiple reports per year. These incidents can create major difficulties such as reputational and cost impacts for recycled water providers, even if entirely due to customer plumbing and not the provider. A number of recycled water schemes have closed down due to the loss of confidence arising following cross-connections. Therefore, Aquacell is strongly encouraged to go beyond its obligations and act in its own interests to maintain pressure on DEXUS and to proactively seek to understand how cross-connections are prevented and help DEXUS to prevent them.

Recycled water pipework sighted during the audit site inspection was considered compliant with AS/NZS 3500.1<sup>53,54</sup> insofar as the colour of the pipework is concerned (refer Figures A.3.3 and A.3.4, for example). Inspection of a toilet facility located in basement level B2 of the building confirmed that appropriate labelling, again consistent with the requirements of AS/NZS 3500.1, was in place (refer Figure B.4.1).

On this basis, it was assessed that Aquacell had demonstrated compliance with this obligation.

---

## Recommendations

There are no recommendations in respect of this obligation.

---

## Opportunities for improvement

No further opportunities for improvement have been identified in respect of this obligation; however, it is suggested that Aquacell continues to pursue implementation of the previously identified opportunities (OFI-2017.07 and OFI-1BS-2018.06) in relation to the provision of certificates of compliance for plumbing works with DEXUS.

---

---

<sup>51</sup> DEXUS, *1 Bligh House Rules*, undated (as downloaded from SASSI Induction portal on 27 July 2018), page 26.

<sup>52</sup> A current version of the *1 Bligh House Rules* was not accessible via the SASSI Induction portal on 16 May 2019.

<sup>53</sup> Australian/New Zealand Standard AS/NZS 3500.1, *Plumbing and drainage – Part 1: Water services*, clause 9.5.2.

<sup>54</sup> Under the provisions of Section 7(1) of the *Plumbing and Drainage Act 2011* (NSW), plumbing and drainage works must comply with the *Plumbing Code of Australia*. The 'deemed to comply' provisions of the *Plumbing Code of Australia* include compliance with AS/NZS 3500.



Figure A.6.1 Recycled water pipework coloured lilac and appropriately labelled.



Figure A.6.2 Recycled water pipework coloured lilac and appropriately labelled.




**Figure A.6.3** Recycled water labelling in toilet facility (located on wall adjacent to door).  
It was noted that there were no hose bibs in the toilet areas inspected.

## **Appendix B**   Detailed Audit Findings – Non-Potable Water Supply Infrastructure

Detailed audit findings in respect of the obligations related to *Non-Potable Water Supply Infrastructure* are presented in this Appendix.



**Table B.1 Non-Potable Water Supply Infrastructure – WIC Reg Sched 1 cl.10(a)**

Clause	Requirement	Compliance Grade
<b>WIC Reg Sched 1 cl.10(a)</b>	The network operator under a Licence for water infrastructure to supply non-potable water for a particular purpose must ensure that the water supplied is fit for that purpose.	 <b>Compliant</b>
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a high operational risk. It is essential from a safety viewpoint that water supplied for a particular purpose is fit for that purpose.		Evidence that the water supplied is fit for purpose.
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>Interviews with Aquacell personnel on 2 May 2019.</li> <li>Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li> <li>Network Operator's Licence 09_003 issued to Aquacell Pty Ltd (as varied 26 July 2015).</li> <li>Aquacell, <i>1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan (Revision 8)</i>, 24 June 2015 [<i>Recycled Water Quality Plan</i>].</li> </ul>		
<b>Summary of reasons for grade</b>		
Review of operational monitoring data and water quality verification test results indicated that recycled water supplied during the audit period was fit for the nominated purposes. Accordingly, Aquacell was assessed as having demonstrated compliance with this obligation.		
<b>Discussion and notes</b>		
<p>The purposes for which the recycled water is being supplied are identified in the <i>Recycled Water Quality Plan</i>.<sup>55</sup> These purposes (“toilet flushing and cooling towers”) are consistent with the “Authorised purposes” nominated in the Network Operator's Licence.<sup>56</sup> The <i>Recycled Water Quality Plan</i> also nominates critical limits for operational monitoring parameters at Critical Control Points (CCPs),<sup>57</sup> and characteristics to be monitored for the purpose of recycled water quality verification,<sup>58</sup> which are based on the intended uses.</p> <p>Performance against CCP targets and verification parameters is discussed in Table A.4 and, as reported in Table A.1, there were no reportable incidents in which the specified water quality had been compromised during the audit period. Furthermore, as reported in Table A.3, potable water was used as top-up water for periods totalling approximately 80 percent of the audit period.</p> <p>On this basis it is assessed that water supplied as recycled water during the audit was fit for purpose.</p>		
<b>Recommendations</b>		
There are no recommendations in respect of this obligation.		

<sup>55</sup> *Recycled Water Quality Plan*, section 1.2.1.

<sup>56</sup> Network Operator's Licence No: 09\_003, table 1.3.

<sup>57</sup> *Recycled Water Quality Plan*, section 7.1.

<sup>58</sup> *Recycled Water Quality Plan*, section 8.

---

### **Opportunities for improvement**

No opportunities for improvement have been identified in respect of this obligation.

---



## **Appendix C**   Detailed Audit Findings – Schedule B to the Network Operator’s Licence

Detailed audit findings in respect of the obligations under *Schedule B to the Network Operator’s Licence* are presented in this Appendix.



**Table C.1**      **Schedule B to the Network Operator's Licence – Clause B1**

Clause	Requirement	Compliance Grade
<b>Network Operator's Licence cl.B1</b>	The Licensee must have the <b>technical</b> , financial and <b>organisational</b> capacity to carry out the activities authorised by this Licence. If the Licensee ceases to have this capacity, it must report this to IPART immediately in accordance with the Reporting Manual.	 <b>Compliant</b>
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a high operational risk. Without the technical, financial and organisational capacity to carry out the activities authorised by the Licence, the Licensee may be unable to meet its obligations under the Licence, specifically the safe and effective delivery of agreed levels of service.		Evidence that the Licensee has the technical, financial and organisational capacity to carry out the activities authorised by the Licence.  Evidence that the Licensee has reported to IPART immediately in accordance with the Reporting Manual in the event that it has ceased to have such capacity.
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>Interviews with Aquacell personnel on 2 May 2019.</li> <li>Aquacell, <i>Infrastructure Operating Plan; Blackwater Recycling Scheme; 1 Bligh Street, Sydney NSW 2000 (Revision 4)</i>, 23 June 2015 [<i>Infrastructure Operating Plan</i>].</li> <li>Aquacell, <i>1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan (Revision 8)</i>, 24 June 2015 [<i>Recycled Water Quality Plan</i>].</li> <li>Aquacell, <i>Operations Engineer; Job Description (Revision 4)</i>, 6 June 2013.</li> <li>Aquacell, <i>Operations Manager; Job Description (Revision 5)</i>, 20 December 2018.</li> <li>Curriculum Vitae for Roger Phelps, undated</li> <li>Curriculum Vitae for Tass Meli, undated.</li> <li>Curriculum Vitae for Thai Law, undated.</li> <li>Aquacell, <i>Key Personnel</i>, March 2019.</li> <li>Aquacell, <i>Organisation Chart March 2018</i>.</li> <li>Aquacell, <i>Organisation Chart July 2019</i>.</li> <li>Aquacell, <i>1 Bligh Street; Operation and Maintenance Manual; Recycled Water Treatment (Revision D)</i>, 25 June 2015.</li> <li>IPART, <i>Network Operators' Reporting Manual (Issue No: 6)</i>, 29 June 2018.</li> </ul>		
<b>Summary of reasons for grade</b>		
Aquacell demonstrated that it maintained the technical and organisational capacity to carry out the activities authorised by the Licence during the audit period (and subsequently). Given that it had maintained the required technical and organisational capacity, there was no requirement to report the contrary to IPART.		
Accordingly, it was assessed that Aquacell was compliant with this obligation.		

---

## Discussion and notes

*[It is noted that, consistent with the audit scope defined by IPART, the auditor has not assessed the financial capacity of the Licensee as part of this audit.]*

### **Technical Capacity:**

During the audit period, operation of the treatment plant was undertaken principally by a Service Engineer (Roger Phelps) under direction of the Operations Manager (Thai Law until early 2019, then Tass Meli). Review of job descriptions for the Operations Manager and Operations/Service Engineer roles reveal that they identify specific responsibilities in relation to operation and maintenance of Aquacell treatment plants. They include (for example) P&L and KPI responsibility for operating contracts; commissioning of new plants; system optimisation; management and calibration of hand-held instrument sets; administration of plant maintenance records; troubleshooting and project support; and providing assistance with approval submissions and management plans.

Review of the curriculum vitae for Roger Phelps reveals that he holds a Bachelor of Engineering (Mechanical Engineering) qualification from the University of NSW and more than twenty years' experience in wastewater treatment.<sup>59</sup>

Tass Meli holds a Bachelor of Engineering (Chemical Engineering) Honours First Class qualification from the University of NSW, a Graduate Diploma in Management from the Australian Graduate School of Management, NSW, and more than twenty years of relevant process engineering and operational management experience.<sup>60</sup>

Similarly, Thai Law (the previous Operations Manager) held a Bachelor of Engineering (Chemical Engineering) Honours Class 2 qualification from the University of NSW and almost fifteen years of relevant process engineering experience.<sup>61</sup>

Further technical support is available at a senior level from Warren Johnson (Aquacell Technical Manager), Production Manager (Justin Taylor)<sup>62</sup> and Colin Fisher (Managing Director), all of whom are tertiary qualified engineers with extensive relevant experience. Curricula vitae for these personnel have been reviewed and discussions held with these personnel during previous scheme audits, which have clearly demonstrated their technical capacity. Pen portraits for all of the abovementioned personnel are presented in a summary document, *Key Personnel*.<sup>63</sup>

### **Organisational Capacity:**

Review of Aquacell's *Organisation Chart*<sup>64</sup> reveals that it has continued to maintain resource capacity in respect of engineering/research and development, production, project delivery, sales and marketing, regulatory coordination, and corporate support as well as operations (as discussed above). Comparison with the previous version of the *Organisation Chart*<sup>65</sup> indicates that the total staff complement has effectively been maintained during the audit period; the number of Operations and Service staff has been increased by one to a total of five.

During the audit interviews, Aquacell advised that, in addition to locally based technical support, it can also draw operational support from its resources (service engineers) based in Melbourne and Brisbane. It also has contractors and suppliers from whom it can draw support if required.

Capacity can also be assessed from the perspective of organisational preparedness to undertake the authorised activities. Aquacell has operational procedures in place (principally an *Operation and Maintenance Manual*)<sup>66</sup> that provides the required guidance to operate the infrastructure at 1 Bligh Street. Furthermore,

---

<sup>59</sup> Curriculum Vitae for Roger Phelps, undated

<sup>60</sup> Curriculum Vitae for Tass Meli, undated

<sup>61</sup> Curriculum Vitae for Thai Law, undated

<sup>62</sup> Justin Taylor was previously Aquacell's Operations Manager.

<sup>63</sup> Aquacell, *Key Personnel*, March 2019.

<sup>64</sup> Aquacell, *Organisation Chart March 2019*.

<sup>65</sup> Aquacell, *Organisation Chart July 2018*.

<sup>66</sup> Aquacell, *1 Bligh Street; Operation and Maintenance Manual; Recycled Water Treatment (Revision D)*, 25 June 2015.

---

it has demonstrated its ability to operate the infrastructure in accordance with the arrangements set out in its management plans (*Infrastructure Operating Plan* and *Recycled Water Quality Plan*).

Aquacell advised that it monitors capacity and plans its development needs through several mechanisms, including:

- Monitoring operational and maintenance performance – monitoring the Service Calendar to assess the extent to which scheduled activities are being completed; and through manager perception.
- Staff training and performance review – a training register is used as a “road map” for individual learning requirements (particularly for graduates); annual performance reviews provide a mechanism for setting performance KPIs and identifying training needs.
- Operations meetings – are held fortnightly; these meetings, which are held fortnightly, provide a forum for discussion of current activity (recently completed and planned) and issues; performance against KPIs is also periodically discussed. A sample of minutes of the meeting held on 22 March 2019 was provided for review.

These mechanisms are considered appropriate for an organisation of Aquacell’s nature and size.

***Notification to IPART:***

This obligation requires that, in the event that the Licensee ceases to have the technical, financial and organisational capacity to carry out the activities authorised by the Licence, it must report this to IPART immediately in accordance with the *Reporting Manual*. The *Reporting Manual*<sup>67</sup> reiterates the requirement for immediate notification.

On the basis of observations made during the audit, Aquacell has maintained the capacity to carry out the activities authorised by the Licence and there has been no requirement to report the contrary to IPART.

---

**Recommendations**

There are no recommendations in respect of this obligation.

---

**Opportunities for improvement**


No opportunities for improvement have been identified in respect of this obligation.

---

---

<sup>67</sup> IPART, *Network Operators’ Reporting Manual* (Issue No: 6), 29 June 2018, table A.1.

**Table C.2**      **Schedule B to the Network Operator's Licence – Clause B4**

Clause	Requirement	Compliance Grade
<b>Network Operator's Licence cl.B4</b>	<p>The Licensee must carry out the activities authorised by this Licence in compliance with any requirements of NSW Health that:</p> <ul style="list-style-type: none"> <li>a) IPART has agreed to; and</li> <li>b) are notified from time to time to the Licensee by IPART in writing.</li> </ul>	 <b>No Requirement</b>
<b>Risk</b>	<b>Target for Full Compliance</b>	
<p>This requirement potentially presents high operational risk. Compliance with agreed requirements of NSW Health is essential to ensuring that the activities authorised by the Licence are carried out in a manner that ensures public health and safety.</p>		<p>Evidence that the Licensee is carrying out its authorised activities in compliance with any requirements of NSW Health with which IPART has notified the Licensee that it must comply.</p>
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ Interviews with Aquacell personnel on 2 May 2019.</li> <li>▪ Letter dated 7 December 2017 from IPART to Aquacell (re: <i>Notification of NSW Health Requirements under Licence Clause B4</i>) [referred to but not sighted].</li> </ul>		
<b>Summary of reasons for grade</b>		
<p>In December 2017, Aquacell (along with all other WICA Licensees) was notified of a number of requirements of NSW Health with which it must comply in carrying the activities authorised by the Licence. Aquacell indicated that it had not otherwise been notified of any specific requirements.</p> <p>Review of the notified requirements revealed that none required any action to be taken by Aquacell during the audit period. Accordingly, it was assessed that there was “No Requirement” for compliance with this obligation during the audit period.</p>		
<b>Discussion and notes</b>		
<p>The auditor queried whether Aquacell had been notified, by IPART, of any requirements of NSW Health with which it must comply. The auditor referred to the requirements notified to all WICA Licensees in December 2017; Aquacell indicated that it had not otherwise been notified of any specific requirements.</p> <p>In a letter dated 7 December 2017,<sup>68</sup> IPART notified Aquacell of the following requirements of NSW Health with which it is required to comply under this clause of the Licence:</p> <p><i>“In accordance with clause B4, IPART has agreed to the following requirements of NSW Health:</i></p> <ol style="list-style-type: none"> <li>1. <i>The licensee must consult with NSW Health during the:</i> <ul style="list-style-type: none"> <li>a) <i>detailed risk assessments for drinking and recycled water, as relevant</i></li> <li>b) <i>technology assessments for drinking and recycled water, as relevant</i></li> <li>c) <i>development of management plans for drinking and recycled water, as relevant, and</i></li> <li>d) <i>development of an incident notification protocol with NSW Health for drinking and recycled water, as relevant.</i></li> </ul> </li> </ol>		

<sup>68</sup> Letter dated 7 December 2017 from IPART to Aquacell (re: *Notification of NSW Health Requirements under Licence Clause B4*) [referred to but not sighted].

---

2. *The licensee must:*

- a) *provide NSW Health with a copy of the new infrastructure audit report when it is provided to IPART and/or the Minister*
- b) *notify NSW Health when commencing commercial operation*
- c) *consult with NSW Health during the development of (and any amendment of) a procedure for notifying NSW Health of health-related complaints, and*
- d) *include a procedure for notifying NSW Health of health-related complaints, agreed to by NSW Health, in the retail supply management plan.”*

Compliance with each of these requirements is considered in the following:

- Consultation with NSW Health – Aquacell has not undertaken any detailed risk assessments or technology assessments; developed (or made significant changes to) any management plans; or developed an incident notification protocol, during the audit period. Accordingly, there was no requirement to consult with NSW Health in respect of any of these matters during the audit period.
- Licensee actions – during the audit period:
  - no new infrastructure audits were undertaken in respect of the licensed infrastructure;
  - no infrastructure was brought into commercial operation; and
  - there was no development or amendment of a procedure for notifying NSW Health of health-related complaints.

Accordingly, there was no requirement to provide a copy, notify or consult with NSW Health (as appropriate) in respect of any of these matters during the audit period.

---

## **Recommendations**

There are no recommendations in respect of this obligation.


---

## **Opportunities for improvement**

No opportunities for improvement have been identified in respect of this obligation.

---

**Table C.3**      **Schedule B to the Network Operator's Licence – Clause B6**

Clause	Requirement	Compliance Grade
<b>Network Operator's Licence cl.B6</b>	The Licensee must prepare and submit reports in accordance with the Reporting Manual.	 <b>Compliant</b>

Risk	Target for Full Compliance
Non-compliance with this requirement presents no significant risk to the operational safety of the scheme.	Evidence that the Licensee has prepared and submitted the requisite reports to IPART in accordance with the <i>Reporting Manual</i> .

#### Evidence sighted

- Interviews with Aquacell personnel on 2 May 2019.
- Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.
- IPART, *Network Operators' Reporting Manual* (Issue No: 6), 29 June 2018.
- *Network Operator's Licence 09\_003*, issued to Aquacell Pty Ltd (as varied 26 July 2015).
- Aquacell, *Annual Compliance Report 2017/2018* (letter format), dated (signed) 29 August 2018 (Schedule B provided as an MS Excel Workbook).
- Email dated 30 August 2018 from Aquacell to IPART (re: *WICA Annual Reports*).
- Email dated 20 September 2018 from IPART to Aquacell (re: *WICA Annual Reports*).
- Email dated 21 September 2018 from Aquacell to IPART (re: *WICA Annual Reports*).
- Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 17 August 2018.

#### Summary of reasons for grade

Aquacell provided evidence that it had prepared and submitted its *Annual Compliance Report* in accordance with the *Reporting Manual*. Audit of a number of obligations in respect of which reporting may potentially have been required revealed that the need to submit any such reports had not been triggered during the audit period.

Accordingly, Aquacell was assessed as being compliant with this obligation.

#### Discussion and notes

##### Overview:

The auditor sought evidence that the Licensee had prepared and submitted reports in accordance with the *Reporting Manual*. The *Reporting Manual* requires:<sup>69</sup>

- submission of an *Annual Compliance Report* comprising of an Annual Compliance Report Certification, a Non Compliance Schedule (Schedule A) and a report in relation to Performance Indicators (Schedule B); the report is to be submitted to IPART no later than 1 September each year;
- immediate reporting of any non-compliances;
- immediate reporting of any incidents;

<sup>69</sup> IPART, *Network Operators' Reporting Manual* (Issue No: 6), 29 June 2018.



- 
- reporting of changes in the event that they are proposed or occur; such reporting requirements are also reflected in the *Network Operator's Licence*.<sup>70</sup>

#### ***Annual Compliance Report:***

The *Annual Compliance Report*<sup>71</sup> for the 2017/18 financial year was sighted; the report was signed by the Managing Director on 29 August 2018. Email correspondence indicates that:

- the report was submitted on 30 August 2018, which is compliant with the timing requirement;<sup>72</sup>
- IPART requested that reported volumes of recycled water be checked and confirmed, thereby acknowledging receipt of the report;<sup>73</sup> and
- a revised report was submitted, noting that an error had occurred due to flows being reported in kilolitres (kL) instead of megalitres (ML).<sup>74</sup>

A brief review confirmed that the report was in the required format and contained the requisite information.

#### ***Incident and Non-compliance Reporting:***

As reported in Table A.1, there was no requirement to report any incidents during the audit period. Aquacell advised that there was no requirement to report any non-compliances; it is noted that no non-compliances were identified by the Operational Audit in respect of the period 29 April 2017 to 31 May 2018,<sup>75</sup> which covers the majority of the 2017/18 reporting period.

#### ***Reporting of Changes:***

Aquacell advised that there had been no changes that required reporting under the provisions of the *Reporting Manual* and/or the *Network Operator's Licence* during the audit period. A review indicates that there was no requirement to report in respect of any of these obligations during the audit period; obligations specifically addressed as part of the audit are discussed in Tables C.1, C.4, C.8, C.9 and C.10).

---

### **Recommendations**

There are no recommendations in respect of this obligation.

---

### **Opportunities for improvement**

No opportunities for improvement are identified in respect of this obligation.

---

---

<sup>70</sup> *Network Operator's Licence 09\_003*, issued to Aquacell Pty Ltd (as varied 26 July 2015).

<sup>71</sup> Aquacell, *Annual Compliance Report 2017/2018* (letter format), dated (signed) 29 August 2018 (Schedule B provided as an MS Excel Workbook).


<sup>72</sup> Email dated 30 August 2018 from Aquacell to IPART (re: *WICA Annual Reports*).

<sup>73</sup> Email dated 20 September 2018 from IPART to Aquacell (re: *WICA Annual Reports*).

<sup>74</sup> Email dated 21 September 2018 from Aquacell to IPART (re: *WICA Annual Reports*).

<sup>75</sup> Cobbitty Consulting, *Aquacell (1 Bligh Street) Non-Potable Water Scheme; Operational Audit* (Version 2.0), 17 August 2018.

**Table C.4**      **Schedule B to the Network Operator's Licence – Clause B7**

Clause	Requirement	Compliance Grade
<b>Network Operator's Licence cl.B7</b>	<p>Within 14 days of any change in relation to the following, the Licensee must notify IPART, and provide IPART with details, of the change in accordance with the Reporting Manual:</p> <ul style="list-style-type: none"><li>(a) any source from which the water handled by the Specified Water Industry Infrastructure is derived;</li><li>(b) the Authorised Purposes of the water handled by the Specified Water Industry Infrastructure;</li><li>(c) the identity of each licensed retail supplier or public water utility that has access to the infrastructure services provided by the Specified Water Industry Infrastructure for the purpose of supplying water to its customers;</li><li>(d) any other water infrastructure to which the Specified Water Industry Infrastructure is connected;</li><li>(e) not applicable;</li><li>(f) not applicable; and</li><li>(g) the arrangements for the disposal of waste from the Specified Water Industry Infrastructure.</li></ul>	<div> <b>No Requirement</b></div>
<b>Risk</b>	<b>Target for Full Compliance</b>	
This presents a moderate risk. Notification to IPART is required so that it can assess the impact of the change on the safe operation of the specified water industry infrastructure.	In the event that the Licensee makes any change in respect of the provisions nominated under this obligation, it has provided the requisite notification to IPART.	
<b>Evidence sighted.</b>		
<ul style="list-style-type: none"><li>▪ Interviews with Aquacell personnel on 2 May 2019.</li><li>▪ Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li><li>▪ Aquacell, <i>Infrastructure Operating Plan; Blackwater Recycling Scheme; 1 Bligh Street, Sydney NSW 2000</i> (Revision 4), 23 June 2015 [<i>Infrastructure Operating Plan</i>].</li><li>▪ Aquacell, <i>1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan</i> (Revision 8), 24 June 2015 [<i>Recycled Water Quality Plan</i>].</li><li>▪ IPART, <i>Network Operators' Reporting Manual</i> (Issue No: 6), 29 June 2018.</li><li>▪ <i>Sewer Mining Agreement</i> between Sydney Water Corporation and DEXUS Funds Management Limited, signed 14 August 2009.</li><li>▪ Sydney Water, <i>Consent to discharge industrial trade wastewater</i>, dated 5 June 2014 (for discharge of Reuse - Biomass to Sewer (ZM02) at 1 Bligh Street).</li></ul>		

---

## Summary of reasons for grade

Aquacell has not made, nor does it currently plan to make, any changes in respect of the provisions nominated under this obligation. Accordingly, notification to IPART has not been required and a “No Requirement” compliance grade has been assigned in respect of this obligation.

---

## Discussion and notes

Evidence was sought that Aquacell had not made any changes in respect of the provisions nominated under this obligation or, if it had made any such changes, it had notified IPART within 14 days in accordance with the *Reporting Manual*.

Aquacell advised that it has not, nor does it propose at this stage to make any changes in respect of the nominated provisions. No evidence to the contrary was identified as part of the Audit, as follows:

- The source of water handled by the infrastructure continues to be sewage collected from the office building at 1 Bligh Street or mined from Sydney Water’s Bondi Ocean Outfall Sewer (BOOS) under the terms of *Sewer Mining Agreement*;<sup>76</sup> the term of which is a period of thirty (30) year commencing in 14 August 2009.
  - As discussed in Table C.8, there has been no change to the Authorised Purposes for which the recycled water is used.
  - Aquacell holds the licensed retail supplier for the purpose of supplying water via the infrastructure and remains the only entity that has access to the infrastructure for that purpose.
  - There has been no change to any water infrastructure to which the Specified Water Industry Infrastructure is connected; specifically:
    - a sewer mining connection to the Bondi Ocean Outfall Sewer remains in place and operational; and
    - a trade waste discharge connection to Sydney Water’s O’Connell Street Oviform Sewer remains in place and operational.
  - It is apparent that waste continues to be disposed to sewer. It is noted, however, that the *Trade Waste Agreement*<sup>77</sup> available to the auditor expired in December 2017. Aquacell sought a copy of the current Agreement from DEXUS (which holds the consent); however, this had not been provided to Aquacell at the time of reporting.
- 

## Recommendations

There are no recommendations in respect of this obligation.

---

## Opportunities for improvement

No opportunities for improvement are identified in respect of this obligation.


---

---

<sup>76</sup> *Sewer Mining Agreement* between Sydney Water Corporation and DEXUS Funds Management Limited, signed 14 August 2009.

<sup>77</sup> Sydney Water, *Consent to discharge industrial trade wastewater*, dated 5 June 2014 (for discharge of Reuse - Biomass to Sewer (ZM02) at 1 Bligh Street).

**Table C.5**      **Schedule B to the Network Operator's Licence – Clause B8**

Clause	Requirement	Compliance Grade
<b>Network Operator's Licence cl.B8</b>	<p>[B8.1] The Licensee must undertake any monitoring that is required for the purposes of this Licence, any Plan, the Act or the Regulation in accordance to the requirements of this clause B8.</p> <p>[B8.2] The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan:</p> <ul style="list-style-type: none"><li>a) the date on which the sample was taken;</li><li>b) the time at which the sample was collected;</li><li>c) the point or location at which the sample was taken; and</li><li>d) the chain of custody of the sample (if applicable).</li></ul> <p>[B8.3] The Licensee must ensure that analyses of all samples taken for the purposes of Verification Monitoring are carried out by a laboratory accredited for the specified tests by an independent body acceptable to NSW Health, such as the National Association of Testing Authorities or an equivalent body.</p>	<p>Clauses B8.1, B8.2 and B8.3:</p> <div> <b>Compliant</b></div>
<b>Risk</b>	<b>Target for Full Compliance</b>	
<p>This requirement reflects a high operational risk. It is essential that:</p> <ul style="list-style-type: none"><li>▪ detailed sample records are maintained to ensure traceability in the event of a non-compliance; and</li><li>▪ testing is undertaken by an accredited laboratory to ensure credibility of results.</li></ul>	<p>Evidence that:</p> <ul style="list-style-type: none"><li>▪ the required records have been kept in respect of collected samples; and</li><li>▪ sample analysis has been undertaken by NATA accredited laboratory (or equivalent).</li></ul>	
<b>Evidence sighted.</b>		
<ul style="list-style-type: none"><li>▪ Interviews with Aquacell personnel on 2 May 2019.</li><li>▪ Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li><li>▪ Aquacell, <i>Infrastructure Operating Plan; Blackwater Recycling Scheme; 1 Bligh Street, Sydney NSW 2000</i> (Revision 4), 23 June 2015 [<i>Infrastructure Operating Plan</i>].</li><li>▪ Aquacell, <i>1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan</i> (Revision 8), 24 June 2015 [<i>Recycled Water Quality Plan</i>].</li><li>▪ Envirolab Certificates of Analysis, as referenced.</li><li>▪ Envirolab Chain of Custody records, as referenced.</li><li>▪ Email dated 9 May 2019 from Aquacell to Cobbitty Consulting (re: <i>Aquacell Bligh St Audit Files – Item A1</i>).</li><li>▪ <a href="https://www.nata.com.au/entity_scope/?AccNo=4034&amp;q1=33v&amp;str=&amp;&amp;AccNo=4034">https://www.nata.com.au/entity_scope/?AccNo=4034&amp;q1=33v&amp;str=&amp;&amp;AccNo=4034</a></li></ul>		

---

## Summary of reasons for grade

Aquacell demonstrated that it had collected samples and undertaken water quality monitoring in accordance with the *Recycled Water Quality Plan*. Furthermore, it had retained records in accordance with the requirements; the records included details of the sample date, time, location and sampler and results of laboratory test analysis. The laboratory to which testing was subcontracted is accredited for the specified tests by the National Association of Testing Authorities (NATA).

Accordingly, Aquacell was assessed to be compliant with these requirements.

---

## Discussion and notes

The auditor sought evidence that monitoring had been undertaken pursuant to requirements set out in the Licence, any Plan or otherwise.

Aquacell undertakes ongoing monitoring of water quality, including monthly verification testing for *E. coli*, in accordance with the *Recycled Water Quality Plan*.<sup>78</sup> As evidence that verification monitoring had been undertaken during the audit period, Aquacell provided laboratory test reports, as follows:

- Envirolab Certificate of Analysis No: 193698:
    - sample taken 8 June 2018 and tested on 9 June 2018;
    - results reported 18 June 2018 indicate an *E. coli* value of <1 cfu per 100 ml (i.e. none detected);
    - testing was subcontracted to Sonic Food & Water Testing; Report No: W1811098 is referenced.
  - Envirolab Certificate of Analysis No: 196549:
    - sample taken 18 July 2018 and tested on 19 July 2018;
    - results reported 24 July 2018 indicate an *E. coli* value of <1 cfu per 100 ml (i.e. none detected);
    - testing was subcontracted to Sonic Food & Water Testing; Report No: W1813838 is referenced.
  - Envirolab Certificate of Analysis No: 198507:
    - sample taken 15 August 2018 and tested on 16 August 2018;
    - results reported 20 August 2018 indicate an *E. coli* value of <1 cfu per 100 ml (i.e. none detected);
    - testing was subcontracted to Sonic Food & Water Testing; Report No: W1815849 is referenced.
  - Envirolab Certificate of Analysis No: 200528:
    - sample taken 11 September 2018 and tested on 12 September 2018;
    - results reported 17 September 2018 indicate an *E. coli* value of <1 cfu per 100 ml (i.e. none detected);
    - testing was subcontracted to Sonic Food & Water Testing; Report No: W1817817 is referenced.
  - Envirolab Certificate of Analysis No: 202799:
    - sample taken 11 October 2018 and tested on 12 October 2018;
    - results reported 18 October 2018 indicate an *E. coli* value of <1 cfu per 100 ml (i.e. none detected);
    - testing was subcontracted to Sonic Food & Water Testing; Report No: W1820252 is referenced.
  - Envirolab Certificate of Analysis No: 206333:
    - sample taken 22 November 2018 and tested on 23 November 2018;
    - results reported 28 November 2018 indicate an *E. coli* value of <1 cfu per 100 ml (i.e. none detected);
    - testing was subcontracted to Sonic Food & Water Testing; Report No: W1823437 is referenced.
- 

<sup>78</sup> *Recycled Water Quality Plan*, section 8 (table 8b).

- 
- Envirolab Certificate of Analysis No: 208024:
    - sample taken 13 December 2018 and tested on 15 December 2018;
    - results reported 18 December 2018 indicate an *E. coli* value of <1 cfu per 100 ml (i.e. none detected);
    - testing was subcontracted to Sonic Food & Water Testing; Report No: W1825577 is referenced.
  - Envirolab Certificate of Analysis No: 209680:
    - sample taken 17 January 2019 and tested on 18 January 2019;
    - results reported 23 January 2019 indicate an *E. coli* value of <1 cfu per 100 ml (i.e. none detected);
    - testing was subcontracted to Sonic Food & Water Testing; Report No: W1901122 is referenced.
  - Envirolab Certificate of Analysis No: 211337:
    - sample taken 12 February 2019 and tested on 13 February 2019;
    - results reported 20 February 2019 indicate an *E. coli* value of <1 cfu per 100 ml (i.e. none detected);
    - testing was subcontracted to Sonic Food & Water Testing; Report No: W1903047 is referenced.

These tests covered each month during the audit period except March 2019; no test was undertaken in March as the plant was off-line.<sup>79</sup>

As noted, all testing was subcontracted to Sonic Food & Water Testing. Sonic Healthcare Limited (trading as Sonic Food & Water Testing) holds NATA Accreditation No: 4034, which includes accreditation for testing of *Escherichia coli* (*E. coli*) in recycled waters.<sup>80</sup>

Aquacell also provided copies of the relevant Envirolab *Chain of Custody* forms for samples corresponding to each of the abovementioned verification tests. Name of sampler, time and date of sample and location (Bligh Street) was identified in each case. A single sample was taken on each occasion; each sample was identified by job/sample number (193698-1, 196549-1, etc. respectively), thereby correlating with the resultant Certificates of Analysis.

---

## Recommendations

There are no recommendations in respect of this obligation.

---

## Opportunities for improvement

No opportunities for improvement are identified in respect of this obligation.


---

---

<sup>79</sup> Email dated 9 May 2019 from Aquacell to Cobbitty Consulting (re: *Aquacell Bligh St Audit Files - Item A1*).

<sup>80</sup> [https://www.nata.com.au/entity\\_scope/?AccNo=4034&q1=33v&str=&&AccNo=4034](https://www.nata.com.au/entity_scope/?AccNo=4034&q1=33v&str=&&AccNo=4034)

**Table C.6**      **Schedule B to the Network Operator's Licence – Clause B9**

Clause	Requirement	Compliance Grade
<b>Network Operator's Licence cl.B9</b>	Whenever the Licensee Holder makes a significant amendment to a Plan, the Licensee must provide a copy of the amended Plan to IPART at the same time that it provides a copy to the approved auditor engaged to prepare a report as to the adequacy of the amended Plan, as required under the Regulation.	<div> <b>No Requirement</b></div>
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a minimal operational risk. Whilst it is essential that the adequacy of significant changes to a Plan is assessed, failure to provide a copy of the amended Plan to IPART presents a lesser risk.	Evidence that, in the event of a significant change to a Plan(s), the Licensee has provided a copy of the amended Plan(s) to IPART at the same time as it provides a copy to an approved auditor engaged to provide a report as to the adequacy of the amended Plan.	
<b>Evidence sighted.</b>		
<ul style="list-style-type: none"><li>Interviews with Aquacell personnel on 2 May 2019.</li><li>Aquacell, <i>Infrastructure Operating Plan; Blackwater Recycling Scheme; 1 Bligh Street, Sydney NSW 2000</i> (Revision 4), 23 June 2015 [<i>Infrastructure Operating Plan</i>].</li><li>Aquacell, <i>1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan</i> (Revision 8), 24 June 2015 [<i>Recycled Water Quality Plan</i>].</li><li>Aquacell, <i>Periodic Review of Regulatory Documentation</i> register, record of reviews dated July 2016 and August 2017.</li></ul>		
<b>Summary of reasons for grade</b>		
As there had been no changes, significant or otherwise, to either the <i>Infrastructure Operating Plan</i> or the <i>Recycled Water Quality Plan</i> during the audit period, it was assessed that there was “No Requirement” for compliance with this obligation during the audit period.		
<b>Discussion and notes</b>		
Aquacell advised that the current versions of both the <i>Infrastructure Operating Plan</i> and <i>Recycled Water Quality Plan</i> had been in place throughout the audit period. This indicated that there had been no changes, significant or otherwise, during that period.		
The following evidence supported Aquacell’s advice:		
<ul style="list-style-type: none"><li>the current version of the <i>Infrastructure Operating Plan</i> is dated 23 June 2015;</li><li>the current version of the <i>Recycled Water Quality Plan</i> is dated 24 June 2015;</li><li>Aquacell’s <i>Periodic Review of Regulatory Documentation</i> register<sup>81</sup> indicated that the current versions of both the <i>Infrastructure Operating Plan</i> and <i>Recycled Water Quality Plan</i> had been reviewed in July 2016 and August 2017, although there was no record of a review having been undertaken in 2018. The review comments in each case indicated: “No changes to operation. All information current. No update to document required.”</li></ul>		

<sup>81</sup> Aquacell, *Periodic Review of Regulatory Documentation* register, record of reviews dated July 2016 and August 2017.



---

On the basis that there had been no changes to either the *Infrastructure Operating Plan* or the *Recycled Water Quality Plan* during the audit period, there was no requirement to provide a copy of an amended Plan to IPART or to engage an auditor to prepare a report as to the adequacy of any amended Plan.

---

### **Recommendations**

There are no recommendations in respect of this obligation.

---


### **Opportunities for improvement**

No opportunities for improvement are identified in respect of this obligation.

---



**Table C.7**      **Schedule B to the Network Operator's Licence – Clause B10.5**

Clause	Requirement	Compliance Grade
<b>Network Operator's Licence cl.B10.5</b>	The Licensee must not contravene the Licensee's Code of Conduct to the extent that it makes the Licensee responsible or liable for the matters set out in it.	 <b>Compliant</b>

Risk	Target for Full Compliance
This requirement reflects high operational and commercial risks. Failure to operate in accordance with agreed protocols and defined responsibilities may result in a failure to deliver the licensed services in a safe and effective manner, and associated liability on the part of the Licensee.	Evidence that the Licensee has operated in accordance with, and has not contravened, the provisions of the Licensee's Code of Code.

#### Evidence sighted.

- Interviews with Aquacell personnel on 2 May 2019.
- Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.
- *Building Services Contract* between DEXUS Funds Management Limited and Aquacell Pty Ltd, signed 12 December 2014.
- CBRE Service No: SO7078601\_231206, dated 30 July 2018.
- *Sewer Mining Agreement* between Sydney Water Corporation and DEXUS Funds Management Limited, signed 14 August 2009.
- Sydney Water, *Consent to discharge industrial trade wastewater*, dated 5 June 2014 (for discharge of Reuse - Biomass to Sewer (ZM02) at 1 Bligh Street).
- Aquacell, *Aquacell Monthly Report (for August 2018)*, 17 October 2019.
- Aquacell, *Aquacell Monthly Report (for January 2019)*, 5 April 2019.
- Aquacell, *Aquacell Monthly Report (for March 2019)*, 9 April 2019.

#### Summary of reasons for grade

Aquacell is responsible for operation and maintenance only of the licensed infrastructure under a *Building Services Contract* with the owner/its client, DEXUS. DEXUS has in place a *Sewer Mining Agreement* and a *Trade Waste Agreement* with Sydney Water, both of which are required to facilitate operation of the infrastructure.

Although there is no Licensee's Code of Conduct as such, Aquacell demonstrated that it has continued to support DEXUS in meeting its obligations under these agreements. On the basis of the observations made during the audit, and in the absence of any evidence to the contrary, it is assessed that Aquacell has complied with the intent of this obligation during the audit period.

#### Discussion and notes

Aquacell operates and maintains the infrastructure (principally a treatment plant) at 1 Bligh Street under a *Building Services Contract*<sup>82,83</sup> with the owner/its client, DEXUS. As the Licensee, Aquacell does not have any Licensee's Codes of Conduct in place in relation to the licensed infrastructure.

<sup>82</sup> *Building Services Contract* between DEXUS Funds Management Limited and Aquacell Pty Ltd, signed 12 December 2014.

---

DEXUS holds the following relevant agreements with Sydney Water:

- *Sewer Mining Agreement*<sup>84</sup> – signed on 14 August 2009 for a period of thirty (30) years from the date of execution; and
- *Trade Waste Agreement*<sup>85</sup> – the copy available to the auditor signed on 5 June 2014 and covered a period of 48 months from 1 December 2013; it therefore expired on 1 December 2017. As reported in Table C.4, Aquacell has sought a copy of the current Agreement from DEXUS (which holds the consent); however, this had not been provided at the time of reporting.

Water used for potable top-up purposes is supplied to DEXUS by Sydney Water under a standard customer arrangement.

Whilst there is no Licensee's Code of Conduct as such, it is reasonable to assume that Aquacell must comply with the terms of both the *Sewer Mining Agreement* and the *Trade Waste Agreement* pursuant to its obligations under the *Building Services Contract* with DEXUS.

Review of monthly reports (submitted to DEXUS) for August 2018,<sup>86</sup> January 2019<sup>87</sup> and March 2019<sup>88</sup> reveal that trade waste characteristics remained within the 'Acceptance Standards' nominated in the *Trade Waste Agreement*<sup>89</sup> throughout the period covered by the reports (total daily and long term average daily mass conditions were not assessed by the auditor). This demonstrates (as an example) compliance with the terms of the *Trade Waste Agreement*.

Under the provisions of the *Sewer Mining Agreement*,<sup>90</sup> DEXUS "... has sole responsibility for and control of all aspects of the construction, operation, maintenance and removal of the Facility [treatment plant] and Connection Points ...". Although no maintenance activities related to the sewer mining infrastructure were recorded in the *Site Service Log*, observations made during the audit site inspection revealed that the infrastructure was in working order; operation and maintenance of the treatment plant is discussed in Table A.3 and Table A.4. On the basis of the observations made, it is assessed that Aquacell continues to support DEXUS in meeting its obligations under the *Sewer Mining Agreement*.

Although there is no Licensee's Code of Conduct, on the basis these observations and in the absence of any evidence to the contrary, it is assessed that Aquacell has complied with the intent of this obligation during the audit period.

Notwithstanding, as an opportunity for improvement (**OFI-1BS-2019.03**), it is suggested that Aquacell takes action to ensure that it holds copies of all agreements relevant to the licensed activities, including (for example) a copy of the current *Trade Waste Agreement*.

---

## Recommendations

There are no recommendations in respect of this obligation.

---

---

<sup>83</sup> The *Building Services Contract* was most recently extended to cover the period from 1 August 2018 to 30 June 2019 under CBRE Service No: SO7078601\_231206, dated 30 July 2018.

<sup>84</sup> *Sewer Mining Agreement* between Sydney Water Corporation and DEXUS Funds Management Limited, signed 14 August 2009 (sighted during a previous audit).

<sup>85</sup> Sydney Water, *Consent to discharge industrial trade wastewater*, dated 5 June 2014 (for discharge of Reuse - Biomass to Sewer (ZM02) at 1 Bligh Street).

<sup>86</sup> Aquacell, *Aquacell Monthly Report (for August 2018)*, 17 October 2019.

<sup>87</sup> Aquacell, *Aquacell Monthly Report (for January 2019)*, 5 April 2019.

<sup>88</sup> Aquacell, *Aquacell Monthly Report (for March 2019)*, 9 April 2019.

<sup>89</sup> Sydney Water, *Consent to discharge industrial trade wastewater*, dated 5 June 2014 (for discharge of Reuse - Biomass to Sewer (ZM02) at 1 Bligh Street), Schedule 1.

<sup>90</sup> *Sewer Mining Agreement* between Sydney Water Corporation and DEXUS Funds Management Limited, signed 14 August 2009, clause 5.3.


---

### Opportunities for improvement

The following opportunity for improvement is identified in respect of this obligation:

- **OFI-1BS-2019.03:** It is suggested that Aquacell takes action to ensure that it holds copies of all agreements relevant to the licensed activities, including (for example) a copy of the current *Trade Waste Agreement*.
-

**Table C.8**      **Schedule B to the Network Operator's Licence – Clause B11**

Clause	Requirement	Compliance Grade
Network Operator's Licence cl.B11	If the Licensee proposes to operate the Specified Water Industry Infrastructure to supply water for an end-use which is not set out in the most recent Water Quality Plan provided to IPART, the Licensee must notify IPART in writing at least 3 months before commencing such operation.	<div> No Requirement</div>
Risk	Target for Full Compliance	
This presents a moderate risk. Notification to IPART is required so that it can assess the impact of the change on the safe operation of the Specified Water Industry Infrastructure.	Evidence that, in the event that the Licensee has proposed to operate the Specified Water Industry Infrastructure to supply water for an end-use which is not set out in the most recent Water Quality Plan provided to IPART, the Licensee has provided the requisite 3 months notification before commencing such operation.	
Evidence sighted.		
<ul style="list-style-type: none"><li>Interviews with Aquacell personnel on 2 May 2019.</li><li>Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li><li>Aquacell, <i>1 Bligh Street Recycled Water Scheme; Recycled Water Quality Management Plan (Revision 8)</i>, 24 June 2015.</li></ul>		
Summary of reasons for grade		
Aquacell did not, during the audit period or subsequently, commence distribution of water for an end-use that is not set out in the Water Quality Plan (in this case the <i>Recycled Water Quality Plan</i> ) most recently provided to IPART. Accordingly, there was “No Requirement” for compliance with this obligation during the audit period.		
Discussion and notes		
Aquacell advised that it had not commenced (or proposed to commence) operation of the Specified Water Industry Infrastructure to supply water for an end-use which is not set out in its Water Quality Plan (in this case the <i>Recycled Water Quality Plan</i> ) most recently supplied to IPART, either during the audit period or subsequently. No evidence to the contrary was identified during the audit.		
The <i>Recycled Water Quality Plan</i> <sup>91</sup> identifies the purposes for which recycled water will be used as “ <i>toilet flushing and cooling towers</i> ”. Aquacell demonstrated that water is supplied into separate storages (owned by its client) assigned to each of these purposes.		
On the basis of Aquacell’s advice and the absence of any evidence to the contrary, it was assessed that there was no requirement notify IPART in compliance with this obligation.		
Recommendations		
There are no recommendations in respect of this obligation.		

<sup>91</sup> *Recycled Water Quality Plan*, section 1.2.1.


---

### **Opportunities for improvement**

No opportunities for improvement are identified in respect of this obligation.

---

**Table C.9**      **Schedule B to the Network Operator's Licence – Clause B12**

Clause	Requirement	Compliance Grade
<b>Network Operator's Licence cl.B12</b>	If an Authorised Person ceases, proposes to cease, or receives notification to cease providing any of the services relating to the activities authorised by this Licence, the Licensee must provide IPART with written notice as soon as practicable but no later than 28 days before the date of cessation of the services. The written notice must include details of how the services previously undertaken by the Authorised Person will continue to be undertaken.	<div> <b>No Requirement</b></div>
<b>Risk</b>	<b>Target for Full Compliance</b>	
This requirement reflects a high operational risk. It is essential that, in the event that an Authorised Person ceases to provide services, alternative arrangements are in place for the provision of such services. Notification to IPART forms part of a mechanism of ensuring that service provision continues and that the licensed activities are fully and effectively implemented.	Evidence that, in the event of an Authorised Person ceasing, proposing to cease or receiving notice to cease providing services related to activities authorised by the Licence, the Licensee has provided written notice to IPART within 28 days of the change occurring.	
<b>Evidence sighted.</b>		
<ul style="list-style-type: none"><li>Interviews with Aquacell personnel on 2 May 2019.</li><li>Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li><li>Network Operator's Licence 09_003 issued to Aquacell Pty Ltd (as varied 26 July 2015).</li></ul>		
<b>Summary of reasons for grade</b>		
There are no Authorised Persons specified in the Licence and Aquacell maintained the capacity to carry out the activities authorised by the Licence throughout the audit period. Accordingly, there was “No Requirement” for compliance with this obligation during the audit period.		
<b>Discussion and notes</b>		
There are no “Authorised Persons” specified in the Network Operator's Licence <sup>92</sup> for the recycled water scheme at 1 Bligh Street. Aquacell (the Licensee) undertakes or directly supervises all activities authorised by the Licence.		
As reported in Table C.1, Aquacell demonstrated that it has continued to have the technical and organisational capacity to carry out the activities authorised by the Licence, both during the audit period and subsequently. Accordingly, there has been no need to nominate/identify any Authorised Persons to ensure that capacity is maintained.		
On this basis, it is assessed that there was no requirement to notify IPART of any cessation of service provision by an Authorised Person during the audit period.		
<b>Recommendations</b>		
There are no recommendations in respect of this obligation.		

<sup>92</sup> Network Operator's Licence 09\_003 issued to Aquacell Pty Ltd (as varied 26 July 2015).


---

### **Opportunities for improvement**

No opportunities for improvement are identified in respect of this obligation.

---

**Table C.10**      **Schedule B to the Network Operator's Licence – Clause B13**

Clause	Requirement	Compliance Grade
<b>Network Operator's Licence cl.B13</b>	<p>This clause B13 applies if the Licensee has brought any of the Specified Water Industry Infrastructure into commercial operation.</p> <p>The Licensee must:</p> <ol style="list-style-type: none"> <li>notify IPART in accordance with the Reporting Manual that it has brought the relevant Specified Water Industry Infrastructure into commercial operation; and</li> <li>provide such notification within 10 days after it has brought the relevant Specified Water Industry Infrastructure into commercial operation.</li> </ol>	 <b>No Requirement</b>
<b>Risk</b>	<b>Target for Full Compliance</b>	
<p>This presents a relatively low operational risk. Whilst it is essential that the Licensee has approval to bring new infrastructure into commercial operation before doing so, there is a lessor risk associated with failing the notify IPART that it has brought that infrastructure into operation.</p>		<p>Evidence that the Licensee has notified IPART in writing within 10 days of bringing any Specified Water Industry Infrastructure into operation.</p>
<b>Evidence sighted.</b>		
<ul style="list-style-type: none"> <li>Interviews with Aquacell personnel on 2 May 2019.</li> <li>Site inspection of infrastructure at 1 Bligh Street on 2 May 2019.</li> <li>IPART, <i>Network Operators' Reporting Manual</i> (Issue No: 6), 29 June 2018.</li> </ul>		
<b>Summary of reasons for grade</b>		
<p>Aquacell did not bring any additional Specified Water Industry Infrastructure into commercial operation during the audit period. Accordingly, there was "No Requirement" for compliance with this obligation.</p>		
<b>Discussion and notes</b>		
<p>As previously reported in Table A.2, the Licensee did not bring any Specified Water Industry Infrastructure into commercial operation during the audit period. All infrastructure in operation at the time of the audit had been so since prior to the audit period.</p> <p>Accordingly, there was no requirement for the Licensee to notify IPART that any such Specified Water Industry Infrastructure had been brought into commercial operation.</p>		
<b>Recommendations</b>		
<p>There are no recommendations in respect of this obligation.</p>		
<b>Opportunities for improvement</b>		
<p>No opportunities for improvement are identified in respect of this obligation.</p>		







# Environmental Management Procedure

## Contents

Document Creation and Review.....	3
Document Control.....	3
1. Introduction.....	4
1.1 Reference Documents .....	4
1.2 Roles and Responsibilities .....	4
2. environment policy .....	4
3. ENVIRONMENTAL RISK ASSESSMENT and register .....	5
4 Control and monitoring measures .....	5
5 Environmental Monitoring .....	6
1.3 5.1 Water quality monitoring .....	6
1.4 5.2 Site Inspection.....	6
1.5 5.3 Audit .....	6

## Document Creation and Review

Revision No	Author	Reviewed By	Approved By	Date
EM030-1		Annabelle Caspersz		5 December 2011
EM030-2		P. Coulton		6 February 2012
	Revised name from Clearwater Technology to Aquacell			
EM030-3		Tass Meli	Colin Fisher	27 December 2019
	Review and update references and company details			

## Document Control

Revision No	Status	Issued To		Date
		Name	Organisation	
EM030-3		iPRO system	Frasers Property	TBA

# 1. INTRODUCTION

The aim of the Environment Management Procedure (EMP) is to detail the potential environmental impacts from Aquacell operations, and the mitigation measures to be employed to minimise or alleviate these potential impacts.

## 1.1 Reference Documents

**Table 1 – Environmental Management Procedure Reference Documents**

<b>Title</b>	<b>Document Number</b>
Risk Assessment	RM030-5
Risk Register	RM020

## 1.2 Roles and Responsibilities

<b>Roles</b>	<b>Responsibilities</b>
CEO Aquacell	Approving the Environmental Policy
Technical Manager	Approving site specific environmental risks assessment and risk register
Project Engineer	Preparing site specific risk assessment and risk register

# 2. ENVIRONMENT POLICY

Aquacell is committed to responsible environmental management, and conducts all operations considering environmental sustainability. Aquacell manages all operations and activities in compliance with applicable environmental laws, regulations and licences.

Aquacell provides sustainable solutions in the water recycling industry. All projects are executed in a manner that is sensitive to both the client's and the community's environmental management objectives.

Environmental management objectives include:

- Complying with all relevant environmental, contractual, legal, licence and other requirements
- Minimising direct and indirect emissions to land, air and water
- Considering local environmental conditions and the community
- Ensuring our suppliers and contractors consider our environmental requirements
- Being prepared to respond to environmental incidents and mitigating impacts.

Environmental management objectives are met through:

- The identification of environmental aspects during HACCP workshops
- Evaluation of the potential impacts of these aspects on the environment.
- Implementation of a management plan to mitigate or prevent those impacts.
- Applying principles of hazard identification, risk assessment and risk control following the Risk Management Procedure.
- Monitoring risks and reporting any change in risk conditions.
- Continual review, upgrade and improvement of objectives and targets within the EMP.
- Including environmental risk in Safe Work Method Statements

In order to maintain a high level of environmental awareness all employees, supervisors and managers work in accordance with formal environmental practices. All requirements for environmental responsibility are integrated into work practices and decision making, and every person, contractor and company operating on behalf of Aquacell is held accountable for their environmental performance.

Aquacell management shall ensure that all employees, contractors, suppliers and companies operating on Aquacell work sites are aware of the Environmental policy.

### **3. ENVIRONMENTAL RISK ASSESSMENT**

Where Aquacell is involved in project construction activities, a site specific environmental risk assessment approach is undertaken to establish the environmental risks associated with the project. This is conducted by the Project Engineer, and approved by the Technical Manager.

Environmental risks are captured in the project Hazard Analysis and Critical Control Point (HACCP) study and the design Hazard and Operability Analysis (HAZOP). The outcomes are recorded in the project HACCP and HAZOP studies with control measures considered as noted below.

### **4 CONTROL AND MONITORING MEASURES**

Control and monitoring measures are implemented to manage environmental risks of Aquacell projects that may be identified in the hazard analysis studies. These risk mitigating measures can vary from site to site but are generally as listed below.

- Production of Class A water, utilising ultrafiltration membrane bioreactor technology for recycled water treatment and first-stage disinfection
- Online monitoring with alarms, and sewer bypass where available
- UV disinfection as a second-stage disinfection barrier
- On-line monitoring of UV disinfection process using UV photo-intensity monitoring
- The use of chlorination as a third-stage disinfection barrier
- The implementation of HACCP from design to commissioning
- Applying appropriate buffer zones to maintain sufficient distances from surface waters where irrigation of recycled water is carried out.
- Proper signage of recycled water storage tanks and irrigation schemes in accordance with AS 1319 and plumbing code requirements
- Use of lilac-coloured pipe and plumbing fittings to indicate recycled water, in accordance with relevant plumbing codes
- Compliance with plumbing code requirements for backflow prevention and discharge from the greywater system to sewer
- The use of enclosures and submersible pumps to reduce noise
- The use of aerobic processes and odour scrubbing and venting to stacks, to mitigate the risk of odour generation
- The implementation of ongoing servicing, monitoring, third-party auditing and reporting systems to maintain consistent recycled water quality
- Community information and education programs where required designed to assist residents, facility management and visitors to become familiar with the benefits and precautions associated with a recycled water scheme
- Management of the irrigation scheme based on flow monitoring, site and soil assessment where the responsibility of Aquacell

## **5 ENVIRONMENTAL MONITORING**

### **1.3 5.1 Water quality monitoring**

Refer to online monitoring – pH, DO, turbidity, UVT.

Refer to ongoing monitoring programs – under Monitoring Procedure.

### **1.4 5.2 Site Inspection**

Refer to Weekly and Monthly Inspection Checklist.

### **1.5 5.3 Audit**

Refer to Quality Procedure – annual internal and biennial external audit



# 1 Bligh Street, Sydney Environmental Management Plan

---

Aquacell Pty Ltd

Unit 1/10b Production Place, Penrith NSW 2750, Australia

PO Box 7091, Leura NSW 2780, Australia

P: +61 2 4721 0545 F: +61 2 4721 2761

[www.aquacell.com.au](http://www.aquacell.com.au)

ABN 79 072 487 015



# Environmental Management Plan

PROJECT NAME	1 Bligh Street - Sydney
ORGANISATION NAME	Aquacell Pty Limited
ADDRESS	Unit 1/10B Production Place Jamisontown NSW 2750
PHONE	(02) 4721 0545
FAX	(02) 4721 2761
EMAIL	info@aquacell.com.au
ACN/ABN	79 072 487 015



## 1.1 Document Creation and Review

Revision No	Author	Reviewed By	Approved By	Date
1	C Jackson	M Conciatore		24 April 2009
2	P Jakes	P Jakes	P Jakes	12 Feb 2010
3	P. Coulton		C. Fisher	15 Aug 2011

## 1.2 Document Control

Revision No	Status	Issued To		Date
		Name	Organisation	
1	Controlled	Nick Dillon	Grocon	24 April 2009



1.1	Document Creation and Review.....	3
1.2	Document Control .....	3
2	PROJECT DETAILS.....	5
2.1	Project Scope of Works .....	5
2.2	Project Plan.....	5
3	PROJECT SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN.....	6
3.1	Environment Roles and Responsibilities .....	6
3.2	Roles and Responsibility Definitions.....	7-9
3.3	Environment Policy.....	10
4	RISK ASSESSMENTS.....	11-12
5	SAFE WORK METHOD STATEMENTS.....	13
6	SKILLS & COMPETENCIES.....	13
7	CONSULTATION / COMMUNICATION.....	13
8	ELECTRICAL EQUIPMENT.....	13-14
9	HAZARDOUS SUBSTANCES / DANGEROUS GOODS.....	14
10	PLANT & EQUIPMENT.....	15
11	EMERGENCY RESPONSE.....	15
12	ACCIDENTS/INCIDENTS.....	16
13	NON-CONFORMANCES.....	16
14	IMPROVEMENT.....	16
15	WASTE MANAGEMENT.....	17
16	RECORDS MANAGEMENT.....	17
17	ENVIRONMENTAL DESIGN CONTROLS (HAZOP, HACCP).....	17
18	ENVIRONMENTAL REPORTING.....	17
19	CONTRACTOR ENVIRONMENTAL REPORTING.....	18
20	PROJECT ENVIRONMENTAL APPENDICES .....	19



## **2 PROJECT DETAILS**

The following Environmental Management Plan is for all project work that is to be conducted at 1 Bligh Street, Sydney for Grocon Constructors Pty Limited as per Contract Number - C178.

Aquacell Pty Limited has been sub-contracted by Grocon Constructors Pty Limited to supply and install blackwater treatment services and associated works.

This Environmental Management Plan is written with the intent of covering the construction and commissioning phases. After commissioning, the Recycled Water Quality Management Plan and the Operations and Maintenance Manual take precedence in the event of conflict.

### **2.1 Project Scope of Works**

The detailed Project Scope is attached in an appendix.

### **2.2 Project Plan**

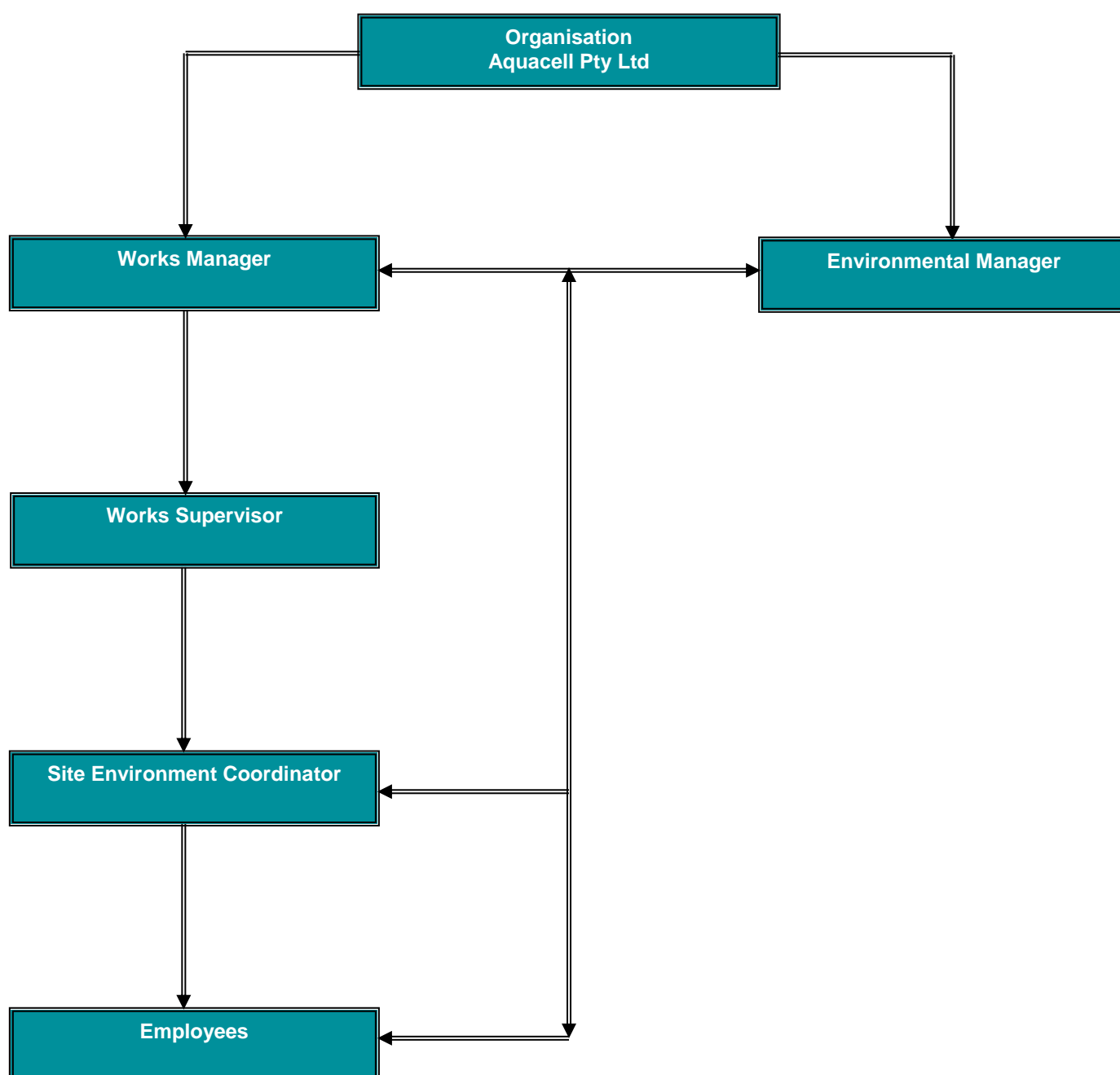
The Aquacell Project Plan is attached in an appendix.



### 3 PROJECT SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

#### 3.1 Environmental Management Roles and Responsibilities

Aquacell Pty Limited provides the following key trained and competent personnel on site.





### 3.2 Roles and Responsibility Definitions

The roles and responsibilities of employees within Aquacell Pty Limited regarding environmental management are listed below.

#### ENVIRONMENTAL MANAGER

The Environmental Manager (refer to the current Aquacell employee list) is responsible for environmental compliance at the workplace and duties include:

- implementing the Environmental Management Plan;
- ensuring environmental consideration is paramount in all design, fabrication and construction activities;
- communicating with the principal contractor to eliminate any non-conformances, provide environmental inspections and reports;
- being a part of the planning and design stages of trade activities;
- deciding when training on environmental issues is required;
- leading by example and promoting sound environmental practices at every opportunity;
- ensuring all equipment and plant meets environmental standards;
- reviewing and coordinating environmental investigations and managing any project Non-Conformances Reports, Corrective Action Reports and following up on recommendations;
- coordinating environmental management meetings and programs;
- monitoring compliance with the Environmental Management Plan;
- reporting to the principal contractor monthly on project environmental status, including inspection and test records and non-conformance reports.

**Signed by:** \_\_\_\_\_ **Date:** \_\_\_\_ / \_\_\_\_ / \_\_\_\_

#### WORKS MANAGER

The Works Manager (refer to the current Aquacell employee list) is responsible for project environmental compliance at the workplace and duties include:

- managing the Environmental Management Plan throughout the project duration;
- ensuring environmental consideration is paramount in all project design, fabrication and construction activities;
- liaising with the Environmental Manager and Principal Contractor to eliminate any non-conformances, provide environmental inspections and reports;
- being a part of the planning and design stages of trade activities;
- leading by example and promoting sound environmental practices at every opportunity;
- ensuring all equipment and plant meets environmental standards;
- reviewing and coordinating environmental investigations with the Environmental Manager and managing any project Non-Conformances Reports, Corrective Action Reports and following up on recommendations;
- attending environment meetings and programs;
- reviewing monthly project environmental status, including inspection and test records and non-conformance reports.

**Signed by:** \_\_\_\_\_ **Date:** \_\_\_\_ / \_\_\_\_ / \_\_\_\_



## **WORKS SUPERVISOR**

The Works Supervisor (refer to the current Aquacell employee list) is responsible for environmental compliance at the workplace and duties include:

- adhering to the Environmental Management Plan;
- observing all environmental standards and regulations;
- making sure that work tasks are undertaken with environmental compliance as a key deliverable;
- planning to do all work with environmental consideration, including any interface with other work activities;
- providing advice and assistance on environmental matters to employees;  
being part of the planning and design stages of trade activities;
- deciding when training on environmental issues is required;  
actioning environmental reports and carrying out workplace environment inspections;
- being part of the environmental reporting process, including environmental inspections,  
non - conformance and corrective action reporting;
- leading by example and promoting sound environmental practices at every opportunity;  
undertaking inspections of the contracted or planned works to ensure that environmental control measures are implemented and effective; and
- other environmental duties as directed by the Works Manager and Environmental Manager.

**Signed by:** \_\_\_\_\_ **Date:** \_\_\_\_ / \_\_\_\_ / \_\_\_\_

## **SITE ENVIRONMENTAL CO-ORDINATOR**

The Site Environmental Coordinator (refer to the current Aquacell employee list) is responsible for environmental compliance at the workplace and duties include:

- communicating environmental performance to the Works Supervisor;
- assisting the Works Supervisor to implement the Environmental Management Plan;
- providing advice on environmental issues to all employees;
- being a part of planning and design of work activities;
- making sure environmental compliance follows through into work procedures;
- reviewing environmental reports and inspections;
- being a part of environmental meetings and programs;
- insisting on sound environmental practices at all times;
- setting up and conducting environmental site inductions;
- conducting environmental inspections and filling out NCR and CAR forms;
- communicating with the Works Manager/Works Supervisor on environmental matters;
- making sure records are kept under these guidelines;
- being part of environmental inspections and ensuring recommendations are completed; and
- other environmental duties as directed by the Works Supervisor.

**Signed by:** \_\_\_\_\_ **Date:** \_\_\_\_ / \_\_\_\_ / \_\_\_\_





## EMPLOYEES

All employees of Aquacell are responsible for the following:

- working to ensure that environmental considerations are paramount;
- complying with the Environmental Management Plan;
- reporting all environmental issues to the Site Environmental Coordinator;
- providing suggestion, through consultation, on how to improve environmental performance ;
- seeking assistance if unsure of environmental rules;
- complying with all site environmental methods and procedures as outlined in work tasks and checklists.

**Signed by:** \_\_\_\_\_ **Date:** \_\_\_\_ / \_\_\_\_ / \_\_\_\_



### 3.3 Environment Policy

Aquacell is committed to responsible environmental management, and conducts all operations considering environmental sustainability. Aquacell manages all operations and activities in compliance with applicable environmental laws, regulations and licences.

Aquacell provides sustainable solutions in the water recycling industry. All projects are executed in a manner that is sensitive to both the client's and the community's environmental management objectives.

Environmental management objectives include:

- Complying with all relevant environmental, contractual, legal, licence and other requirements
- Minimising direct and indirect emissions to land, air and water
- Considering local environmental conditions and the community
- Ensuring our suppliers and contractors consider our environmental requirements
- Being prepared to respond to environmental incidents and mitigating impacts.

Environmental management objectives are met through:

- The identification of environmental aspects during HACCP workshops
- Evaluation of the potential impacts of these aspects on the environment.
- Implementation of a management plan to mitigate or prevent those impacts.
- Applying principles of hazard identification, risk assessment and risk control following the Risk Management Procedure.
- Establishment of a monitoring and reporting program.
- Continual review, upgrade and improvement of objectives and targets within the EMP.

In order to maintain a high level of environmental awareness all employees, supervisors and managers work in accordance with formal environmental practices. All requirements for environmental responsibility are integrated into work practices and decision making, and every person, contractor and company operating on behalf of Aquacell is held accountable for their environmental performance.

Aquacell management shall ensure that all employees, contractors, suppliers and companies operating on Aquacell work sites are aware of the Environmental policy.

**Director/Manager – Colin Fisher :** \_\_\_\_\_ **Date:** \_\_\_\_ / \_\_\_\_ / \_\_\_\_



## 4 ENVIRONMENTAL RISK ASSESSMENT & REGISTER

A site specific environmental risk assessment (ERA) approach is to be undertaken to establish the environmental risks associated with every Aquacell project. This is conducted by the Project Manager, and approved by the Environmental Manager.

The Environmental Risk Assessment is conducted in accordance with AS/NZS - 4360: 2004 – Risk Management.

The outcomes are recorded in the Risk Assessment and Risk Register.

Risk registers identify, analyse and manage risks. They should also include a probability of the risk occurring, a risk rating and a summary of the mitigation (the actions taken in advance to reduce the probability and/or impact of the event).

The risk register states activities that can occur during the construction, commissioning or operation stages of the water treatment system, and then evaluates the risks associated with the activities and their potential impact to the surrounding local environment. Actions can then be planned and prioritised to mitigate the risks.

### Completing the Risk Register

**Evaluate the Environmental Aspect** - The risk register is firstly divided into environmental aspects that the waste water treatment plant may impact upon such as water, hazardous substances, waste, noise etc.

**Describe the Activity?** - What activity is undertaken during construction / commissioning / operations that can impact an environmental aspect

**How Does This Activity Impact the Local Environment?** – What potential impact(s) could the activity have on the local environment?

**State Existing Controls and Mitigation Measures** - List down all the existing controls and mitigation measures currently in place to limit or eliminate the risk associated with the activity.

**State What Monitoring of the Existing Controls Currently Exists** - What methods of checking that the controls are implemented and are effective are currently in place?

**Rank the Adequacy of Existing Controls** – Using the number scale set, rank the adequacy of the existing controls in monitoring and controlling the risk presented by the set activity.

**Rank the Consequences of the Activity** – Using the number scale provided by the risk register, rank the likely consequence with regard to an environmental aspect.

**Rank the Likelihood of the Activity Occurring** – Using the number scale provided by the risk register, rank the likelihood of the risk associated with the activity occurring.

**Level of Risk** – The level of risk is calculated as likelihood X consequence and is represented as either a low, moderate or high level of risk in the risk register.



**Evaluate if the Risk is Significant**- If the level of risk is high, and then the risk can be deemed as being significant. A significant risk is one that requires immediate action(s) to lower the level of risk rating.

**Establish any Actions to be Done to Limit the Risk** - High risk items may require further action to reduce their rating, record the action and the person(s) responsible for the action. Date due and the status of the action.

### **Monitor and review**

It is necessary to monitor the effectiveness of all steps of the risk management process. Monitoring is defined as the act of conducting a planned sequence of observations or measurements of control parameters of the CPs/CCPs to detect when they have failed or if they are about to fail. This forms part of the Monitoring Procedure.

### **Checklist**

A Risk Register must be completed and signed at the completion of the risk assessment. A copy will be retained within the project file. The Site Risk Register will be based on the Corporate Risk Register while also taking into account any specific site requirements.

Risk Assessment Form & Register in attached appendices.



## **5 SAFE WORK METHOD STATEMENTS**

Aquacell Pty Ltd has undertaken an assessment of the risks associated with the work activities and has provided to the principal contractor a written Safe Work Method Statement (SWMS).

Aquacell Pty Ltd maintains and updates the SWMS and provides the updated SWMS to the principal contractor.

Aquacell Pty Ltd has provided induction training to all employees.

Aquacell Pty Ltd identifies the potential hazards of the proposed work activities, assess the risks involved and develops control measures to eliminate or minimise the risks.

The risk management process is carried out in consultation with employees.

Refer to Safe Work Method Statements in attached appendices.

## **6 SKILLS & COMPETENCIES**

Aquacell Pty Ltd has assured that all employees are trained and competent to perform all tasks in a way that is safe and does not adversely impact on themselves, others or the environment.

Refer to Training Register in attached appendices.

## **7 CONSULTATION / COMMUNICATION**

Aquacell Pty Ltd promotes the active participation of all employees in environmental decisions. Employees are consulted and given opportunity, encouragement and training to be pro-actively involved in environmental matters affecting the organisation and their work activities.

Refer to Daily Pre-Start forms in attached appendices.

Refer to Tool Box talk forms and register in attached appendices.

## **8 ELECTRICAL EQUIPMENT**

Aquacell Pty Ltd ensures that the use of electrical wiring, equipment portable tools and extension leads is in accordance with applicable codes and standards including AS 3012, Electrical Installation – Construction and Demolition Sites and AS 3000, Wiring Rules

Aquacell Pty Ltd ensures that all electrical equipment brought on site is listed in the Electrical Equipment Register. The register is completed prior to the commencement of works and maintained for the duration of the works on site.

All electrical equipment including leads, portable power tools, junction boxes and earth leakage or residual current devices is inspected and tested by a suitably qualified person and labelled with a tag of currency before being used on site.

Refer to Safe Work Method Statement – No. 1 in attached appendices.

Refer to Electrical Tagging Register in attached appendices.



## **9 HAZARDOUS SUBSTANCES / DANGEROUS GOODS**

Aquacell Pty Ltd provides a current MSDS to the Principal Contractor for all products and substances to be used for the work activity.

Before a product or substance is used for the work activity, Aquacell Pty Ltd reviews the MSDS to determine if the product is hazardous.

All employees involved in the use of hazardous products are provided with information and training to allow safe completion of the required task.

As a minimum standard, all safety and environmental precautions for use listed on the MSDS are followed when using the substance and are included in the SWMS.

No products or substances, including chemicals or fibrous substances are brought into the workplace without a current MSDS.

All products and substances to be brought to the workplace are to be documented.

Aquacell Pty Ltd considers the following when selecting chemicals and substances for use on site:

- Flammability and exclusivity
- Toxicity (short and long term)
- Carcinogenic classification, if relevant
- Chemical action and instability
- Corrosive properties
- Safe use and engineering controls
- Environmental hazards and
- Storage requirements

All storage and use of hazardous substances and dangerous goods is in accordance with the MSDS and legislative requirements.

All hazardous substances and dangerous goods are stored in their original containers with the label intact at all times.

Refer to Hazardous Substances / Dangerous Goods register in attached appendices.

Refer to attached Hazardous Substances MSDS in attached appendices.



## **10 PLANT & EQUIPMENT**

Aquacell Pty Ltd carries out regular inspections and maintenance of all plant and equipment as per our System Management Plan and Service Agreement

Aquacell Pty Ltd ensures plant and equipment is inspected and maintained in accordance with the relevant standard and manufacturer's recommendations.

The inspection and maintenance history of each plant will be routinely documented as per our IOP.

Aquacell Pty Ltd ensures that control measures (CCP's) are implemented and documented for all plant & supplied equipment, including any operational factors deemed as high risk.

The effect of all plant & equipment on the workplace is considered and documented within the Aquacell Pty Ltd - Aquacell HACCP and HAZOP checklists.

Pre-start checks, maintenance schedules and fault reports are noted to the Works Supervisor, documented in plant log books and made available to relevant parties on request.

Refer to Plant & Equipment register in attached appendices.

Refer to Plant & Equipment pre-start checklist in attached appendices.

Refer to Plant & Equipment regular checklist in attached appendices.

## **11 EMERGENCY RESPONSE**

Aquacell Pty Ltd recognises that emergencies in the workplace can affect people both physically and psychologically and affect business continuity.

- Aquacell Pty Ltd has put in place an incident & emergency management procedure to ensure that:
- There is a co-ordinated and controlled response to emergencies,
- The established procedures are tested to enable a rapid, appropriate and comprehensive response at the time of the emergency.
- Emergency recovery management meets the needs of those who have been affected by the incident and ensures a rapid return to normal site operations,
- Appropriate support and training is provided to all employees with roles in dealing with emergencies including critical incidents, and
- Review mechanisms are comprehensive and properly reported.

Refer to Aquacell's Emergency Response Procedure in attached appendices.



## **12 ACCIDENTS/INCIDENTS**

### **INJURIES**

All injuries are reported to the designated First Aid Officer in the workplace.

Aquacell Pty Ltd records all injuries on the Register of Injuries.

Where the injury requires medical attention or off site treatment, Aquacell Pty Ltd completes an Incident Investigation Report.

Copies of Incident Investigation Reports are provided to the principal contractor, as required.

### **INCIDENTS**

For all incidents involving near misses, property/plant damage or injury to the public or the environment, Aquacell Pty Ltd investigates and records the details in an Incident Investigation Report.

Copies of completed Incident Investigation Reports are provided to the principal contractor, as required.

### **NOTIFIABLE INCIDENTS**

Aquacell Pty Ltd reports all notifiable incidents to the relevant Authority.

Where such an incident has occurred, Aquacell Pty Ltd considers whether the site needs to be preserved for investigation by the relevant Authority.

### **RECORD KEEPING**

Aquacell Pty Ltd keeps records of incidents and injuries in accordance with Statutory requirements.

Refer to the Register of Injuries in attached appendices.

Refer to the Incident Investigation Report in attached appendices.

## **13 NON-CONFORMANCES**

Refer to Project Non Conformance Reporting Procedure in attached appendices.

## **14 IMPROVEMENT**

Refer to Project Corrective Action Reporting Procedure in attached appendices.





## **15 WASTE MANAGEMENT**

The methodology for the removal of waste from site is documented within the Risk Assessment and Register.

Aquacell Pty Ltd clearly identifies the means for recycling of site blackwater within the project scope.

Aquacell Pty Ltd continuously monitors the blackwater treatment system influent and effluent flows with inline flow meters.

Refer to project scope – Blackwater Plant

## **16 RECORDS MANAGEMENT**

Environmental Records for the Bligh St project will be kept for a minimum of ten (10) years  
Environmental records will be made available for Grocon to review and audit if required.

## **17 ENVIRONMENTAL DESIGN CONTROLS (HAZOP, HACCP)**

Aquacell Pty Ltd will apply the corporate hazard identification and risk analysis (HACCP) checklist to the Bligh Street project.

Aquacell Pty Ltd will apply the corporate Hazard and operability analysis checklists (HAZOP) and an Environmental risk assessment register to the Bligh Street project.

Refer to the Aquacell Corporate HACCP Checklist in appendice

Refer to the Aquacell Corporate HAZOP Checklist in appendice

## **18 ENVIRONMENTAL REPORTING**

Aquacell Pty Limited must provide Grocon Constructors Pty Limited prior to the conclusion of each month written reports summarising the effectiveness of the environment plan and Project environment status records which must include but not limited to inspection and test records and non- conformance reports.



## **19 CONTRACTOR ENVIRONMENTAL AUDITING**

Secondary Sub-contractor's that Aquacell Pty Limited frequently use are plumbing and electrical contractors.

Aquacell Pty Limited will undertake environmental audits of all secondary sub-contract work ensuring that their work is inspected, tested and any non-conformance and corrective action reports completed and all issues raised will be promptly rectified.

All project site plumbing work will be to AS 3500, Plumbing Code of Australia

All project site electrical work will be to AS 3000

Aquacell Pty Ltd will ensure that all sub-contractors follow the Aquacell Environmental Management Plan and their performance will be monitored regularly. The monthly project environmental status report submitted to Grocon Constructors Pty Limited will include a section on sub-contractors environmental performance.



## 20 PROJECT ENVIRONMENTAL APPENDICES

Appendix – Document Description	Document Number
Project Scope	1
Project Plan	2
Risk Assessment & Register	3
Corporate HACCP Checklist	4
Corporate HAZOP Checklist	5
Safe Work Method Statement	6
Safe Work Method Statement	7
Safe Work Method Statement	8
Safe Work Method Statement	9
Safe Work Method Statement	10
Safe Work Method Statement	11
Safe Work Method Statement	12
Training Register	13
Daily Pre-Start Form	14
Tool Box Talk Form	15
Tool Box Talk Register	16
Electrical Tagging Register	17
Hazardous Substances / Dangerous Goods Register	18
Hazardous Substances MSDS	19
Plant & Equipment Register	20
Plant & Equipment Pre-Start Checklist	21
Plant & Equipment Regular Checklist	22
Aquacell Incident & Emergency Response Procedure	23
Register of Injuries	24
Incident Investigation Report	25
Project Non Conformance Reporting Procedure	26
Project Corrective Action Reporting Procedure	27



**New South Wales**

**Water Industry Competition Act 2006**

**Grant of Retail Supplier's Licence  
Licence No. 09\_004R**

I, Phillip Costa MP, Minister for Water, under section 10 of the  
*Water Industry Competition Act 2006*, grant a retail supplier's licence to:

Aquacell Pty Ltd (ACN 072 487 015)

to supply water by means of water industry infrastructure.

Subject to:

- a) the conditions imposed by the *Water Industry Competition Act 2006*,
- b) the conditions imposed under clause 13 and set out in Parts 1 and 2 of  
Schedule 2 of the *Water Industry Competition (General) Regulation 2008*,
- c) the conditions imposed by the Minister in the attached Schedule A, and
- d) the standard conditions imposed by the Minister in the attached Schedule B  
being standard Ministerially-imposed licence conditions for retail suppliers in  
the water industry.

A handwritten signature in blue ink, reading "Phillip Costa", written over a dotted line.

Minister for Water

Dated this 2nd day of February 2010

## **SCHEDULE A - SPECIAL MINISTERIALLY-IMPOSED LICENCE CONDITIONS FOR AQUACELL RETAIL SUPPLIERS LICENCE**

This schedule sets out the conditions which the Minister has determined to impose pursuant to section 13(1)(b) of the *Water Industry Competition Act 2006*. In addition to these Ministerially-imposed conditions, licensees are subject to obligations imposed by the Act, the Regulation or the standard Ministerially-imposed licence conditions set out in Schedule B. Licensees are encouraged to obtain independent advice as to the conditions and obligations of their licence.

### **1 Activities authorised**

This Licence authorises the Licence Holder and the persons specified in Table 1 to supply water by means of water industry infrastructure specified in Table 2 for the purposes as specified in Table 3 to the persons or classes of persons specified in Table 4 within the area specified in Table 5, subject to the conditions imposed by or under the Act, the Regulation and this Licence.

**Table 1 Authorised persons**

---

Not applicable

---

**Table 2 Specified water industry infrastructure**

---

Infrastructure used for the production, treatment, filtration, storage, or conveyance of non-potable water.

---

**Table 3 Authorised purposes**

---

Cooling tower make-up  
Toilet flushing

---

**Table 4 Specified persons or classes of persons**

---

Owners and occupiers of the specified areas of operations set out in Table 5

---

**Table 5 Specified area of operations**

---

1 Bligh Street, Sydney NSW

---

## INTERPRETATION AND DEFINITIONS

### Interpretation

In these Licence conditions, unless the context requires otherwise:

- (a) the singular includes the plural and vice versa;
- (b) headings are used for convenience only and do not affect the interpretation of these Licence conditions;
- (c) a reference to a document includes the document as modified from time to time and any document replacing it;
- (d) the word "person" includes a natural person and any body or entity whether incorporated or not;
- (e) references to clauses are references to clauses in these Licence conditions.

### Definitions

Expressions used in these Licence conditions that are defined in the Act or the *Regulation* have the meanings set out in the Act or the Regulation.

In these Licence conditions:

Act	means the <i>Water Industry Competition Act 2006</i>
Licence Holder	means the person who is the holder of this Licence
Minister	means the Minister responsible for the <i>Act</i>
Regulation	means the <i>Water Industry Competition (General) Regulation 2008</i>



## **SCHEDULE B - STANDARD MINISTERIALLY-IMPOSED LICENCE CONDITIONS FOR AQUACELL PTY LTD RETAIL SUPPLIERS LICENCE**

This schedule provides a comprehensive list of standard conditions which the Minister has determined to impose pursuant to section 13(1)(b) of the Water Industry Competition Act 2006 (the Act). In addition to these standard Ministerially-imposed conditions, Licence Holders are subject to obligations imposed by the Act, the Regulation or the Ministerially-imposed licence conditions set out in Schedule A. Licence Holders are encouraged to obtain independent advice as to the conditions and obligations of their licence. The Minister may vary the conditions in this schedule or impose new conditions, provided there is no inconsistency with the Act or the Regulation.

### **B1 Ongoing capacity to operate**

The Licence Holder must have the technical, financial and organisational capacity to carry out the activities authorised by this Licence. If the Licence Holder ceases to have this capacity, it must report this to IPART immediately.

### **B2 Obtaining appropriate insurance**

B2.1 Before commencing to supply water through the water industry infrastructure under this Licence, the Licence Holder must:

- (a) obtain appropriate insurance sufficient for the size and nature of the activities authorised under this Licence,
- (b) demonstrate that the insurance obtained is appropriate by providing a report to IPART from an Insurance Expert certifying that in the Insurance Expert's opinion the type and level of insurance obtained by the Licence Holder is appropriate for the size and nature of the activities authorised under this Licence, and
- (c) provide a copy of each certificate of currency of insurance obtained to IPART.

B2.2 The report from the Insurance Expert must:

- (a) identify the key risks of undertaking the activities authorised under this Licence,
- (b) set out the types and levels of insurance obtained by the Licence Holder in the relation to the activities being undertaken,
- (c) provide reasons as to why the types and levels of insurance are appropriate for the size and nature of the activities being undertaken, and
- (d) if any risks arising from undertaking the activities remain uninsured, provide reasons as to why.

### **B3 Maintaining appropriate insurance**

B3.1 The Licence Holder must maintain appropriate insurance sufficient for the size and nature of the activities authorised under this Licence.

B3.2 From time to time when requested in writing by IPART, the Licence Holder must provide a report to IPART, in the manner, form and time specified by IPART, from an Insurance Expert certifying that in the Insurance Expert's opinion the type and level of insurance obtained by the Licence Holder is appropriate for the size and nature of the activities authorised under this Licence.

B3.3 Whenever there is a change in the type, level or period of insurance held by the Licence Holder in relation to the activities authorised under this Licence, the Licence Holder must provide a copy of the certificate of currency to IPART within 10 days of the change being made.

#### **B4 Complying with NSW Health requirements**

The Licence Holder must carry out the activities authorised by this Licence in compliance with any requirements of NSW Health that IPART has agreed to and are notified from time to time to the Licence Holder by IPART in writing.

#### **B5 Reporting in accordance with the Reporting Manual**

The Licence Holder must prepare and submit reports in accordance with the applicable Reporting Manual issued by IPART and available from IPART's website [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au).

#### **B6 Reporting information in relation to the Register of Licences**

Whenever any of the following information changes, the Licence Holder must provide the updated information to IPART within 14 days of the change:

- (a) each licensed network operator or public water utility from whose water infrastructure the licensee supplies water to its customers,
- (b) each source from which the water handled by the infrastructure is derived,
- (c) whether or not any of the licensee's customers are small retail customers.
- (d) details of any order under section 54 of the Act by which the Licence Holder is declared to be a retailer of last resort.

#### **B7 Provision of copy of Plans**

B8.1 Whenever the Licence Holder makes any change to its Plans, the Licence Holder must provide a copy of the amended plan to IPART.

B8.2 Whenever the Licence Holder makes a significant change to its Plans, the Licence Holder is to provide a copy of the amended plan to IPART at the same time it provides a copy to the approved auditor engaged to provide a report to the adequacy of the changed Plans as required under the Regulation.

### **INTERPRETATION AND DEFINITIONS**

#### **Interpretation**

In these Licence conditions, unless the context requires otherwise:

- (a) the singular includes the plural and vice versa;
- (b) headings are used for convenience only and do not affect the interpretation of these Licence conditions;
- (c) a reference to a document includes the document as modified from time to time and any document replacing it;
- (d) the word "person" includes a natural person and any body or entity whether incorporated or not;
- (e) references to clauses are references to clauses in these Licence conditions.

#### **Definitions**

Expressions used in these Licence conditions that are defined in the Act or the *Regulation* have the meanings set out in the Act or the *Regulation*.

In these Licence conditions:



Act	means the <i>Water Industry Competition Act 2006</i>
Gazette	means the NSW Government Gazette
Insurance Expert	means an independent reputable insurer registered with the Australian Prudential Regulation Authority or an independent reputable insurance broker registered under the <i>Insurance (Agents and Brokers) Act 1984 (Cth)</i>
IPART	means the Independent Pricing and Regulatory Tribunal of New South Wales established under the <i>Independent Pricing and Regulatory Tribunal Act 1992</i>
Licence	means the network operator's licence / retail supplier's licence authorising the Licence Holder to construct, maintain and operate water industry infrastructure / supply water or provide sewerage services by means of water industry infrastructure in accordance with section 10 of the Act
Licence Holder	means a person who is the holder of a Licence
Minister	means the Minister responsible for the Act
NSW Health	means the NSW Department of Health
Plans	means any retail supply management plan required to be prepared by a Licence Holder under the <i>Water Industry Competition (General) Regulation 2008</i>
Regulation	means the <i>Water Industry Competition (General) Regulation 2008</i>
Reporting Manual	means the applicable Network Operator Reporting Manual or Retail Suppliers Reporting Manual as produced by IPART and available on IPART's website <a href="http://www.ipart.nsw.gov.au">www.ipart.nsw.gov.au</a>

## Appendix A7 Disqualified Corporations Checks

### Disqualified corporations checks

**Table B.1 Disqualified corporation checks: Aquacell Pty Ltd**

	Company name and ABN/ACN	Individual names	WIC Act (disqualified/not qualified)	ASIC banned and disqualified (disqualified/not qualified)	D&B Public record inquiry (adverse information)
<b>Applicant corporation</b>					
	Aquacell Pty Ltd  ABN 79 072 487 015	Colin Fisher (sole Director and sole Secretary)	Not disqualified	Not disqualified	N/A
<b>Relevant related entities</b>					
	PRJM Pty Ltd  ABN 65 133 002 829	Michael McCarthy (Director)	Not disqualified	Not disqualified	N/A



## Certificate of Currency

**Class of Business:** Professional Indemnity

**Policy Number:** P-PI/0/284074/20/L-3

**Policyholder:** Aquacell Pty Ltd (previously known as Clearwater Technology Pty Ltd)

**Business Description:** Provision of advice and design in connection with waste water treatment product, Remote monitoring of treatment plant, Provision of advice and design in relation to rainwater to drinking water plants in accordance with the Australian Drinking Water Guidelines (2011)

**Insurance Period:** From 4:00pm on 30/06/2020 to 4:00pm on 30/06/2021  
Australian local time in the State or Territory where this **policy** was purchased

**Indemnity Limit:** \$5,000,000 any one **claim** and \$10,000,000 in the aggregate during the **insurance period**

**Deductibles:** \$ 5,000 including **defence costs** by the **insured** for each **claim**

**Retroactive Date:** Unlimited excluding any known claims or circumstances

**Insurer:** DUAL Australia Pty Ltd on behalf of certain underwriters at Lloyd's

**Signature:**

A handwritten signature in black ink, appearing to be "DC", written over a horizontal line.

Damien Coates - Chief Executive Officer, DUAL Asia Pacific

DUAL AUSTRALIA PTY LTD

Tel: 1300 769 772

Email : [reception@dualaustralia.com.au](mailto:reception@dualaustralia.com.au)

Website : [www.dualaustralia.com.au](http://www.dualaustralia.com.au)

Registered under ABN 16 107 553 257

## Certificate of Currency



### Primary Liability Insurance Certificate of Currency

This Certificate:

- Is issued as a matter of information only and confers no rights upon the holder.
- Does not amend, extend or alter the coverage afforded by the Policy(ies) listed.
- Is only a summary of the cover provided.
- Reference must be made to the current Policy wording for full details.
- Is current at the date of issue only.

This certificate confirms that the under mentioned Policy is effective in accordance with the details shown:

**INSURED:** Aquacell Pty Ltd, Aqstore Pty Ltd

**POLICY NUMBER:** SY-CAS-20-430954

**PERIOD OF INSURANCE:** From: 30 June 2020  
To: 30 June 2021  
Both dates 4:00pm local standard time

**LIMIT OF INDEMNITY:** AUD20,000,000 any one Occurrence in respect of public liability and in the aggregate during the Period of Insurance in respect of Product liability.

For and on behalf of  
Liberty Specialty Markets



29 June 2020  
Date

Liberty Specialty Markets is a trading name of Liberty Mutual Insurance Company (ABN 61 086 083 605). Incorporated in Massachusetts, U.S.A. (The liability of members is limited)

This Certificate and the documents which it includes by reference are provided solely for the prospective insured named in this Certificate and may not be relied on in whole, or in part, by any other person or entity. The information in this Certificate is confidential and is intended for the use of the individual or entity named above. If you have received this communication in error, please notify us immediately by telephone 02 8298 5800 and return or securely destroy the Certificate and any enclosed documents. Thank you.

**icare™  
workers  
insurance**

## certificate of currency nsw

Libby Fisher  
AQUACELL PTY LIMITED  
Suite 602 6a Glen Street  
MILSONS POINT NSW 2061

**issue date**

23/05/2020

**print date**

27/05/2020

Dear Sir/Madam

### statement of coverage

The following policy of insurance covers the full amount of the employer's liability under the *Workers Compensation Act 1987 (NSW)*.

### valid until

30/06/2021

**policy number**

110422401

**legal name**

AQUACELL PTY LIMITED

**trading name**

AQUACELL

**abn**

79 072 487 015

**acn**

072 487 015

**industry classification number (WIC)**

461900 Machinery & Equipment Wholesaling nec

**number of  
workers\***

9

**wages/units<sup>+</sup>**

~~19,465,000~~

\* Number of workers includes contractors/deemed workers

+ Total wages/units estimated for the current period

## important information

Principals relying on this certificate should ensure it is accompanied by a statement under section 175B of the *Workers Compensation Act 1987 (NSW)*. Principals should also check and satisfy themselves that the information is correct and ensure that the proper workers compensation insurance is in place, ie. compare the number of employees on site to the average number of employees estimated; ensure that the wages are reasonable to cover the labour component of the work being performed; and confirm that the description of the industry/industries noted is appropriate. A principal contractor may become liable for any outstanding premium of the sub-contractor if the principal has failed to obtain a statement or has accepted a statement where there was reason to believe it was false.

Yours faithfully,



Jason McLaughlin  
General Manager, Workers Compensation - Underwriting  
icare workers insurance



# Certificate of Currency

Locked Bag 2138  
North Sydney NSW 2059  
Australia  
Telephone: 1800 426 021  
Fax: 02 9995 1034  
[www.zurich.com.au](http://www.zurich.com.au)

This is to certify that the undermentioned contracts of insurance are current at the time of issue. Subject to the limitations, exclusions, definitions and conditions of the policy wording or product disclosure statement applying to each contract of insurance.

---

**Policy Number**

021091PZBI

**Insured Name**

AQUACELL Pty Ltd

**Period of Insurance**

From 30/06/2020 at 4.00pm to 30/06/2021 at 4.00pm

**Date of Issue**

09/07/2020

**Location of Issue**

NORTH SYDNEY NSW 2059

**The information above relates to each contract of insurance.**

# Zurich Steadfast Business Insurance

## Situation

35-37 MARIGOLD STREET REVESBY NSW 2212

## Interest Insured/Policy Limit(s)

### Business Property Section

Buildings	Not Insured
Plant, Machinery &Contents (including stock)	\$60,000
Removal of Debris	As per Policy Wording

## Situation

Suite 602 6A GLEN STREET MILSONS POINT NSW 2061

## Interest Insured/Policy Limit(s)

### Business Property Section

Buildings	Not Insured
Plant, Machinery &Contents (including stock)	\$40,000
Removal of Debris	As per Policy Wording

### Theft Section

Cover	Sum Insured
Contents (Including Stock):	Not Insured
Contents (Excluding Stock):	\$10,000
Stock in Trade	Not Insured
Cigarettes and Tobacco Goods:	Not Insured

### Glass Section

Covering	Internal/External
Sum Insured	Replacement Value

### General Property Section

Cover	Sum Insured
Unspecified items	\$10,000 Limited to a maximum of \$2,500 for any one item
Specified items	

### Optional Limitations of Cover

Restricted Cover	Does Not Apply
Fire	Included

## Situation

124 14 LOYALTY ROAD NORTH ROCKS NSW 2151

## Interest Insured/Policy Limit(s)

### Business Property Section

Buildings	Not Insured
Plant, Machinery &Contents (including stock)	\$600,000
Removal of Debris	As per Policy Wording

**Business Interruption Section-Income- Income**

Indemnity Period	12 Months
Actual income	\$1
Payroll	Not insured

Optional Extensions	
Additional Increased cost of working	\$200,000
Additional Claims Preparation Costs	\$80,000

**General Page Notes**

The Additional Increased Costs of Working and Claims Preparation Costs applies at each location across the policy.

**Situation**

Lot E200 81 RIVERSTONE PARADE RIVERSTONE NSW 2765

**Interest Insured/Policy Limit(s)****Business Property Section**

Buildings	Not Insured
Plant, Machinery &Contents (including stock)	\$150,000
Removal of Debris	As per Policy Wording