

Wilton (Bingara Gorge) Recycled Water Scheme

Operational Audit

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Independent Pricing and Regulatory Tribunal

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1. Executive Summary

1.1 Auditor Declaration

This report presents the findings of an Operational Audit of Veolia Water Solutions and Technologies (Australia) Pty Ltd's compliance with the requirements of its Network Operator's Licence (Licence No: 10_012) and the relevant provisions of the *Water Industry Competition (General) Regulation 2008* as they relate to the Wilton (Bingara Gorge) Recycled Water Scheme.

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*¹ 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, Veolia Water Solutions and Technologies (Australia) Pty Ltd (Veolia), was found to have designed and constructed and to be operating and maintaining the Bingara Gorge Recycled Water Scheme in full compliance with the assessed audit criteria, with the exception of the following:

- *WIC Reg Sched 1 cl.7(4)(a) – Non-compliant Insignificant:*

Veolia demonstrated that, in most respects, it is fully implementing, and is carrying out its water quality management activities in accordance with principles documented in, the Sewage and Recycled Water Quality Management Plan. This was evident from the effective monitoring and testing processes that are being implemented, as well as the conduct of system analysis reviews and the implementation of change management processes.

The critical limit setting for "Flow to the Chlorine Contact Tank" in the SCADA system was, however, found to be inconsistent (less stringent) than specified in the Sewage and Recycled Water Quality Management Plan and, more particularly, outside the validated limits.

- *Network Operator's Licence cl.B3.3 – Non-compliant Significant:*

Comparison of certificates of currency for insurance cover held currently and at the time of the previous (2016) Operational Audit revealed that there had been several changes in both the insurer and the amount of cover (which had been substantially reduced). Comparison of certificates of currency for insurance cover held currently and insurance cover held at the time an Insurance Expert's Report was prepared in 2015 revealed similar findings (all changes had occurred during the audit period). Accordingly, there has been a requirement to

¹ IPART, *Audit Guideline for Greenfield Schemes; Water Industry Competition Act 2006 (NSW)*, July 2013.

notify IPART of changes to insurers and a change in the limit of cover; however, there is no evidence that such notification has been provided.

- *Network Operator's Licence cl.B8.2 – Non-compliant Insignificant:*

Veolia demonstrated that monitoring is undertaken in accordance with requirements set out in the Licence, the Sewage and Recycled Water Quality Management Plan and the Infrastructure Operating Plan, and that samples taken for the purposes of Verification Monitoring are analysed in a NATA (National Association of Testing Authorities) accredited laboratory. However, analysis of sampling records revealed that it does not always record the date and time at which samples are taken.

1.3 Recommendations

The following recommendations have been made as a result of this audit:

- **REC-BG-2018.01:** It is recommended that Veolia ensures that all critical limits set in the SCADA system are consistent with (or more stringent than) those specified in the *Sewage and Recycled Water Quality Management Plan*, which should be consistent with validated plant performance.
- **REC-BG-2018.02:** It is recommended that Veolia notifies IPART of changes in insurance coverage that were made during the audit period, in accordance with the requirements detailed in the *Reporting Manual*.
- **REC-BG-2018.03:** It is recommended that Veolia takes action to ensure that the time at which each sample for water testing is taken and the date on which it is taken is systematically recorded, together with the other requisite details.

Five (5) opportunities for improvement, which the Licensee may wish to consider, are identified in the body of the report.

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, Veolia Water Solutions and Technologies (Australia) Pty Ltd (Veolia), 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: 10_012) for the Wilton (Bingara Gorge) Recycled Water Scheme.

2.2 Licensee's Infrastructure, Systems and Procedures

The infrastructure, systems and procedures subject to audit are those related to the sewerage and recycled water schemes (the Schemes) that service the Bingara Gorge community development, located at Wilton, approximately 80 kilometres south-west of Sydney (refer <http://www.myrecycledwater.com.au/wilton-rwtp>). The infrastructure comprises:

- a sewage collection network, which delivers sewage to the treatment plant;
- a treatment plant (recycled water plant) that produces recycled water for use in toilet flushing, laundry washing (cold tap only) and irrigation (gardens and golf course); and
- a non-potable (recycled) water distribution/reticulation network.

It is noted that a Permanent Recycled Water Plant (PRWP) was brought into commercial operation in December 2017, replacing the Temporary Recycled Water Plant (TRWP) that had previously been in operation. Prior to the permanent recycled water plant being brought into operation, all recycled water (produced by the temporary plant) was used for golf course irrigation whilst the recycled water distribution/reticulation network was charged with potable water. Recycled water is now supplied for both golf course irrigation and permitted domestic uses.

Veolia Water Solutions and Technologies (Australia) Pty Ltd (ACN 055 254 003) is the Licensee, holding Network Operator's Licence No: 10_012. As Licensee, Veolia owns and/or is responsible for the ongoing operation and maintenance of the sewerage network and the recycled water network in accordance with its Licence Plans including:

- Veolia, *Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan* (Revision 6), April 2018; and
- Veolia, *Bingara Gorge Development; Sewage and Recycled Water Quality Management Plan* (Revision 8), 20 April 2018.

and other relevant supporting documentation.

It is noted that the previous (2016) version of both Licence Plans were in place throughout the audit period (with the exception of the first 2-3 weeks)² and have been adopted as the point of reference for this audit unless otherwise noted or referenced. These are as follows:

- Veolia, *Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan* (Revision 5), July 2016; and
- Veolia, *Bingara Gorge Development; Sewage and Recycled Water Quality Management Plan* (Revision 7), 18 July 2016.

2.3 Audit Method

2.3.1 Audit Scope

The audit comprised an Operational Audit conducted pursuant to the *WIC Act Audit Guidelines*.³ The specific scope of the audit was as defined in IPART's letter to Veolia (reference D18/1876) dated 16 March 2018. The nominated scope addresses selected requirements of:

- the *Water Industry Competition (General) Regulation 2008*; and
- Network Operator's Licence No: 10_012.

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 for Greenfield Schemes; Water Industry Competition Act 2006 (NSW)*, July 2013 (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 one 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 16 May 2018. Some additional items of information and/or clarification were requested following the audit fieldwork; that information was 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 The 2015 versions of the Licence Plans were in place during this time.

³ IPART, *Audit Guideline for Greenfield Schemes; Water Industry Competition Act 2006 (NSW)*, July 2013.

2.3.4 Audit Team

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

Veolia was represented by Subrat Kar, Craig Hancock and Patrick Coultron, together with Lendlease (developer and Authorised person) representative Andrew Carr.⁴ IPART representatives Lil Cullen⁵ and Serge Detoffi attended as observers 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
Compliant	Sufficient evidence has been provided in the audit on which to make a judgment on all requirements, and all requirements have been met.
Non-compliant Insignificant	There is a deficiency in compliance, however, it does not adversely impact on the ability of the Licensee to achieve defined objectives or assure controlled processes, products or outcomes.
Non-compliant Significant	There is a deficiency in compliance which adversely impact on the ability of the Licensee to achieve defined objectives or assure controlled processes, products or outcomes.
No Requirement	There was no requirement to comply with the Licence condition during the audit period.

2.4 Regulatory Regime

The Bingara Gorge scheme operates in accordance with the provisions of a Network Operator's Licence (Licence No: 10_012) 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 for Greenfield Schemes*; *Water Industry Competition Act 2006* (NSW), July 2013;
- *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.

⁴ Andrew Carr in attendance for the site inspection only.

⁵ Lil Cullen in attendance for the site inspection only.

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

Veolia was assessed as being compliant with the audited clauses of the *Water Industry Competition (General) Regulation 2008* related to the *General Obligations of a Network Operator* (refer to **Appendix A** for detailed audit findings), with the exception of the following:

- *WIC Reg Sched 1 cl.7(4)(a) – Non-compliant Insignificant:*

Veolia demonstrated that, in most respects, it is fully implementing, and is carrying out its water quality management activities in accordance with principles documented in, the Sewage and Recycled Water Quality Management Plan. This was evident from the effective monitoring and testing processes that are being implemented, as well as the conduct of system analysis reviews and the implementation of change management processes.

Veolia also demonstrated that the *Sewage and Recycled Water Quality Management Plan* is kept under regular review, and that it has arrangements in place to ensure that it continues to do so.

The critical limit setting for “Flow to the Chlorine Contact Tank” in the SCADA system was, however, found to be inconsistent (less stringent) than specified in the Sewage and Recycled Water Quality Management Plan and, more particularly, outside the validated limits.

Accordingly, Veolia was assessed not to be fully compliant with this obligation; however, given that flows are currently significantly less than the limit (and will remain so in the short-term), the non-compliance is not considered to be significant at this stage (refer **Table A.5** for detailed findings).

Full compliance requires (**REC-BG-2018.01**) that Veolia ensures that all critical limits set in the SCADA system are consistent with (or more stringent than) those specified in the *Sewage and Recycled Water Quality Management Plan*, which should be consistent with validated plant performance.

3.2 Review of Actions

Following issue of the draft report and prior to the final report being issued, Veolia provided evidence⁶ that it had reset the SCADA limits for “Flow to the Chlorine Contact Tank” to be more stringent than those nominated in the *Sewage and Recycled Water Quality Management Plan*, as shown in **Table 3.1**.

Table 3.1 Revised SCADA Limit Settings for Flow to Chlorine Contact Tank

CCP Parameter (Units)	Limit Settings (Plan/Revised Actual)			Comment
	Critical Limit	Shutdown Limit	Alarm Limit	
Flow to Chlorine Contact Tank (m ³ /h)	80 <i>79</i>	78 <i>78</i>	No alarm <i>76</i>	Limits now more stringent than Plan.

Note: Limit settings shown in normal font are limits specified in the *Sewage and Recycled Water Quality Management Plan*; those shown in italic font are actual settings in SCADA.

⁶ Document: 1. Draft Audit Report response WIC Reg Sched 1 cl 7(4)(a).docx, which included a SCADA screen shot showing the revised settings.

Recommendation **REC-BG-2018.01** is therefore considered to have been addressed.

3.3 Opportunities for Improvement

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

- **OFI-BG-2018.01:** It is suggested that Veolia ensures that an infrastructure handover process/procedure that specifically includes certification that the infrastructure complies with its functional requirements and with the relevant codes and standards is developed and implemented.
- **OFI-BG-2018.02:** It is suggested that, as part of the next review of the *Sewage and Recycled Water Quality Management Plan*, Veolia undertakes a review of the HACCP assessment to ensure that it effectively reflects system hazards and risk following the commencement of commercial operation of the permanent recycled water plant and the introduction of recycled water into the recycled water network.

4. Network Operator's Licence – Licence Scope

4.1 Summary of Findings

There were no identified non-compliances in respect of the audited clauses of the *Network Operator's Licence – Licence Scope* (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 clauses of *Network Operator's Licence – Licence Scope*.

5. Schedule B to the Network Operator's Licence

5.1 Summary of Findings

Veolia was assessed as being compliant with the audited clauses of *Schedule B to the Network Operator's Licence* (refer to **Appendix C** for detailed audit findings), with the exception of the following:

- *Network Operator's Licence cl.B3.3 – Non-compliant Significant:*

Comparison of certificates of currency for insurance cover held currently and at the time of the previous (2016) Operational Audit revealed that there had been several changes in both the insurer and the amount of cover (which had been substantially reduced). Comparison of certificates of currency for insurance cover held currently and insurance cover held at the time an Insurance Expert's Report was prepared in 2015 revealed similar findings (all changes had occurred during the audit period). Accordingly, there has been a requirement to notify IPART of changes to insurers and a change in the limit of cover; however, there is no evidence that such notification has been provided.

On this basis, it is assessed that Veolia was non-compliant with this obligation, and given that there were significant changes in the amounts of cover, the non-compliance is considered significant (refer **Table C.3** for detailed findings).

Full compliance requires (**REC-BG-2018.02**) that Veolia notifies IPART of changes in insurance coverage that were made during the audit period, in accordance with the requirements detailed in the *Reporting Manual*.

- *Network Operator's Licence cl.B8.2 – Non-compliant Insignificant:*

Veolia demonstrated that monitoring is undertaken in accordance with requirements set out in the Licence, the Sewage and Recycled Water Quality Management Plan and the Infrastructure Operating Plan, and that samples taken for the purposes of Verification Monitoring are analysed in a NATA (National Association of Testing Authorities) accredited laboratory. However, analysis of sampling records revealed that it does not always record the date and time at which samples are taken.

Accordingly, Veolia was assessed not to be fully compliant with these obligations; however, given that the nature of the non-compliance (principally a failure to record the time at which samples are taken), the non-compliance is not considered to be significant (refer **Table C.6** for detailed findings).

Full compliance requires (**REC-BG-2018.03**) that Veolia takes action to ensure that the time at which each sample for water testing is taken and the date on which it is taken is systematically recorded, together with the other requisite details.

5.2 Review of Actions

Following issue of the draft report and prior to the final report being issued, Veolia provided photographic evidence⁷ showing that sample bottles for samples taken on 7 June 2018 had been labelled with the sample location, the date and the time at which the samples had been taken, and indicated that this information should be captured and recorded by its laboratory services provider. The effectiveness of this action should be assessed as part of a future audit.

5.3 Opportunities for Improvement

The following opportunities for improvement have been identified in respect of the audited clauses of *Schedule B to the Network Operator's Licence*.

- **OFI-BG-2018.03:** It is suggested that Veolia develops and implements a procedure to systematically review its insurance cover each time it is renewed to assess whether there is a need to notify IPART of any changes.
- **OFI-BG-2018.04:** It is suggested that Veolia reviews its ongoing verification monitoring plan and ensures that the documented program is consistent with both verification requirements and actual practice (i.e. the program actually being implemented).
- **OFI-BG-2018.05:** It is suggested that Veolia clearly identifies the specific end uses for which recycled water may be used, consistent with the terminology used in the Licence, in its *Sewage and Recycled Water Quality Management Plan*.

⁷ Photograph of sample bottles taken on 7 June 2018 showing location, date and time of sample.

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.	No Requirement
	[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.	
<hr/>		
Risk	Target for Full Compliance	
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.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">Interviews with Veolia personnel on 16 May 2018.Site inspection of infrastructure at Bingara Gorge on 16 May 2018.Veolia, <i>Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan</i> (Revision 5), July 2016.Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Management Plan</i> (Revision 7), 18 July 2016.SCADA data trends as referenced.MS Excel spreadsheet: <i>BG ALS results.xlsx</i>.Email dated 4 June 2018 from Veolia to Cobbitty Consulting (re: <i>2018 Operational Audit of Bingara Gorge Recycled Water Scheme</i>).MS Excel spreadsheet: <i>PRWP Effluent.xlsx</i>.Email correspondence dated January 2017 between Veolia and Lendlease (re: <i>20 ML Pond E. Coli Levels</i>).		

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- Veolia, *Bingara Gorge Development Sewerage and Recycled Water Industry Infrastructure; Network Operator's, Retail Supplier's Site Specific Emergency Preparedness and Response Plan* (Version 4), 27 April 2017.
 - Veolia, *Bingara Gorge Wastewater and Water Recycling Scheme; Pollution Incident Response Management Plan* (Version 1.1), July 2016.
-

Summary of reasons for grade

Veolia advised that no notifiable incidents had occurred during the audit period. Review of a sample of SCADA trend data for CCP parameters and ongoing verification test results revealed no evidence to the contrary.

According, it is assessed that there was “No Requirement” in respect of these obligations during the audit period.

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.

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

Review of a sample of SCADA data trends for critical control point (CCP) parameters including UF membrane permeate turbidity and chlorine residual on contact tank outlet over the period since the permanent recycled water plant had been commercially operating did not reveal any evidence to the contrary, as follows:

- UF membrane permeate turbidity – remained within the 0.5 NTU critical limit throughout the period, with the exception of 15/16 March 2018 when the plant was not operating.
- Chlorine residual at contact tank outlet – there had been some exceedances which, when investigated were the result of extended distance/lag time between the sampling point and the instrument. Once a drain was installed to ensure a higher turnover rate in the sample line, thereby ensuring that the water at the instrument is reflective of that at the sample point, all readings were in the order of 3.3 mg/L which is within the critical limits.

As well as monitoring CCP parameters within the treatment plant, water quality parameters at the point of discharge to both the recycled water network and the golf course irrigation storage are also monitored via the SCADA system. Review of the chlorine residual of water being discharged into the distribution/reticulation network (not identified as a CCP) revealed values varying from a maximum of 4.15 mg/L down to a minimum of 0.86 mg/L (which is below the critical limit). Veolia advised that investigation of the low value led to the replacement of a faulty probe, following which the minimum residual was 2.01 mg/L, which is greater than the critical limit.

Review of compiled verification monitoring (laboratory test) results revealed the following:

- A summary spreadsheet (file: *BG ALS results.xlsx*), which presents the results of the verification testing for treated water (*E. coli*) prior to the permanent recycled water plant commencing commercial operation and for golf course storage water (*E. coli* and TDS) throughout the audit period revealed that:
 - all treated water test results indicate an *E. coli* value of less than one (<1) per 100 ml (i.e. none detected) throughout the period, which is consistent with the limit.
 - test results for water in the golf course storage indicate that maximum *E. coli* values exceeded the 1000 CFU/100mL limit for samples taken during the period 22 December 2016 to 12 January 2017 and again on 16 February 2017; and TDS levels exceeded the 600 mg/L limit
-

for samples taken on 22 December 2016, 27 January 2017 and 2 March 2017.

- A summary spreadsheet (file: *PRWP Effluent.xlsx*), which presents the results of the verification testing of treated water produced by the permanent recycled water plant commencing 8-weeks prior to the commencement of commercial operation, indicate (for example) an *E. coli* value of less than one (<1) per 100 ml (i.e. none detected) throughout the period, which is consistent with the limit. Other monitored parameters, specifically TDS, SS, BOD, *Clostridium perfringens* and Somatic Coliphage, also remained within the limits as documented in the *Sewage and Recycled Water Quality Management Plan*.⁸

In respect of the abovementioned *E. coli* and TDS exceedances for water in the golf course storage, Veolia advised⁹ that it had taken action in response as follows:

- It advised the golf course Superintendent to cease irrigation as soon as it received the high results. This action is reflected in correspondence between Veolia and Lendlease.¹⁰
- It spot chlorinated the stored water using pool chlorine blocks.
- It continually monitored and actioned the issue whilst maintaining liaison with Lendlease.

Whilst it is not entirely clear that non-compliant water was not used for golf course irrigation purposes (there would have been a lag between the time the sample was taken, test results provided and notification to the golf course Superintendent to cease irrigation), on the basis of Veolia's reported response it is accepted that these exceedances did not constitute a reportable incident.

Accordingly, the results of verification monitoring supported Veolia's advice that there had not been any reportable incidents during the audit period.

It is noted that Veolia's incident management procedures and related documents, which clearly document the requirement for notification, remained in place during the audit period. These include (for example):

- *Network Operator's, Retail Supplier's Site Specific Emergency Preparedness and Response Plan*;¹¹ and
- *Pollution Incident Response Management Plan*.¹²

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.

⁸ *Sewage and Recycled Water Quality Management Plan*, section 6.2.1.2 (table 4).

⁹ Email dated 4 June 2018 from Veolia to Cobbitty Consulting (re: *2018 Operational Audit of Bingara Gorge Recycled Water Scheme*).

¹⁰ Email correspondence dated January 2017 between Veolia and Lendlease (re: *20 ML Pond E. Coli Levels*).

¹¹ Veolia, *Bingara Gorge Development Sewerage and Recycled Water Industry Infrastructure; Network Operator's, Retail Supplier's Site Specific Emergency Preparedness and Response Plan* (Version 4), 27 April 2017.

¹² Veolia, *Bingara Gorge Wastewater and Water Recycling Scheme; Pollution Incident Response Management Plan* (Version 1.1), July 2016.

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) Compliant
	[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) Compliant
	[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.	
Risk	Target for Full Compliance	
<p>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.</p>		<p>Evidence that the written approval of the Minister was obtained prior to bringing new water or sewerage infrastructure into service.</p>
Evidence sighted		
<ul style="list-style-type: none"> Interviews with Veolia personnel on 16 May 2018. Site inspection of infrastructure at Bingara Gorge on 16 May 2018. Veolia, <i>Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan</i> (Revision 5), July 2016. Network Operator's Licence No: 10_012 issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 11 July 2017). Minister for Finance, <i>Notice of approval to bring new infrastructure into commercial operation</i>, 1 November 2017. Email dated 1 June 2018 from IPART to Cobbitty Consulting (re: <i>prior Ministerial approval to commence commercial operation</i>). 		
Summary of reasons for grade		
<p>New infrastructure, specifically the permanent recycled water plant, was brought into commercial operation during the audit period. Veolia demonstrated that the Minister's approval had been provided prior to the commencement of commercial operation and that the Minister's approval had been based on the required audit report (s).</p> <p>Accordingly, Velia was assessed as being compliant with the provisions of both clauses 2(1) and 2(2).</p>		

Discussion and notes

Veolia advised that it had brought new infrastructure, specifically the new (permanent) recycled water plant, into commercial operation during the audit period, on 8 December 2017. It also provided evidence that the Minister had provided approval for the infrastructure to be brought into commercial operation in a *Notice of approval to bring new infrastructure into commercial operation*¹³ dated 1 November 2017.

The *Notice* provided approval for infrastructure described in each of Table 1.2A and Table 3.2A of the Licence. In both cases, the Licence describes (in summary) a treatment plant for the treatment of sewage and production of non-potable water, which is consistent with the infrastructure that was brought into commercial operation.

It is understood that the infrastructure that was previously in operation, i.e. the temporary recycled water plant and the sewerage and recycled water networks were existing and already operating at the time the Licence was granted.¹⁴ Accordingly, the scheme was considered to be a “brownfield” scheme for which Ministerial approval to commence commercial operation was not required.

Accordingly, it was evident that Veolia had not brought any new infrastructure into commercial operation during the audit period without the approval of the Minister, and was therefore compliant with clause 2(1).

The *Notice of approval to bring new infrastructure into commercial operation* referenced the audit reports upon which approval to commence commercial operation had been based. Accordingly, it was apparent that the audit report(s) required pursuant to clause 2(2) had been prepared and provided to the Minister.

Recommendations

There are no recommendations in respect of these obligations.

Opportunities for improvement

No opportunities for improvement are identified in respect of these obligations.

¹³ Minister for Finance, *Notice of approval to bring new infrastructure into commercial operation*, 10 August 2011.

¹⁴ Email dated 1 June 2018 from IPART to Cobbitty Consulting (re: *prior Ministerial approval to commence commercial operation*).

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

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.3(c)	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.	Compliant
<hr/>		
Risk	Target for Full Compliance	
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.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">Interviews with Veolia personnel on 16 May 2018.Site inspection of infrastructure at Bingara Gorge on 16 May 2018.Veolia, <i>Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan</i> (Revision 5), July 2016.Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Plan</i> (Revision 7), 18 July 2016.Veolia, <i>Technical Manual; Operation & Maintenance Manual – Bingara Gorge Permanent Wastewater and Recycle Water Plant</i> (document: A0147VDK0563), 25 May 2017.Veolia, Compliance Procedure (document: BR10) (Version 1.1), November 2017.Veolia, <i>Internal Audit Report – 2018 – Bingara Gorge STP</i> (BR14-TOOL03), 29 March 2018.		
<hr/>		
Summary of reasons for grade		
<p>New infrastructure, specifically the new (permanent) recycled water plant that was brought into commercial operation during the audit period was assessed to have been designed and constructed having regard for relevant publicly available standards and codes. Furthermore, it was apparent that, during the audit period, the infrastructure had continued to be operated in a safe and reliable condition and maintained in proper condition having regard for publicly available standards and codes.</p> <p>Veolia has in place a procedure for ensuring that it uses up-to-date versions codes and standards relevant to activities undertaken at the Bingara Gorge Recycled Water Scheme; the procedure requires that the currency of such codes and standards is managed using compliance register. Furthermore, Veolia demonstrated that it undertakes internal audits to assess/ensure compliance with its internal procedures as well as relevant standards and codes.</p> <p>Accordingly, Veolia 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, new infrastructure, specifically the new (permanent) recycled water plant, was constructed and brought into commercial operation during the audit period. This infrastructure was assessed as having been properly designed and constructed prior to being brought into commercial operation (refer previous audit reports prepared in 2011¹⁵ and 2012).¹⁶

Operation and Maintenance of Infrastructure:

Operation and maintenance of the infrastructure is undertaken in accordance with the general principles outlined in the *Infrastructure Operating Plan*, *Sewage and Recycled Water Quality Management Plan* and *Operation and Maintenance Manual*,¹⁷ and the more specific guidance provided in procedures and work instructions (refer Table A.4 for examples).

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. Furthermore, on the basis of the auditor's experience, it appeared that such operation and maintenance had been/was being undertaken having regard to relevant publicly available standards and/or codes.

Veolia's approach to operation and maintenance of the infrastructure is further discussed in Table A.4.

Compliance with and Currency of Standards and Codes:

Veolia's *Compliance Procedure*¹⁸ outlines the process for identifying and monitoring legislation, standards, codes of practice, agreements and guidelines relevant to its operations. The *Compliance Procedure* references the "BR10-TOOL01 Compliance Register" (not sighted), which is a list of known key obligations under laws, regulations, codes or standards applicable to Veolia that details the processes and procedures in place to ensure compliance, and any identifiable gaps in the current processes and procedures. The *Compliance Procedure* further details the procedures for identifying and assessing new requirements, consulting and communicating changes, and implementing changes including reviewing and amending management system documentation.

As evidence that compliance is monitored, Veolia provided an *Audit Report*¹⁹ for an internal audit conducted at the Bingara Gorge STP (treatment plant) on 13-15 March 2018. The audit, which "... *focused on the site risk management in quality, health, safety, and environmental aspects for all work activities to operate the Sewage Treatment Plant on behalf of Lend Lease*" included an assessment of compliance with Veolia's internal procedures, including compliance with standards and codes where applicable.

Review of the *Operation and Maintenance Manual* revealed that reference is made to (for example) the relevant Australian Standards, in relation to eye washes and safety showers, hearing protection, chemical handling and storage, and to USEPA standards in relation to treatment processes.

Inspection of visible components of the recycled water reticulation network revealed that valve covers and property connection installations were lilac colour coded as required (refer Figures A.3.1 and A.3.2).

Recommendations

There are no recommendations in respect of this obligation.

¹⁵ Water Futures, *Report on the New Infrastructure Audit of the Bingara Gorge Recycled Water Scheme* (Final Report), 28 October 2016.

¹⁶ Water Futures, *Addendum to the Report on the New Infrastructure Audit of the Bingara Gorge Recycled Water Scheme* (Final Report), 6 October 2017.

¹⁷ Veolia, *Technical Manual; Operation & Maintenance Manual – Bingara Gorge Permanent Wastewater and Recycle Water Plant* (document: A0147VDK0563), 25 May 2017.

¹⁸ Veolia, *Compliance Procedure* (document: BR10) (Version 1.1), November 2017.

¹⁹ Veolia, *Internal Audit Report – 2018 – Bingara Gorge STP* (BR14-TOOL03), 29 March 2018.

Opportunities for improvement

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



Figure A.3.1 Colour coded valve cover with embossed labelling “RECYCLED WATER; DO NOT DRINK”.



Figure A.3.2 Property connection installations with lilac sleeved risers, marker tape and meter.

Table A.4 General Obligations – WIC Reg Sched 1 cl.6(2)(a)

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.6(2)(a)	The network operator must ensure that the infrastructure operating plan is fully implemented and kept under regular review and 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. Regular review ensures that the <i>Plan</i> remains current and reflects the current circumstances of the scheme.		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"> Interviews with Veolia personnel on 16 May 2018. Site inspection of infrastructure at Bingara Gorge on 16 May 2018. Veolia, <i>Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan</i> (Revision 5), July 2016. Cardno, <i>Certificate of Practical Completion; Permanent Recycled Water Treatment Plant – Civil Works – Bingara Gorge</i>, 14 November 2016. Cardno, <i>Certificate of Practical Completion; Permanent RWP Bingara D&C Contract</i>, 9 October 2017. Veolia, <i>Technical Manual; Operation & Maintenance Manual – Bingara Gorge Permanent Wastewater and Recycle Water Plant</i> (document: A0147VDK0563), 25 May 2017. MS Excel spreadsheet: <i>BINGARA-SOP Register_v0-20170302.xlsx</i>. Document: <i>Task_List_v1.4.pdf</i>. MS Excel spreadsheet: <i>PM_Scheduling_tool_v2.7_Bingara.xlsx</i>. Document: <i>3_OP-WRK-01_Backlog Summary_Jan_March_2018.pdf</i>. Maintenance records as referenced. Veolia, <i>Block Testing Report</i>, October 2017. Monthly reports to Veolia's Client (Lendlease) as referenced MS Excel spreadsheet: <i>BR12-TOOL02 Document Control Register - Bingara Gorge WWTP.xlsx</i>. 		
Summary of reasons for grade		
<p>Veolia 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.</p> <p>Veolia also demonstrated that the <i>Infrastructure Operating Plan</i> is kept under regular review, and that it has arrangements in place to ensure that it continues to do so.</p> <p>Accordingly, Veolia was assessed to have demonstrated full compliance with this obligation.</p>		

Discussion and notes

Overview:

The auditors 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 the *Plan*.

Design and Construction:

As noted in Table A.2, new infrastructure, specifically the new (permanent) recycled water plant, was constructed and brought into commercial operation during the audit period. This infrastructure was assessed as having been properly designed and constructed in accordance with the arrangements set out in the *Infrastructure Operating Plan* prior to being brought into commercial operation (refer previous audit reports prepared in 2011).²⁰

As further evidence of its compliance with the specified requirements, Veolia provided copies of *Certificates of Practical Completion*, in respect of:

- Permanent Recycled Water Treatment Plant – Civil Works – Bingara Gorge;²¹ and
- Permanent RWP Bingara D&C Contract.²²

In respect of extensions to the existing sewerage and recycled water networks, the auditor queried how Veolia satisfies itself that the infrastructure is compliant with the relevant standards. Veolia advised that such extensions which are implemented in accordance with the development masterplan (which Veolia has seen), are managed by consultants engaged by Lendlease. Veolia is notified, and is in any case typically aware, of any changes to the networks.

Veolia further advised that a consultant has been engaged to develop a guideline for the infrastructure handover process. Notwithstanding, as an opportunity for improvement (**OFI-BG-2018.01**), it is suggested that Veolia ensures that an infrastructure handover process/procedure that specifically includes certification that the infrastructure complies with its functional requirements and with the relevant codes and standards is developed and implemented.

Operation and Maintenance:

As noted in Table A.3, operation and maintenance of the infrastructure is undertaken in accordance with the general principles outlined in the *Infrastructure Operating Plan*, *Sewage and Recycled Water Quality Management Plan* and *Operation and Maintenance Manual*,²³ and the more specific guidance provided in procedures and work instructions. Relevant Standard Operating Procedures are listed in the *Bingara PRWP SOP Register*²⁴ and a *Task List*²⁵ (extracted from Veolia's VAMS/GAMA computerised maintenance management system (CMMS)) details some 269 preventative maintenance tasks, including instructions and resource requirements (estimated hours and number of people required).

Maintenance activities are managed using the VAMS/GAMA maintenance management system. The preventative maintenance schedule for 2018,²⁶ as extracted from VAMS/GAMA was provided for review. Veolia also provided a copy of a *Work Order Backlog Summary*²⁷ report for the period 1 January 2018 to 31 March 2018; this showed that 89% of scheduled work orders had been completed and that 17 of the

²⁰ Water Futures, *Report on the New Infrastructure Audit of the Bingara Gorge Recycled Water Scheme* (Final Report), 28 October 2016.

²¹ Cardno, *Certificate of Practical Completion; Permanent Recycled Water Treatment Plant – Civil Works – Bingara Gorge*, 14 November 2016.

²² Cardno, *Certificate of Practical Completion; Permanent RWP Bingara D&C Contract*, 9 October 2017.

²³ Veolia, *Technical Manual; Operation & Maintenance Manual – Bingara Gorge Permanent Wastewater and Recycle Water Plant* (document: A0147VDK0563), 25 May 2017.

²⁴ MS Excel spreadsheet: *BINGARA-SOP Register_v0-20170302.xlsx*.

²⁵ Document: *Task_List_v1.4.pdf*.

²⁶ MS Excel spreadsheet: *PM_Scheduling_tool_v2.7_Bingara.xlsx*.

²⁷ Document: *3_OP-WRK-01_Backlog Summary_Jan_March_2018.pdf*.

outstanding 21 were in progress.

A number of completed work orders were sighted, including (for example) Work Order No: 1004459761 *Ferric dosing pump clean/calibrate*, which is a monthly task. The work order had been completed and signed-off by a plant operator and checked and signed-off by the Plant Manager.

Sample daily (18 July 2017) and weekly (13 July 2017) operators checklists and a monthly Safety Shower Inspection (13 June 2017) checklist were sighted.

Veolia advised that it has initiated annual cross-connection testing to confirm separation between the potable and recycled water networks. An initial test was undertaken in August 2016 and the first follow-up check was performed in October 2017 prior to recharging the recycled water network with recycled water. The *Block Testing Report*²⁸ on the test conducted in October 2017 concluded that no cross-connections were found in the community at the time of the test. The report identified a number of minor issues, principally that lilac hose cocks (taps) were required at a number of residential premises.

As noted in Table A.3, 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. From a safety perspective, it was noted that the induction program was very comprehensive, providing an informative introduction to the scheme as well as addressing the relevant OH&S requirements. The display of relevant documentation including plans of the treatment plant showing the location of hazards, a copy of the HACCP assessment/risk assessment and applicable corporate policies is to be commended.

Performance Monitoring and Review:

The *Infrastructure Operating Plan*²⁹ requires that Veolia monitors performance and reports to its client (Lendlease) on a monthly basis. As evidence that this requirement is implemented, Veolia provided a copy of the *Monthly Reports* for December 2016, March 2017, January 2018, February 2018 and April 2018 (which is outside the audit period).

Review of these reports revealed that they address a standard range of operational issues under the headings: Executive Summary; WHSEQ Report; Operational Performance; Asset Management Summary; Consumables and Subcontractor Summary; Personnel; and Positive News and Initiatives. Environmental statistics (including flow volumes, electricity use and number of odour/noise complaints), water quality performance (parameters monitored on-line) and CCP breaches (if any) are tabulated.

In respect of Operational Performance, the reports address influent quality, reclaimed water quality (quality of recycled water produced), system performance, maintenance activities, key performance indicators and customer service. In respect of Asset Management, the report addresses downtime, major component failure, external events impacting operations and upcoming planned major/critical maintenance or repair work.

Positive News and Initiatives reported included (for example):

- March 2017 – “*The PRWP has passed the Stage B performance Tests. The TRWP running well at peak flows but requires constant attention.*”
- January 2018 – “*The comments from the residents when responding to complaints regarding water quality suggest that further communications to the residents regarding the sewer system and recycled water network would be beneficial.*”

On the basis of the samples reviewed it is apparent that Veolia is monitoring its performance and reporting to the client as required.

Regular Review of Infrastructure Operating Plan:

The document revision summary³⁰ in the *Infrastructure Operating Plan* shows that following its formal issue in April 2011, the *Plan* was reviewed and updated in February 2015 (Revision 4), July 2016 (Revision 5)

²⁸ Veolia, *Block Testing Report*, October 2017.

²⁹ *Infrastructure Operating Plan*, section 8.2.1.

³⁰ *Infrastructure Operating Plan*, page 2.

and April 2018 (Revision 6). Revision 5, which was issued within the first month of the audit period, remained in place throughout the remainder of the audit period. The *Plan* was again reviewed and updated to Revision 6 subsequent to the audit period, but prior to this audit being conducted.

Review of the *Document Control Register*³¹ confirms that Revision 6 of the *Infrastructure Operating Plan* was issued on 1 April 2018 and that the next review is scheduled for 1 April 2019; this reflects adoption of an annual review cycle. Veolia advised that review of the *Plan* has been included as a maintenance task in its computerised maintenance management system, GAMA. This approach, which will result in a Work Order being raised and issued when the next review is due, is considered an effective manner in which to manage this task.

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-BG-2018.01:** It is suggested that Veolia ensures that an infrastructure handover process/procedure that specifically includes certification that the infrastructure complies with its functional requirements and with the relevant codes and standards is developed and implemented.

³¹ MS Excel spreadsheet: *BR12-TOOL02 Document Control Register - Bingara Gorge WWTP.xlsx*.

Table A.5 General Obligations – WIC Reg Sched 1 cl.7(4)(a)

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(4)(a)	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.	Non-compliant Insignificant
Risk	Target for Full Compliance	
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. Regular review ensures that the <i>Plan</i> remains current and reflects the current circumstances of the scheme.		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.
Evidence sighted		
<ul style="list-style-type: none"> Interviews with Veolia personnel on 16 May 2018. Site inspection of infrastructure at Bingara Gorge on 16 May 2018. Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Plan</i> (Revision 7), 18 July 2016. Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Plan</i> (Revision 8), 20 April 2018. Various instrument displays as noted. SCADA system display (including data traces). Veolia, <i>Bingara Gorge Development; Recycled Water Plant; Final Performance Tests Report</i> (Version 8), 30 March 2017. MS Excel spreadsheet: <i>BR12-TOOL02 Document Control Register - Bingara Gorge WWTP.xlsx</i>. 		
Summary of reasons for grade		
Veolia demonstrated that, in most respects, it is fully implementing, and is carrying out its water quality management activities in accordance with principles documented in, the <i>Sewage and Recycled Water Quality Management Plan</i> . This was evident from the effective monitoring and testing processes that are being implemented, as well as the conduct of system analysis reviews and the implementation of change management processes.		
Veolia also demonstrated that the <i>Sewage and Recycled Water Quality Management Plan</i> is kept under regular review, and that it has arrangements in place to ensure that it continues to do so.		
The critical limit setting for "Flow to the Chlorine Contact Tank" in the SCADA system was, however, found to be inconsistent (less stringent) than specified in the <i>Sewage and Recycled Water Quality Management Plan</i> and, more particularly, outside the validated limits.		
Accordingly, Veolia was assessed not to be fully compliant with this obligation; however, given that flows are currently significantly less than the limit (and will remain so in the short-term), the non-compliance is not considered to be significant at this stage.		

Discussion and notes

Overview:

The auditor checked for evidence that the Water Quality Plan was fully implemented and kept under regular review and that all of the Network Operator's activities are carried out in accordance with that Plan. It is noted that Veolia has in place a combined *Sewage and Recycled Water Quality Management Plan*, which addresses the requirements of both a *Sewage Management Plan* and *Recycled Water Quality Plan*.

The auditor checked for implementation of relevant procedures (including monitoring and sampling procedures, which are discussed in detail in Table C.6) and some specific requirements of the *Sewage and Recycled Water Quality Management Plan*. Some other water quality related issues are also discussed.

As previously noted, commercial operation of the permanent recycled water plant commenced during the audit period (on 8 December 2017). Whilst the following assessment is more focussed on the new plant, which was operational at the time of the audit, consideration is also given to compliance during the period that the temporary recycled water plant was operating.

Monitoring Systems:

To confirm that key process operational monitoring parameters were being actively monitored as required under the *Sewage and Recycled Water Quality Management Plan*, and to assess data consistency between the monitoring instrument and SCADA system, readings were taken at a sample of monitoring instruments and the corresponding SCADA readings checked. A summary of these checks is as follows:

Parameter	Time	Instrument Reading	SCADA Reading	SCADA Consistent?
Membrane Tank A2 Turbidity	10:13am	0.11 NTU	0.11 NTU	✓
Membrane Tank B2 Turbidity	10:13am	0.11 NTU	0.11 NTU	✓
Supply to Residential Network – Chlorine Residual	10:45am	3.6 mg/L	3.60 mg/L	✓
Supply to Residential Network – pH	10:45am	7.17	7.16	✓
Supply to Residential Network – Turbidity	10:45am	0.409 NTU	0.42 NTU	✓
Supply to Residential Network – Conductivity	10:45am	864µS/cm	864µS/cm	✓
Ultraviolet Transmissivity (UVT)	10:46am	88.8%	89.6%	✓

These checks confirmed consistency between the instrument readings and the SCADA display, thereby validating the SCADA system as the primary mechanism for ongoing performance monitoring. They also confirmed that, on the day of the audit, the processes were operating in accordance with the requirements (operating range) set out in the *Sewage and Recycled Water Quality Management Plan*.

Critical Control Point Monitoring:

As identified in the *Sewage and Recycled Water Quality Management Plan*,³² five critical process/Critical Control Points (CCPs) are used to monitor and control operation of the plant, as follows:

- CCP1 – Membrane Permeate Turbidity;
- CCP2 – Ultraviolet Transmissivity (UVT);
- CCP3 – Ultraviolet Dose;
- CCP4 – Residual Chlorine at Chlorine Contact Tank Outlet; and

³² *Sewage and Recycled Water Quality Management Plan*, section 6.3.2.8.

▪ CCP5 – Flow to Chlorine Contact Tank.

Although not identified as CCPs, the following parameters are also monitored on the recycled water network supply (with corrective actions identified in the event of exceedance):

- Turbidity; and
- Conductivity.

Current parameter settings for CCPs located within the treatment plant were checked for consistency with the expected performance documented in the *Sewage and Recycled Water Quality Management Plan*.³³ Details at the time of audit are as follows:

CCP Parameter (Units)	Limit Settings (Plan/Actual)			Comment
	Critical Limit	Shutdown Limit	Alarm Limit	
Membrane Permeate Turbidity (NTU)	0.5 <i>0.5</i>	0.4 <i>0.45</i>	0.2 <i>0.4</i>	Settings apply to all four units. Alarm and shutdown limits more stringent than Plan.
Ultraviolet Transmissivity (UVT) (%)	65 <i>65</i>	66 <i>66</i>	68 <i>68</i>	Settings apply to both units. All limits set as per Plan.
Ultraviolet Dose (mJ/cm ²)	79 <i>79</i>	80 <i>80</i>	85 <i>85</i>	Settings apply to both units. All limits set as per Plan.
Residual Chlorine at Chlorine Contact Tank Outlet (mg/L)	<2 or >3.4 <i>Not set</i>	<2.2 or >3.2 <i><2.0</i>	<2.3 or >3.0 <i><2.3 or >5.9</i>	Alarm limit less stringent than Plan, but shutdown limit more stringent (effectively the critical limit), but no upper bound.
Flow to Chlorine Contact Tank (m ³ /h)	80 <i>85</i>	78 <i>83</i>	No alarm	Limits less stringent than Plan.
Recycled Water Network Supply – Turbidity (NTU)	2 <i>2</i>	1.8 <i>1.8</i>	0.7 <i>0.5</i>	Alarm limit more stringent than Plan.
Recycled Water Network Supply – Conductivity (µS/cm)	N/A	2500	1500	No limits set in SCADA

Note: Limit settings shown in normal font are limits specified in the *Sewage and Recycled Water Quality Management Plan*; those shown in italic font are actual settings in SCADA.

This indicates that settings at the time of the audit were, in most cases, either consistent with or more stringent than documented in the *Sewage and Recycled Water Quality Management Plan*; however, the settings for “Flow to Chlorine Contact Tank” are less stringent than specified in the *Plan*.

Veolia advised that flows are currently significantly less than capacity; however, given that the plant validation report indicates that: “*The flow to the Chlorination tank is to be below 80m³/h.*”,³⁴ it would be prudent to ensure that the critical limit is set accordingly. It is therefore recommended (**REC-BG-2018.01**) that Veolia ensures that all critical limits set in the SCADA system are consistent with (or more stringent than) those specified in the *Sewage and Recycled Water Quality Management Plan*, which should be consistent with validated plant performance.

³³ *Sewage and Recycled Water Quality Management Plan*, section 6.3.2.8 (table 13).

³⁴ Veolia, *Bingara Gorge Development; Recycled Water Plant; Final Performance Tests Report* (Version 8), 30 March 2017, section 5.1.4.

Water Quality Verification Monitoring:

Water quality verification monitoring is being undertaken in accordance with the *Sewage and Recycled Water Quality Management Plan*.³⁵ A sample of test results are discussed in Table A.1 and the sampling and testing process is described in detail in Table C.6.

As reported in Table A.1, a review of verification testing results throughout the audit period identified a period during which *E. coli* in the golf course storage (used for irrigation purposes) exceeded the nominated limit; however, Veolia demonstrated that it had implemented an appropriate response. All other monitored parameters remained within the documented limits.

System Risk Analysis:

The *Sewage and Recycled Water Quality Management Plan*³⁶ indicates that a HACCP assessment was undertaken on 30/31 March 2015. The version of the HACCP assessment (risk register) appended to the latest version (Revision 8) of the *Sewage and Recycled Water Quality Management Plan*³⁷ shows that the HACCP assessment was last updated on 10 August 2016.

Whilst a specific review frequency is not nominated for either the *Sewage and Recycled Water Quality Management Plan* or the HACCP assessment, the *Document Control Register*³⁸ indicates that the next review of the Plan is scheduled for April 2019. As an opportunity for improvement (**OFI-BG-2018.02**), it is suggested that, as part of the next review of the *Sewage and Recycled Water Quality Management Plan*, Veolia undertakes a review of the HACCP assessment to ensure that it effectively reflects system hazards and risk following the commencement of commercial operation of the permanent recycled water plant and the introduction of recycled water into the recycled water network.

Environmental Discharges:

In comments provided in respect of the scope of this audit, NSW Health questioned whether arrangements in relation to wet weather discharges to the environment (previously identified as an issue) had been resolved. Veolia referred to the *Sewage and Recycled Water Quality Management Plan*,^{39,40} which identifies the arrangements in respect of monitoring in the event of a discharge to the environment. Reference is made to the requirements of Veolia's Environment Protection Licence (EPL) for the discharge point.

The detailed arrangements appear appropriate; however, the auditor is not aware of the previously identified issue referred to by NSW Health.

Water Discolouration:

IPART has been notified of recent customer complaints in respect of the colour of water supplied via the recycled water network. It is noted that this is an aesthetic issue, not a public health issue; however, IPART has requested that the issue be investigated as part of this audit. Discolouration has reportedly been experienced periodically since October 2017.

Veolia advised that it is aware of the issue and is actively addressing it. It further advised as follows:

- Annual cross-connection test are undertaken, following which complaints in respect of colour are typically received. The last test was undertaken in October 2017.
 - Complaints are also received after maintenance activities have been undertaken.
 - Stagnation in the network pipelines whilst residents away on holidays results in colour issues under high summer water usage upon their return. To counter this experience, Veolia flushed the whole
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³⁵ *Sewage and Recycled Water Quality Management Plan*, section 6.5.1.5 (tables 18 and 19).

³⁶ *Sewage and Recycled Water Quality Management Plan*, section 6.2.5.2.

³⁷ *Sewage and Recycled Water Quality Management Plan* (Revision 8), appendix E.

³⁸ MS Excel spreadsheet: BR12-TOOL02 Document Control Register - Bingara Gorge WWTP.xlsx.

³⁹ *Sewage and Recycled Water Quality Management Plan*, section 6.5.2.

⁴⁰ *Sewage and Recycled Water Quality Management Plan* (Revision 8), section 8.5.2.

system during January 2018, which resulted in an improved water colour.

- In March/April 2018, a 'brown out' resulted in a loss of power supply to the recycled water pumps; colour issues were again experienced when the pumps were restarted.
- Testing has identified manganese as the likely cause of discolouration. Deposits in the network pipelines are disturbed (carried into suspension in the water) under increasing or high flows.
- It appears that ferric chloride used in the treatment process, which has been found to have a manganese content of 1162 ppm, may be the source. Veolia has engaged a consultant to review the issue and provide recommendations.
- In the interim, Veolia has been implementing a four-weekly flushing program in areas where there have been complaints. An increase of the flushing interval to six-weekly is now being considered and may be extended to eight-weekly if results are acceptable.

The actions taken by Veolia are considered appropriate. It is noted that the initial complaints were raised prior to recycled water being introduced into the recycled water network in early December 2017.

Internal Review:

Monthly management reporting, which forms part of the internal review process, is discussed (including citing of examples) in Table A.4. For the purposes of this obligation, it is noted that the monthly reports address operational performance in relation to water quality. Verification test results are presented in tabular and graphical format, thereby enabling ready assessment of trends and the identification of variances.

Regular Review of Water Quality Plan:

The document revision summary⁴¹ in the *Sewage and Recycled Water Quality Management Plan* shows that following its formal issue in May 2011, the *Plan* was reviewed and updated in November 2011 (Revision 4), March 2012 (Revision 5), March 2015 (Revision 6), July 2016 (Revision 7) and April 2018 (Revision 8). Revision 7, which was issued within the first month of the audit period, remained in place throughout the remainder of the audit period. The *Plan* was again reviewed and updated to Revision 8 subsequent to the audit period, but prior to this audit being conducted.

Review of the *Document Control Register*⁴² confirms that Revision 8 of the *Sewage and Recycled Water Quality Management Plan* was issued on 23 April 2018⁴³ and that the next review is scheduled for 20 April 2019; this reflects adoption of an annual review cycle. Veolia advised that review of the *Plan* has been included as a maintenance task in its computerised maintenance management system, GAMA. This approach, which will result in a Work Order being raised and issued when the next review is due, is considered an effective manner in which to manage this task.

Recommendations

The following recommendation is made in respect of this obligation:

- **REC-BG-2018.01:** It is recommended that Veolia ensures that all critical limits set in the SCADA system are consistent with (or more stringent than) those specified in the *Sewage and Recycled Water Quality Management Plan*, which should be consistent with validated plant performance.
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⁴¹ *Sewage and Recycled Water Quality Management Plan*, page 2.

⁴² MS Excel spreadsheet: BR12-TOOL02 Document Control Register - Bingara Gorge WWTP.xlsx.

⁴³ The issue date is recorded in the document as 20 April 2018, which reflects a discrepancy (although deemed immaterial).

Opportunities for improvement

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

- **OFI-BG-2018.02:** It is suggested that, as part of the next review of the *Sewage and Recycled Water Quality Management Plan*, Veolia undertakes a review of the HACCP assessment to ensure that it effectively reflects system hazards and risk following the commencement of commercial operation of the permanent recycled water plant and the introduction of recycled water into the recycled water network.
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Table A.6 General Obligations – WIC Reg Sched 1 cl.10(a)

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.10(a)	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.	Compliant
Risk	Target for Full Compliance	
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.
Evidence sighted		
<ul style="list-style-type: none"> Interviews with Veolia personnel on 16 May 2018. Site inspection of infrastructure at Bingara Gorge on 16 May 2018. Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Plan</i> (Revision 7), 18 July 2016. Network Operator's Licence No: 10_012 issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 11 July 2017). Network Operator's Licence No: 10_012 issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 14 July 2015). 		
Summary of reasons for grade		
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, Veolia was assessed as having demonstrated compliance with this obligation.		
Discussion and notes		
<p>The purposes for which the recycled water is being supplied are identified in the <i>Sewage and Recycled Water Quality Management Plan</i>,⁴⁴ identifies the end uses of recycled water as private/commercial customers; irrigation of public open spaces; and golf course irrigation, noting that recycled water was only to be used for golf course irrigation during the period that the temporary recycled water plant was in operation. Use by private/commercial customers is deemed to include toilet flushing, clothes washing and garden irrigation.</p> <p>These documented uses are consistent with the "Authorised purposes" nominated in the Network Operator's Licence;^{45,46} laundry washing (cold tap only) was added in the July 2017 version of the Licence.</p> <p>The <i>Sewage and Recycled Water Quality Management Plan</i> also nominates critical limits for operational monitoring parameters at Critical Control Points (CCPs),⁴⁷ which are based on log removal requirements for the identified end uses, and characteristics to be monitored for the purpose of recycled water quality verification.⁴⁸ Performance against CCP targets and verification parameters is discussed in Table A.5 and, as reported in Table A.1, there were no reportable incidents in which the quality of water supplied had</p>		

⁴⁴ *Sewage and Recycled Water Quality Management Plan*, section 6.2.1.3.

⁴⁵ *Network Operator's Licence No: 10_012* (as issued on 14 July 2015), Table 1.3.

⁴⁶ *Network Operator's Licence No: 10_012* (as varied on 11 July 2017), clause S1.2.

⁴⁷ *Sewage and Recycled Water Quality Management Plan*, sections 6.3.2.7 (table 12) and 6.3.2.8 (table 13).

⁴⁸ *Sewage and Recycled Water Quality Management Plan*, section 6.5.1.5 (tables 18 and 19).

been compromised during the audit period.

On this basis, it is assessed that non-potable (recycled) water delivered into supply during the audit period was fit for purpose.

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 A.7 General Obligations – WIC Reg Sched 1 cl.10(b)

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.10(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 complies with any requirements of the Licence conditions.	Compliant
<hr/>		
Risk	Target for Full Compliance	
This potentially presents high operational risk. Compliance with relevant Licence conditions is essential to ensuring that the non-potable water is suitable for the purposes for which it is supplied.	Evidence that the water supplied complies with any relevant Licence conditions.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">Interviews with Veolia personnel on 16 May 2018.Site inspection of infrastructure at Bingara Gorge on 16 May 2018.Network Operator’s Licence No: 10_012 issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 11 July 2017).Letter dated 7 December 2017 from IPART to Veolia (re: <i>Notification of NSW Health Requirements under Licence Clause B4</i>).		
<hr/>		
Summary of reasons for grade		
Compliance with Licence conditions considered relevant for the purposes of this obligation (Licence clauses S1, B4, B6, B7, B8 and B11) is assessed elsewhere in this report, with the exception of Licence clause B4 which is assessed below. Compliance with these conditions was assessed as being either “Compliant” or “No Requirement”.		
Accordingly, Veolia is assessed to have been compliant with this obligation.		
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Discussion and notes		
Licence conditions considered relevant for the purposes of assessing compliance with this obligation include Licence clauses S1, B4, B6, B7, B8 and B11. ⁴⁹ Compliance (as it relates to this obligation) in respect of clauses S1, B6, B8 and B11 is assessed separately (refer Table B.1 for clause S1; Table A.1, Table A.2, Table C.1, Table C.5 and Table C.10 for clause B6; Table C.6 for clause B8; and Table C.8 for clause B11 respectively).		
Licence clause B.4 requires that:		
<i>“The Licensee must carry out activities authorised by this Licence in compliance with any requirements of NSW Health that:</i>		
<i>(a) IPART has agreed to; and</i>		
<i>(b) are notified from time to time to the Licensee by IPART in writing.”</i>		
In a letter dated 7 December 2017, ⁵⁰ IPART notified Veolia of the requirements of NSW Health with which it is required to comply under this clause of the Licence. The notified requirements relate principally to consultation with NSW Health and the provision of documents/information to		

⁴⁹ Network Operator's Licence No: 10_012.

⁵⁰ Letter dated 7 December 2017 from IPART to NEV Water (re: *Notification of NSW Health Requirements under Licence Clause B4*).

NSW Health; they do not specify requirements with which the supplied non-potable water must comply.

On that basis, there is no requirement for compliance with NSW Health's requirements for the purposes of this obligation.

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 A.8 General Obligations – 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 complies with the <i>Plumbing and Drainage Act 2011</i> (NSW).	Compliant
Risk	Target for Full Compliance	
This represents high operational risk. Compliance of customer installation with appropriate standards is essential to ensuring safe and reliable service delivery.		Evidence that customer's installations are code compliant.
Evidence sighted		
<ul style="list-style-type: none"> Interviews with Veolia personnel on 16 May 2018. Site inspection of infrastructure at Bingara Gorge on 16 May 2018. Veolia, <i>Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan</i> (Revision 5), July 2016. Network Operator's Licence No: 10_012 issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 11 July 2017). Retail Supplier's Licence No: 10_013R issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 11 July 2017). Lendlease/Living Utilities, <i>Procedure; Meter Installation and Non-compliant Plumbing</i> (document: PR-WWR-OPS-06400-0001), undated. <i>Inspection Result Sheets</i> issued by Wollondilly Shire Council, as referenced. 		
Summary of reasons for grade		
<p>Veolia demonstrated that it has procedures in place to ensure that customer installations comply with the <i>Plumbing and Drainage Act 2011</i> (NSW) prior to connection to its water mains. Furthermore, it provided samples of <i>Inspection Result Sheets</i> (compliance certificates) issued by the Wollondilly Shire Council, which has delegated authority from the Office of Fair Trading to undertake inspections where water services are provided by entities other than Sydney Water.</p> <p>Accordingly, Veolia is assessed to have been compliant with this obligation.</p>		
Discussion and notes		
<p>Under the provisions of Section 7(1) of the <i>Plumbing and Drainage Act 2011</i> (NSW),⁵¹ plumbing and drainage works must comply with the <i>Plumbing Code of Australia</i> and any other standards or requirements prescribed by the regulations. The <i>Plumbing and Drainage Regulation 2012</i>⁵² does not prescribe any other standards or requirements.</p> <p>Customer connections are managed by Lendlease/Living Utilities in its role as an Authorised person under both Veolia's Network Operator's Licence⁵³ and its Retail Supplier's Licence.⁵⁴ Lendlease has a</p>		

⁵¹ http://www.austlii.edu.au/au/legis/nsw/consol_act/pada2011174/s7.html accessed on 28 July 2017.

⁵² http://www.austlii.edu.au/au/legis/nsw/consol_reg/padr2012265/ accessed on 28 July 2017.

⁵³ *Network Operator's Licence No: 10_012*, tables 1.1 and 3.1.

⁵⁴ *Retail Supplier's Licence No: 10_013R*, tables 1.1 and 3.1.

*Meter Installation and Non-compliant Plumbing Procedure*⁵⁵ which outlines the process to be followed when installing a Wilton Recycled Water (WRW) recycled water meter, and the management of non-compliant plumbing.

A principal component of the procedure is the requirement to obtain certification issued by the Wollondilly Shire Council indicating satisfactory completion of a “Flow Test”. It is noted that Wollondilly Shire Council is nominated as the Office of Fair Trading’s delegate in cases where water services are provided by entities other than Sydney Water⁵⁶ within its local government area.

Veolia provided a number of samples of Council *Inspection Result Sheets*, which indicated that the “Flow Test”, including (for example):

- No. 6 Kangaloon Close, Wilton – Application No: 18.2016.277, dated 5 May 2017;#
- Lot 2/No. 9 Ambrose Street, Wilton – Application No: 10.2015.658.1, dated 29 August 2016;
- No. 7 Green Court, Wilton – Application No: 18.2016.217.1, dated 4 July 2017;#
- Lot 161 Charlton Street, Wilton – Application No: 10.2015.1.001, dated 20 August 2015;
- 21 Charlton Street, Wilton – Application No: 10.2016.397.1, dated 26 May 2017.#

Those marked “#” were specifically annotated to indicate that was “OK to issue meter”.

On the basis of the evidence provided, it is apparent that Veolia (Lendlease) has a procedure in place to ensure that customer’s installations are compliant and that the procedure is being implemented.

Recommendations

There are no recommendations in respect of this obligation.

Opportunities for improvement

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

⁵⁵ Lendlease/Living Utilities, *Procedure; Meter Installation and Non-compliant Plumbing* (document: PR-WWR-OPS-06400-0001), undated.

⁵⁶ NSW Fair Trading, *Local plumbing regulators in NSW; On-site plumbing and drainage compliance and inspections*, January 2015.

Table A.9 General Obligations – WIC Reg Sched 1 cl.12

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.12	<p>The licensee must have an internet website on which the following matters are available for inspection by members of the public:</p> <p>(a) a plan showing the nature and general location of the infrastructure;</p> <p>(b), (c) (Repealed);</p> <p>(d) the most recent auditor’s report under clause 6 that applies to the licensee;</p> <p>(e) the most recent auditor’s report under clause 7 that applies to the licensee.</p>	Compliant
<hr/>		
Risk	Target for Full Compliance	
Non-compliance with the requirements of this clause presents low (if any) risk. The availability of 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.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">▪ Interviews with Veolia personnel on 16 May 2018.▪ Veolia’s Wilton (Bingara Gorge) webpage: http://www.myrecycledwater.com.au/wilton-rwtp		
<hr/>		
Summary of reasons for grade		
<p>Veolia demonstrated that it maintains an internet website on which the requisite information is available for inspection by members of the public. Both a plan showing the general location of the infrastructure and the most recent Licence Plan Audit Reports were available in pdf format.</p> <p>Accordingly, Veolia was assessed as being compliant with this obligation.</p>		
<hr/>		
Discussion and notes		
<p>Veolia’s website upon which details of the Wilton (Bingara Gorge) Recycled Water Scheme can be found can be accessed at:</p> <p>http://www.myrecycledwater.com.au/wilton-rwtp</p> <p>Review of the website content confirmed that the requisite information was available for inspection by members of the public, as follows:</p> <ul style="list-style-type: none">▪ ‘a plan showing the nature and general location of the infrastructure’ – a brochure that presents details of the scheme includes a simplified plan that shows the location of Wilton relative to the Sydney CBD.⁵⁷▪ ‘the most recent auditor’s report under clause 6 that applies to the Licensee’ – WIC Reg Sched 1 cl.6(3) requires that a report as to the adequacy of the Licensee’s <i>Infrastructure Operating Plan</i> is prepared. The following Licence Plan Audit reports, which address this requirement, are available in pdf format:⁵⁸		

⁵⁷ Brochure available at: http://www.myrecycledwater.com.au/Content/Documents/wilton-rwtp-brochure_july-2012.pdf

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- Water Futures, *Report on the Follow-up Licence Plans Audit of the Bingara Gorge Recycled Water Scheme* (Final Report), 9 March 2018.
 - Water Futures, *Report on the Licence Plans Audit of the Bingara Gorge Recycled Water Scheme* (Final Report), 23 October 2016.
 - ‘the most recent auditor’s report under clause 7 that applies to the Licensee’ – WIC Reg Sched 1 cl.7(5) requires that a report as to the adequacy of the Licensee’s *Water Quality Plan* is prepared. The abovementioned reports also include an assessment of the adequacy of the Licensee’s *Water Quality Management Plan*,⁵⁹ thereby addressing this requirement.

Although not specifically required, a number of other audit reports are also available on the website, including:

- 2015 Follow-up Licence Plan Audit Report;
- 2016 New Infrastructure Audit Report; and
- 2015, 2015-2016 and 2016 Operational Audit Reports.

The auditor sought and was readily able to locate the relevant page of Veolia’s website by searching for “Bingara Gorge Recycled Water” or “Wilton Recycled Water” using the Google search function. In each case the first link provided leads to the “Wilton Recycled Water” (customer orientated) website, whilst the second link leads to the scheme website as referenced above.

Recommendations

There are no recommendations in respect of this obligation.

Opportunities for improvement

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

⁵⁸ Documents available at: <http://www.myrecycledwater.com.au/wilton-rwtp/project-information/downloads>

⁵⁹ The *Sewage and Recycled Water Quality Management Plan* in the case of this scheme.

Table A.10 General Obligations – 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 the infrastructure operating plan is fully implemented and kept under regular review and, in particular, that all of its 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"> Refer list of evidence in Table A.4. 		
Summary of reasons for grade		
[As noted in Table A.4 ...]		
Veolia 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.		
Veolia also demonstrated that the <i>Infrastructure Operating Plan</i> is kept under regular review, and that it has arrangements in place to ensure that it continues to do so.		
Accordingly, Veolia was assessed to have demonstrated full compliance with this obligation.		
Discussion and notes		
For the purposes of this audit, discussion in relation to the <i>Infrastructure Operating Plan</i> applicable to both water supply (WIC Reg Sched 1 cl.6(2)(a)) and sewerage (WIC Reg Sched 1 cl.13(2)(a)) infrastructure is presented in Table A.4.		
Recommendations		
There are no recommendations in respect of this obligation.		
Opportunities for improvement		
For opportunities for improvement identified in respect of this obligation, please refer to Table A.4.		

Table A.11 General Obligations – 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 of its activities are carried out in accordance with that plan.	Compliant
Risk	Target for Full Compliance	
This represents high operational risk. Implementation of the <i>Sewage Management Plan</i> ensures the effective (safe and reliable) operation of the sewerage infrastructure without detrimental effect to the environment.		Evidence that the <i>Sewage Management Plan</i> is fully implemented and the Licensee's activities are carried out in accordance with that Plan; evidence that the Plan is kept under regular review.
Evidence sighted		
<ul style="list-style-type: none"> Interviews with Veolia personnel on 16 May 2018. Site inspection of infrastructure at Bingara Gorge on 16 May 2018. Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Management Plan</i> (Revision 7), 18 July 2016. Letter quotation dated 9 November 2016 from Veolia Water to Veolia (re: <i>Supply and Service of Waste Bins to Bingara Gorge WWTP</i>). Invoice No: 18200191 US 07021 dated 8 March 2018 from Veolia Water to Veolia for waste sludge collection and disposal. Letter quotation dated 10 May 2017 from Remondis to Veolia (re: <i>Waste Action Plan – Grit & Screenings</i>). MS Excel spreadsheet: <i>BR12-TOOL02 Document Control Register - Bingara Gorge WWTP.xlsx</i>. 		
Summary of reasons for grade		
<p>Veolia demonstrated that it is fully implementing, and that its activities are being carried out in accordance with arrangements for sewage management documented in, its <i>Sewage and Recycled Water Quality Management Plan</i>. This was evident from the effective implementation of arrangements in respect of sewage monitoring, waste disposal, containment of potential noise and odour emissions and site drainage/chemical containment.</p> <p>Veolia also demonstrated that the <i>Sewage and Recycled Water Quality Management Plan</i> is kept under regular review, and that it has arrangements in place to ensure that it continues to do so.</p> <p>Accordingly, Veolia was assessed to have demonstrated full compliance with this obligation.</p>		
Discussion and notes		
Overview:		
<p>The auditor checked for evidence that the Sewage Management Plan was fully implemented and kept under regular review and that all of the Network Operator's activities are carried out in accordance with that Plan. It is noted that Veolia has in place a combined <i>Sewage and Recycled Water Quality Management Plan</i>, which addresses the requirements of both a <i>Sewage Management Plan</i> and <i>Recycled Water Quality Plan</i>.</p>		

Sewage Characteristics:

Veolia conducts weekly monitoring/testing of sewage characteristics; monitored parameters are pH, Total Dissolved Solids (TDS), Total Suspended Solids (SS), Ammonia, Total Kjeldahl Nitrogen (TKN), Total Phosphorus, Oil & Grease, Chemical Oxygen Demand (COD), Carbonaceous Biochemical Oxygen Demand (CBOD), Nitrite + Nitrate, and Total Nitrogen. Records were sighted for all except the first month of the audit period.⁶⁰

Ongoing monitoring of treatment plant influent characteristics is consistent with the arrangements detailed in the *Sewage and Recycled Water Quality Management Plan*,⁶¹ although the Plan is not specific in relation to the frequency of monitoring.

Waste Disposal – Screenings and Sludge:

Screenings and dewatered sludge are disposed of off-site under contracts with service providers. It is understood that Veolia Water has been engaged to dispose of dewatered sludge, which is sustainably reused by Australian Native Landscapes; Remondis has been engaged to dispose of screenings.

Veolia provided the following documents as evidence of the arrangements in place:

- Veolia Water quotation for the supply and servicing of waste sludge and screenings bins;⁶²
- Veolia Water invoice for removal and disposal of waste sludge;⁶³ and
- Remondis quotation for the supply and servicing of screenings bins.⁶⁴

Observations made during the site inspection indicated that waste streams were being well managed on site. Screenings bins were shrouded to prevent any waste dispersion and contain odours during use; the waste sludge (biosolids) stream was fully enclosed (refer Figures A.11.1 and A.11.2).

Noise:

The *Sewage and Recycled Water Quality Management Plan*⁶⁵ outlines arrangements for the minimisation of noise emissions. Whilst implemented measures were not specifically inspected, observations during the site inspection confirmed that (for example):

- Screens were operating with acoustic enclosures and the sludge dewatering centrifuge was located within a building;
- The nominated buffer distance around the treatment plant had been maintained;
- No excessive noise was identified at either the treatment plant or the sewage pumping station located off Fairway Drive.

These observations indicate that potential noise emissions were being effectively managed.

Odour Management:

The *Sewage and Recycled Water Quality Management Plan*⁶⁶ outlines arrangements for the minimisation of odour emissions. Whilst implemented measures were not specifically inspected, it was noted that all odour sources at the treatment plant are under negative pressure with ventilation flows passing through an odour treatment facility comprising a biofilter and activated carbon filter.

⁶⁰ MS Excel spreadsheet: *BG Influent Data_V2.xlsx*.

⁶¹ *Sewage and Recycled Water Quality Management Plan*, section 6.2.3.1.

⁶² Letter quotation dated 9 November 2016 from Veolia Water to Veolia (re: *Supply and Service of Waste Bins to Bingara Gorge WWT*).

⁶³ Invoice No: 18200191 US 07021 dated 8 March 2018 from Veolia Water to Veolia for waste sludge collection and disposal.

⁶⁴ Letter quotation dated 10 May 2017 from Remondis to Veolia (re: *Waste Action Plan – Grit & Screenings*).

⁶⁵ *Sewage and Recycled Water Quality Management Plan*, section 7.4.

⁶⁶ *Sewage and Recycled Water Quality Management Plan*, section 7.4.

As testament to the effectiveness of the odour management arrangements, no odour was observed during the site inspection at the treatment plant.

Site Drainage:

The site was appropriately bunded and the drainage system appeared to be configured such that any spills would be contained. Veolia advised that it has a procedure in place (not sighted) that details arrangements for implementation during rainfall events.

Item specific bunding was in place; for example, the treatment plant inlet balance tank was fully bunded (refer Figure A.11.3) and bunding/containment sumps were in place in the chemical storage area (refer Figure A.11.4).

Regular Review of Sewage Management Plan:

As reported in Table A.5, the document revision summary⁶⁷ in the *Sewage and Recycled Water Quality Management Plan* shows that following its formal issue in May 2011, the *Plan* was reviewed and updated in November 2011 (Revision 4), March 2012 (Revision 5), March 2015 (Revision 6), July 2016 (Revision 7) and April 2018 (Revision 8). Revision 7, which was issued within the first month of the audit period, remained in place throughout the remainder of the audit period. The *Plan* was again reviewed and updated to Revision 8 subsequent to the audit period, but prior to this audit being conducted.

Review of the *Document Control Register*⁶⁸ confirms that Revision 8 of the *Sewage and Recycled Water Quality Management Plan* was issued on 23 April 2018⁶⁹ and that the next review is scheduled for 20 April 2019; this reflects adoption of an annual review cycle. Veolia advised that review of the *Plan* has been included as a maintenance task in its computerised maintenance management system, GAMA. This approach, which will result in a Work Order being raised and issued when the next review is due, is considered an effective manner in which to manage this task.

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.

⁶⁷ *Sewage and Recycled Water Quality Management Plan*, page 2.

⁶⁸ MS Excel spreadsheet: BR12-TOOL02 *Document Control Register - Bingara Gorge WWTP.xlsx*.

⁶⁹ The issue date is recorded in the document as 20 April 2018, which reflects a discrepancy (although deemed immaterial).



Figure A.11.1 Screening bin currently in use is fully shrouded to prevent waste dispersion and contain odours.



Figure A.11.2 Waste sludge dewatering/biosolids stream is fully enclosed.



Figure A.11.3 Treatment Plant Inlet Balance Tank is fully bunded.



Figure A.11.3 Bunding/containment sumps are in place in the chemical storage area.

Table A.12 General Obligations – WIC Reg Sched 1 cl.16

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.16	<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">(a) a plan showing the nature and general location of the infrastructure;(b) the licensee’s infrastructure operating plan;(c) the licensee’s sewage management plan;(d) the most recent auditor’s report under clause 13 that applies to the licensee;(e) the most recent auditor’s report under clause 14 that applies to the licensee.	Compliant
<hr/>		
Risk	Target for Full Compliance	
Non-compliance with the requirements of this clause presents low (if any) risk. The availability of 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.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">▪ Interviews with Veolia personnel on 16 May 2018.▪ Veolia’s Wilton (Bingara Gorge) webpage: http://www.myrecycledwater.com.au/wilton-rwtp		
<hr/>		
Summary of reasons for grade		
<p>Veolia demonstrated that it maintains an internet website on which the requisite information is available for inspection by members of the public. Both a plan showing the general location of the infrastructure and the most recent Licence Plan Audit Reports were available in pdf format.</p> <p>Accordingly, Veolia was assessed as being compliant with this obligation.</p>		
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Discussion and notes		
<p><i>Note: the audit scope, as defined by IPART, requires assessment of compliance with paragraphs a), d) and e) only.</i></p> <p>Veolia’s website upon which details of the Wilton (Bingara Gorge) Recycled Water Scheme can be found can be accessed at:</p> <p>http://www.myrecycledwater.com.au/wilton-rwtp</p> <p>Review of the website content confirmed that the requisite information was available for inspection by members of the public, as follows:</p> <ul style="list-style-type: none">▪ ‘a plan showing the nature and general location of the infrastructure’ – a brochure that presents details of the scheme includes a simplified plan that shows the location of Wilton relative to the Sydney CBD.⁷⁰		

⁷⁰ Brochure available at: http://www.myrecycledwater.com.au/Content/Documents/wilton-rwtp-brochure_july-2012.pdf

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- ‘the most recent auditor’s report under clause 6 that applies to the Licensee’ – WIC Reg Sched 1 cl.6(3) requires that a report as to the adequacy of the Licensee’s *Infrastructure Operating Plan* is prepared. The following Licence Plan Audit reports, which address this requirement, are available in pdf format:⁷¹
 - Water Futures, *Report on the Follow-up Licence Plans Audit of the Bingara Gorge Recycled Water Scheme* (Final Report), 9 March 2018.
 - Water Futures, *Report on the Licence Plans Audit of the Bingara Gorge Recycled Water Scheme* (Final Report), 23 October 2016.
 - ‘the most recent auditor’s report under clause 14 that applies to the Licensee’ – WIC Reg Sched 1 cl.14(4) requires that a report as to the adequacy of the Licensee’s *Sewage Management Plan* is prepared. The abovementioned reports also include an assessment of the adequacy of the Licensee’s *Sewage Management Plan*,⁷² thereby addressing this requirement.

Although not specifically required, a number of other audit reports are also available on the website, including:

- 2015 Follow-up Licence Plan Audit Report;
- 2016 New Infrastructure Audit Report; and
- 2015, 2015-2016 and 2016 Operational Audit Reports.

The auditor sought and was readily able to locate the relevant page of Veolia’s website by searching for “Bingara Gorge Recycled Water” or “Wilton Recycled Water” using the Google search function. In each case the first link provided leads to the “Wilton Recycled Water” (customer orientated) website, whilst the second link leads to the scheme website as referenced above.

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.

⁷¹ Documents available at: <http://www.myrecycledwater.com.au/wilton-rwtp/project-information/downloads>

⁷² The *Sewage and Recycled Water Quality Management Plan* in the case of this scheme.

Appendix B Detailed Audit Findings **– Network Operator’s Licence – Licence Scope**

Detailed audit findings in respect of the obligations related to the *Network Operator’s Licence* – *Licence Scope* are presented in this Appendix.

Table B.1 Network Operator's Licence – Licence Scope – Clause S1, Tables 1.1, 1.2, 1.3 and 1.4 and Clause S3, Tables 3.1, 3.2, 3.3 and 3.4

Clause	Requirement	Compliance Grade
Network Operator's Licence cl.S1 Tables 1.1, 1.2, 1.3 and 1.4 and cl.S3 Tables 3.1, 3.2, 3.3 and 3.4	<p>Tables 1.1 & 3.1] Authorised persons. Only the Licensee and/or the authorised third parties have constructed, operated and/or maintained the water industry infrastructure.</p> <p>[Tables 1.2 & 3.2] Water industry infrastructure. The Licensee and the authorised third parties have constructed, operated and/or maintained the water industry infrastructure specified in the Licence.</p> <p>[Tables 1.3 & 3.3] Authorised purposes. The Licensee and the authorised third parties have constructed, operated and/or maintained the water industry infrastructure for the authorised purposes.</p> <p>[Tables 1.4 & 3.4] Specified area of operations. The water industry infrastructure constructed, operated and/or maintained by the Licensee or an authorised third party does not extend outside the area of operations.</p>	Compliant

Risk	Target for Full Compliance
This requirement reflects a moderate risk that the appropriate operational controls may not be in place.	Evidence that the Licensee and any authorised third parties have operated and/or maintained the specified infrastructure for the authorised purposes only within the specified area of operations.

Evidence sighted

- Interviews with Veolia personnel on 16 May 2018.
- Site inspection of infrastructure at Bingara Gorge on 16 May 2018.
- Network Operator's Licence No: 10_012 issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 11 July 2017).
- Network Operator's Licence No: 10_012 issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 14 July 2015).
- Veolia, *Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan* (Revision 5), July 2016.

Summary of reasons for grade

On the basis of the documentation reviewed, observations made during site inspections and discussions with Veolia personnel during the audit, it was assessed that, during the audit period, the Licensee and/or "Authorised Persons" (Lendlease) had designed, constructed, operated and/or maintained the "Water industry infrastructure" specified in the Licence for the "Authorised purposes", and the infrastructure does not extend outside the specified "Area of operations". It is noted that the Licence was varied, with some changes in respect of these obligations, during the audit period; however, Veolia's activities were found to be consistent with the requirements under both Licences during the periods that they were applicable.

Accordingly, it was assessed that Veolia was compliant with this obligation.

Discussion and notes

Overview:

Evidence was sought that the Licensee and any authorised persons have constructed and are operating and/or maintaining the infrastructure specified in the Licence for the authorised purposes and that the infrastructure does not extend outside the specified area of operations.

Two (2) versions of Network Operator's Licence No: 10_012, as issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd, were in place during the audit period, as follows:

- Network Operator's Licence No: 10_012 as varied on 14 July 2015 – from prior to the audit period until 11 July 2017; and
- Network Operator's Licence No: 10_012 as varied on 11 July 2017 – from 11 July 2017 until the end of the audit period (and still current at the time of reporting).

The Licence authorises activities associated with the supply of recycled (non-potable) water and the provision of sewerage services. The specific provisions of the Licence are discussed in the following.

Authorised persons:

The Licence nominates "Lendlease Communities (Wilton) Pty Ltd (ACN 110 022 976)" as an "Authorised person" in relation to the supply of non-potable (recycled) water and the provision of sewerage services.⁷³

On the basis of explanations provided during the audit and the arrangements detailed in the *Infrastructure Operating Plan*, it is apparent that:

- either Veolia or Lendlease have retained overall responsibility for design and construction of all infrastructure, as follows:⁷⁴
 - Veolia – both the temporary and permanent recycled water plants;
 - Lendlease – all other scheme infrastructure.⁷⁵
- Veolia has retained responsibility for operation and maintenance of all scheme infrastructure throughout the audit period.⁷⁶

It is noted that Lendlease is the owner of all infrastructure operated under the Licence whilst Veolia has designed and constructed the treatment plant and operates and maintains the scheme infrastructure under contract to Lendlease.

Water industry infrastructure:

The Licence as varied on 14 July 2015 nominates the following infrastructure as the specified "Water industry infrastructure":

- for use in the supply of non-potable water:⁷⁷

“Part A

Infrastructure used for storage, conveyance or reticulation of non-potable water but not infrastructure used for the treatment of non-potable water.

Part B

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

⁷³ *Network Operator's Licence* (both versions), tables 1.1 and 1.3.

⁷⁴ *Infrastructure Operating Plan*, section 5.4.

⁷⁵ Excludes a small amount of property connection infrastructure for which Sydney Water (a public water utility) is responsible.

⁷⁶ *Infrastructure Operating Plan*, section 5.5.

⁷⁷ *Network Operator's Licence* (as varied on 14 July 2015), table 1.2.

Part C

Infrastructure used for the storage, conveyance or reticulation of non-potable water.”

- for use in the provision of sewerage services:⁷⁸

“Infrastructure used for storage, conveyance or reticulation of sewage and infrastructure used for the treatment of up to 400 litres of sewage per day.”

The Licence as varied on 11 July 2017 nominates the following infrastructure as the specified “Water industry infrastructure”:

- for use in the supply of non-potable water:⁷⁹

“A treatment plant for non-potable water and other water infrastructure used, or to be used, in connection with the treatment plant, where components of the treatment plant or other water infrastructure may also be used for one or more of the following:

- a) production of non-potable water;*
- b) treatment of non-potable water;*
- c) filtration of non-potable water;*
- d) storage of non-potable water; and*
- e) conveyance of non-potable water.”*

and:

“A reticulation network for non-potable water and other water infrastructure used, or to be used, in connection with the reticulation network, where components of the reticulation network or other water infrastructure may also be used for one or more of the following:

- a) storage of non-potable water;*
- b) conveyance of non-potable water; and*
- c) treatment of non-potable water.”*

- for use in the provision of sewerage services:⁸⁰

“A treatment plant for sewage and other sewage infrastructure used, or to be used, in connection with the treatment plant, where components of the treatment plant or other sewage infrastructure may also be used for one or more of the following:

- a) production of treated non-potable water from sewage;*
- b) treatment of sewage;*
- c) filtration of sewage;*
- d) storage of sewage; and*
- e) conveyance of sewage.”*

and:

“A reticulation network for sewage and other sewerage infrastructure used, or to be used, in connection with the reticulation network, where components of the reticulation network or other sewerage infrastructure may also be used for one or more of the following:

- a) storage of sewage; and*
- b) conveyance of sewage.*

Observations made during the audit and review of the documentation provided confirmed that the infrastructure designed, constructed, operated and/or maintained by Veolia and/or Lendlease (an

⁷⁸ Network Operator’s Licence (as varied on 14 July 2015), table 3.2.

⁷⁹ Network Operator’s Licence (as varied on 11 July 2017, tables 1.2A and 1.2B.

⁸⁰ Network Operator’s Licence (as varied on 11 July 2017), table 3.2A and 3.2B.

Authorised Person) is consistent with the specified water industry infrastructure. It is noted that the temporary recycled water plant, which remained in operation until after the Licence was varied on 11 July 2017, had a design capacity of 330 kL/day,⁸¹ which was less than the maximum permitted under the Licence as varied on 14 July 2015.

Authorised purposes:

The Licence as varied on 14 July 2015 nominates the following as the “Authorised purposes” for which the specified “Water industry infrastructure” can be used:

- for use in the supply of non-potable water:⁸²
 - “Part A [purposes for which Part A Water industry infrastructure can be used]
Toilet flushing
Garden irrigation.
 - Part B [purposes for which Part B or Part C Water industry infrastructure can be used]
Golf course irrigation.”
- for use in the provision of sewerage services:⁸³
 - “Collection and treatment of sewage from sites within the specified area of operations set out in Table 3.4.”

The Licence as varied on 11 July 2017 nominates the following as the “Authorised purposes” for which the specified “Water industry infrastructure” can be used:

- non-potable water infrastructure:⁸⁴
 - the treatment plant (and associated infrastructure) can be used for:
 1. *Production of non-potable water*
 2. *Treatment of non-potable water*
 3. *Filtration of non-potable water*
 4. *Storage of non-potable water*
 5. *Conveyance of non-potable water.”*
 - the reticulation network (and associated infrastructure) can be used for:
 1. *Storage of non-potable water*
 2. *Treatment of non-potable water*
 3. *Conveyance of non-potable water.”*

It also nominates the following Authorised purposes for which non-potable water can be used, as follows:⁸⁵

- a) *toilet flushing;*
- b) *garden irrigation;*
- c) *laundry washing (cold tap only); and*
- d) *golf course irrigation.”*
- sewerage infrastructure:
 - the treatment plant (and associated infrastructure) can be used for:
 1. *production of treated non-potable water from sewage;*
 2. *treatment of sewage;*

⁸¹ *Infrastructure Operating Plan*, section 3.

⁸² *Network Operator’s Licence* (as varied on 14 July 2015), table 1.3.

⁸³ *Network Operator’s Licence* (as varied on 14 July 2015), table 3.3.

⁸⁴ *Network Operator’s Licence* (as varied on 11 July 2017), tables 1.3A and 1.3B.

⁸⁵ *Network Operator’s Licence* (as varied on 11 July 2017), clause S1.2.

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3. *filtration of sewage;*
 4. *storage of sewage; and*
 5. *conveyance of sewage.”*

- the reticulation network (and associated infrastructure) can be used for:
 1. *storage of sewage*
 2. *conveyance of sewage.*

Although not all end uses were inspected as part of this audit, review of the documentation provided, observations made during the site inspections and discussions with Veolia personnel during the audit provided no indication that the infrastructure has been or will be used for non-authorised purposes.

It is noted that the Authorised purposes for non-potable (recycled) water were extended to include “*laundry washing (cold tap only)*” in the most recent version of the Licence (as varied on 11 July 2017). Given that the recycled water network, which services domestic and commercial premises, was not charged with recycled water until the permanent recycled water plant was brought into commercial operation in December 2017, recycled water would not have been used for what was previously not identified as an Authorised purpose.

The end-uses of recycled water are discussed further in Table C.8.

Area of operations:

Both versions of the Licence that were in place during the audit period nominate the “Area of operations”, i.e. the area within which the water industry infrastructure may be operated.^{86,87} In each case the areas, which are identified primarily by Development Plan (DP) numbers, are nominated for use in relation to the treatment plant or reticulation infrastructure.

In the absence of relevant mapping, it is not possible to confirm the extent of the area of operations on the basis of DP numbers; however, on the basis of explanations provided and observations made during the audit, it appears that the infrastructure being operated and/or maintained by Veolia lies within the specified area of operations. It is understood that the area of operations covers the full extent of the Wilton/Bingara Gorge development area.

Recommendations

There are no recommendations in respect of this obligation.

Opportunities for improvement

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

⁸⁶ *Network Operator’s Licence* (as varied on 14 July 2015), tables 1.4 and 3.4.

⁸⁷ *Network Operator’s Licence* (as varied on 11 July 2017), tables 1.4A, 1.4B, 3.4A and 3.4B.

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
Network Operator's Licence cl.B1	The Licensee must have the technical, financial and organisational 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.	Compliant
Risk	Target for Full Compliance	
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. If the Licensee has ceased to have this capacity, evidence that it has reported this to IPART immediately in accordance with the Reporting Manual.
Evidence sighted		
<ul style="list-style-type: none"> Interviews with Veolia personnel on 16 May 2018. Site inspection of infrastructure at Bingara Gorge on 16 May 2018. Veolia, <i>Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan</i> (Revision 5), July 2016. Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Management Plan</i> (Revision 7), 18 July 2016. Veolia Water Technologies <i>Organisation Chart</i>, May 2018, page 6 (<i>Service Division – Operations</i>). MS Excel spreadsheet: <i>Bingara Ops Org Chart (1).xlsx</i> [<i>Organisation Chart – Bingara Operations</i>]. Veolia, <i>Position Description; Plant Manager</i>, 14 July 2016. Veolia, <i>Position Description; Plant Operator</i>, 19 July 2016. Curriculum vitae for Patrick Coulton, July 2016. MS Excel spreadsheet: <i>BGP_Training, Development & Assessment Plan_pc_df_bg_Rev8.xlsx</i>. Veolia, <i>VWT Australia Business Continuity Plan</i> (BR03-TOOL03) (Version 1.0), February 2018. 		
Summary of reasons for grade		
<p>Veolia demonstrated that it maintained the technical and organisational capacity to carry out the activities authorised by the Licence during the audit period (and subsequently), and that there was no requirement to report the contrary to IPART. Operational staff assigned to the Bingara Gorge scheme are appropriately qualified and experienced and Veolia's extensive resources provide effective back-up capacity.</p> <p>Accordingly, it was assessed that Veolia was fully compliant with this obligation.</p>		

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:

The Bingara Gorge Recycled Water Scheme is primarily the responsibility of the Plant Manager and two (2) Plant Operators, under the direction of the NSW Service Manager, as shown on the Veolia Water Technologies *Organisation Chart*.⁸⁸ Additional support is provided by the Senior Contracts Manager, Project Manager, WHSEQ Team and administration resources as required.⁸⁹

The requirement for a third operator is currently under review.⁹⁰ A *Delivery Methodology and Resource Plan*⁹¹ assessment indicates that operation and maintenance of the scheme would be more effectively managed with an additional operator.

The *Position Description; Plant Manager*⁹² and *Position Description; Plant Operator*⁹³ identify specific responsibilities in relation to operation and maintenance of water/wastewater treatment plant, and the sewerage and recycled water networks. Each position description identifies the Primary Objectives/Job Purposes; Key Tasks/Responsibilities; Key Performance Indicators and Person Specification. The Person Specification includes requirements in respect of qualifications, experience, technical skills, personal attributes, and other relevant information. The documented requirements of each position are considered appropriate for the role of operating and maintaining the treatment facility and the sewerage and recycled water networks that comprise the Bingara Gorge Recycled Water Scheme.

Review of the *curriculum vitae* for the current incumbent of the Plant Manager position, Patrick Coulton,⁹⁴ (for example) reveals that he holds a Bachelor Degree qualification in Applied Science and more than 30 years of relevant experience having worked internationally as well as in Australia. His experience over the last seven years has been specifically in relation to recycled water schemes, including the current role since July 2016.

Training records for the Plant Manager (Patrick Coulton) and Plant Operator's (Bowden Grace and David Field) were sighted.⁹⁵ These records detailed the training that had been undertaken by each person, together with an indication as to whether they had been "deemed competent" by their manager. Where applicable, the expiry date of current training accreditation was identified.

Copies of all relevant training certification cards, held in the site records, for one of the Operator's (Bowden Grace) were sighted. These included (for example) certification for High Risk Work (various categories), Confined Space, CPR/First Aid and Working at Heights.

Discussions with the Plant Manager (Patrick Coulton) and Project Manager (Craig Hancock) during the audit led to an assessment that they individually and collectively provide appropriate technical capacity, qualifications and experience for the purposes of operating and maintaining the infrastructure.

Organisational Capacity:

Review of the *Organisation Chart*⁹⁶ for Veolia Water Technologies (previously Veolia Water Solutions and Technologies) (the Licensee), reveals that Veolia has resource capacity in respect of services (which includes the operations function), projects and corporate support. The Services Division – Operations group includes some twelve operational staff based in NSW, and more than thirty staff Australia wide.

⁸⁸ Veolia Water Technologies *Organisation Chart*, May 2018, page 6 (*Service Division – Operations*).

⁸⁹ MS Excel spreadsheet: *Bingara Ops Org Chart (1).xlsx* [*Organisation Chart – Bingara Operations*].

⁹⁰ MS Excel spreadsheet: *Bingara Ops Org Chart (1).xlsx* [*Organisation Chart – Bingara Operations*].

⁹¹ MS Excel spreadsheet: *Delivery Methodology & Resource Plan R3 - Pat R3.xlsx*.

⁹² Veolia, *Position Description; Plant Manager*, 14 July 2016.

⁹³ Veolia, *Position Description; Plant Operator*, 19 July 2016.

⁹⁴ Curriculum vitae for Patrick Coulton, July 2016.

⁹⁵ MS Excel spreadsheet: *BGP_Training_Development & Assessment Plan_pc_df_bg_Rev8.xlsx*.

⁹⁶ Veolia Water Technologies *Organisation Chart*, May 2018.

The Projects and Corporate Divisions, also appear to be appropriately staffed.

During the audit interviews, Veolia advised that, in addition to locally based technical support, it can also draw operational support from its resources across Australia, and internationally, if required. Local staff are trained to enable them to work and provide after-hours support across multiple facilities.

Veolia has a *Business Continuity Plan*,⁹⁷ which references detailed procedures and assigns responsibilities for ensuring operational continuity following a severe event in respect of its corporate IT systems, office and warehouse infrastructure and financial loss arising from a contract termination due to Force Majeure.

Capacity can also be assessed from the perspective of organisational preparedness to undertake the authorised activities. As discussed in Table A.4, Veolia has operational procedures in place (principally an *Operation and Maintenance Manual*) that provides the required guidance to operate the infrastructure at Bingara Gorge. Furthermore, it has demonstrated its ability to operate the infrastructure in accordance with the arrangements set out in the *Infrastructure Operating Plan* and the *Sewage and Recycled Water Quality Plan* (refer Table A.4, Table A.5 and Table A.11).

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*⁹⁸ reiterates the requirement for immediate notification and further indicates that such reporting must be verified (signed) by the Licensee's Chief Executive Officer.

On the basis of observations made during the audit, Veolia 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 are identified in respect of this obligation.

⁹⁷ Veolia, *VWT Australia Business Continuity Plan* (BR03-TOOL03) (Version 1.0), February 2018.

⁹⁸ *Reporting Manual*, appendix E, page 35.

Table C.2 **Schedule B to the Network Operator's Licence – Clause B3.2**

Clause	Requirement	Compliance Grade
Network Operator's Licence cl.B3.2	The Licensee must provide a copy of each certificate of currency of the insurance maintained by the Licensee to IPART in accordance with the Reporting Manual.	Compliant
Risk	Target for Full Compliance	
Inadequate insurance presents no significant risk to the operational safety of the scheme, however, may present commercial risk to the Licensee or anyone affected if there adverse impacts from the scheme.	Evidence that the Licensee has provided copies of insurance certificates of currency to IPART in accordance with the <i>Reporting Manual</i> .	
Evidence sighted		
<ul style="list-style-type: none">Interviews with Veolia personnel on 16 May 2018.IPART, <i>Network Operator's Reporting Manual</i> (Issue No: 5), 1 June 2016.Letter dated 8 March 2016 from Veolia to IPART (reference: VWS-BG-L004-IPART) (re: <i>Current Insurance CoCs as per Water Industry Competition Act 2006 (NSW) Regulations</i>).Letter dated 22 December 2017 from Veolia to IPART (reference: VWS-BG-L011-IPART) (re: <i>Bingara Gorge Water Recycled Scheme, NSW; Network Operator's Licence (No. 10_012) and Retail Supplier's Licence (10_13R); Current Insurance CoCs</i>).		
Summary of reasons for grade		
<p>The <i>Reporting Manual</i> requires that insurance certificates of currency are provided to IPART in support of an Insurance Expert's Report or in the event of any change in insurance coverage. Given there were changes to the insurer and the limit of cover for several policies, there was a requirement to notify IPART of such changes and to provide copies of insurance certificates of currency once finalised. Although not submitted specifically in relation to the identified changes in insurance coverage, Veolia did demonstrate that it had provided insurance certificates of currency from which IPART identified that the changes had occurred.</p> <p>Accordingly, it is assessed that Veolia was compliant with this obligation.</p>		
Discussion and notes		
<p>The <i>Reporting Manual</i> requires that insurance certificates of currency are provided to IPART:</p> <ul style="list-style-type: none">as evidence of policy in support of an Insurance Expert's Report, where required;⁹⁹ andas evidence in the event of any change in insurance coverage.¹⁰⁰ <p>The <i>Reporting Manual</i>¹⁰¹ also requires that insurance certificates of currency provided to IPART pursuant to this clause should be provided "immediately", although this appears to be in conflict with the requirements in respect of a change in insurance coverage which requires that a revised certificate of currency should be provided once finalised.</p> <p>As there was no requirement during the audit period to provide an Insurance Expert's Report either:</p> <ul style="list-style-type: none">to demonstrate compliance with the provisions of clause B3.1 of the Licence; or		

⁹⁹ *Reporting Manual*, section 2.6.1 and appendix I.

¹⁰⁰ *Reporting Manual*, section 2.6.2.

¹⁰¹ *Reporting Manual*, appendix E (Item 85).

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- in response to a request from IPART pursuant to clause B3.4 of the Licence, there has been no requirement to submit insurance certificates of currency to IPART in support of an Insurance Expert's Report.

There were, however, several changes in insurance coverage (insurer and amount of cover) during the audit period as detailed in Table C.3. On this basis, there was a requirement to submit insurance certificates of currency to IPART (once finalised).

Although not submitted specifically in relation to the identified changes in insurance coverage, Veolia provided evidence that it had provided copies of insurance to IPART for (or example) the 2016¹⁰² and 2018¹⁰³ calendar years; submission of the certificates of currency for the 2018 calendar year alerted IPART of the changes discussed in Table C.3. On this basis Veolia is considered to have demonstrated compliance with this obligation.

Recommendations

There are no recommendations in respect of this obligation.

Opportunities for improvement

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

¹⁰² Letter dated 8 March 2016 from Veolia to IPART (reference: VWS-BG-L004-IPART) (re: *Current Insurance CoCs as per Water Industry Competition Act 2006 (NSW) Regulations*).

¹⁰³ Letter dated 22 December 2017 from Veolia to IPART (reference: VWS-BG-L011-IPART) (re: *Bingara Gorge Water Recycled Scheme, NSW; Network Operator's Licence (No. 10_012) and Retail Supplier's Licence (10_13R); Current Insurance CoCs*).

Table C.3 **Schedule B to the Network Operator's Licence – Clause B3.3**

Clause	Requirement	Compliance Grade
Network Operator's Licence cl.B3.3	<p>If there is to be a change in:</p> <p>a) the insurer or underwriting panel in respect of an insurance policy held by the Licensee; or</p> <p>b) the type, scope or limit on the amount of insurance held by the Licensee</p> <p>in relation to the activities authorised under this Licence, the Licensee must provide a report to IPART in accordance with the Reporting Manual.</p>	Non-compliant Significant
Risk	Target for Full Compliance	
Non-compliance with this requirement presents no significant risk to the operational safety of the scheme.	Evidence that, in the event that there has been a change in the insurance arrangements, the Licensee has provided a report to IPART in accordance with the <i>Reporting Manual</i> .	
Evidence sighted		
<ul style="list-style-type: none">Interviews with Veolia personnel on 16 May 2018.IPART, <i>Network Operator's Reporting Manual</i> (Issue No: 5), 1 June 2016.Insurance certificates of currency, details from which are presented in Table C.3.1 and C.3.2.Marsh, <i>Risk and Insurance Review – Bingara Gorge Rising Main Project</i>, 5 March 2015.Email from IPART to Veolia and response both dated 4 May 2018 (re: <i>Bingara Gorge – Insurances</i>).Letter dated 22 December 2017 from Veolia to IPART (reference: VWS-BG-L011-IPART) (re: <i>Bingara Gorge Water Recycled Scheme, NSW; Network Operator's Licence (No. 10_012) and Retail Supplier's Licence (10_13R); Current Insurance CoCs</i>).Email dated 23 March 2018 from Veolia to IPART (re: <i>Audit initiation letter - Bingara Gorge – 16 March 2018</i>).		
Summary of reasons for grade		
<p>Comparison of certificates of currency for insurance cover held currently and at the time of the previous (2016) Operational Audit revealed that there had been several changes in both the insurer and the amount of cover (which had been substantially reduced). Comparison of certificates of currency for insurance cover held currently and insurance cover held at the time an Insurance Expert's Report was prepared in 2015 revealed similar findings (all changes had occurred during the audit period). Accordingly, there has been a requirement to notify IPART of changes to insurers and a change in the limit of cover; however, there is no evidence that such notification has been provided.</p> <p>On this basis, it is assessed that Veolia was non-compliant with this obligation, and given that there were significant changes in the amounts of cover, the non-compliance is considered significant.</p>		
Discussion and notes		
Overview:		
<p>The auditors undertook an assessment to determine whether there had been any changes in the insurer or underwriting panel, or the type, scope or limit on the amount of insurance held. The assessment comprised:</p>		

-
- comparing the current (most recent) certificates of currency with certificates of currency for insurance held at the time of the last (2016) Operational Audit; and
 - comparing the current (most recent) certificates of currency with the details of insurance identified in the most recent Insurance Expert's Report, which was prepared in March 2015.

Comparison of Insurance Certificates of Currency:

Details of the insurance cover held at the time of the 2016 Operational Audit and currently, based on the certificates of currency provided, are presented in Table C.3.1. Analysis of these details reveals that:

- There have been changes in insurer for the following cover:
 - Public Liability/Public and Products Liability;
 - Professional Indemnity;
 - Environmental Impairment Liability; and
 - Workers Compensation (it is understood that "icare" now manages all NSW workers compensation policies; accordingly Veolia has had no control in respect of this change).
- There have been reductions in the amount of cover in respect of:
 - Public Liability/Public and Products Liability;
 - Professional Indemnity; and
 - Environmental Impairment Liability.

On the basis of this assessment,¹⁰⁴ there has been a requirement to notify IPART of changes to insurers and a change in the limit of cover that has occurred during the audit period. There is no evidence that such notification has been provided, although Veolia has provided a response to a query from IPART in respect of the changes (which IPART had identified).¹⁰⁵ Veolia's response indicates that some insurance covers that were previously held at a global level are now held regionally, thereby resulting in a reduction in the amount of the cover.

Comparison of Current Insurance Cover with Insurance Expert's Report:

Details of the insurance cover held at the time of the Insurance Expert's Report prepared in 2015 and currently (based on the certificates of currency provided), are presented in Table C.3.2. Analysis of these details reveals that:

- There have been changes in insurer for the following cover:
 - Public Liability/Public and Products Liability;
 - Professional Indemnity;
 - Environmental Impairment Liability; and
 - Workers Compensation (as noted above, it is understood that icare now manages all NSW workers compensation policies; accordingly Veolia has had no control in respect of this change).
- There have been reductions in the amount of cover in respect of:
 - Public Liability/Public and Products Liability;
 - Professional Indemnity; and
 - Environmental Impairment Liability.

Comparison of the information presented in Tables C.3.1 (cover held at the time of the 2016 Operational Audit) and C.3.2 (insurance cover held at the time of the Insurance Expert's Report prepared in 2015) indicates that the identified changes occurred during the audit period.

On the basis of this assessment, there has again been a requirement to notify IPART of changes to insurers and a change in the limit of cover. There is no evidence that such notification has been provided,

¹⁰⁴ It is noted that the auditor is not an insurance expert.

¹⁰⁵ Email from IPART to Veolia and response both dated 4 May 2018 (re: *Bingara Gorge – Insurances*).

although as noted above, Veolia has provided a response to a query from IPART in respect of the changes.

Conclusion:

The assessment outlined above reveals that there were changes in insurance coverage during the audit period; however, notwithstanding some correspondence in relation to this matter, there is no evidence that notification of such changes has been provided to IPART in accordance with the requirements set out in the *Reporting Manual*.

More specifically, considering each of the *Reporting Manual* requirements:¹⁰⁶

- *Where there is a change to the insurer or underwriting panel, IPART must be notified within 30-days after the change* – there is no evidence that Veolia has notified IPART of any changes to its insurance. Whilst Veolia provided certificates of currency that named different insurers for Public Liability and Professional Indemnity insurance nine (9) days prior to the change becoming effective,¹⁰⁷ the change was not identified to IPART. Certificates of currency that named a different insurer for Environmental Impairment Liability insurance was not provided until eighty-five (85) days after the change becoming effective;¹⁰⁸ again the change was not identified to IPART.

It is noted that Veolia contends that submission of the certificates of currency to IPART constitutes notification of change.

- *Where there is a change to the type, scope or sum insured/limit on the amount/limit in indemnity (amounts of cover), IPART must be notified not less than 14-days prior to change initiated by the insurer and 45-days prior to change initiated by the Licensee* – as noted above, although Veolia provided certificates of currency that nominated new amounts of cover, the changes were not identified to IPART. Furthermore, given that the change was initiated by the Licensee,¹⁰⁹ even if the provision of the certificates of currency is considered to constitute notification of change, it was still substantially later than required.
- *Information to be provided to IPART includes (as applicable):*
 - *Name and Australian financial services number of new insurer/underwriting panel* – even if the provision of certificates of currency, which named new insurers, is considered to constitute notification of change, there is no evidence that their Australian financial services numbers have been provided.
 - *New product disclosure statements* – there is no evidence that such statements have been provided.
 - *Reasons for change* – in response to IPART's enquiry, Veolia advised (in effect) that the changes were the result of a review of insurance arrangements and a decision to hold some insurance at regional level rather than globally.¹¹⁰ Whilst this may be deemed to constitute advice of the reasons for change, it was provided substantially later than required (124-days after the changes instead of 45-days prior to the changes).
 - *Revised certificates of currency once finalised* – as reported above, certificates of currency were provided to IPART. The revised certificates of currency in respect of Public Liability and Professional Indemnity are both dated 21 December 2017 and were submitted to IPART on 22 December 2017; however, the certificate of currency in respect of Environmental Impairment Liability is dated 11 January 2018 but was not submitted to IPART until 23 March 2018.

¹⁰⁶ *Reporting Manual*, section 2.6.2.

¹⁰⁷ Letter dated 22 December 2017 from Veolia to IPART (reference: VWS-BG-L011-IPART) (re: *Bingara Gorge Water Recycled Scheme, NSW; Network Operator's Licence (No. 10_012) and Retail Supplier's Licence (10_13R); Current Insurance CoCs*).

¹⁰⁸ Email dated 23 March 2018 from Veolia to IPART (re: *Audit initiation letter - Bingara Gorge – 16 March 2018*).

¹⁰⁹ Understanding based on comment provided by Veolia (refer: Email from IPART to Veolia and response both dated 4 May 2018 (re: *Bingara Gorge – Insurances*)), which states in part that, "...but Veolia insurance team considered several options ...).

¹¹⁰ Email from IPART to Veolia and response both dated 4 May 2018 (re: *Bingara Gorge – Insurances*).

Accordingly, it is recommended (**REC-BG-2018.02**) that Veolia notifies IPART of changes in insurance coverage that were made during the audit period, in accordance with the requirements detailed in the *Reporting Manual*.

Furthermore, as an opportunity for improvement (**OFI-BG-2018.03**), it is suggested that Veolia develops and implements a procedure to systematically review its insurance cover each time it is renewed to assess whether there is a need to notify IPART of any changes.

Recommendations

The following recommendation is made in respect of this obligation:

- **REC-BG-2018.02:** It is recommended that Veolia notifies IPART of changes in insurance coverage that were made during the audit period, in accordance with the requirements detailed in the *Reporting Manual*.
-

Opportunities for improvement

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

- **OFI-2018.03:** It is suggested that Veolia develops and implements a procedure to systematically review its insurance cover each time it is renewed to assess whether there is a need to notify IPART of any changes.
-

Table C.3.1 Comparison of Insurance Cover – Previous Audit to Current based on Certificates of Currency

Cover Type	Details at time of 2016 Audit				Current Details			
	Insurer	Policy Number	Amount ¹	Period of Cover ²	Insurer	Policy Number	Amount ¹	Period of Cover ²
Public Liability /Public and Products Liability	AXA Corporate Solutions Assurance	XFR0074410LI	50,000,000 EUR per loss [equivalent to ≈ A\$77,200,000]	1/01/2016 to 31/12/2016	Allianz Global Corporate & Speciality SE	FRL00218418	\$20,000,000 any one Occurrence and in the aggregate with respect to Products Liability	31/12/2017 to 31/12/2018
Professional Indemnity	AXA Corporate Solutions Assurance	XFR0074410LI	50,000,000 EUR per loss and in the annual aggregate [equivalent to ≈ A\$77,200,000]	1/01/2016 to 31/12/2016	Allianz Global Corporate & Specialty SE	FRL00218418	\$10,000,000 any one occurrence and in the aggregate	31/12/2017 to 31/12/2018
Environmental Impairment Liability	AXA Corporate Solutions Assurance	XFR0074459LI	50,000,000 EUR per claim and in the annual aggregate (with limits) [equivalent to ≈ A\$77,200,000]	1/01/2016 to 31/12/2016	Allianz Global Corporate & Speciality	99-0007182-LCP	Limit maximum AUD \$7,592,750 per occurrence and per aggregate	1/01/2018 to 1/01/2019
Motor Vehicle /Motor Fleet	Zurich	71 2223096 GFT	Part 1 – limited to \$10,000,000 any one event Part 2 – \$30,000,000 but limited to \$10,000,000 for any dangerous goods carrying vehicles	31/12/2015 to 31/12/2016	Zurich	71 2223095 GFT	Part 1 – limited to \$10,000,000 any one event Part 2 – \$30,000,000 but limited to \$10,000,000 for any dangerous goods carrying vehicles	31/12/2017 to 31/12/2018
Workers Compensation	Allianz	20WOR0119465122	See note 3	30/06/2015 to 30/06/2016	icare	109297401	See note 3	30/06/2017 to 30/06/2018

Notes:

- 1 Amounts are Australian dollars (AUD\$) unless specifically noted.
- 2 In most cases, time on start and end dates is nominated; these are such that continuity of insurance is maintained.
- 3 Statutory based on Industry Classification, number of workers and estimated wages.

Table C.3.2 Comparison of Insurance Cover – Insurance Expert’s Report to Current

Cover Type	Details at time Insurance Expert’s Report Prepared (2015)				Current Details			
	Insurer	Policy Number	Amount ¹	Period of Cover ²	Insurer	Policy Number	Amount ¹	Period of Cover ²
Public and Products Liability	AXA Corporate Solutions Assurance	XFR0074410LI	50,000,000 EUR per loss [equivalent to ≈ A\$77,200,000]	1/01/2015 to 31/12/2015	Allianz Global Corporate & Speciality SE	FRL00218418	\$20,000,000 any one Occurrence and in the aggregate with respect to Products Liability	31/12/2017 to 31/12/2018
Professional Indemnity	AXA Corporate Solutions Assurance	XFR0074410LI	50,000,000 EUR per loss and in the annual aggregate [equivalent to ≈ A\$77,200,000]	1/01/2015 to 31/12/2015	Allianz Global Corporate & Speciality SE	FRL00218418	\$10,000,000 any one occurrence and in the aggregate	31/12/2017 to 31/12/2018
Environmental Impairment Liability	AXA Corporate Solutions Assurance	XFR0074459LI	50,000,000 EUR per loss and in the annual aggregate [equivalent to ≈ A\$77,200,000]	1/01/2016 to 31/12/2016	Allianz Global Corporate & Speciality	99-0007182-LCP	Limit maximum AUD \$7,592,750 per occurrence and per aggregate	1/01/2018 to 1/01/2019
Motor Vehicle /Motor Fleet	Zurich	71 2223096 GFT	Part 1 – limited to \$10,000,000 any one event Part 2 – \$30,000,000 but limited to \$10,000,000 for any dangerous goods carrying vehicles	31/12/2014 to 31/12/2015	Zurich	71 2223095 GFT	Part 1 – limited to \$10,000,000 any one event Part 2 – \$30,000,000 but limited to \$10,000,000 for any dangerous goods carrying vehicles	31/12/2017 to 31/12/2018
Workers Compensation	Allianz	20WOR0119465122	See note 3	30/06/2015 to 30/06/2016	icare	109297401	See note 3	30/06/2017 to 30/06/2018

Notes:

- 1 Amounts are Australian dollars (AUD\$) unless specifically noted.
- 2 In most cases, time on start and end dates is nominated; these are such that continuity of insurance is maintained.
- 3 Statutory based on Industry Classification, number of workers and estimated wages.

Table C.4 **Schedule B to the Network Operator's Licence – Clause B3.5**

Clause	Requirement	Compliance Grade		
Network Operator's Licence cl.B3.5	The Licensee must maintain professional indemnity insurance during the Design Phase and for a minimum of 6 years from the date of the completion of the Design Phase.	Compliant		
Risk	Target for Full Compliance			
Failure to maintain professional indemnity insurance presents no significant risk to the operational safety of the scheme, however, may present commercial risk to the Licensee or anyone affected if there adverse impacts from the scheme.	Evidence that the Licensee has maintained professional indemnity insurance during the Design Phase and for a minimum of 6 years from the date of the completion of the Design Phase.			
Evidence sighted				
<ul style="list-style-type: none">Interviews with Veolia personnel on 16 May 2018.Network Operator's Licence No: 10_012 issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 11 July 2017).Insurance certificates of currency, details from which are presented below.				
Summary of reasons for grade				
As design of infrastructure had continued during the audit period, compliance with this obligation was required. Veolia demonstrated, through the provision of relevant insurance certificates of currency, that it had maintained professional indemnity insurance cover throughout the audit period.				
Accordingly, Veolia was assessed to have demonstrated compliance with this obligation.				
Discussion and notes				
The Licence defines "Design Phase" to mean: "... the period during which any design works are carried out in relation to the water industry infrastructure that the Licensee is authorised to construct maintain and operate under this Licence."				
As design of infrastructure continued during the audit period, there continues to be a requirement to maintain professional indemnity insurance.				
Veolia provided copies of certificates of currency for Product Liability/Professional Indemnity or Professional Indemnity insurance cover held during the audit period, as follows:				
Cover Type	Insurer	Policy Number	Amount	Period of Cover
Product Liability /Professional Indemnity	AXA Corporate Solutions Assurance	XFR0074410LI	50,000,000 EUR per loss and in the annual aggregate [equivalent to ≈ A\$77,200,000]	1/01/2016 to 31/12/2016
Professional Indemnity	AXA Corporate Solutions Assurance, Australia AXA Corporate Solutions Assurance, Paris	XAU0000031LI XFR0074410LI	\$5,000,000 any one occurrence and in the aggregate	31/12/2016 to 31/12/2017
Professional Indemnity	Allianz Global Corporate & Specialty SE	FRL00218418	\$10,000,000 any one occurrence and in the aggregate	31/12/2017 to 31/12/2018

On this basis, it is evident that professional indemnity insurance cover has been maintained during the audit period. It is, however, noted that the amount of cover varied and that there was a change of insurer; these matters (which do not reflect non-compliance with this obligation) are discussed in Table C.3.

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.5 **Schedule B to the Network Operator's Licence – Clause B7**

Clause	Requirement	Compliance Grade
Network Operator's Licence cl.B7	<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">a) any source from which the water handled by the Specified Water Industry Infrastructure is derived;b) the authorised purposes of the water (as specified in clause S1.2 if this Licence) handled by the Specified Water Industry Infrastructure;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;d) any other water infrastructure to which the Specified Water Industry Infrastructure is connected;e) the identity of each licensed retail supplier or public water utility that has access to infrastructure services provided by the Specified Water Industry Infrastructure for the purpose of providing sewerage services to its customers;f) any other sewerage infrastructure to which the Specified Water Industry Infrastructure is connected; andg) the arrangements for the disposal of waste from the Specified Water Industry Infrastructure.	No Requirement
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.	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.	
Evidence sighted		
<ul style="list-style-type: none">▪ Interviews with Veolia personnel on 16 May 2018.▪ Site inspection of infrastructure at Bingara Gorge on 16 May 2018.▪ Veolia, <i>Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan</i> (Revision 5), July 2016.▪ Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Management Plan</i> (Revision 7), 18 July 2016.		

Summary of reasons for grade

Veolia 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 Veolia 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*.

Veolia 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.

It is noted that, during the audit period, the Authorised purposes for non-potable (recycled) water were extended to include “*laundry washing (cold tap only)*” (refer Table B.1 and Table C.8); however, that change is not considered to be notifiable for the purposes of this obligation.

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.6 **Schedule B to the Network Operator's Licence – Clause B8**

Clause	Requirement	Compliance Grade
Network Operator's Licence cl.B8	[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.	Network Operator's Licence cl.B8.1 Compliant
	[B8.2] The Licensee must keep the following records of any samples taken for monitoring purposes specified in the Water Quality Plan:	Network Operator's Licence cl.B8.2 Non-compliant Insignificant
	a) the date on which the sample was taken;	Network Operator's Licence cl.B8.3 Compliant
	b) the time at which the sample was collected;	
	c) the point or location at which the sample was taken; and	
	d) the chain of custody of the sample (if applicable).	
	[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 equivalent body.	
Risk	Target for Full Compliance	
This requirement reflects a high operational risk. It is essential that:	Evidence that:	
<ul style="list-style-type: none">detailed sample records are maintained to ensure traceability in the event of a non-compliance; andtesting is undertaken by an accredited laboratory to ensure credibility of results.	<ul style="list-style-type: none">the required records have been kept in respect of collected samples; andsample analysis has been undertaken by NATA accredited laboratory (or equivalent).	
Evidence sighted		
<ul style="list-style-type: none">Interviews with Veolia personnel on 16 May 2018.Site inspection of infrastructure at Bingara Gorge on 16 May 2018.Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Plan</i> (Revision 7), 18 July 2016.Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Plan</i> (Revision 8), 20 April 2018.Veolia, <i>Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan</i> (Revision 5), July 2016.Veolia, <i>Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan</i> (Revision 6), April 2018.NRMMC, EPHC and AHMC, <i>Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006</i> (AGWR).ALS Environmental, <i>Certificates of Analysis</i> (as referenced).MS Excel spreadsheet: <i>BG ALS results.xlsx</i>.MS Excel spreadsheet: <i>PRWP Effluent.xlsx</i>.		

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- Veolia, *Technical Manual; Operation & Maintenance Manual – Bingara Gorge Permanent Wastewater and Recycle Water Plant* (document: A0147VDK0563), 25 May 2017.
 - NATA website accredited facility search at: <https://www.nata.com.au/accredited-facility>
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Summary of reasons for grade

Veolia demonstrated that monitoring is undertaken in accordance with requirements set out in the Licence, the *Sewage and Recycled Water Quality Management Plan* and the *Infrastructure Operating Plan*, and that samples taken for the purposes of Verification Monitoring are analysed in a NATA (National Association of Testing Authorities) accredited laboratory. However, analysis of sampling records revealed that it does not always record the date and time at which samples are taken.

Accordingly, Veolia was assessed not to be fully compliant with these obligations; however, given that the nature of the non-compliance (principally a failure to record the time at which samples are taken), the non-compliance is not considered to be significant.

Discussion and notes

Overview:

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

Performance Monitoring and Review:

The *Sewage and Recycled Water Quality Management Plan*¹¹¹ requires that verification monitoring comprising weekly NATA accredited laboratory testing of treated water samples as follows:

- Whilst the temporary recycled water plant was operating, testing of grab samples for:
 - *E.coli* at the treatment plant discharge;
 - *E.coli* in the golf course storage; and
 - Total Dissolved Solids (TDS) in the golf course storage.
- Once the permanent recycle water plant is operating, testing for parameters including:
 - Total Suspended Solids (TSS), Conductivity, Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Alkalinity as CaCO₃, Ions (Ca, Mg, Na), Total Kjeldahl Nitrogen (TKN), Ammonium Nitrogen (NH₄-N), Nitrate/Nitrite Nitrogen (NO_x-N), Total Nitrogen (TN), Total Phosphorus (TP) and *E. coli* at the inlet to the treated water tanks; and
 - *E. coli* and Total Dissolved Solids (TDS) in the golf course storage.

These sampling and testing requirements are reiterated in the *Infrastructure Operating Plan*.¹¹²

As evidence that the monitoring had been undertaken, Veolia provided the following:

- Laboratory test reports for October 2016 and January, February and March 2018, including (for example):
 - ALS Environmental *Certificate of Analysis* for Work Order No: ES1624299 – samples (ALS Nos: ES1624299-001 at the treatment plant discharge and ES1624299-002 from the golf course storage) taken on 27 October 2016; results reported 2 November 2016 indicate an *E. coli* value of less than one (<1) CFU per 100 mL (i.e. none detected) (limit < 1) in the treated water sample; and an *E. coli* value of ~8 CFU per 100 mL (limit < 1000) and TDS of 412 mg/L (limit < 600) in the golf course storage.
 - ALS Environmental *Certificate of Analysis* for Work Order No: ES1807087 – sample (ALS No: ES1807087-001) of treated water taken on 8 March 2018; results reported 15 March 2018 indicate an *E. coli* value of less than one (<1) CFU per 100 mL (i.e. none detected), TDS of
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¹¹¹ *Sewage and Recycled Water Quality Management Plan*, section 6.5.1.5 (tables 18 and 19).

¹¹² *Infrastructure Operating Plan*, section 14.

478 mg/L, TSS of < 5 Mg/L, BOD of < 2 mg/L, *Clostridium perfringens* of 0 orgs/100 mL, and Somatic Colifage of < 1 pfu/100 mL in the treated water sample; and an *E. coli* value of ~8 CFU per 100 mL (limit < 1000) and TDS of 412 mg/L (limit < 600) in the golf course storage. All values were within limits.

- A summary spreadsheet (file: *BG ALS results.xlsx*), which presents the results of the verification testing for treated water (*E. coli*) prior to the permanent recycled water plant commencing commercial operation and for golf course storage water (*E. coli* and TDS) throughout the audit period. This showed that testing had been undertaken in accordance with the arrangements detailed in the *Sewage and Recycled Water Quality Management Plan*.
- A summary spreadsheet (file: *PRWP Effluent.xlsx*), which presents the results of the verification testing of treated water produced by the permanent recycled water plant commencing 8-weeks prior to the commencement of commercial operation; however, the scope of testing does not appear to have been fully in accordance with the arrangements detailed in the *Sewage and Recycled Water Quality Management Plan*.

As reported above, the *Sewage and Recycled Water Quality Management Plan* indicated that verification testing of recycled water produced by the permanent recycled water plant was to comprise weekly testing of twelve (12) parameters; however, test records (certificates of analysis and the summary spreadsheet) record test results for only six (6) parameters, some of which differ from those nominated in the *Plan*. Reference to the updated (Revision 7) *Sewage and Recycled Water Quality Management Plan* and (Revision 5) *Infrastructure Operating Plan* indicates that the documented monitoring requirements have now been revised, presumably to reflect the monitoring actually being implemented. Notwithstanding, there are two (2) nominated parameters that have not been tested in accordance with the documented requirements.

The revised (Revision 5) *Infrastructure Operating Plan*¹¹³ indicates that weekly testing of treated water for TSS, TDS, BOD, Total Nitrogen (TN), Total Phosphorus (TP), *E. Coli*, *Clostridia* and Coliphages is mandatory. Records indicate that testing for TN and TP has not been undertaken during the audit period.

It is noted, however, that:

- Testing for nutrients (Total Nitrogen or Total Phosphorus) is not identified as components of a typical verification monitoring program for health risks in the *Australian Guidelines for Water Recycling* (AGWR).¹¹⁴
- Testing for nutrients (Total Nitrogen or Total Phosphorus) forms part of Veolia's environmental monitoring program to be implemented in the event of a discharge to the environment.¹¹⁵

On this basis, failure to monitor Total Nitrogen and Total Phosphorus levels in the treated water as required under Veolia's documented monitoring program is not considered to present a risk to public health or the environment. However, as an opportunity for improvement (**OFI-BG-2018.04**), it is suggested that Veolia reviews its ongoing verification monitoring plan and ensures that the documented program is consistent with both verification requirements and actual practice (i.e. the program actually being implemented).

Notwithstanding the above observation, it is noted that testing for nutrients including Total Nitrogen and Total Phosphorus in the treated water has been undertaken subsequent to the audit period; however, there are not yet sufficient records to demonstrate whether this is reflective of short-term or ongoing monitoring of these parameters.

Samples for Water Quality Monitoring:

Sampling procedures for off-site water quality analysis are detailed in the *Operation and Maintenance Manual*.¹¹⁶ This includes details of the records that are to be kept, which are consistent with the Licence

¹¹³ *Infrastructure Operating Plan* (Revision 5), section 13.

¹¹⁴ AGWR, section 5.3.3 (table 5.6).

¹¹⁵ *Sewage and Recycled Water Quality Management Plan*, section 6.5.2.2 (table 23).

requirements. The results of external laboratory testing are provided in each case, such as those referenced above.

The auditor sought to confirm that sampling records had been maintained in accordance with the requirements; Veolia provided some additional *Certificate of Analysis* for review, including:

- ALS Environmental *Certificate of Analysis* Work Order No: ES1626846 – samples ALS Nos: ES1626846-001 at the treatment plant discharge and ES1626846-002 from the golf course storage were both recorded as assumed to have been taken on 24 November 2016 (no time identified) and received at 12:30 on 24 November 2016; the location of the sample was noted; and the name of the sampler was recorded.
- ALS Environmental *Certificate of Analysis* Work Order No: ES1704264 – samples ALS Nos: ES1704264-001 at the treatment plant discharge and ES1704264-002, 003, 004 and 005 from the golf course storage (also recorded as TW-GS, SD.A, SD, SD.B and SD.C respectively) were all recorded as taken at 09:40 on 22 February 2017 and received at 14:05 on 23 February 2017; the location of the sample was noted; and the name of the sampler was recorded.
- ALS Environmental *Certificate of Analysis* Work Order No: ES1723694 – samples ALS Nos: ES1723694-001 at the treatment plant discharge and ES1723694-002, 003, 004 and 005 from the golf course storage were all recorded as taken at 00:00 on 21 September 2017 and received at 12:16 on 21 September 2017; the location of the sample was noted; and the name of the sampler was recorded.

It is noted that:

- Standard sampling locations, which were identified during the audit site inspection, have been adopted.
- The *Certificates of Analysis* indicate that:
“When no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component.”

On the basis of the sampled provided, it is evident that the date and time at which samples are taken is not always recorded in accordance with the requirements. Review of the laboratory test reports provided for October 2016 and January, February and March 2018 revealed a considerable number for which the time that the sample had been taken was not recorded; the date of the sample was not recorded in one report (noted above).

Given that recording of the time at which a sample is taken is a specific requirement of this obligation, it is recommended (**REC-BG-2018.03**) that Veolia takes action to ensure that the time at which each sample for water testing is taken and the date on which it is taken is systematically recorded, together with the other requisite details.

Verification Monitoring of Water Quality:

Veolia engages ALS Environmental to undertake analyses of samples taken for the purposes of Verification Monitoring. ALS Environmental operates a portfolio of highly experienced local water testing laboratories; as indicated on its test certificates ALS Environmental holds NATA Accreditation No: 825 for compliance with ISO/IEC 17025 – Testing. Notes on relevant test certificates also indicate that testing for some parameters (Somatic Coliphage and *Clostridium perfringens*) is undertaken under NATA Accreditation No: 992.

In order to confirm the currency of ALS Environmental’s accreditation, NATA website¹¹⁷ was consulted. A search for Accreditation No: 825 revealed details/scope of accreditation for a number of sites, including site numbers 10911 and 14913 (Smithfield, NSW), which is where Bingara Gorge testing is primarily

¹¹⁶ Veolia, *Technical Manual; Operation & Maintenance Manual – Bingara Gorge Permanent Wastewater and Recycle Water Plant* (document: A0147VDK0563), 25 May 2017, section 10.6.

¹¹⁷ NATA website accredited facility search at: <https://www.nata.com.au/accredited-facility>

undertaken. Similarly, search for Accreditation No: 992 revealed details/scope of accreditation for a number of sites, including site number 989 (Scoresby, VIC).

Of particular interest for the purposes of this audit are the parameters tested under the ongoing verification monitoring program. The scope of ALS Environmental's Accreditation No: 825 includes testing for *E. coli* in recycled waters (site number 14913) and total dissolved solids (TDS), suspended solids (SS), BOD, total nitrogen (TN) and total phosphorus (TP) (site number 10911). The scope of Accreditation No: 992 (site number 989) includes Bacteriophage – Somatic and *Clostridium perfringens*.

Recommendations

The following recommendation is made in respect of these obligations:

- **REC-BG-2018.03:** It is recommended that Veolia takes action to ensure that the time at which each sample for water testing is taken and the date on which it is taken is systematically recorded, together with the other requisite details.
-

Opportunities for improvement

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

- **OFI-BG-2018.04:** It is suggested that Veolia reviews its ongoing verification monitoring plan and ensures that the documented program is consistent with both verification requirements and actual practice (i.e. the program actually being implemented).
-

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

Clause	Requirement	Compliance Grade
Network Operator's Licence cl.B10.5	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.	Compliant
Risk	Target for Full Compliance	
This requirement reflects a high operational risk. In the absence of a clear definition of responsibilities, there is no guarantee that the licensed services will continue to be delivered in a safe and effective manner.		Evidence that, in the absence of a gazetted Water Industry Code of Practice, there is an agreement setting out the respective responsibilities of the Licensee and the party(ies) that are responsible for connected infrastructure.
Evidence sighted		
<ul style="list-style-type: none">Interviews with Veolia personnel on 16 May 2018.Site inspection of infrastructure at Bingara Gorge on 16 May 2018.Wilton Recycled Water Scheme at Bingara Gorge; Code of Conduct for Infrastructure Connection between Veolia Water Solutions & Technologies Pty Ltd, Lend Lease Communities (Wilton) Pty Limited and Sydney Water Corporation, dated October 2013.		
Summary of reasons for grade		
<p>There is a <i>Code of Conduct for Infrastructure Connection</i> in place between Veolia, Lendlease and Sydney Water which details the arrangements in relation to the supply of potable water by Sydney Water for use in the recycled water network prior to recycled water being produced. Veolia advised that it had not contravened the terms of the Code of Conduct during the audit period and the auditor identified no evidence to the contrary.</p> <p>Accordingly, Veolia was assessed as being compliant with this obligation.</p>		
Discussion and notes		
<p>In the absence of a Code of Conduct being established under clause 25 of the Regulation, Veolia, Lendlease and Sydney Water have put in place a <i>Code of Conduct for Infrastructure Connection</i>¹¹⁸ which addresses the requirements of clauses B10.1, B10.2 and B10.3 of the Network Operator's Licence. The <i>Code of Conduct</i> has been in place since October 2013.</p> <p>The <i>Code of Conduct</i> relates to the supply of potable water for use in the recycled water network prior to recycled water being produced.¹¹⁹ Potable water is supplied to Lendlease (scheme owner) under Sydney Water's standard Customer Contract; notwithstanding, the matters that must be addressed under clause B10.2 of the Licence are clearly documented in the <i>Code of Conduct</i>.</p> <p>Veolia advised that it had not contravened the terms of the <i>Code of Conduct</i> during the audit period. The auditor identified no evidence to the contrary.</p>		

¹¹⁸ *Wilton Recycled Water Scheme at Bingara Gorge; Code of Conduct for Infrastructure Connection* between Veolia Water Solutions & Technologies Pty Ltd, Lend Lease Communities (Wilton) Pty Limited and Sydney Water Corporation, dated October 2013.

¹¹⁹ Potable water may also be used to top-up the recycled water storages if required to maintain continuity of supply.

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.8 **Schedule B to the Network Operator's Licence – Clause B11.1**

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.	No Requirement
Risk	Target for Full Compliance	
Non-compliance with this requirement presents a low risk. Notification to IPART is required so that it can assess whether the water to be supplied is suitable for the proposed new end-use.	In the event that the Licensee proposes to operate the Specified Water Industry Infrastructure to supply water for a new end-use, evidence that it provided the requisite notification to IPART.	
Evidence sighted		
<ul style="list-style-type: none">Interviews with Veolia personnel on 16 May 2018.Site inspection of infrastructure at Bingara Gorge on 16 May 2018.Veolia, <i>Bingara Gorge Development; Sewage and Recycled Water Quality Management Plan</i> (Revision 7), 18 July 2016.Veolia website “Important Information” page at: http://www.myrecycledwater.com.au/wilton-rwtp/project-information/important-noticeWilton Recycled Water website “Education” page at: https://www.wiltonrecycledwater.com/education/NRMMC, EPHC and AHMC, <i>Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006</i> (AGWR).		
Summary of reasons for grade		
Veolia did not, during the audit period or subsequently, commence distribution of water for an end-use that is not set out in the <i>Sewage and Recycled Water Quality Management Plan</i> most recently provided to IPART. Accordingly, there was “No Requirement” for compliance with this obligation during the audit period.		
Discussion and notes		
Veolia 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 <i>Sewage and Recycled Water Quality Management Plan</i> most recently provided to IPART, either during the audit period or subsequently. No evidence to the contrary was identified during the audit; however, not all end-uses were inspected.		
The <i>Sewage and Recycled Water Quality Management Plan</i> ¹²⁰ identifies the end uses of recycled water as private/commercial customers; irrigation of public open spaces; and golf course irrigation, noting that recycled water was only to be used for golf course irrigation during the period that the temporary recycled water plant was in operation. It also references the <i>Customer Contract</i> and the Veolia website for details of the customers’ obligations/instructions in respect of the safe use of recycled water.		
The <i>Sewage and Recycled Water Quality Management Plan</i> does not identify specific uses consistent with those listed in the Licence, although the specific domestic/commercial uses (toilets, laundries and gardens where		

¹²⁰ *Sewage and Recycled Water Quality Management Plan*, section 6.2.1.3.

there is an expectation of human contact with recycled water) are referenced in relation to pathogen log removal targets.¹²¹ This implies that these are the proposed uses for recycled water in this scheme.

Review of the *Customer Contract*¹²² and covering *Disclosure Notice*¹²³ reveals that both restrict the use of recycled water to irrigating gardens and flushing toilets. The Veolia website also indicates that recycled water can only be used for irrigation of the golf course; irrigation of gardens; and toilet flushing.¹²⁴ Given the references to these sources of information in the *Sewage and Recycled Water Quality Management Plan*, they could be considered as defining the end uses for which recycled water can be supplied.

It is, however, noted that “Wilton Recycled Water” (customer orientated) website indicates that recycled water can also be used for washing clothes (cold tap only), as follows:¹²⁵

“Flushing your toilets; Watering plants and vegetables in your gardens; Watering your lawns; Irrigation for the golf course; and Washing clothes (cold tap connection only).”

It is also noted that:

- Until the new (permanent) recycled water plant was brought into commercial operation on 8 December 2017, the recycled water network was charged with potable water.
- The Licence that was in place prior to 11 July 2017 identified toilet flushing, garden irrigation and golf course irrigation as Authorised purposes; the Licence as varied on 11 July 2017 also identifies laundry washing (cold tap only) as an authorised purpose for the use of recycled water.
- Treatment (log reduction) requirements, as identified in the *Australian Guidelines for Water Recycling* (AGWR),¹²⁶ for washing clothes and flushing toilets are the same, so it could be considered that the addition of clothes washing does not constitute a change in end use.

Based on the above discussion, it is assessed that Veolia has not (in effect) commenced distribution of water for an end-use that is not set out in the *Sewage and Recycled Water Quality Management Plan* most recently provided to IPART.

However, as an opportunity for improvement (**OFI-BG-2018.05**), it is suggested that Veolia clearly identifies the specific end uses for which recycled water may be used, consistent with the terminology used in the Licence, in its *Sewage and Recycled Water Quality Management Plan*. Furthermore, it should ensure that information provided in its *Customer Contract* and on the www.myrecycledwater.com.au and www.wiltonrecycledwater.com websites in relation to the permitted uses of recycled water is consistent.

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-BG-2018.05:** It is suggested that Veolia clearly identifies the specific end uses for which recycled water may be used, consistent with the terminology used in the Licence, in its *Sewage and Recycled Water Quality Management Plan*.

¹²¹ *Sewage and Recycled Water Quality Management Plan*, section 6.2.1.2.

¹²² Wilton Recycled Water, *Customer Contract; Recycled Water Supply Service and Sewerage Service – Terms and Conditions* (Version 3), January 2015.

¹²³ Wilton Recycled Water, *Disclosure Notice for Wilton Recycled Water and Sewerage Services* (Version 3), January 2015 [Connection Fees Applicable and Connection Fees Not Applicable versions].

¹²⁴ Veolia website “Important Information” page at: <http://www.myrecycledwater.com.au/wilton-rwtp/project-information/important-notice>

¹²⁵ Wilton Recycled Water website “Education” page at: <https://www.wiltonrecycledwater.com/education/>

¹²⁶ AGWR, table 3.8.

Table C.9 **Schedule B to the Network Operator's Licence – Clause B12.1**

Clause	Requirement	Compliance Grade
Network Operator's Licence cl.B12.1	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.	No Requirement
Risk	Target for Full Compliance	
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.
Evidence sighted		
<ul style="list-style-type: none"> Interviews with Veolia personnel on 16 May 2018. Site inspection of infrastructure at Bingara Gorge on 16 May 2018. Network Operator's Licence No: 10_012 issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 11 July 2017). 		
Summary of reasons for grade		
The sole "Authorised Person" (Lendlease Communities (Wilton) Pty Ltd) did not cease, propose to cease, or received notification to cease providing services related to the activities authorised by the Licence during the audit period. Accordingly, there was "No Requirement" for compliance with this obligation.		
Discussion and notes		
Under clauses S1 (Table 1.1) and S3 (Table 3.1) of the Licence, Lendlease Communities (Wilton) Pty Ltd (ACN 110 022 976) is nominated as an "Authorised Persons" in respect of both the supply of non-potable water and the provision of sewerage services respectively. Veolia confirmed that there had been no change and that Lendlease had continued in the role of an Authorised person throughout the audit period.		
Lendlease Communities (Wilton) Pty Ltd is the owner of all infrastructure operated under the Licence and is the party to whom Veolia is contracted for operation and maintenance of that infrastructure. As an Authorised Person, Lendlease has been responsible for design and construction of all scheme infrastructure other than the recycled water plant.		
On that basis, it is apparent that none of the Authorised Persons had ceased, proposed to cease, or received notification to cease providing services related to the activities authorised by the Licence during the audit period.		

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

Clause	Requirement	Compliance Grade
Network Operator's Licence cl.B13	<p>[B13.1] This clause B13 applies each time the Licensee has brought any of the Specified Water Industry Infrastructure into commercial operation.</p> <p>[B13.2] The Licensee must:</p> <ol style="list-style-type: none"> notify IPART in accordance with the Reporting Manual that it has brought the relevant Specified Water Industry Infrastructure into commercial operation; and provide such notification within 10 days after it has brought the relevant Specified Water Industry Infrastructure into commercial operation. 	Compliant
Risk	Target for Full Compliance	
<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 lower risk associated with failing to 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>
Evidence sighted		
<ul style="list-style-type: none"> Interviews with Veolia personnel on 16 May 2018. Site inspection of infrastructure at Bingara Gorge on 16 May 2018. Veolia, <i>Bingara Gorge Development; Combined Sewerage and Water Infrastructure Operating Plan</i> (Revision 5), July 2016. Network Operator's Licence No: 10_012 issued to Veolia Water Solutions and Technologies (Australia) Pty Ltd (as varied on 11 July 2017). IPART, <i>Network Operator's Reporting Manual</i> (Issue No: 5), 1 June 2016. Email dated 8 December 2017 from Veolia to IPART, IPART to Veolia and Veolia to IPART (re: <i>Bingara Gorge – Notification of Commencement of Commercial Operations and Supply – 08 December 2017</i>). 		
Summary of reasons for grade		
<p>Veolia advised that it had brought new infrastructure, specifically the new (permanent) recycled water plant, into commercial operation during the audit period. Veolia also demonstrated that it had notified IPART in accordance with the requirements of this obligation and the Reporting Manual.</p> <p>Accordingly, Veolia was assessed as being compliant with this obligation.</p>		
Discussion and notes		
<p>Consistent with the Licence, the <i>Reporting Manual</i> requires that:¹²⁷</p> <p><i>“Licensees must provide written notice to IPART within 10 business days after commencing commercial operation of Specified Water Industry Infrastructure authorised by a network operator's licence.”</i></p>		

¹²⁷ *Reporting Manual*, section 2.6.8.

The *Reporting Manual* further requires that:¹²⁸

“Licensees must ensure that their written notification includes the following details:

- *the relevant licence number*
- *the Specified Water Industry Infrastructure that has been brought into commercial operation, including a reference to the relevant table in the network operator’s licence (if relevant), and*
- *the date commercial operation started.”*

As reported in Table A.2, Veolia advised that it had brought new infrastructure, specifically the new (permanent) recycled water plant, into commercial operation during the audit period. It also provided evidence that it had provided written notification to IPART that it had done so.¹²⁹

Veolia’s correspondence initially detailed the Licence number and date that commercial operation commenced, and subsequently confirmed that the infrastructure that was brought into operation was consistent with that described in Table 1.2A and Table 3.2A of the Licence. Given that notification was provided on the day that commercial operation of the new infrastructure commenced, such notification was well within the 10-day requirement.

Accordingly, it was apparent that the Licensee had notified IPART that it had brought any Specified Water Industry Infrastructure into commercial operation and that such notification had been provided in accordance with the Licence and the *Reporting Manual*.

Recommendations

There are no recommendations in respect of this obligation.

Opportunities for improvement

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

¹²⁸ *Reporting Manual*, section 2.6.8.

¹²⁹ Email dated 8 December 2017 from Veolia to IPART, IPART to Veolia and Veolia to IPART (re: *Bingara Gorge – Notification of Commencement of Commercial Operations and Supply – 08 December 2017*).

