

Independent Pricing and Regulatory Tribunal
New South Wales

WaterNSW Operational Audit 2018

Report to the Minister

Compliance Report
Water

February 2019

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Summary

Customers in NSW rely on safe and reliable water and wastewater services. Operating licences outline the NSW Government's expectations of publicly owned monopoly suppliers of essential services such as WaterNSW. The Independent Pricing and Regulatory Tribunal of NSW (IPART) conducts annual licence audits to ensure WaterNSW meets these expectations.

IPART has completed the first operational audit (the 2018 audit) of WaterNSW's compliance with the requirements of the new combined Water NSW 2017-2022 Operating Licence (the licence). This audit covers the period from 1 July 2017 to 30 June 2018. We have engaged specialist auditing firm Paradigm Digital Pty Ltd, trading as Atom Consulting (our auditor) to undertake the audit. We have prepared this report to summarise the audit findings for the Minister for Regional Water, the Hon. Niall Blair, MLC.

Our audit findings

In the first audit year of the licence a number of licence obligations were identified which were not met. The audit scope included 36 clauses¹ and identified WaterNSW was compliant with 20 of the audited clauses (with minor shortcomings in some areas). However, there were also a substantial number of non-compliances (16 clauses). In summary the findings of the audit were:

- ▼ Twelve Compliant clauses
- ▼ Eight Compliant (minor shortcomings) clauses
- ▼ Nine Non-compliant (non-material) clauses
- ▼ Seven Non-compliant (material) clauses

Our auditor prepared a final report detailing its findings and recommendations (Appendix C).

The audit identified material non-compliances with the adequacy of the Water Quality Management System (WQMS), water supplied performance standards, Asset Management System (AMS), Customer Supply Agreements (other than Sydney Water), water metering and monitoring and supplying in accordance with Customer Supply Agreements.

The audit also identified that some of the same underlying issues, specifically the deficiencies in WaterNSW's WQMS and AMS, impacted upon compliance across multiple parts of the licence.

We acknowledge that WaterNSW has undergone significant change in its operations and regulatory requirements in recent years, including a new operating licence (ie, the licence),

¹ Our auditor audited 34 clause, and IPART audited an additional two clauses.

the conferral of functions and transfer of staff and assets from the then Department of Primary Industries², the establishment of the Natural Resource Access Regulator (NRAR)³, and the integration of systems and processes from the Sydney Catchment Authority and State Water Corporation⁴. Compared to the previous WaterNSW licences⁵, the licence includes both new obligations and changes to the wording of some clauses. Clauses such as the Water Quality Management Systems and Asset Management Systems have more inter-linkages with other clauses when compared to the previous licences.

However, the audit findings indicate that WaterNSW has not yet fully integrated the systems it inherited from the three former organisations – Sydney Catchment Authority, State Water Corporation and the Department of Primary Industries. Further, some of the findings indicate that WaterNSW has not fully responded to its new regulatory framework, particularly the change to the licence obligations.

Our recommendations

We have made 20 recommendations on how WaterNSW can improve and maintain compliance with the licence in those areas where we assigned less than full compliance. These recommendations are based on the findings of the audit and should be read in conjunction with each of the relevant clauses. Our recommendations also are listed below and grouped in three categories according to priority and materiality

Priority recommendations to WaterNSW

- | | | |
|---|---|----|
| 1 | By 30 September 2019, WaterNSW should review and amend its Water Quality Management System to ensure that each water category covered by the WQMS addresses each element, component and activity of the Australian Drinking Water Guidelines framework. | 16 |
| 2 | By 30 September 2019, WaterNSW should document its procedures and process to manage materials and chemicals used in its system where the water is supplied for a drinking water end-use. | 16 |
| 3 | By 31 December 2019, WaterNSW should review the operational and process control procedures underpinning its Water Quality Management System and: | 16 |
| | a. identify the required operational procedures from catchment to consumer for processes and activities under its control | 16 |
| | b. develop a plan to compile this information | 16 |

² On 1 July 2016 all customer facing functions, operational functions, and the management of surface and groundwater transferred from Department of Primary Industries - Water to WaterNSW.

³ NRAR is an independent regulator established in 2017 under the *Natural Resources Access Regulator Act 2017*. NRAR has total carriage of the compliance and enforcement of water management legislation in NSW. Prior to the NRAR, these functions were split between WaterNSW and the Department of Industry - Water.

⁴ On 1 January 2015 WaterNSW was established by the effective merger of the Sydney Catchment Authority and State Water Corporation.

⁵ From 1 January 2015 until 30 June 2017, WaterNSW operated under two licences, the *Water NSW (Sydney Catchment Authority) Operating Licence 2012-2017* and the *Water NSW (State Water) Operating Licence 2013-2018*.

- c. commence implementation of the plan and document operational procedures for all processes and activities (eg, preventive measures, operational monitoring and verification procedures and maintenance requirements), and 17
 - d. commence staff training to ensure staff are trained and proficient to implement the new operational procedures. 17
- 4 By 31 December 2019, WaterNSW should review the manner in which it conducts all water utility risk assessments to ensure it meets the requirements of elements 2 and 3 of the ADWG framework and the licence obligation. 17
- 6 By 31 December 2019, WaterNSW should revise the Asset Management System to ensure it is consistent with clause 5.1.1 in particular: 26
 - the scope accurately reflects the licence requirements including the Design Criteria, and related requirements for water supply security, robustness and reliability are adequately incorporated within the system 26
 - the correct stakeholders have been identified and that stakeholder requirements including those relating to supply interruptions are reflected 26
 - identify whether any elements of the Asset Management System do not meet the requirements and intent of the Strategic Asset Management Plan and if found, make a plan to revise the relevant elements to ensure that the Asset Management System meets the requirements and intent of the Strategic Asset Management Plan 26
 - revise the Fish River Water Supply Scheme Incident Management Plan so that it reflects stakeholder requirements, and 26
 - identify if any other processes or documents for managing supply interruptions should be revised to meet stakeholder requirements and develop a plan and timeframe for revising these processes and documents. 27

Recommendations to WaterNSW on all other material non-compliances:

- 9 By 1 June 2019, commence re-negotiation of the Customer Supply Agreement with Wingecarribee Council, with the intent of including water quality reporting that meets the sampling and monitoring capability of the supply system. 33
- 10 By 31 December 2019, WaterNSW should undertake a risk-based review of Customer Supply Agreements across all types of customers (including all customers who are supplied drinking water) to ensure that the supply of water meets the terms and conditions of those agreements. 33
- 11 By 30 June 2020, WaterNSW should develop and implement processes to address identified gaps based on the outcomes of the review of Customer Supply Agreements (Recommendation 10). 33
- 12 By 30 September 2019, WaterNSW should set objectives for the accuracy of water take determination with respect to billing, account management and reporting. 35

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- 13 By 31 December 2019, WaterNSW should assess the accuracy of its water take estimates for the purposes of billing, account management and reporting. 35

All other recommendations to WaterNSW

- 5 By 31 December 2019, WaterNSW should explicitly identify how the research program for each Declared Catchment Area relates to catchment management and catchment health. 21
- 7 By 31 December 2019, Water NSW should provide an updated plan for completion of Asset Class Standards with appropriate owners assigned to each action in the plan. 27
- 8 By 31 December 2019, WaterNSW should ensure that all Customer Supply Agreement templates and relevant supporting processes are reviewed to ensure: 32
- relevant and current regulatory instruments are included, including references to the Plumbing Code of Australia, and all requirements of clause 6.1.3 and clause 6.8.3 32
 - templates are kept under regular review 32
 - users of the templates are prompted to check the most up to date version of the licence and other regulatory instruments, and 32
 - users of Customer Supply Agreements, including the legal representatives who review them, are trained to use the template and do not use previous agreements. 32
- 14 By 31 December 2019, WaterNSW should establish a register of ownership and responsibilities for all meters in which it has a joint interest. 35
- 15 By 30 September 2019, WaterNSW should ensure that a process is in place to record assessment and approval of nominations to the Customer Advisory Groups in accordance with reference to both the Customer Advisory Group Charter and requirements of the licence clause 6.5.4. 37
- 16 By 31 December 2019, WaterNSW should review the Code of Practice on Payment Difficulties to clarify procedures for all modes of identification of hardship (ie, self, community welfare organisations, and WaterNSW). 39
- 17 By 30 September 2019, WaterNSW should include a definition of financial hardship in the Debt Management Code of Practice. WaterNSW should ensure that Customer Support Officers are trained in this definition and that records are kept to support when customers are first identified as experiencing financial hardship. 40
- 18 By 30 September 2019, WaterNSW should ensure that a water quality category and associated issue descriptors are added to the customer complaint issues for capturing relevant information, including information that could signal contamination of the drinking water supply. 41
- 19 By 31 December 2019, WaterNSW should ensure that Customer Service Officers are trained in responding to customer complaints and issues relating to water quality,

including distinguishing whether the customer knows whether they are receiving potable or non-potable water. 41





- 20 By 31 December 2019, WaterNSW should review the roles and responsibilities in the Deed of Business Transfer (or the most recent variation of the Deed) for the conduct of the Conferred Functions specified in Schedule A of the licence, to clarify and confirm the roles and responsibilities with the Department of Industry – Water, and ensure it remains current in light of changes to the conferred functions. 43

Our Water NSW Reporting Manual⁶ requires WaterNSW to provide a report on its progress in implementing these recommendations by 31 March 2019 or a later date agreed by IPART. Due to the delay to the timing of the audit,⁷ we have provided an extension so that WaterNSW's progress report is now due on 31 May 2019.


Overview of audit findings

The 2018 audit found that WaterNSW had demonstrated a moderate level of compliance with the licence. This is the first audit in the 5-year term of the licence. The audit identified 16 non-compliances.

In 2018, we audited 36 clauses of the WaterNSW licence and assigned:

- ▼ 12 clauses  Compliant grades,
- ▼ eight clauses  Compliant (minor shortcomings) grades,
- ▼ nine clauses  Non-compliant (non-material) grades, and
- ▼ seven clauses  Non-compliant (material) grades.

The compliance grades are explained in Appendix A. In summary we assigned:

- ▼ **Compliant**  with all auditable requirements relating to:
 - water quality management system relating to notification to IPART and NSW Health of any significant changes proposed to the water quality management system (clause 2.1.5),
 - research on catchments reporting (clause 2.8.2),
 - water supplied performance standards (clause 4.2.2),
 - customer advisory groups (clauses 6.5.1, 6.5.2 and 6.5.5),
 - code of practice on payment difficulties (clause 6.8.1),
 - internal complaints handling procedure (clauses 6.9.2, 6.9.3 and 6.9.4)
 - Memorandum of Understanding with Department of Planning and Environment (clause 16.5.1), and

⁶ Current revision issued in July 2018 <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-working-papers-water-reporting-manuals-all-public-water-utilities/reporting-manual-waternsw-operating-licence-2017-2022-%E2%80%93-july-2018.pdf>






⁷ The audit was delayed from September - December 2018, to October 2018 - February 2019 mainly due to auditor availability.




- website statement setting out the roles and responsibilities required under clause 6.16.1 (clause 6.16.2).
- ▼ **Compliant (minor shortcomings) (✓)** with requirements for:
 - implementation of the water quality management system (clause 2.1.4),
 - research program on Declared Catchment Areas⁸ (clause 2.8.1),
 - water supply (clause 3.2.1),
 - water metering and monitoring (clause 6.3.2),
 - customer advisory groups (clauses 6.5.3 and 6.5.4)
 - code of practice on payment difficulties (clause 6.8.4), and
 - roles and responsibilities with Department of Primary Industries Water (clause 6.16.1).
- ▼ **Non-compliant (non-material) (✗)** with requirements for:
 - catchment management (clause 2.2.1),
 - catchment infrastructure works management (clause 2.4.1),
 - water management works construction, maintenance and operation (clause 3.1.1),
 - asset management system relating to its implementation (clause 5.1.2),
 - customer supply agreements for customers other than Sydney Water (clauses 6.1.1 and 6.1.3)
 - code of practice on payment difficulties relating to its inclusions (clauses 6.8.2 and 6.8.3) and,
 - internal complaints handling procedure relating to its maintenance consistent with a standard in accordance with the licence (clause 6.9.1).
- ▼ **Non-compliant (material) (✗)** with requirements for:
 - water quality management system relating to its maintenance (clauses 2.1.1, 2.1.2 and 2.1.3),
 - water supplied performance standards relating to managing service interruptions in accordance with the asset management system (clause 4.2.3),
 - asset management system relating to its maintenance (clause 5.1.1),
 - customer supply agreements for customers other than Sydney Water relating to supplying water only in accordance with the supply agreements (clause 6.1.2),
 - water metering and monitoring relating to determining the volume of water, and extracted by or supplied to WaterNSW's customers (clause 6.3.1).



WaterNSW's compliance is summarised in Table 1 below.

⁸ Declared Catchment Areas has the meaning given to it by the *Water NSW Act 2014*.

Table 1 WaterNSW’s compliance in 2018, the first year of its 2017-2022 Operating Licence

Licence part	Number of audited clauses	Compliance grade assigned				
						
Part 1 – Licence context and authorisations	-	-	-	-	-	-
Part 2 – Water Source protection and conservation	9	2	2	2	3	-
Part 3 – Bulk Water storage and transmission	2	-	1	1	-	-
Part 4 – Performance Standards	2	1	-	-	1	-
Part 5 – Organisational systems management	2	-	-	1	1	-
Part 6 – Customer and stakeholder relations	21	9	5	5	2	-
Part 7 – Performance monitoring and reporting	-	-	-	-	-	-
Part 8 – Definitions and interpretation	-	-	-	-	-	-
Total	36	12	8	9	7	-

Note:  = Compliant;  = Compliant (minor shortcomings);  = Non-Compliant (non-material);

 = Non-Compliant (material);  = Not Requirement.

Source: Atom Consulting, *WaterNSW 2018 Operational Audit*, Final Report 1 February 2019 and IPART audit.

Annual statement of compliance


In preparing this report we have also reviewed WaterNSW’s annual Statement of Compliance (Appendix D). This is an exception-based report⁹ certified by the CEO and the Chair of the Board of Directors of WaterNSW. It lists any licence non-compliances that WaterNSW considers occurred during the year. Any remedial action taken, or in the process of being taken, by WaterNSW is also reported. This year WaterNSW reported no non-compliances with the licence.

Progress with previous recommendations

WaterNSW completed two out of four outstanding recommendations from previous operational audits. Two recommendations are continuing:

- ▼ Recommendation 2016-17-03 was partially completed. WaterNSW had completed a risk assessment workshop for its mixer and aerator assets. However, we consider that WaterNSW has not determined appropriate strategies and controls for managing the identified risks.

⁹ This means reporting only on those clauses where WaterNSW considers it is non-compliant.

- 
- ▼ Recommendation 2016-17-04 requires WaterNSW to implement the strategies and controls determined in the previous continuing Recommendation 2016-17-03. As this recommendation is dependent on the successful completion of the recommendation 2016-17-03, it is also continuing.

We have noted a number of issues with WaterNSW's risk assessments including those captured in the continuing recommendations above. These issues contributed to the non-compliant (material) grades that WaterNSW was assigned for clauses 2.1.2 and 2.1.3 of the licence (related to water quality). Recommendation 5 from this audit encompasses continuing recommendations 2016-17-03 and 2016-17-04. For completion, we will monitor and report on progress against these continuing recommendations during future audits.

Our audit approach

We do not audit each licence clause each year, instead we adopt a risk-based audit approach. This means, we audit 'high risk' clauses more frequently and 'low risk' clauses less frequently. Audits are conducted in accordance with our *Audit Guideline – Public Water Utilities* (Audit Guideline) which is available on our website. In our 2018 review of the Audit Guideline we changed the audit grades.

1 Introduction and scope

WaterNSW is owned by the NSW Government. WaterNSW's listed functions, undertaken under the authority of the licence are to capture, store, release water into the state's rivers and channels, supply¹⁰ water to Sydney Water and other customers specified in the licence, construct, maintain and operate water management works, protect and enhance the quality and quantity of water in Declared Catchment Areas¹¹, manage and protect Declared Catchment Areas and water management works, undertake research on catchments and undertake an educative role in the community, in its area of operations.

These roles and responsibilities, as well as WaterNSW's objectives, are prescribed by the *State Owned Corporations Act 1989* (NSW), the *Water NSW Act 2014* (NSW) (the Act) and the licence issued to WaterNSW under Section 11 of the Act.

We have completed the 2018 audit of WaterNSW's compliance with the obligations imposed on it by the licence for the period 1 July 2017 to 30 June 2018. We do this by receiving and reviewing reports, undertaking and attending audit interviews with WaterNSW staff, and undertaking field verification to investigate how effectively the requirements of the licence are met in practice. We report our findings to the Minister for Regional Water (the Minister).

We took a risk-based audit approach to determine the scope of the WaterNSW audit, and an evidence-based approach to the audit. We also assessed compliance by reviewing an annual Statement of Compliance prepared and certified by WaterNSW (Appendix D). This is an exception-based report listing any licence non-compliances that WaterNSW identified and what remedial action has been taken, or is being taken, to resolve any reported non-compliances.

1.1 Purpose and structure of this report

This report informs the Minister of WaterNSW's performance against its audited licence obligations for the audit period and sets out recommendations in response to these findings.

- ▼ This chapter (Chapter 1) explains the scope of the audit review and the process followed in undertaking the audit.
- ▼ Chapter 2 presents the audit findings and recommendations.
- ▼ Chapter 3 summarises the progress by WaterNSW to address and implement recommendations from previous audits.
- ▼ Appendix A explains the compliance grades used for the audit.

¹⁰ Supply is defined in WaterNSW's licence to mean the supply by WaterNSW of water taken from the State's water rights under WaterNSW's water access licences to a customer (in accordance with a relevant Customer Supply Agreement or an arrangement with Sydney Water under section 25 of the Act) by means of Water Management Works owned and/or controlled by WaterNSW. The usage of this term throughout this report refers to the defined term of the operating licence unless indicated otherwise.

¹¹ As defined in the *Water NSW Act 2014*.

- ▼ Appendix B explains the scope of the audit in detail.
- ▼ Appendix C contains our auditor’s detailed audit report.
- ▼ Appendix D contains WaterNSW’s annual Statement of Compliance.

1.2 Audit scope

This audit covers the period from 1 July 2017 to 30 June 2018.

The audit scope for this year included licence obligations relating to:

- ▼ Water Source protection and conservation (Part 2) – requirements relating to the Water Quality Management System, catchment management, catchment infrastructure works management and research on catchments.
- ▼ Bulk Water storage and transmission (Part 3) – water management works construction, operation and maintenance and water supply.
- ▼ Performance Standards (Part 4) – water supplied performance standards.
- ▼ Organisational systems management (Part 5) – Asset Management System.
- ▼ Customer and stakeholder relations (Part 6) – customer supply agreements for customers other than Sydney Water, water metering and monitoring, customer advisory groups, code of practice on payment difficulties, internal complaints handling procedure and roles and responsibilities with Department of Industry – Water (DoI-Water).

No clauses from Part 1 (licence context and authorisations), Part 7 (performance monitoring and reporting), Part 8 (Definitions and interpretation) or the Schedules were audited this year, following the risk-based approach used in the auditing program.

We consulted with NSW Health, DoI-Water, the Environment Protection Authority (EPA) and the Department of Planning and Environment (DPE) and sought public submissions in determining the scope of the audit. The audit scope is provided in Appendix B. All submissions indicated that stakeholders were generally satisfied that WaterNSW had met its obligations under the licence relevant to its portfolio. DoI-Water, EPA and DPE raised no concerns.^{12,13,14} NSW Health, however, raised concerns about WaterNSW’s management of incidents during the audit period.¹⁵

NSW Health identified that two unexplained hydrocarbon spikes occurred on a meter in the Upper Canal (considered in the audit of licence clauses 2.1.1, 2.1.2, 2.1.3 and 2.1.4). NSW Health noted it had “no reason to believe that these events represented a risk to public health” NSW Health noted that “the first occurrence was not notified to NSW Health in accordance with

¹² Letter to IPART, Ms Liz Livingstone, Deputy Secretary, Lands and Water, Department of Industry, 31 August 2018.

¹³ Letter to IPART, Ms Giselle Howard, Regional Director Metropolitan, EPA, 15 August 2018.

¹⁴ Email to IPART, Ms Prue Gusmerini, Acting Executive Director Water and Utilities, DPE, Executive Services, 21 August 2018.

¹⁵ Letter to IPART, Dr Kerry Chant PSM, Deputy Secretary Population and Public Health and Chief Health Officer, NSW Health, 17 August 2018.

protocols". Further, NSW Health noted WaterNSW reviewed the value of the data collected at this meter.¹⁶

NSW Health also noted that it previously raised issues with WaterNSW's processes for water testing and access to expert advice during incidents to ensure public health risks are assessed in a timely manner. Further, NSW Health considered that there is an ongoing need for WaterNSW to manage sites affected by chemical spills and, more broadly, any chemical risks associated with activities in the Sydney catchments (considered in the audit of licence clauses 2.1.1, 2.1.2, 2.1.3 and 2.1.4).

The EPA commented that its Memorandum of Understanding (MoU) with WaterNSW was working effectively. It also provided some general comments on the Sydney drinking water catchments (considered in the audit of clause 2.1.1).

DPE stated that it no longer required a MoU with Water NSW (as required under clause 6.15 of the WaterNSW licence).¹⁷ For this reason, we did not include this clause in our auditor's scope. We did however audit WaterNSW's compliance with this clause. Our findings are discussed in section 2.5 of this report.

We sought submissions from the public on matters related to the licence prior to the audit interviews. We advertised for public submissions in the *Sydney Morning Herald*, *Daily Telegraph* and *Newcastle Herald* on 25 July 2018 and *The Land* on 26 July 2018. We received no public submissions.

1.3 The audit process

We assess the risk of non-compliance with a licence obligation to determine an appropriate audit frequency for that requirement. We audit all requirements of the licence at least once during the 5-year term of the licence.


In developing our 5-year audit programs and annual audit scopes we apply IPART's *Compliance and Enforcement Policy, December 2017*. This policy sets out our risk-based regulatory model which allows us to:

- ▼ focus on allocating resources to areas of higher risk
- ▼ increase our efficiency, and
- ▼ tailor our enforcement response.

We base our risk-based approach on evaluating the risk that each part of our regulatory function aims to reduce. We evaluate the risk by considering the likelihood of harm occurring in the absence of our regulatory controls and the potential consequence of that harm. We then consider how likely it is that a regulated entity will not properly implement a regulatory control.

¹⁶ Letter to IPART, Dr Kerry Chant PSM, Deputy Secretary Population and Public Health and Chief Health Officer, NSW Health, 17 August 2018.

¹⁷ Email to IPART, Ms Prue Gusmerini, Acting Executive Director Water and Utilities, DPE, Executive Services, 5 September 2018.



We identify and document historical, current and emerging risks. This allows allocation of resources in proportion to the risk and complexity of regulated entities and behaviours.

We engaged Paradigm Digital Pty Ltd, trading as Atom Consulting, as our auditor to undertake the 2018 audit of WaterNSW. We required our auditor to undertake the following tasks:

1. Receive stakeholder submissions and comments for inclusion in the audit scope.
2. Prepare an information request (questionnaire) setting out all the requirements for information and evidence, at least two weeks prior to the commencement of audit interviews.
3. Review reports and documents provided by WaterNSW in response to the questionnaire.
4. Conduct interviews with WaterNSW staff at its offices.
5. Conduct field verification and assess the implementation of WaterNSW's systems and procedures.
6. Assess the level of compliance (according to our compliance grades) WaterNSW achieved for each of the identified obligations of the licence and provide supporting evidence for this assessment (Appendix A)
7. Assess and report on progress by WaterNSW in addressing any comments made by the relevant Minister and/or our recommendations from previous audits, providing supporting evidence for these assessments.
8. Verify the calculation of performance indicators associated with requirements of the relevant licence and assess trends in performance arising from these indicators.
9. Provide drafts of the audit report to us and address comments from WaterNSW and us regarding draft audit findings.
10. Prepare a final report outlining audit findings (Appendix C).

Our auditor adopted a methodology consistent with *ISO 19011:2018 Guidelines for Auditing Management Systems*. This guideline defines the requirements of an audit, ensuring that it is conducted in accordance with an established and recognised audit protocol. Where appropriate, our auditor also sought guidance from *ASAE 3100 (2017) Compliance Engagements* (issued by the Auditing and Assurance Standards Board), *AS/NZS ISO 9001:2016 Quality management systems – Requirements*, and the Aquamark asset management benchmarking tool (now referred to as Asset Management Customer Value).

Our auditor also carried out the audit according to our *Audit Guideline - Public Water Utilities, June 2018* (Audit guideline or this guideline).¹⁸ Under this guideline, our auditor will make recommendations and may suggest opportunities for improvement.

Our auditor prepared a final report detailing its findings and recommendations (Appendix C). We endorse all of our auditor's findings except for two clauses where we have:

¹⁸ Available on our website (www.ipart.nsw.gov.au). The latest version of the Audit Guidelines was released in September 2018.

- ▼ assigned a Non-compliant (non-material) grade to clause 6.9.1 instead of a Non-compliant (material) grade; and
- ▼ assigned Compliant (minor shortcomings) grade to clause 6.16.1 instead of a Non-compliant (material) grade.

Where we support our auditor's findings, we make our recommendations based on our auditor's recommendation. Where our auditor suggested opportunities for improvement, WaterNSW can decide whether to implement these suggestions. This approach should balance improved performance with the investment required to achieve it. That is, we want WaterNSW to first consider the pricing implications and value for money of continued improvement. As a consequence, while we encourage WaterNSW to consider our auditor's suggested opportunities for improvement, we do not follow these up.

We held a project start-up meeting with our auditor on 23 July 2018 to agree on the project milestones, audit timing, and outline our expectations. We also held an audit start up meeting with WaterNSW and our auditor on the first day of the audit interviews, on 29 October 2018. At this meeting, expectations and protocols for the conduct of the audit were agreed. All parties adhered to the agreed protocols throughout the audit.

Our auditor conducted audit interviews from 29 October to 2 November 2018 at WaterNSW's offices in Parramatta. On 1 and 2 November 2018, our auditor also undertook site visits to the following locations:

- ▼ Burrawang Pump Station
- ▼ Nepean Dam
- ▼ Corrimal No. 3 Shaft.

Our auditor assessed WaterNSW's compliance with the relevant requirements of the licence as per the compliance grades outlined in Appendix A.

1.4 Escalation of issues

We note that WaterNSW disagreed with our auditor's audit grades. To formally raise its concerns within the audit process, WaterNSW commenced an 'escalation of issues' following the first draft report, in accordance with section 3.2 of the Audit Guideline. The escalation was specifically focussed on the audit grades assigned to clauses 2.2.1, 3.2.1 and 4.2.2 and the inter-linkages with other parts of the licence.

IPART managed the escalation of issues in accordance with the Audit Guideline where the IPART Secretariat met with WaterNSW twice to discuss its issues with our auditor's draft findings.

Under the Audit Guideline comments made by IPART and WaterNSW on the second draft report are limited to matters of fact only. However, under the escalation of issues section in the Audit Guideline, the Secretariat permitted WaterNSW to provide comments separately on matters of evidence and interpretation. WaterNSW provided such comments. These were considered by IPART in assigning audit grades and making recommendations in this report. We endorse all of our auditor's findings except for two clauses.

2 Audit findings and recommendations

This chapter provides a summary of the final audit findings and recommendations for each of the audited clauses of the licence. The 2018 audit is the first audit of the licence.





Each section below details WaterNSW's performance against the audited licence clauses during the licence period. Following each table, we discuss compliance and the reasoning for the grade. We also discuss any recommendations and opportunities for improvement.

2.1 Water Source protection and conservation

Our auditor assigned WaterNSW Compliant grades for clauses 2.1.5 and 2.8.2, Compliant (minor shortcomings) grades for clauses 2.1.4 and 2.8.1, Non-compliant (non-material) grades for clauses 2.2.1 and 2.4.1 and Non-compliant (material) grades for clauses 2.1.1, 2.1.2 and 2.1.3.






Part 2 of the licence (Water Source protection and conservation) sets out the obligations on WaterNSW on the Declared Catchment areas¹⁹ and Non-Declared Catchment Areas.²⁰ Details about each Part 2 obligation included in the audit are set out below.

Table 2.1 Compliance with Part 2 of the licence – Water Source protection and conservation

Clause	Requirement	Compliance grading				
		2017-18	2018-19	2019-20	2020-21	2021-22
2	Water Source protection and conservation					
2.1	Water Quality Management System					
2.1.1	Maintain a WQMS		-	-	-	-
2.1.2	With respect to Declared Catchment Areas, maintain a WQMS consistent with the licence		-	-	-	-
2.1.3	With respect to Non-Declared Catchment Areas from which WaterNSW Supplies water, maintain WQMS consistent with the licence		-	-	-	-
2.1.4	Implement relevant WQMS and carry out all relevant activities in accordance with the WQMS and to the satisfaction of NSW Health		-	-	-	-

¹⁹ As defined in the *Water NSW Act (2014)* (the Act).

²⁰ As defined in the licence.

Clause	Requirement	Compliance grading				
		2017-18	2018-19	2019-20	2020-21	2021-22
2	Water Source protection and conservation					
2.1.5	Notify IPART and NSW Health of any significant changes proposed to be made to a WQMS		-	-	-	-
2.2	Catchment management					
2.2.1	Manage and protect the Declared Catchment Areas in a manner consistent with WaterNSW's objectives and functions under the Act, and the WQMS, AMS and the EMS required under the licence		-	-	-	-
2.4	Catchment Infrastructure Works management					
2.4.1	Ensure that in Declared Catchment Areas, the Catchment Infrastructure Works are operated and managed consistently with the Design Criteria and the AMS referred to in the licence		-	-	-	-
2.8	Research on catchments					
2.8.1	Maintain a program of research for each Declared Catchment Area, consistent with the requirements of this clause.		-	-	-	-
2.8.2	Report on research programs referred to in clause 2.8.1 of the licence.		-	-	-	-

Source: Atom Consulting, *WaterNSW 2018 Operational Audit*, Final Report 1 February 2019; IPART audit and analysis

Note: Please note the change in audit grades and definitions when comparing this year's audit grades with the audit grades of previous years.

Non-compliant (material) (clause 2.1.1) with maintaining a WQMS

Our auditor assigned WaterNSW a Non-compliant (material) grade for clause 2.1.1 which requires WaterNSW to maintain a WQMS in accordance with clause 2.1 of the licence. Clause 2.1 includes obligations on WaterNSW to maintain a WQMS consistent with the Australian Drinking Water Guidelines (ADWG) or other specified requirements for the Declared Catchment Area (clause 2.1.2) and Non-Declared Catchment Areas (clause 2.1.3), fully implement the WQMS and notify IPART and NSW Health in accordance with the Reporting Manual. We agree with this audit grade.

WaterNSW supplies different categories of water, in different areas and for different purposes. This clause (and the subsequent two clauses) requires WaterNSW to manage the quality of these different categories in accordance with a relevant WQMS.

Our auditor observed some deficiencies in WaterNSW's overarching WQMS.²¹ Not all categories of water within the scope of the WQMS contained the documented elements, components and activities of the ADWG for managing water quality. The lack of a systematic approach to managing water quality consistent with the ADWG could affect WaterNSW's ability to provide assurance on its water quality, an intended outcome of this licence clause.

In reviewing incident management documentation within the WQMS, our auditor identified some legacy documents still in use (particularly from the former Sydney Catchment Authority). It was unclear when and how these would be updated and integrated into the WaterNSW WQMS. Our auditor also noted that WaterNSW's operation and maintenance documentation was incomplete and sometimes not known to operational staff. We consider these deficiencies relate to the requirements of Element 6 Management of incidents and emergencies) and Element 10 (Documentation and reporting) of the ADWG.

In addition to the general deficiencies described above, our audit also identified deficiencies in the WQMS specific to the Declared Catchment Areas and Non-Declared Catchment Areas, this is discussed separately under clauses 2.1.2 and 2.1.3 below.

Our auditors did not identify any instances where these deficiencies had resulted in impacts on water quality, either within or outside the declared catchment areas, to any of the categories of water supplied by WaterNSW. However, we consider these deficiencies with the WQMS are material because they could increase the risk of incidents within the WaterNSW supply systems or reduce WaterNSW's ability to provide assurance on its processes.

We make three recommendations in relation to clause 2.1.1 based on our auditor's recommendations.

Recommendations to WaterNSW

- 1 By 30 September 2019, WaterNSW should review and amend its Water Quality Management System to ensure that each water category covered by the WQMS addresses each element, component and activity of the Australian Drinking Water Guidelines framework.
- 2 By 30 September 2019, WaterNSW should document its procedures and process to manage materials and chemicals used in its system where the water is supplied for a drinking water end-use.
- 3 By 31 December 2019, WaterNSW should review the operational and process control procedures underpinning its Water Quality Management System and:
 - a. identify the required operational procedures from catchment to consumer for processes and activities under its control
 - b. develop a plan to compile this information

²¹ WaterNSW has one overarching WQMS that covered both its Declared Catchment Areas (as required in clause 2.1.2) and Non-Declared Catchment Areas (required under clause 2.1.3)

- c. commence implementation of the plan and document operational procedures for all processes and activities (eg, preventive measures, operational monitoring and verification procedures and maintenance requirements), and
- d. commence staff training to ensure staff are trained and proficient to implement the new operational procedures.

Our auditor identified eight opportunities for improvement for clause 2.1.1. These opportunities relate to revising training materials, stakeholder lists, the internal system audit process, the Water Quality Improvement Plan, the Water Quality Incident Response Protocol and the sampling program. Further details of the opportunities for improvement are available in our auditor's report in Appendix C.

Non-compliant (material) (clause 2.1.2) with the requirements for WaterNSW's WQMS in Declared Catchment Areas

Our auditor assigned WaterNSW a Non-compliant (material) grade for clause 2.1.2 which requires WaterNSW to maintain a WQMS in Declared Catchment Areas that is consistent with either the ADWG, or the ADWG as amended or added to by NSW Health, or any other requirements specified or approved by NSW Health or IPART. We agree with this audit grade.

WaterNSW's WQMS lacked documentation associated with material and chemicals selection and evaluation, which is inconsistent with the ADWG. Further, it was unclear which operational and process control procedures underpinned the WQMS, also inconsistent with ADWG. Our auditor also noted a number of inconsistencies with the ADWG for the Declared Catchment Area risk assessments.

We consider these deficiencies with the WQMS are material because they impact adversely on the risk of incidents and WaterNSW's ability to provide assurance on its processes.

We make one recommendation in relation to clause 2.1.2 based on our auditor's recommendation.

Recommendations to WaterNSW

- 4 By 31 December 2019, WaterNSW should review the manner in which it conducts all water utility risk assessments to ensure it meets the requirements of elements 2 and 3 of the ADWG framework and the licence obligation.

Our auditor identified no opportunities for improvement for this clause.

Non-compliant (material) (clause 2.1.3) with the requirements for WaterNSW's WQMS in Non-Declared Catchment Areas

Our auditor assigned WaterNSW a Non-compliant (material) grade for clause 2.1.3 which requires WaterNSW to maintain WQMS that are consistent with a relevant quality assurance program under section 25 of the *Public Health Act 2010* (NSW), the ADWG or any other requirements as specified or approved by NSW Health or IPART, for water supplied from

Non-Declared Catchment Areas with a final end use as drinking water. We agree with this audit grade.

Our auditor noted that WaterNSW's WQMS did not reference the Oberon catchment. The WQMS is required under the ADWG to cover Non-Declared Catchment Areas from which WaterNSW supplies water, which includes the Oberon catchment. As with the Declared Catchment Areas (clause 2.1.2), our auditor also identified a number of inconsistencies with the ADWG for the risk assessments for the Non-Declared Catchment Areas.

WaterNSW's WQMS also lacked documentation associated with material and chemicals selection and evaluation, which is inconsistent with the ADWG.

As above, we consider these deficiencies with the adequacy of the WQMS are material because they impact on the risk of incidents and WaterNSW's ability to provide assurance in its processes.

We make no recommendations in relation to clause 2.1.3. We consider compliance with this clause will be achieved or improved if recommendations 1, 2 and 3, are implemented.

Our auditor identified no opportunities for improvement.

Compliant (minor shortcomings) (clause 2.1.4) with implementing a relevant WQMS

Our auditor assigned WaterNSW a Compliant (minor shortcomings) grade for clause 2.1.4, which required WaterNSW to ensure that the WQMS is fully implemented and that all relevant activities are carried out in accordance with the relevant WQMS and to the satisfaction of NSW Health. We agree with this audit grade.

Our auditor noted that:

- ▼ For the most part, WaterNSW had implemented the WQMS adequately and was compliant with this clause. While there were deficiencies with the WQMS, there was evidence of processes in place for WaterNSW's water quality management activities to meet the ADWG framework.
- ▼ WaterNSW did not report critical control points consistently with the requirements of the WQMS, however, these critical control points were ultimately communicated to the intended stakeholders.

As each of these are a relatively minor matter, we consider these a minor shortcoming.

NSW Health also confirmed that it was satisfied that WaterNSW had met its obligations under the licence and Memorandum of Understanding with NSW Health²².

We make no recommendations in relation to clause 2.1.4. We consider compliance with this clause will be achieved or improved if recommendations 1, 2, and 3 are implemented.

²² Letter to IPART, Dr Kerry Chant PSM, Deputy Secretary Population and Public Health and Chief Health Officer, NSW Health, 17 August 2018.

Our auditor identified two opportunities for improvement for clause 2.1.4. These opportunities relate to developing a WQMS update process and reviewing the frequency of the Water Quality Improvement Plan. Further details of these opportunities for improvement are available in our auditor's report in Appendix C.

Compliant (clause 2.1.5) with notification of significant changes proposed for a WQMS

Our auditor assigned WaterNSW a Compliant grade for clause 2.1.5 which requires WaterNSW to notify IPART and NSW Health of any significant changes that it proposes to make to a WQMS. We agree with this audit grade.

Our auditor noted that WaterNSW consulted with NSW Health on proposed significant changes it made to the WQMS in the 2018 audit period. Our auditor sighted minutes of the meeting. WaterNSW notified us of the proposed changes to be made to the WQMS in a letter.

We make no recommendations in relation to clause 2.1.5. Our auditor identified no opportunities for improvement for this clause.


Non-compliant (non-material) (clause 2.2.1) with managing the Declared Catchment Areas

Our auditor assigned WaterNSW a Non-compliant (non-material) grade for clause 2.2.1 which requires WaterNSW to manage and protect the Declared Catchment Areas in a manner that is consistent with its objectives and functions under the Act, the WQMS required under clause 2.1 of the licence, the AMS required under clause 5.1 and the environmental management system (EMS) required under clause 5.2. We agree with this audit grade.

Our auditor noted that WaterNSW generally understood its objectives and functions under the Act and managed the Declared Catchment Areas accordingly. It also undertook these activities consistently with the WQMS and EMS required under the licence but not with the AMS.

In our auditor's view 'the AMS required under clause 5.1.1' means that WaterNSW is required to manage service interruptions with an AMS consistent with *AS ISO 55001:2014 Asset Management – Management systems – Requirements* (AS ISO 55001:2014). To be consistent with AS ISO 55001:2014, WaterNSW is required to understand the needs of its customers, in particular on how to manage service interruptions and include these in the objectives of the AMS.

As the staff and executive of WaterNSW did not identify the performance requirements and outcomes for Declared Catchment Areas in the AMS, WaterNSW did not manage and protect the Declared Catchment Areas in accordance with the AMS required under 5.1.1. Our auditor therefore assigned a non-compliant grade with this clause. However, our auditor considers that the non-compliance is non-material because WaterNSW managed its assets using policies, processes, documentation and knowledge from the former Sydney Catchment Authority which we consider were adequate even though they were outside the AMS.



We make no recommendations in relation to clause 2.2.1. We consider that compliance with this clause will be achieved or improved if recommendation 6 for the AMS (in clause 5.1) is implemented.

Our auditor identified four opportunities for improvement for clause 2.2.1. These opportunities relate to site inductions, implementation of risk assessments, use of current standards and system operation procedures. Further details of the opportunities for improvement are available in our auditor's report in Appendix C.

Non-compliant (non-material) (clause 2.4.1) with managing Catchment Infrastructure in Declared Catchment Areas

Our auditor assigned WaterNSW a Non-compliant (non-material) grade for clause 2.4.1 which requires WaterNSW to ensure that, in Declared Catchment Areas, the catchment infrastructure works are operated and managed consistently with the Design Criteria and the AMS referred to in clause 5.1 of the licence. We agree with this audit grade.

In our auditor's view 'the AMS referred to in clause 5.1' means WaterNSW is required to manage service interruptions with an AMS consistent with AS ISO 55001:2014. To be consistent with AS ISO 55001:2014, WaterNSW is required to understand the needs of stakeholders, and include these and the Design Criteria in the system requirements and objectives of the AMS. WaterNSW's AMS did not include Design Criteria or stakeholder expectations relating to water supply security, robustness and reliability as system requirements or AMS objectives.

Our auditor noted that WaterNSW used Asset Class Standards for specifying planning guidelines and asset requirements for related assets or infrastructure works. While WaterNSW's documentation noted that Asset Class Standards are a key planning tool, the standards did not exist for most catchment infrastructure works including dams, pumping stations, canals and tunnels, dosing facilities and control systems, which is inconsistent with AS ISO 55001:2014. Consequently, WaterNSW did not manage its infrastructure works consistently with the Design Criteria and the AMS.

However, we consider the non-compliance is non-material because there are other controls and processes in place to manage the impacts of the deficiencies identified by our auditor. The controls and processes include operational plans, operating rules and flow schedules, many of which were in use by the previous Sydney Catchment Authority.

We make no recommendations in relation to clause 2.4.1. We consider that compliance with this clause will be achieved or improved if the recommendations 6 and 7 for the AMS (in clause 5.1) are implemented.

Our auditor identified one opportunity for improvement for clause 2.4.1. This opportunity relates to improving outage planning. Further details of the opportunity for improvement are available in our auditor's report in Appendix C.

Compliant (minor shortcomings) (clause 2.8.1) with maintaining a program of research for each Declared Catchment Area

Our auditor assigned WaterNSW a Compliant (minor shortcomings) grade for clause 2.8.1 which requires WaterNSW to maintain a program of research for each Declared Catchment Area which relates to catchments within that Declared Catchment Area generally and in particular their health, is consistent with its objectives under section 6 of the Act and assists WaterNSW to discharge its functions under sections 7(1)(g) and 7(1)(h) of the Act. We agree with this audit grade.

Our auditor noted that WaterNSW maintained a relevant research program for the Sydney Catchment Area, which was the only Declared Catchment Area for the audit period. WaterNSW undertook appropriate research projects and therefore met its objectives and requirements under this clause.

Our auditor noted that WaterNSW included the Declared Catchment Area as a component of the overall science research program. The research program did not explicitly reference catchment management or catchment health in the Declared Catchment Area, as per the words of the licence clause. However, since the program largely focussed on water quality for monitoring Declared Catchment Area, with some catchment health related projects, our auditor considered these areas were covered by the research program. For these reasons these shortcomings are minor.

We make one recommendation in relation to clause 2.8.1 based on our auditor's findings.

Recommendation to WaterNSW

- 5 By 31 December 2019, WaterNSW should explicitly identify how the research program for each Declared Catchment Area relates to catchment management and catchment health.

Our auditor identified two opportunities for improvement for clause 2.8.1. These opportunities relate to including the Declared Catchment Area in the next science program review and reviewing previous catchment health hazards. Further details of the opportunities for improvement are available in our auditor's report in Appendix C.

In addition, our auditor found that one page on WaterNSW's website incorrectly stated that there are five declared catchment areas rather than one. We identify, as an opportunity for improvement, WaterNSW reviewing and updating its website to accurately reflect the correct number of Declared Catchment Areas.

Compliant (clause 2.8.2) with reporting on research on catchments

Our auditor assigned WaterNSW a Compliant grade for clause 2.8.2 which requires WaterNSW to report on its research programs referred to in clause 2.8.1 of the licence in accordance with our Water NSW Reporting Manual. We agree with this audit grade.

Our auditor noted that on 30 November 2017, WaterNSW submitted an Annual Report on Catchment Management for the 2016-17 financial year, as required by the Reporting Manual. This report is available on the WaterNSW website.

We make no recommendations in relation to clause 2.8.2.



Our auditor identified one opportunity for improvement. This opportunity relates to improving clarity of references in the research reports to catchment audits. Further details of the opportunity for improvement are available in our auditor’s report in Appendix C.

2.2 Bulk Water storage and transmission

Our auditor assigned WaterNSW a Compliant (minor shortcomings) grade for clause 3.2.1 and a Non-compliant (non-material) grade for clause 3.1.1. We agree with these audit grades.

Part 3 of the licence (Bulk Water storage and transmission) sets out the obligations for WaterNSW for storage and supply to its customers. Details about each Part 2 obligation included in the audit are set out below.

Table 2.2 Compliance with Part 3 of the licence – Bulk Water storage and transmission

Clause	Requirement	Compliance grading				
		2017-18	2018-19	2019-20	2020-21	2021-22
3	Bulk Water storage and transmission					
3.1	Construct, maintain and operate Water Management Works					
3.1.1	Construct, maintain and operate Water Management Works in accordance with the AMS		-	-	-	-
3.2	Water Supply					
3.2.1	Ensure that any water Supplied to Customers is in accordance with a relevant WQMS, any relevant Customer Supply Agreement, and any relevant arrangements with Sydney Water		-	-	-	-

Source: Atom Consulting, *WaterNSW 2018 Operational Audit*, Final Report 1 February 2019; IPART audit and analysis

Note: Please note the change in audit grades and definitions when comparing this year’s audit grades with the audit grades of previous years.

Non-compliant (non-material) (clause 3.1.1) with constructing, maintaining and operating Water Management Works

Our auditor assigned WaterNSW a Non-compliant (non-material) grade for clause 3.1.1 which required WaterNSW to construct, maintain and operate its Water Management Works in accordance with its AMS referred to in clause 5.1 of the licence. We agree with this audit grade.

In our auditor’s view ‘the AMS referred to in clause 5.1’ means that WaterNSW is required to construct, maintain and operate its Water Management Works in accordance with an AMS consistent with AS ISO 55001:2014. To be consistent with AS ISO 55001:2014, WaterNSW must:

- ▼ specify appropriate planning guidelines and requirements for related assets in Asset Class Standards in the AMS, and
- ▼ document the objectives of the Asset Class Standards and other technical knowledge in the AMS.

According to our auditor, WaterNSW's AMS did not include the two items above and is therefore inconsistent with AS ISO 55001:2014.

Our auditor considers this is a non-material non-compliance because WaterNSW showed evidence of understanding its asset management objectives and was managing risks according to these objectives. Further, WaterNSW showed evidence of managing its assets reasonably and in accordance with processes and knowledge from the previous Sydney Catchment Authority and State Water Corporation.

We make no recommendations in relation to clause 3.1.1. We consider that compliance with this clause will be achieved or improved if the recommendations for the AMS (in clause 5.1) are implemented.

Our auditor identified no opportunities for improvement for this clause.

Compliant (minor shortcomings) (clause 3.2.1) with supplying water to customers

Our auditor assigned WaterNSW a Compliant (minor shortcomings) grade for clause 3.2.1 which requires WaterNSW to ensure that any water supplied to customers is supplied in accordance with a relevant WQMS, any relevant Customer Supply Agreement, and any relevant arrangements with Sydney Water under section 25 of the Act. We agree with this audit grade.

Our auditor noted that in some instances WaterNSW provided insufficient evidence that it met the requirements of the Customer Supply Agreements such as water quality requirements, notification of service interruptions and monitoring of complaints. While WaterNSW provided insufficient evidence, our auditor considered these issues to be minor shortcomings for this clause.



We make no recommendations in relation to clause 3.2.1. We consider that compliance with this clause will be achieved or improved if recommendations 1, 2, and 3 in relation to Water Quality and recommendation 8, 9, 10 and 11 in relation to Customer Supply Agreements are implemented. Our auditor identified no other opportunities for improvement.

2.3 Performance Standards

Our auditor assigned WaterNSW a Compliant grade for clause 4.2.2 and a Non-compliant (material) grade for clause 4.2.3. We agree with these audit grades.

Part 4 of the licence (Performance Standards) sets out the obligations WaterNSW for managing its water supply to its customers. Details about each Part 4 obligation included in the audit are set out below.

Table 2.3 Compliance with Part 4 of the licence – Performance Standards

Clause	Requirement	Compliance grading				
4	Performance Standards	2017-18	2018-19	2019-20	2020-21	2021-22
4.2	Water Supplied Performance Standards					
4.2.2	Manage the quality of water Supplied to Customers in accordance with the relevant WQMS		-	-	-	-
4.2.3	Manage service interruptions in accordance with the AMS		-	-	-	-

Source: Atom Consulting, *WaterNSW 2018 Operational Audit*, Final Report 1 February 2019; IPART audit and analysis

Note: Please note the change in audit grades and definitions when comparing this year’s audit grades with the audit grades of previous years.

Compliant (clause 4.2.2) with managing the quality of water supplied to customers

Our auditor assigned WaterNSW a Compliant grade for clause 4.2.2 which requires WaterNSW to manage the quality of water supplied to its customers in accordance with the relevant WQMS required under clause 2.1.2 or 2.1.3 of the licence. We agree with this audit grade.

Our auditor noted that WaterNSW managed the quality of water supplied to its customers in accordance with preventive measures in the relevant WQMS. The deficiencies with the WQMS did not appear to have impacted the quality of water supplied during the audit period.

We make no recommendations in relation to clause 4.2.2. Our auditor identified no opportunities for improvement for this clause.

Non-compliant (material) (clause 4.2.3) with managing service interruptions

Our auditor assigned WaterNSW a Non-compliant (material) grade for clause 4.2.3, which requires WaterNSW to manage service interruptions ²³ in accordance with the AMS required under clause 5.1.1 of the licence. We agree with this audit grade.

In our auditor’s view ‘the AMS required under clause 5.1.1’ means this clause is required to manage service interruptions with an AMS consistent with AS ISO 55001:2014. To be consistent with AS ISO 55001:2014, WaterNSW is required to understand the needs of its customers in particular on how to manage service interruptions, and include these in the objectives of the AMS.

²³ This performance standard only applies in respect of the ‘Supply of water by Water NSW’ (clause 4.2.1 Water NSW Operating Licence 2017 – 2022). The term supply is defined by the licence. In the context of Water NSW’s operations, supply systems are predominantly its piped systems. This does not relate to the ‘capture, store and release’ (CSR) function.

This clause is non-compliant because WaterNSW has not set clear objectives to manage service interruptions. This means WaterNSW has not managed service interruptions in accordance with the AMS required under 5.1.1.

Our auditor considers that this deficiency does adversely impact the ability of WaterNSW to assure the controlled processes of water supply continuity. Our auditor therefore consider this is a material non-compliance.

We make no recommendations in relation to clause 4.2.3. We consider that compliance with this clause will be achieved or improved if the recommendation 6 for the AMS (in clause 5.1) is implemented.



Our auditor identified no opportunities for improvement.

2.4 Organisational systems management

Our auditor assigned WaterNSW a Non-compliant (material) grade for clause 5.1.1 and a Non-compliant (non-material) grade for clause 5.1.2. We agree with these audit grades.

Part 5 of the licence (Organisational systems management) sets out the obligations on WaterNSW for the AMS Details about each Part 5 obligation included in the audit are set out below.

Table 2.4 Compliance with Part 5 of the licence – Organisational systems management

Clause	Requirement	Compliance grading				
		2017-18	2018-19	2019-20	2020-21	2021-22
5	Organisational systems management					
5.1	Asset Management Systems					
5.1.1	Maintain an AMS at all times consistent with the requirements of the licence		-	-	-	-
5.1.2	Implement the AMS and carry out all relevant activities in accordance with the AMS		-	-	-	-

Source: Atom Consulting, *WaterNSW 2018 Operational Audit*, Final Report 1 February 2019; IPART audit and analysis

Note: Please note the change in audit grades and definitions when comparing this year's audit grades with the audit grades of previous years

Non-compliant (material) (clause 5.1.1) with maintaining an AMS

Our auditor assigned WaterNSW a Non-compliant (material) grade for clause 5.1.1, which requires WaterNSW to maintain an AMS at all times for carrying out its functions authorised under the licence that is consistent with the *Australian Standard AS ISO 55001:2014 Asset Management – Management systems – Requirements* or other standard approved by IPART, on request by WaterNSW. We agree with this audit grade.

Our auditor noted that while WaterNSW maintained an AMS during the audit period which was certified against AS ISO 55001:2014, that AMS did not meet the requirements of the licence.

The licence requires WaterNSW's AMS, consistent with AS ISO 55001:2014, to cover WaterNSW's authorised functions. WaterNSW's AMS covered WaterNSW's physical assets but not all of its authorised functions as required under clause 5.1.1 of the licence. This deficiency results in a non-compliance.

In addition, reflecting the licence requirements within the scope of the AMS is required by AS ISO 55001:2014.²⁴ Further, the audit of other areas of the licence identified that the AMS was deficient and lacked defined outcomes for the following:

- ▼ Managing catchment infrastructure works and water management works (identified in the audit of clause 2.2.1 and 3.1.1).
- ▼ Design criteria for security, robustness and reliability of water available for customers (identified in the audit of clause 2.4.1).
- ▼ Supply interruptions (identified in the audit of clause 4.2.3).

We consider that the deficiencies in WaterNSW's AMS are material because the AMS plays a key role in meeting a water utility's overall system performance. The AMS is crucial for planning for, managing and responding to, issues that may pose a significant risk to asset integrity and/or public health. As WaterNSW's AMS does not include all of its authorised functions and did not specify all the expected defined outcomes, this could impact on management of its assets including that the assets may not deliver the expected levels of service at minimum lifecycle cost.

We make one recommendation in relation to clause 5.1.1 based on our auditor's recommendations.

Recommendation to WaterNSW

- 6 By 31 December 2019, WaterNSW should revise the Asset Management System to ensure it is consistent with clause 5.1.1 in particular:
 - the scope accurately reflects the licence requirements including the Design Criteria, and related requirements for water supply security, robustness and reliability are adequately incorporated within the system
 - the correct stakeholders have been identified and that stakeholder requirements including those relating to supply interruptions are reflected
 - identify whether any elements of the Asset Management System do not meet the requirements and intent of the Strategic Asset Management Plan and if found, make a plan to revise the relevant elements to ensure that the Asset Management System meets the requirements and intent of the Strategic Asset Management Plan
 - revise the Fish River Water Supply Scheme Incident Management Plan so that it reflects stakeholder requirements, and

²⁴ ISO 55001:2014 requires that an AMS's scope should reflect its requirements. The licence is one of these requirements.

- identify if any other processes or documents for managing supply interruptions should be revised to meet stakeholder requirements and develop a plan and timeframe for revising these processes and documents.

Our auditor identified no opportunities for improvement.

Non-compliant (non-material) (clause 5.1.2) with implementing its AMS

Our auditor assigned WaterNSW a Non-compliant (non-material) grade for clause 5.1.2, which requires WaterNSW to fully implement the AMS and carry out all relevant activities in accordance with the AMS. We agree with this audit grade.

Our auditor identified three specific deficiencies with the implementation of the AMS that resulted in this grade:

- ▼ **The absence of some Asset Class Standards**

WaterNSW defined Asset Class Standards in the AMS as the documents which would specify the long term care of the relevant type of equipment and systems. However, during the audit our auditor identified only two of the 14 Asset class standards had reached 'draft' stage and consistency with the Asset Management system.

- ▼ **Uncertainty over the ownership of some meters**

WaterNSW was uncertain over the ownership of meters in which it had a joint interest. This hindered implementation of the AMS as knowledge of assets that WaterNSW is responsible is necessary for managing the assets.

- ▼ **Management of service interruptions**

As discussed under clause 4.2.3, our auditor noted that the AMS did not define the requirements for managing service interruptions. The absence of a link between the AMS and service interruptions, meant it was not possible to provide evidence to demonstrate compliance with this obligation.

Our auditor considered that these deficiencies should have been identified by an internal audit program or routine monitoring of the implementation of the asset management system.

While there were a number of deficiencies with the implementation, evidence showed that WaterNSW maintained other controls and processes to manage its assets (as discussed under clause 2.4.1) many from the previous State Water Corporation and Sydney Catchment Authority. Our auditor therefore considers the non-compliance non-material.

We make one recommendation in relation to clause 5.1.2 based on our auditor's recommendation. We consider one of our auditor's recommendations 5.1.2-1 related to internal audits should be considered by WaterNSW as an opportunity for improvement. We also consider that the reviews to the Asset Management System in recommendation 6 would improve compliance with this clause.

Recommendation to WaterNSW

- 7 By 31 December 2019, Water NSW should provide an updated plan for completion of Asset Class Standards with appropriate owners assigned to each action in the plan.

Our auditor identified no opportunities for improvement.




2.5 Customer and stakeholder relations






Our auditor assigned WaterNSW Compliant grades for clauses 6.5.1, 6.5.2, 6.5.5, 6.8.1, 6.9.2, 6.9.3 and 6.9.4, Compliant (minor shortcomings) grades for clauses 6.3.2, 6.5.3, 6.5.4 and 6.8.4, Non-compliant (non-material) grades for clauses 6.1.1, 6.1.3, 6.8.2 and 6.8.3 and Non-compliant (material) grades for clauses 6.1.2, 6.3.1, 6.9.1 and 6.16.1. With the exception of 6.9.1 and 6.16.1 which we explain below, we agree with these audit grades.







We have assigned a Non-compliant (non-material) grade instead of Non-compliant (material) grade to clause 6.9.1 and a Compliant (minor shortcomings) grade instead of Non-compliant (material) to clause 6.16.1. We also audited and assigned WaterNSW Compliant grades for clauses 6.15.1 and 6.16.2.







Part 6 of the licence (Customer and stakeholder relations) sets out the obligations on WaterNSW for its customers and stakeholders, other than Sydney Water. Details about each Part 6 obligation included in the audit are set out below.


Table 2.5 Compliance with Part 6 of the licence – Customer and stakeholder relations

Clause	Requirement	Compliance grading				
		2017-18	2018-19	2019-20	2020-21	2021-22
6	Customer and stakeholder relations					
6.1	Customer Supply Agreements – Customers other than Sydney Water					
6.1.1	Establish and maintain agreements with WaterNSW's Customers to whom it Supplies water (except Sydney Water), which must set out the terms and conditions for the Supply of water (Customer Supply Agreements)		-	-	-	-
6.1.2	Only Supply water to these Customers in accordance with the terms and conditions of these Customer Supply Agreements		-	-	-	-
6.1.3	Terms and conditions of the Customer Supply Agreements must, at a minimum, include provisions provided in this clause		-	-	-	-
6.3	Water metering and monitoring					

Clause	Requirement	Compliance grading				
		2017-18	2018-19	2019-20	2020-21	2021-22
6	Customer and stakeholder relations					
6.3.1	Determine the volume of water Extracted by, or Supplied to, each Customer, at least annually, for the purpose of accurate account management, billing and reporting		-	-	-	-
6.3.2	Prior to operating, replacing, repairing, maintaining, removing, connecting, disconnecting or otherwise modifying Metering Equipment Water NSW does not own, it must obtain the agreement of the owner of that equipment		-	-	-	-
6.5	Customer advisory groups					
6.5.1	Establish and maintain area-based advisory groups representing a broad cross-section of its Customers for those areas (Customer Advisory Group)		-	-	-	-
6.5.2	Regularly consult with the area-based Customer Advisory Groups to enable Customer involvement in issues relevant to the performance of WaterNSW's obligations to Customers under the licence or the Customer Service Charter, obtain advice on the interests of WaterNSW's Customers and such other key issues relating to WaterNSW's planning and operations as WaterNSW may determine consistent with the Customer Advisory Group Charter(s).		-	-	-	-
6.5.3	Ensure that, at all times, the membership of each Customer Advisory Group is appointed and determined by WaterNSW in accordance with the Customer Advisory Group Charter		-	-	-	-

Clause	Requirement	Compliance grading				
		2017-18	2018-19	2019-20	2020-21	2021-22
6	Customer and stakeholder relations					
6.5.4	Use its best endeavours to ensure that membership of each Customer Advisory Group includes customers from the groups specified in the licence as may be relevant to that Customer Advisory Group.		-	-	-	-
6.5.5	Provide Customer Advisory Groups with adequate Information to discharge the tasks assigned to them, except confidential information		-	-	-	-
6.8	Code of Practice on Payment Difficulties					
6.8.1	Maintain and fully implement a code of practice that assists Customers experiencing financial hardship to better manage their current and future Bills (Code of Practice on Payment Difficulties)		-	-	-	-
6.8.2	Code of Practice on Payment Difficulties must provide a payment plan for Customers and include relevant procedures described in the licence		-	-	-	-
6.8.3	Set out details of the Code of Practice on Payment Difficulties in the Customer Service Charter, or, where a Customer Supply Agreement is established in respect of a Customer, in that Customer Supply Agreement		-	-	-	-
6.8.4	Provide, free of charge, information on the Code of Practice on Payment Difficulties to Customers, except Sydney Water, as specified in the licence, and on its website.		-	-	-	-
6.9	Internal Complaints Handling Procedure					

Clause	Requirement	Compliance grading				
		2017-18	2018-19	2019-20	2020-21	2021-22
6	Customer and stakeholder relations					
6.9.1	Maintain a procedure for receiving, responding to and resolving Complaints, which is consistent with the <i>Australian Standard AS/NZS 10002:2014: Guidelines for complaints management in organizations (AS/NZS 10002:2014)</i> or other standard approved by IPART (Internal Complaints Handling Procedure)		-	-	-	-
6.9.2	Fully implement the Internal Complaints Handling Procedure and carry out all relevant activities in accordance with Internal Complaints Handling Procedure.		-	-	-	-
6.9.3	Provide information to Customers concerning internal complaints handling, at least annually with Bills.		-	-	-	-
6.9.4	Make information concerning internal Complaints handling available to any person, free of charge, on the WaterNSW website		-	-	-	-
6.15	Memorandum of Understanding with Department of Planning and Environment					
6.15.1	WaterNSW must use its best endeavours to establish and maintain a memorandum of understanding with the Department of Planning and Environment; and comply with the memorandum of understating maintained under clause 6.15.1(a)					
6.16	Roles and Responsibilities with Department of Primary Industries Water					
6.16.1	Agree in writing with the Department of Primary Industries Water (DPI Water) the roles and responsibilities regarding the conduct of Conferred Functions specified in Schedule A of the Licence and comply with the agreement		-	-	-	-

Clause	Requirement	Compliance grading				
		2017-18	2018-19	2019-20	2020-21	2021-22
6	Customer and stakeholder relations					
6.16.2	By 30 June 2018, Water NSW must publish on its website, for downloading by any person, a statement setting out the roles and responsibilities required under clause 6.16.1(a)					

Source: Atom Consulting, *WaterNSW 2018 Operational Audit*, Final Report 1 February 2019; IPART audit and analysis

Note: Please note the change in audit grades and definitions when comparing this year's audit grades with the audit grades of previous years

Non-compliant (non-material) (clause 6.1.1) with maintaining Customer Supply Agreements

Our auditor assigned WaterNSW a Non-compliant (non-material) grade for clause 6.1.1 which required WaterNSW to establish and maintain agreements with each of its customers to whom it supplies water (except Sydney Water), which agreements must set out the terms and conditions for the supply of water (Customer Supply Agreements). We agree with this audit grade.

Our auditor noted that Customer Supply Agreements were established and maintained for customers identified by WaterNSW. While the established Customer Supply Agreements included appropriate terms and condition, the template Customer Supply Agreement for minor customers receiving filtered water in the Fish River scheme contained no reference to a dispute resolution process, and two regulatory instruments referenced were out of date.

We consider that the deficiencies are non-material because the majority of Customer Supply Agreements sampled met the requirements of the clause. The deficiencies were not necessarily systematic.

We make one recommendation in relation to clause 6.1.1 based on our auditor's recommendations.

Recommendation to WaterNSW

- 8 By 31 December 2019, WaterNSW should ensure that all Customer Supply Agreement templates and relevant supporting processes are reviewed to ensure:
- relevant and current regulatory instruments are included, including references to the Plumbing Code of Australia, and all requirements of clause 6.1.3 and clause 6.8.3
 - templates are kept under regular review
 - users of the templates are prompted to check the most up to date version of the licence and other regulatory instruments, and
 - users of Customer Supply Agreements, including the legal representatives who review them, are trained to use the template and do not use previous agreements.

Our auditor identified two opportunities for improvement for this clause. These opportunities relate to the use of diagrams to clearly articulate responsibility handover points between WaterNSW and its customers, both for future water supply agreements and the existing agreement with Wingecarribee Council (see clause 6.1.2 below). Further details of the opportunities for improvement are available in our auditor's report in Appendix C.

Non-compliant (material) (clause 6.1.2) with supply in accordance with the terms and conditions of the Customer Supply Agreements

Our auditor assigned WaterNSW a Non-compliant (material) grade for clause 6.1.2, which required WaterNSW to only supply water to customers (other than Sydney Water) in accordance with the terms and conditions of the Customer Supply Agreement. We agree with this audit grade.

Our auditor noted that for the most part, WaterNSW appears to be supplying its customers in accordance with the Customer Supply Agreements²⁵. The auditor identified two deficiencies with WaterNSW's compliance with this clause.

With respect to one large Customer Supply Agreement for Wingecarribee Council our auditor noted a deficiency as WaterNSW did not report water quality to Wingecarribee Council (as required under its Customer Supply Agreement) as the level of water quality reporting to Wingecarribee Council is currently beyond the sampling and monitoring capability of the supply system. The identified deficiency was described as 'administrative', however our auditor considered that this deficiency is material as it could result in water being used in ways for which it is not intended, creating a risk to the end user.

The second deficiency was with respect to Fish River Customer Supply Agreements which state that WaterNSW monitors customer complaints to ensure it is meeting its obligations, however the lack of a water quality category of complaint made it difficult to demonstrate evidence with respect to water quality aspects of its obligations²⁶.

We make three recommendations in relation to clause 6.1.2, based on our auditor's recommendations.

Recommendation to WaterNSW

- 9 By 1 June 2019, commence re-negotiation of the Customer Supply Agreement with Wingecarribee Council, with the intent of including water quality reporting that meets the sampling and monitoring capability of the supply system.
- 10 By 31 December 2019, WaterNSW should undertake a risk-based review of Customer Supply Agreements across all types of customers (including all customers who are supplied drinking water) to ensure that the supply of water meets the terms and conditions of those agreements.
- 11 By 30 June 2020, WaterNSW should develop and implement processes to address identified gaps based on the outcomes of the review of Customer Supply Agreements (Recommendation 10).

²⁵ The required minimum terms and conditions of the Customer Supply Agreements are set out in clause 6.1.3.

²⁶ This finding was also relevant to the audit of clause 6.9.1 and is discussed further in that part of the report.

Our auditor identified one opportunity for improvement for this clause. This opportunity relates to the importance of specifying the units of measurement²⁷ for analytes in meeting minutes. Further details of the opportunity for improvement are available in our auditor's report in Appendix C.

Non-compliant (non-material) (clause 6.1.3) with the terms and conditions of the Customer Supply Agreements

Our auditor assigned WaterNSW a Non-compliant (non-material) grade for clause 6.1.3 which required WaterNSW to address the requirements of the licence in the terms and conditions of the Customer Supply Agreements.²⁸ We agree with this audit grade.

Our auditor noted that the terms and conditions for the template Fish River Customer Supply Agreement did not meet the obligations of clause 6.1.3(e) as it did not contain reference to dispute resolution and complaints handling procedures. The other two Customer Supply Agreement samples that our auditor viewed did include a condition on dispute resolution and complaints handling procedures. We consider that the omission is a non-material non-compliance because two of the sampled agreements contained all the required references. The omission was not necessarily systematic.

We make no recommendation in relation to clause 6.1.3, but consider that compliance with this clause will be achieved or improved with the completion of recommendation 10, which is also relevant to the deficiencies identified for this clause. Our auditor identified no opportunities for improvement.

Non-compliant (material) (clause 6.3.1) with determining the volume of water extracted

Our auditor assigned WaterNSW a Non-compliant (material) grade for clause 6.3.1, which required WaterNSW to determine the volume of water extracted by or supplied to customers at least annually for the purpose of accurate account management, billing and reporting²⁹. We agree with this audit grade.

Our auditor considered that WaterNSW did not make an assessment of the accuracy of water take³⁰ or set objectives for accuracy (for example targets or tolerance limit that define accurate account management, billing and reporting). Accurate determination of water extraction and supply is needed for effective account management, billing and reporting. Accurate

²⁷ Specifically in terms of amount of substance per unit volume of solution to enable comparison to historic and reporting requirements.

²⁸ These included the standard of water quality Supplied by WaterNSW, the continuity of the water Supplied by WaterNSW (that is, provisions relating to interruptions, disconnections and reconnections to Supply), any metering arrangements, the fees and charges to be paid by the customers for the Supply of water to them, dispute resolution and Complaints handling procedures and in the case of a Customer Supply Agreement with a customer referred to in clause 1.2.1(e), terms and conditions preventing the customer concerned from supplying the water for consumption by others within the State unless the customer is authorised to do so by or under an Act.

²⁹ The clause relates to WaterNSW's accurate account management, billing and reporting of volume of water extracted. For issues of unauthorised water usage relating to faulty metering equipment under the Water Management Act 2000 and the Water Act 1912 WaterNSW and the Natural Resources Access Regulator have the functions to deal with these issues.

³⁰ Water take is the collective term for water extracted by and supplied to customers

measurements help control for potential tampering or failure to maintain metering equipment, to avoid allowing more water than is permitted to be taken.

WaterNSW prepared a new procedure for determining water take during the audit period, which was finalised after the audit period. Our auditor found the procedure was sufficient for the purpose of measurement and estimation, but lacked consideration of accuracy and therefore the non-compliance is material.

WaterNSW outlined various checks and balances to provide assurance over the estimates of water take. However WaterNSW did not make an assessment of accuracy of water take. The licence clearly states that accuracy is an objective in determining take for the purposes of account management, billing, and reporting. The failure to assess accuracy of water take and set objectives could adversely impact the ability to WaterNSW to provide assurance over the account management, billing and reporting and is considered a material non-compliance.

We make two recommendations in relation to clause 6.3.1, based on our auditor's recommendations.

Recommendation to WaterNSW

- 12 By 30 September 2019, WaterNSW should set objectives for the accuracy of water take determination with respect to billing, account management and reporting.
- 13 By 31 December 2019, WaterNSW should assess the accuracy of its water take estimates for the purposes of billing, account management and reporting.

Our auditor identified no opportunities for improvement.

Compliant (minor shortcomings) (clause 6.3.2) with doing work on metering equipment

Our auditor assigned WaterNSW a Compliant (minor shortcomings) grade for clause 6.3.2, which required WaterNSW to obtain the agreement of the owner of the equipment prior to operating, replacing, repairing, maintaining, removing, connecting, disconnecting or otherwise modifying metering equipment that it does not own. We agree with this audit grade.

Our auditor noted that while there was no evidence of WaterNSW doing work on meters owned by others with the owner's consent, WaterNSW did express uncertainty about who owns the meters it has a joint interest in with its large customers. We consider the uncertainty about ownership is a minor shortcoming for this audit period.

We make one recommendation in relation to clause 6.3.2 based on our auditor's recommendation.

Recommendation to WaterNSW

- 14 By 31 December 2019, WaterNSW should establish a register of ownership and responsibilities for all meters in which it has a joint interest.

Our auditor identified no opportunities for improvement.

Compliant (clause 6.5.1) with establishing and maintain Customer Advisory Groups

Our auditor assigned WaterNSW a Compliant grade for clause 6.5.1 which required WaterNSW to establish and maintain area-based advisory groups representing a broad cross-section of its Customers for those areas (Customer Advisory Groups). We agree with this audit grade.

Our auditor noted that the Customer Advisory Groups are clearly identified, established, and well-maintained for each area. Our auditor further noted that this clause is very well executed by WaterNSW. The charter covers 10 groups and sets out the terms and reference and operation of the Customer Advisory Groups. Our auditor confirmed that WaterNSW resources the Customer Advisory Groups through several modes including a website, taking of and recording minutes, keeping a log of nomination and acceptances and providing pro forma documents to support maintenance of the Customer Advisory Groups.

Our auditor identified no recommendations or opportunities for improvement.

Compliant (clause 6.5.2) with consulting with the Customer Advisory Groups

Our auditor assigned WaterNSW a Compliant grade for clause 6.5.2 which required WaterNSW to regularly consult with the area-based Customer Advisory Groups to enable customer involvement in issues relevant to the performance of WaterNSW's obligations to customers under the licence or the Customer Service Charter, obtain advice on the interests of WaterNSW's customers and such other key issues relating to WaterNSW's planning and operations as WaterNSW may determine consistent with the Customer Advisory Group Charter(s). We agree with this audit grade.

Our auditor noted that WaterNSW regularly consults with the Customer Advisory Groups, provides support services and good consultation materials. Feedback from the Customer Advisory Groups supports the reliability of the consultation process put in place by WaterNSW.

WaterNSW determined relevant issues for operating, planning and performance and ensures consistency with the relevant Customer Advisory Groups. WaterNSW received feedback from the Customer Advisory Groups and our auditor noted comprehensive feedback and good engagement by Customer Advisory Group members.

Our auditor identified no recommendations or opportunities for improvement.

Compliant (minor shortcomings) (clause 6.5.3) with appointing Customer Advisory Groups

Our auditor assigned WaterNSW a Compliant (minor shortcomings) grade for clause 6.5.3 which required WaterNSW to ensure that, at all times, the membership of the Customer Advisory Group is appointed and determined by WaterNSW in accordance with the Customer Advisory Group Charter. We agree with this audit grade.

Our auditor noted that a nominations register is in place for each Customer Advisory Group that shows members' skills and experience for each Customer Advisory Group. WaterNSW has a process in place for seeking, assessing and approving nominations. A minor shortcoming was noted because WaterNSW was unable to provide the evidence and reasons for why each nominee was selected. The nominees register confirms that each Customer Advisory Group has the appropriate membership spread, as required by the Customer Advisory Group Charter.

We make one recommendation in relation to clause 6.5.3 based on our auditor's recommendation.

Recommendation to WaterNSW

- 15 By 30 September 2019, WaterNSW should ensure that a process is in place to record assessment and approval of nominations to the Customer Advisory Groups in accordance with reference to both the Customer Advisory Group Charter and requirements of the licence clause 6.5.4.

Our auditor identified one opportunity for improvement for clause 6.5.3. This opportunity relates to improved mapping of how the Customer Advisory Group nominees meet or not meet each Customer Advisory Group Charter criterion. Further details of the opportunity for improvement are available in our auditor's report in Appendix C.


Compliant (minor shortcomings) (clause 6.5.4) with managing representation in Customer Advisory groups

Our auditor assigned WaterNSW a Compliant (minor shortcomings) grade for clause 6.5.4, which required WaterNSW to ensure that for each Customer Advisory Group, WaterNSW uses its best endeavours to ensure that membership is representative of the customers in that area and include at least one customer representing each of the categories listed in the licence³¹ (where there are customers in this category for the area associated with the Customer Advisory Group). We agree with this audit grade.

Our auditor noted that the nominations register shows the nominees skill sets and areas of expertise and approval, and alternate representative. Where there is no customer representative for a particular category, it is not clear to our auditor whether there was no representative to meet that category or how WaterNSW sought out potential representation to fill that gap. While our auditor did receive some verbal evidence, it was not possible to fully test the 'best endeavours' requirement of this clause. This is graded as a minor shortcoming as the outcomes meet the overall requirements of the clause.

We make no additional recommendation in relation to clause 6.5.4 but we consider that compliance with this clause will be achieved or improved with completion of recommendation 15.

³¹ The customer categories listed in the licence are: stock and domestic water users, regulated river water users, unregulated river water users, groundwater users, environmental water users, industrial and commercial water users, Local Water Utilities, Major Utilities, small water users based on their Water Licence volume, medium water users based on their Water Licence volume, large water users based on their Water Licence volume and Aboriginal cultural heritage water users.



Our auditor identified one opportunity for improvement for this clause. This opportunity relates to improving oversight and criteria representation for each Customer Advisory Group. Further details of the opportunity for improvement are available in our auditor's report in Appendix C.

Compliant (clause 6.5.5) with informing the Customer Advisory Groups

Our auditor assigned WaterNSW a Compliant grade for clause 6.5.5 which required WaterNSW to provide the Customer Advisory Groups with adequate information within its possession or under its control necessary to enable the Customer Advisory Groups to discharge the tasks assigned to them other than information or documents that are confidential. We agree with this audit grade.

Our auditor noted that evidence had been provided to confirm that the information provided to the Customer Advisory Groups is sound. Feedback from Customer Advisory Group members and outcomes from the Customer Advisory Group process confirms that the information provided is fit for purpose and is allowing the Customer Advisory Groups to discharge their responsibilities.

Our auditor identified no recommendations or opportunities for improvement.

Compliant (clause 6.8.1) with maintaining and implementing a Code of Practice on payment difficulties

Our auditor assigned WaterNSW a Compliant grade for clause 6.8.1 which required WaterNSW to maintain and fully implement a code of practice that assists customers experiencing financial hardship to better manage their current and future bills (Code of Practice on Payment Difficulties) in accordance with clause 6.8 of the licence. We agree with this audit grade.

Our auditor noted that WaterNSW has a 'Debt Management Code of Practice' that satisfies the requirements of this clause. Our auditor reviewed records to confirm that the Debt Code is being fully implemented. The process for identifying hardship, entering into payment plans, licence suspensions and the removal of suspension (where appropriate) was confirmed.

Our auditor identified no recommendations and one opportunity for improvement. The opportunity for improvement relates to adding the customer help phone number to the 'customer hardship' section of tax invoices. Further details of the opportunity for improvement are available in our auditor's report in Appendix C.

Non-compliant (non-material) (clause 6.8.2) with requirements for Code of Practice on Payment Difficulties

Our auditor assigned WaterNSW a Non-compliant (non-material) grade for clause 6.8.2 which required the Code of Practice on Payment Difficulties to:

- a) provide for a payment plan for customers who are responsible for paying their bills and who are, in WaterNSW's reasonable opinion, experiencing financial hardship

- b) include procedures for identifying the circumstances under which WaterNSW may restrict the provision of services to a customer
- c) include procedures for identifying the circumstances under which WaterNSW may suspend water access licences when a customer has not paid its bill and an overview of the process that must be followed prior to suspension; and
- d) include procedures for self-identification, identification by community welfare organisations and identification by WaterNSW of customers experiencing financial hardship.

We agree with this audit grade.

Our auditor noted that WaterNSW's Debt Management Code of Practice does not fully meet the requirements of clause 6.8.2(d). During the audit period there was no procedure in place for identification of hardship by community welfare organisations. Our auditor noted that WaterNSW is currently undertaking work on consultation and communication on drought hardship.

WaterNSW does not have a definition of hardship, and instead relies on the first non-payment of a bill by a customer to identify hardship. The WaterNSW website provides guidance on the requirements for proving hardship and applying for a payment plan. Our auditor noted that while there are identified deficiencies, these are partly addressed by other material outside of WaterNSW's Debt Management Code of Practice, and therefore do not adversely impact on the ability of WaterNSW to achieve defined objectives and is non-complaint and graded as non-material.

We make one recommendation in relation to clause 6.1.3 based on our auditor's recommendation.

Recommendation to WaterNSW

- 16 By 31 December 2019, WaterNSW should review the Code of Practice on Payment Difficulties to clarify procedures for all modes of identification of hardship (ie, self, community welfare organisations, and WaterNSW).

Our auditor identified no opportunities for improvement.

Non-compliant (non-material) (clause 6.8.3) with providing information on Code of Practice on Payment Difficulties

Our auditor assigned WaterNSW a Non-compliant (non-material) grade for clause 6.8.3, which required WaterNSW to set out details of the Code of Practice on Payment Difficulties in the Customer Service Charter, or, where a Customer Supply Agreement is established in respect of a customer, in that Customer Supply Agreement. We agree with this audit grade.

Our auditor noted that WaterNSW generally met the requirements of this clause by having details of the Code of Practice on Payment Difficulties in its customer agreements that were sampling in the audit other than the Fish River filtered water agreements. The Fish River filtered water agreements did not refer to the Debt Management Code of Practice or details of the process in the event of payment difficulties. Our auditor noted that since the Debt Management Code (which is WaterNSW's Code of Practice on Payment Difficulties) is on

WaterNSW's website, the deficiency does not adversely impact the ability of WaterNSW to achieve defined objectives and is therefore non-material.

We note that while the Fish River filtered water agreements do not include details on the Debt Management Code, WaterNSW customers who are located in the Greater Sydney region are able to access Sydney Water Payment Assistance Policy. This is because these customers receive billing services from Sydney Water.

We make no recommendations in relation to clause 6.8.3. We consider that compliance with this clause will be achieved or improved if the recommendation 8 above is completed.

Our auditor identified no opportunities for improvement.

Compliant (minor shortcomings) (clause 6.8.4) with providing information on Code of Practice on Payment Difficulties

Our auditor assigned WaterNSW a Compliant (minor shortcomings) grade for clause 6.8.4, which required WaterNSW to provide, free of charge, information on the Code of Practice on Payment Difficulties to customers, except Sydney Water at least once annually with their bills, to customers whom WaterNSW identifies as experiencing financial hardship on the date that WaterNSW first identifies that the customer is experiencing financial hardship and on its website for downloading by any person. We agree with this audit grade.

Our auditor noted that while most of the components of this clause are met, there is no specific and current definition of what constitutes financial hardship or requirement to document first identification of hardship as required by 6.8.4(b). Our auditor noted that there is a process in practice which allows a *de facto* identification of 'first hardship' to be recorded, the first non-payment of a bill. Whilst there is a gap, the deficiency does not adversely impact the ability of WaterNSW to achieve defined outcomes and is a minor shortcoming.

We make one recommendation in relation to clause 6.8.4 based on our auditor's recommendation.

Recommendation to WaterNSW

- 17 By 30 September 2019, WaterNSW should include a definition of financial hardship in the Debt Management Code of Practice. WaterNSW should ensure that Customer Support Officers are trained in this definition and that records are kept to support when customers are first identified as experiencing financial hardship.

Our auditor identified no opportunities for improvement.

Non-compliant (non-material) (clause 6.9.1) with maintaining a complaints management procedure

Our auditor assigned WaterNSW a Non-compliant (material grade) for clause 6.9.1, which required WaterNSW to maintain a procedure for receiving, responding to and resolving complaints, which is consistent with AS/NZS 10002:2014: *Guidelines for complaints management*

in organizations or other standard approved by IPART on request by WaterNSW. We disagree with this audit grade and have assigned a Non-compliant (non-material) grade.

Our auditor identified that the complaints handling system lacked a discrete category for water quality complaints, which in the auditor's opinion is necessary under the AS/NZS 10002:2014. Our auditor considered that the risk presented by this gap could lead to public health consequences, if there was not an appropriate or timely response to a complaint.

While we agree with the risk presented by our auditor, and have made a recommendation to ensure a water quality category is added to the complaints categories, we consider the finding to be non-material as WaterNSW's internal complaint handling system has been designed based on that standard, but its design of complaint categories has not adequately considered all the attributes of products and services of WaterNSW.

The AS/NZS 10002:2014 requires that the design of complaint handling system reflects the organisation's context, particularly 'statutory and regulatory requirements', 'number and demographics of the organisation's customers' and the 'types of complaints received'.

We understand that WaterNSW's complaints handling system has an 'other' category of complaint which may act to mitigate the impact of the deficiency, by allowing WaterNSW to capture and monitor water quality complaints in the 'other' category. For this reason we consider this a non-material non-compliance.

We make two recommendations in relation to clause 6.9.1, based on our auditor's recommendations.

Recommendation to WaterNSW

- 18 By 30 September 2019, WaterNSW should ensure that a water quality category and associated issue descriptors are added to the customer complaint issues for capturing relevant information, including information that could signal contamination of the drinking water supply.
- 19 By 31 December 2019, WaterNSW should ensure that Customer Service Officers are trained in responding to customer complaints and issues relating to water quality, including distinguishing whether the customer knows whether they are receiving potable or non-potable water.

Our auditor identified one opportunity for improvement for this clause. This opportunity relates to performing a cross-check of the complaint handling procedure against all of the requirements of AS/NZS 10002:2014. Further details of the opportunity for improvement are available in our auditor's report in Appendix C.

Compliant (clause 6.9.2) with implementing an Internal Complaints Handling Procedure

Our auditor assigned WaterNSW a Compliant grade for clause 6.9.2 which required WaterNSW to ensure that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the Internal Complaints Handling Procedure. We agree with this audit grade.

Our auditor noted that the implementation of WaterNSW's Complaints and Compliments Handling Procedure is sound and in accordance with the requirements of the clause. A deficiency regarding the inclusion of water quality is captured in clause 6.9.1 and the compliant grade relates to the implementation of the current procedure.

We make no recommendations in relation to clause 6.9.2. Our auditor identified no opportunities for improvement for this clause.

Compliant (clause 6.9.3) with providing information on internal complaints handling

Our auditor assigned WaterNSW a Compliant grade for clause 6.9.3 which required WaterNSW to provide to customers, at least annually with their bills, information concerning internal complaints handling, which explains how to make a complaint and how WaterNSW will receive, respond to and resolve complaints. We agree with this audit grade.

Our auditor noted the evidence that a bill insert including the information on internal complaints handling was sent to customers. Our auditor further noted that the insert is well presented and the information on internal complaints handling by WaterNSW is clear.

We make no recommendations in relation to clause 6.9.3. Our auditor identified no opportunities for improvement for this clause.

Compliant (clause 6.9.4) with making information on complaints handling available

Our auditor assigned WaterNSW a Compliant grade for clause 6.9.4 which required WaterNSW to make the information concerning the internal complaints handling referred to in clause 6.9.3 available to any person, free of charge, on its website for downloading. We agree with this audit grade.

Our auditor noted that the information of WaterNSW's complaints handling policy is available on its website. The internal policy itself is not publicly available, however a section of the website³² is dedicated to customer feedback and complaints that satisfies the requirements of this clause.

We make no recommendations in relation to clause 6.9.4. Our auditor identified no opportunities for improvement for this clause.

Compliant (clause 6.15.1) with establishing and maintaining a Memorandum of Understanding with Department of Planning and Environment

We assign WaterNSW a Compliant grade for clause 6.15.1, which required WaterNSW to use its best endeavours to establish and maintain a Memorandum of Understanding (MoU) with DPE, and comply with the MoU.

³² <https://www.watarnsw.com.au/customer-service/feedback/feedback-and-complaints-handling-policy>

We consider WaterNSW used its best endeavours to establish a memorandum of understanding with DPE, and that the MoU was not established as DPE considered that it was no longer required³³.

We make no recommendations or opportunities for improvement in relation to clause 6.15.1.

Compliant (minor shortcomings) (clause 6.16.1) with roles and responsibilities with Department of Industry - Water

Our auditor assigned WaterNSW a Non-compliant (material grade) for clause 6.16.1, which required WaterNSW to agree in writing with DoI-Water³⁴ the roles and responsibilities regarding the conduct of Conferred Functions³⁵ specified in Schedule A of the licence and WaterNSW must comply with the agreement established. We disagree with this audit grade and have assigned a Compliant (minor shortcomings) grade.

We agree with our auditor's observations that the agreement provided as evidence does not cover all conferred functions listed in the licence, the agreement uses different language to Schedule A of the licence which makes the agreement unclear with respect to the conferred functions, and that the agreement did not, within the audit period, refer to the establishment of NRAR.

However, we consider that the clause could be interpreted to require only a written agreement between DoI-Water and WaterNSW regarding the conduct of the conferred functions in a more general sense. For this reason we have changed the grade to Compliant (minor shortcomings).

We consider that a written agreement does exist (ie, the Deed of Business Transfer), and that agreement makes reference to the conferred functions generally and specifically discusses roles and responsibilities for a number of tasks of the two agencies conduct which appear to correlate to some of the conferred functions of Schedule A of the Operating Licence. We consider that each conferred function could have been more explicitly mentioned to make clear the roles and responsibilities of WaterNSW and DoI-Water with respect to the conferred functions, and improve clarity for both organisations and stakeholders.

We make one recommendation in relation to clause 6.16.1, based on our auditor's recommendation and our assessment.

- 20 By 31 December 2019, WaterNSW should review the roles and responsibilities in the Deed of Business Transfer (or the most recent variation of the Deed) for the conduct of the Conferred Functions specified in Schedule A of the licence, to clarify and confirm the roles and responsibilities with the Department of Industry – Water, and ensure it remains current in light of changes to the conferred functions.

³³ Email to IPART. Acting Executive Director Water and Utilities, Division of Energy, Water and Portfolio Strategy, DPE, 5 September 2018.

³⁴ The licence refers to the Department of Primary Industries, the relevant agency for the audit period was DoI-Water.

³⁵ Conferred Functions means the functions conferred upon WaterNSW by the Operating Licence

Compliant (clause 6.16.2) with publishing the roles and responsibilities with Department of Industry - Water

Clause 6.16.2 requires WaterNSW to publish on its website by 30 June 2018 a document setting out the agreed roles and responsibilities for the conferred functions as required under clause 6.16.1(a). We assign clause 6.16.1 a Compliant grade.

We consider that WaterNSW has complied with this clause because WaterNSW has published on its website by 30 June 2018 a document summarising the role of NSW Government agencies (including DoI water and WaterNSW) involved in the Water Management within NSW.

The document, *Roles of water management agencies in NSW*³⁶ contains two diagrams summarising WaterNSW's role in relation to the "licensing and compliance of water use in NSW" which are two of the categories of the conferred functions. The role of WaterNSW in respect to the licensing and compliance activities is described in the diagrams as "Determining licensing and approval applications and renewals and providing information services for most users". Although this does not provide detailed information on the conferred functions and may not be sufficiently detailed enough for users to identify all the conferred functions undertaken by WaterNSW, we accept that it provides guidance on the agreed roles and responsibilities.

We have not identified any recommendations, but have identified an opportunity for improvement. We consider the document could be improved to provide more clarity on which specific functions, users and entities WaterNSW is responsible for, or alternatively the document could reference where this information could be found.

³⁶ NSW Government, Roles of water management agencies in NSW, June 2018 Available: https://www.waternsw.com.au/__data/assets/pdf_file/0020/133940/DoI-Water-Roles-and-Responsibilities.pdf last accessed 11 February 2019.

3 Progress on previous audit recommendations

The previous audit in 2017 identified areas where WaterNSW’s performance with the licence obligations did not receive Full Compliance. We made recommendations to the Minister to address these issues.³⁷ The following table outlines WaterNSW’s progress in implementing these recommended actions.

WaterNSW demonstrated reasonable effort in completing the previous audit recommendations. Of the total four previous recommendations, two have been completed and two are continuing. The previous recommendations are shown in Table 3.1.

Where a recommendation is partially complete or continuing (Table 3.1), we will follow it up in our next annual operational audit, together with the recommendations from this year’s audit.

Table 3.1 WaterNSW’s progress in 2018 to address our recommendations from the previous audit

	Recommendation	Progress
2016-17-01	By 30 June 2018, Water NSW takes action to ensure that it determines the volume of water extracted by (or supplied to) each of its Customers at least annually.	Complete
2016-17-02	By 30 June 2018, Water NSW repairs or replaces the failed Napean Reservoir mixer.	Complete
2016-17-03	By 30 June 2018, Water NSW undertakes a risk assessment to determine appropriate strategies and controls to address any current reliability concerns or potential failure of all such mixer or aerator assets within its portfolio. (Sydney Catchment Authority licence clause 2.1.2)	<p>Partially completed</p> <p>Our auditor noted that Water NSW had undertaken a workshop to identify the risks associated with its aerator assets. However, WaterNSW had not fully documented appropriate strategies and controls for managing these risks, as follows:</p> <ul style="list-style-type: none"> - there is no planned maintenance task relating to aerator pipework and diffusers - WaterNSW inaccurately referenced condition based maintenance as a maintenance strategy as WaterNSW does not currently undertake any condition based maintenance for the diffusers and pipework, and - WaterNSW had not documented the operational control to monitor the diffuser bubble pattern.

³⁷ IPART, *WaterNSW Operational Audit 2016-17 Report to the Minister – Compliance Report*, 2017.

	Recommendation	Progress
2016-17-04	By 31 December 2018, Water NSW implements appropriate strategies and controls to address any reliability concerns or potential failure of all such mixer or aerator assets within its portfolio.	Continuing This recommendation is continuing until WaterNSW has completed Recommendation 2016-17-03. The appropriate strategies and controls can be implemented after they have first been determined/documented.






Source: Atom Consulting, *WaterNSW 2018 Operational Audit*, Final Report February 2019



Appendices

A Compliance grades

Table A.1 Current compliance grades

Grades of compliance	Description
 Compliant	Sufficient evidence is available to confirm that the requirements have been met.
 Compliant (minor shortcomings)	Sufficient evidence is available to confirm that the requirements have been met apart from minor shortcomings which to date have not compromised the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
 Non-compliant (non-material)	Sufficient evidence is not available to confirm that the requirements have been met and the deficiency does not adversely impact the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
 Non-compliant (material)	Sufficient evidence is not available to confirm the requirements have been met and the deficiency does adversely impact the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
 No Requirement	There is no requirement for the utility to meet this criterion within the audit period.

Source: IPART Audit Guideline Public Water Utilities, September 2018, Figure 2.1.



B WaterNSW audit scope



2018 operational audit scope Water NSW

2018 audit scope

This document sets out the 2018 operational audit scope for Water NSW.

This scope is based on the 5-year audit program for Water NSW's 2017-2022 Operating Licence. Auditors should note any directions in the comments column of Table 2.

Audit period

The audit period is 1 July 2017 to 30 June 2018.

Outstanding audit recommendations

Table 3 outlines outstanding audit recommendations. The auditor is required to review these recommendations to determine progress. We report on outstanding audit recommendations separately within IPART's operational audit report to the Minister.

Statement of compliance

The utility is required to provide a Statement of Compliance (SC), signed by the CEO and a Board Member, by 1 September. The SC is an exception based report that outlines any non-compliance with licence clauses during the previous financial year. It also identifies what remedial action has or is being taken with respect to these non-compliances.

The SC covers all licence clauses regardless of whether they are scheduled to be audited in that year. The SC may cause a late variation to the audit scope to allow non-compliances to be reviewed if necessary.

Interpretation

In the case of any discrepancies between the Water NSW Operating Licence 2017-2022 (licence) and the audit scope, the licence will prevail.

Table 1 Key

Requirement	Meaning
Audit/Review	Audit/review clause in 2018 audit
SC	We will rely on the utility's Statement of Compliance. All clauses require a Statement of Compliance unless there is a "no requirement" designation.
NR	No requirement (for audit or statement of compliance).

Table 2 2018 Audit scope for Water NSW

Licence clause	Operating Licence obligation	2018 audit requirement	Comments to the auditor
1	Licence Context and authorisation		
1.1	Objectives of this Licence		
1.1.1	<p>This licence aims to:</p> <ul style="list-style-type: none"> a) provide transparent and auditable terms and conditions for Water NSW to lawfully undertake its activities to industry good-practice; b) recognise the interests of stakeholders within its Area of Operations; and c) impose the minimum regulatory burden on Water NSW by avoiding duplication or conflict with other regulatory instruments. <p><i>[Note: Consistent with the Act, the purpose of this Licence is to:</i></p> <ul style="list-style-type: none"> a) <i>specify the listed functions and other functions conferred upon Water NSW to which this Licence relates;</i> b) <i>authorise Water NSW to carry out the listed functions specified in this Licence and Conferred Functions;</i> c) <i>specify the areas and circumstances in which Water NSW is authorised to carry out the specified Listed Functions and Conferred Functions;</i> d) <i>set out the terms and conditions which apply to the conduct of the functions authorised by this Licence;</i> e) <i>make provision for the preparation of Operational Audits;</i> f) <i>include terms and conditions under which Water NSW is required to provide, construct, operate, manage and maintain efficient, co-ordinated and commercially viable systems and services to capture, store, release or supply water;</i> g) <i>include terms and conditions under which Water NSW is required to ensure that the systems and services meet the Performance Standards specified in this Licence in relation to water delivery, water quality, service interruptions or any other matters set out in this Licence;</i> 	NR	

Licence clause	Operating Licence obligation	2018 audit requirement	Comments to the auditor
	<p>h) <i>with respect to a Declared Catchment Area – include terms and conditions under which Water NSW is required to compile indicators of the direct impact of Water NSW's activities (including, but not limited to, the impact of energy used and waste generated) on the environment so as to provide information about its performance and enable reports to be prepared; and</i></p> <p>i) <i>specify other requirements as required and allowed for under the Act.</i></p> <p><i>In addition to sections 11 and 12 of the Act which specify matters that must be included in this Licence, sections 7, 15, 16, 21, 25, 31 and 60 of the Act provide for other terms and conditions to be included in the Licence.</i></p> <p><i>This Licence does not reproduce Water NSW's statutory obligations in full. Water NSW's licence obligations may be subject to other laws including the Water Management Act 2000 (NSW) and the Water Act 1912 (NSW).]</i></p>		
1.2	Licence authorisations		
1.2.1	<p>Subject to any terms and conditions, areas and circumstances specified in this Licence, this Licence authorises Water NSW to undertake the following listed functions within its Area of Operations:</p> <ul style="list-style-type: none"> a) to capture and store water and to release water: <ul style="list-style-type: none"> i) to persons entitled to take the water, including release to regional towns; and ii) for any other lawful purpose, including the release of environmental water; b) to supply water to Sydney Water; c) to supply water to water supply authorities and to local councils or county councils prescribed by the Regulations; d) to supply water to persons referred to in section 7(1)(d) of the Act; e) to supply water to other persons and bodies, but under terms and conditions that prevent the person or body concerned from supplying the water for consumption by others within the State unless the person or body is authorised to do so by or under an Act; f) to construct, maintain and operate Water Management Works (including providing or constructing systems or services for supplying water); g) to protect and enhance the quality and quantity of water in Declared Catchment Areas; h) to manage and protect Declared Catchment Areas and Water Management Works vested in or under the control of Water NSW that are used within or for the purposes of such areas; 	NR	

Licence clause	Operating Licence obligation	2018 audit requirement	Comments to the auditor
	<p>i) to undertake research on catchments generally, and in particular on the health of Declared Catchment Areas; and</p> <p>j) to undertake an educative role within the community.</p> <p><i>[Note: Clause 1.2.1 authorises all of Water NSW's listed functions referred to in section 7(1) of the Act, except for its listed function under section 7(1)(i) of the Act: to undertake flood mitigation and management. As a consequence, Water NSW may undertake flood mitigation and management only if it is authorised to do so under a different operating licence, a provision of the Act other than section 7, or under any other Act or law.]</i></p>		
1.2.2	<p>Subject to any terms and conditions, areas and circumstances specified in this Licence, this Licence authorises Water NSW, within its Area of Operations to:</p> <p>a) provide facilities or services that are necessary, ancillary or incidental to its Listed Functions; and</p> <p>b) conduct any business or activity (whether or not related to its Listed Functions) that it considers will further its objectives.</p>	SC	
1.2.3	<p>Subject to any terms and conditions, areas and circumstances specified in this Licence, this Licence authorises Water NSW, within its Area of Operations, to undertake the Conferred Functions specified in Schedule A.</p>	SC	
1.2.4	<p>Subject to any terms and conditions, areas and circumstances specified in this Licence and to the maximum extent permissible by law, this Licence authorises Water NSW pursuant to section 15(4)(b) of the Act to exercise any function of a type referred to in section 15(2) of the Act, but only with the agreement of the Relevant Body.</p>	SC	
1.2.5	<p>Subject to any terms and conditions, areas and circumstances specified in this Licence, and to the maximum extent permissible by law, this Licence authorises Water NSW pursuant to section 31(1) of the Act, to exercise the functions set out in section 31(1) within its Area of Operations.</p>	SC	
1.2.6	<p>Despite anything in this clause 1.2, but subject to any terms and conditions, areas and circumstances specified elsewhere in this Licence, and to the maximum extent permissible by law, this Licence authorises Water NSW, pursuant to section 15(4)(a) of the Act, to carry out any of its functions outside of the State.</p>	SC	
1.2.7	<p>For the avoidance of any doubt, where this clause 1.2 authorises a function of Water NSW, that authorisation is intended to apply in respect of the Fish River Water Supply Scheme, to the maximum extent permissible by law.</p> <p><i>[Note: The intention behind clause 1.2.7 is that clauses 2.1.3-2.1.5, 3.1.1, 3.2.1, 4.2.1-4.2.3, 5.1.1, 5.1.2, 5.2.1, 5.2.2, 6.1.1-6.1.3, 6.3.1, 6.3.2, 6.5.1-6.5.5, 6.6.1-6.6.4, 6.8.1-6.8.4, 6.9.1-6.9.4, 6.10.1 and 6.10.2 apply in respect of the Fish River Water Supply Scheme, to the maximum extent permissible by law. See section 293(2) of the Water Management Act 2000 (NSW).]</i></p>	NR	
1.3	Term of this Licence		

Licence clause	Operating Licence obligation	2018 audit requirement	Comments to the auditor				
1.3.1	The term of this Licence is 5 years from the Commencement Date.	NR					
1.4	Non-exclusive Licence						
1.4.1	This Licence does not prohibit another person from providing Services in the Area of Operations that are the same as, or similar to, the services provided by Water NSW, if the person is lawfully entitled to do so.	NR					
1.5	Making copies of this Licence available						
1.5.1	Water NSW must make this Licence available free of charge on its website for downloading by any person.	SC					
1.6	End of term review						
1.6.1	It is anticipated that a review of this Licence will commence in the first quarter of 2021 to investigate: <ul style="list-style-type: none"> a) whether this Licence is fulfilling its objectives; and b) any issues which have arisen during the term of this Licence, which may affect the effectiveness of this Licence, (End of Term Review)	NR					
1.6.2	Water NSW must provide to the person undertaking the End of Term Review such information as is reasonably required to enable the person to complete the End of Term Review. Water NSW must provide that person with such information within a reasonable time period of receiving a request for that information from that person.	NR					
1.7	Notices						
1.7.1	Any notice or other communication given under this Licence must be made in writing addressed to the intended recipient at the address shown below or the last address notified by the recipient.	SC					
	<table border="1"> <thead> <tr> <th>Water NSW</th> <th>IPART</th> </tr> </thead> <tbody> <tr> <td>The Chief Executive Officer Water NSW Level 14, 161-169 Macquarie St Parramatta NSW 2150</td> <td>The Chief Executive Officer Independent Pricing and Regulatory Tribunal of NSW Level 15, 2-24 Rawson Place Sydney NSW 2000</td> </tr> </tbody> </table>	Water NSW	IPART	The Chief Executive Officer Water NSW Level 14, 161-169 Macquarie St Parramatta NSW 2150	The Chief Executive Officer Independent Pricing and Regulatory Tribunal of NSW Level 15, 2-24 Rawson Place Sydney NSW 2000		
Water NSW	IPART						
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Licence clause	Operating Licence obligation	2018 audit requirement	Comments to the auditor
2	Water Source protection and conservation		
2.1	Water Quality Management System		
2.1.1	Water NSW must maintain a Water Quality Management System in accordance with this clause 2.1.	Audit	<p>NSW Health has provided comments in its letter dated 17 August 2018 on the management of incidents, for two unexplained hydrocarbon spikes which occurred on a meter in the Upper Canal.</p> <p>See NSW Health's letter to IPART for full details of NSW Health advice and areas of focus for risks associated with activities in the Sydney catchments.</p> <p>Auditors should also consider the general comments EPA made on the Sydney drinking water catchments. See the EPA's letter to IPART dated 15 August 2018 for details.</p>

Licence clause	Operating Licence obligation	2018 audit requirement	Comments to the auditor
2.1.2	<p>With respect to Declared Catchment Areas, Water NSW must maintain a Water Quality Management System that is consistent with either:</p> <ul style="list-style-type: none"> a) the Australian Drinking Water Guidelines; or b) if NSW Health were to specify any amendment or addition to the Australian Drinking Water Guidelines that applies to Water NSW, the Australian Drinking Water Guidelines as amended or added to by NSW Health; or c) any other requirements specified or approved by NSW Health or IPART. <p><i>[Note: It is generally expected that for the Declared Catchment Areas Water NSW will develop a Water Quality Management System consistent with the Australian Drinking Water Guidelines. However, where NSW Health considers appropriate, the application of those Guidelines may be amended or added to, to take account of Water NSW's circumstances and/or policy and practices within New South Wales regarding Drinking Water quality.</i></p> <p><i>It is generally expected that Water NSW will manage the Declared Catchment Areas and the associated Catchment Infrastructure Works in light of its knowledge of the whole system for the Supply of Drinking Water (including the Bulk Water Supply System associated with Declared Catchment Areas together with each system for treating, storing and supplying Drinking Water of each Customer to whom Water NSW Supplies water which is sourced from Declared Catchment Areas). That is, Water NSW should have adequate systems and processes in place to manage Bulk Water quality to its water Supply Customers, taking into account the implementation of planning and risk management across the whole Drinking Water Supply system.]</i></p>	Audit	Refer to comments for clause 2.1.1.
2.1.3	<p>With respect to Non-Declared Catchment Areas from which Water NSW Supplies water, Water NSW must maintain Water Quality Management Systems that are consistent with:</p> <ul style="list-style-type: none"> a) in the case of water with the final end use as Drinking Water: <ul style="list-style-type: none"> i) a relevant quality assurance program under section 25 of the Public Health Act 2010 (NSW); ii) the Australian Drinking Water Guidelines; or iii) any other requirements as specified or approved by NSW Health or IPART, b) in the case of water that does not have a final end use as Drinking Water and that is not to be managed according to a Water Quality Management System that satisfies clause 2.1.3(a): <ul style="list-style-type: none"> i) the Australian Guidelines for Water Recycling; or ii) any other requirements as specified or approved by NSW Health or IPART. <p>(a) <i>[Note: It is generally expected that Water NSW will manage the water under its control in light of its knowledge of the downstream water supply system, including that of its Customers. Therefore the Water Quality Management System should be developed in consultation with the relevant Customers to whom it Supplies water.]</i></p>	Audit	Refer to comments for clause 2.1.1.

Licence clause	Operating Licence obligation	2018 audit requirement	Comments to the auditor
2.1.4	Water NSW must ensure that the relevant Water Quality Management Systems are fully implemented and that all relevant activities are carried out in accordance with the relevant Water Quality Management System and to the satisfaction of NSW Health.	Audit	Refer to comments for clause 2.1.1.
2.1.5	Water NSW must notify IPART and NSW Health, in accordance with the Reporting Manual, of any significant changes that it proposes to make to a Water Quality Management System.	Audit	On 29 March 2018, WaterNSW advised that it had made significant changes to its Water Quality Management System (WQMS) in consultation with NSW Health. See WaterNSW's letter to IPART dated 29 March 2018 for details of changes and relevant dates of consultation.
2.2	Catchment management		
2.2.1	Water NSW must manage and protect the Declared Catchment Areas in a manner that is consistent with its objectives and functions under the Act, the Water Quality Management System required under Clause 2.1 of this Licence, the Asset Management System required under Clause 5.1 of this Licence, and the Environmental Management System required under Clause 5.2 of this Licence.	Audit	
2.3	Information on the Declared Catchment Areas		

Licence clause	Operating Licence obligation	2018 audit requirement	Comments to the auditor
2.3.1	<p>Water NSW must:</p> <ul style="list-style-type: none"> a) reasonably cooperate with the Appointed Auditor; b) publish information collected by Water NSW on water quality relevant to Declared Catchment Areas in accordance with the Reporting Manual; <p><i>[Note: For the avoidance of doubt, the above reference to information collected in accordance with the Reporting Manual is a reference to Water NSW's obligations in respect of the IPART water quality H1 and H2 indicators and water quality monitoring reports in the Reporting Manual]</i></p> <ul style="list-style-type: none"> c) provide data in relation to the Catchment Health Indicators to the Appointed Auditor, in accordance with the Reporting Manual; d) monitor, record and compile data on the Environmental Indicators relevant to Declared Catchment Areas; and e) report on the Environmental Indicators in accordance with the Reporting Manual. 	SC	
2.4	Catchment Infrastructure Works management		
2.4.1	Water NSW must ensure that, in Declared Catchment Areas, the Catchment Infrastructure Works are operated and managed consistently with the Design Criteria and the Asset Management System referred to in clause 5.1.	Audit	Audit with clause 5.1.
2.4.2	Water NSW must, in accordance with the Reporting Manual make the Design Criteria available to the public free of charge on its website for downloading by any person.	SC	
2.5	Calculating System Yield		
2.5.1	<p>Water NSW must recalculate the System Yield in respect of a Declared Catchment Area on the occurrence of any one or more of the following events:</p> <ul style="list-style-type: none"> a) the conclusion of any drought event affecting the Declared Catchment Area; b) the commencement of any modification or augmentation to the Catchment Infrastructure Works or Customers' infrastructure, that will have a significant impact on Water NSW's Supply of water in respect of the Declared Catchment Area; c) any material change to the operating rules of the Catchment Infrastructure Works in respect of the Declared Catchment Area; or d) any material change to the Design Criteria in respect of the Declared Catchment Area. 	SC	
2.5.2	<p>In accordance with the Reporting Manual, Water NSW must advise the Minister:</p> <ul style="list-style-type: none"> a) of any changes to the System Yield relative to the previous System Yield (including reasons for change) following a recalculation under clause 2.5.1; or b) if Water NSW considers that future demand for Bulk Water may exceed the System Yield and when this exceedance might occur. 	SC	
2.5.3	As soon as practicable after advising the Minister of any changes to the System Yield under clause 2.5.2, Water NSW must, in accordance with the Reporting Manual, make details of those changes and the reasons for those changes available free of charge on its website for downloading by any person.	SC	

Licence clause	Operating Licence obligation	2018 audit requirement	Comments to the auditor
2.6	Reviewing the model for the System Yield		
2.6.1	By the first quarter of 2021, Water NSW must engage a suitably qualified independent expert to: <ul style="list-style-type: none"> a) review its modelling and procedures for calculating the System Yield to ensure that it reflects good industry practice; b) test the robustness of the modelling, the key assumptions used in the modelling, and the process for calculating the System Yield, including the appropriate frequency of yield re-calculation and the appropriateness of the trigger events in clause 2.5.1; and c) advise Water NSW on whether it should re-calculate the System Yield based on the findings of the test conducted under clause 2.6.1(b). 	NR	
2.6.2	Water NSW must consult with: <ul style="list-style-type: none"> a) Customers who are Supplied water from the Declared Catchment Area, including Sydney Water; b) stakeholders and regulators as agreed with, or directed by, IPART; and c) any other persons that Water NSW reasonably expects to have an interest in the review of the modelling under clause 2.6.1, regarding the review of the modelling under clause 2.6.1, and provide the results of the consultation to the suitably qualified independent expert.	NR	
2.6.3	The review of the model for the System Yield must be completed by 30 June 2021 and reported to IPART in accordance with the Reporting Manual.	NR	
2.7	Water conservation		
2.7.1	By 1 November 2018, or by a later date as approved by IPART, Water NSW must submit to IPART, a report outlining Water NSW's water conservation strategy in relation to its operations under this Licence (Water Conservation Strategy).	NR	
2.7.2	The Water Conservation Strategy must include: <ul style="list-style-type: none"> a) identification and documentation of existing water conservation activities; b) a process for identifying additional options for conserving water; c) a process for comparing these options; and d) a process for selecting options for implementation. 	NR	
2.7.3	By 1 September 2019, or by a later date as approved by IPART, Water NSW must develop and submit to IPART a water conservation work program using the process set out in the Water Conservation Strategy	NR	
2.8	Research on catchments		
2.8.1	Water NSW must maintain a program of research for each Declared Catchment Area which: <ul style="list-style-type: none"> a) relates to catchments within that Declared Catchment Area generally and in particular their health; b) is consistent with its objectives under section 6 of the Act; and c) assists Water NSW to discharge its functions under sections 7(1)(g) and 7(1)(h) of the Act. 	Audit	New licence clause.

Licence clause	Operating Licence obligation	2018 audit requirement	Comments to the auditor
2.8.2	Water NSW must report on its research programs referred to in clause 2.8.1 in accordance with the Reporting Manual.	Audit	New licence clause. Refer to clause 2.1.3 of the Reporting Manual.

3	Bulk Water storage and transmission		
3.1	Construct, maintain and operate Water Management Works		
3.1.1	Water NSW must construct, maintain and operate its Water Management Works in accordance with its Asset Management System referred to in clause 5.1.	Audit	Audit with clause 5.1.
3.2	Water Supply		
3.2.1	Water NSW must ensure that any water Supplied to Customers is Supplied in accordance with a relevant Water Quality Management System, any relevant Customer Supply Agreement, and any relevant arrangements with Sydney Water established under section 25 of the Act.	Audit	
3.3	CSR Water		
3.3.1	For CSR Water, Water NSW must take all reasonable steps to: <ul style="list-style-type: none"> a) process all Water Orders promptly and efficiently; and b) manage Water Orders to ensure water is Delivered to its Customers in a timely manner. 	SC	
3.4	Bulk Water released to Local Water Utilities for Drinking Water purposes		
3.4.1	Water NSW must maintain a register of all Local Water Utilities: <ul style="list-style-type: none"> a) for which Water NSW maintains a Water Allocation Account; and b) to which Water NSW releases water that will be used for the purposes of Drinking Water (Local Water Utility Customers), (LWU Register). 	SC	
3.4.2	The LWU Register must include contact details for each Local Water Utility Customer, and the Water Source and approximate location from which the Local Water Utility Customer Extracts water.	SC	
3.4.3	Water NSW must maintain and implement a procedure for providing information to Local Water Utilities (LWU Information Request Procedure). Water NSW must follow the LWU Information Request Procedure when any Local Water Utility requests information to inform that utility's Drinking Water quality assurance program. Water NSW must maintain the LWU Information Request Procedure during the term of this Licence.	SC	
3.4.4	Water NSW's LWU Information Request Procedure must: <ul style="list-style-type: none"> a) describe how a Local Water Utility is to request information; b) describe how Water NSW will respond to the request in a timely manner; and c) define any fees and charges that may be charged by Water NSW to recover reasonable costs incurred for responding to an information request, how these will be calculated, and how they are to be paid. 	SC	
3.4.5	Water NSW must make details of the LWU Information Request Procedure available free of charge on its website for downloading by any person.	SC	
3.4.6	By 31 December 2018, Water NSW must, in consultation with NSW Health, the Local Water Utility Customers on the LWU Register and its customer advisory groups established under clause 6.5, complete a review of its water quality monitoring, of water released by Water NSW to Local Water Utilities.	NR	

3.4.7	By 30 June 2019, Water NSW must provide IPART with a report detailing the outcomes of the review referred to in clause 3.4.6. The report should describe measures that were identified and the timing by which they could be implemented. Any barriers to immediate implementation of identified measures, including limitations to funding, should be outlined in the report. <i>[Note: The purpose of clause 3.4 is to ensure that there are mechanisms in place for Water NSW to share information which it currently has, or is best placed to collect with interested Local Water Utilities, where that information could usefully inform a Local Water Utility's Drinking Water quality assurance program.]</i>	NR	
4	Performance Standards		
4.1	Requirement to meet Performance Standards		
4.1.1	Water NSW is required to ensure that its systems and services meet the Performance Standards specified in this chapter.	SC	
4.2	Water Supplied Performance Standards		
4.2.1	The Performance Standards set out in paragraphs 4.2.2 and 4.2.3 apply in respect of the Supply of water by Water NSW.	NR	
4.2.2	Water NSW must manage the quality of water Supplied to its Customers in accordance with the relevant Water Quality Management System required under clause 2.1.2 or 2.1.3 (Supply Water Quality Performance Standard).	Audit	Refer to comments for clause 2.1.1.
4.2.3	Water NSW must manage service interruptions in accordance with the Asset Management System required under clause 5.1.1 (Supply Service Interruption Performance Standard).	Audit	
4.3	CSR Water Performance Standards		
4.3.1	The Performance Standards set out in clause 4.3.2 - 4.3.7 apply to Water NSW with respect to CSR Water.	NR	
4.3.2	CSR Water Delivery Performance Standard A Water NSW must ensure that: a) 99% of Customers who place a Non-complying Water Order are contacted within one working day to rectify that order; and b) this is calculated as a percentage of all Non-complying Water Orders placed in the financial year.	SC	
4.3.3	CSR Water Delivery Performance Standard B Water NSW must ensure that: a) 99% of Water Orders are Delivered within one day of the scheduled day of Delivery; and b) this is calculated as a percentage of all complying Water Orders placed in the financial year. <i>[Note: The scheduled day of Delivery takes into account the period of required notice specified in Water Management Work approvals, licences, or entitlements. This is measured by Complaints and/or if Water NSW identifies a Delivery delay, e.g. through its staff, systems or otherwise identifies or becomes aware of a Delivery delay.]</i>	SC	

4.3.4	<p>CSR Water Service Interruptions Performance Standard Water NSW must ensure that:</p> <p>a) 100% of Water Orders rescheduled, are rescheduled in consultation with an affected Customer within one working day of an expected water shortage, or other delivery delay; and</p> <p>b) this is calculated as a percentage of all Water Orders rescheduled in the financial year due to an expected shortage or Delivery delay.</p>	SC	
4.3.5	<p>CSR Water Account Processing Performance Standard A Water NSW must ensure that no less than 90% of complying Temporary Trades within the State in the financial year are processed within five working days of Water NSW's receipt of a correct application and fee.</p>	SC	
4.3.6	<p>CSR Water Account Processing Performance Standard B Water NSW must ensure that no less than 90% of Interstate Temporary Trades (except to South Australia) in the financial year are processed within 10 working days of Water NSW's receipt of a correct application and fee.</p>	SC	
4.3.7	<p>CSR Water Account Processing Performance Standard C Water NSW must ensure that no less than 90% of Interstate Temporary Trades to South Australia in the financial year are processed within 20 working days of Water NSW's receipt of a correct application and fee.</p>	SC	

5	Organisational systems management		
5.1	Asset Management System		
5.1.1	Water NSW must at all times maintain a Management System for carrying out its functions authorised under this Licence that is consistent with the Australian Standard AS ISO 55001:2014 Asset Management – Management systems – Requirements or other standard approved by IPART on request by Water NSW (the Asset Management System).	Audit	If certified, check surveillance/recertification audits. IPART would provide guidance for non-standard, non-certified systems.
5.1.2	Water NSW must fully implement the Asset Management System and carry out all relevant activities in accordance with the Asset Management System.	Audit	If certified, check surveillance/recertification audits. IPART would provide guidance for non-standard, non-certified systems.
5.2	Environmental Management System		
5.2.1	Water NSW must at all times maintain an Environmental Management System for carrying out the functions authorised under this Licence that is consistent with the Australian/New Zealand Standard AS/NZS ISO 14001:2016: Environmental management systems – Requirements with guidance for use or other standard approved by IPART, on request by Water NSW (the Environmental Management System).	SC	
5.2.2	Water NSW must fully implement the Environmental Management System and carry out all relevant activities in accordance with the Environmental Management System.	SC	
6	Customer and stakeholder relations		
6.1	Customer Supply Agreements – Customers other than Sydney Water		
6.1.1	Water NSW must establish and maintain agreements with each of its Customers to whom it Supplies water (except Sydney Water), which agreements must set out the terms and conditions for the Supply of water (Customer Supply Agreements). <i>[Note: Under section 25 of the Act, Water NSW is required to enter into arrangements with Sydney Water regarding the Supply of water by Water NSW to Sydney Water. Therefore, this Licence does not regulate the Supply arrangements with Sydney Water under section 25 of the Act.]</i>	Audit	Last audited in 2013 for Water NSW (Sydney Catchment Authority) Operating Licence 2012-2017, Water NSW was assigned a Full Compliance grade.
6.1.2	Water NSW must only Supply water to these Customers in accordance with the terms and conditions of these Customer Supply Agreements.	Audit	New licence clause.
6.1.3	The terms and conditions of the Customer Supply Agreements must, at a minimum, include provisions addressing: a) the standard of water quality Supplied by Water NSW; b) the continuity of the water Supplied by Water NSW (that is, provisions relating to interruptions, disconnections and reconnections to Supply); c) any metering arrangements; d) the fees and charges to be paid by the Customers for the Supply of water to them; e) dispute resolution and Complaints handling procedures; and f) in the case of a Customer Supply Agreement with a Customer referred to in clause 1.2.1(e), terms and conditions preventing the Customer concerned from supplying the water for consumption by others within the State unless the Customer is authorised to do so by or under an Act.	Audit	Last audited in 2013 for Water NSW (Sydney Catchment Authority) Operating Licence 2012-2017. Water NSW was assigned a Full Compliance grade.
6.2	Accounting for water		

6.2.1	Water NSW must maintain a Water Allocation Account for each Customer that holds a Water Licence.	SC	
6.3	Water metering and monitoring		
6.3.1	Water NSW must determine the volume of water Extracted by, or Supplied to, each of its Customers, at least annually, for the purpose of accurate account management, billing and reporting.	Audit	New licence clauses added to Water NSW (Sydney Catchment Authority) licence in 2016 – not audited yet.
6.3.2	Prior to Water NSW operating, replacing, repairing, maintaining, removing, connecting, disconnecting or otherwise modifying Metering Equipment it does not own, it must obtain the agreement of the owner of that equipment. <i>[Note: In accordance with section 31(1) of the Act and clause 1.2.5 of this Licence, Water NSW is authorised to operate, replace, repair, maintain, remove, connect, disconnect or modify Metering Equipment that Water NSW does not own. Water NSW must only exercise this authority in accordance with this condition.]</i>	Audit	New licence clauses added to Water NSW (Sydney Catchment Authority) licence in 2016 – not audited yet.
6.4	Advance notification of changes to flow release patterns		
6.4.1	Water NSW must maintain an effective system to provide advance notification of any significant changes to flow release patterns from its Water Management Works to Customers and other stakeholders that have registered to be notified of such changes.	SC	
6.5	Customer advisory groups		
6.5.1	Water NSW must establish and maintain area-based advisory groups representing a broad cross-section of its Customers for those areas (Customer Advisory Group).	Audit	Last audited in 2016 for Water NSW (State Water Corporation) Operating Licence 2013-2018. Water NSW was assigned a Full compliance grade.
6.5.2	Water NSW must regularly consult with the area-based Customer Advisory Groups to enable Customer involvement in issues relevant to the performance of Water NSW's obligations to Customers under this Licence or the Customer Service Charter, obtain advice on the interests of Water NSW's Customers and such other key issues relating to Water NSW's planning and operations as Water NSW may determine consistent with the Customer Advisory Group Charter(s).	Audit	Last audited in 2016 for Water NSW (State Water Corporation) Operating Licence 2013-2018. Water NSW was assigned a Full compliance grade.
6.5.3	For each Customer Advisory Group, Water NSW must ensure that, at all times, the membership of the Customer Advisory Group is appointed and determined by Water NSW in accordance with the Customer Advisory Group Charter.	Audit	Last audited in 2016 for Water NSW (State Water Corporation) Operating Licence 2013-2018. Water NSW was assigned a Full compliance grade.

6.5.4	<p>For each Customer Advisory Group, Water NSW must use its best endeavours to ensure that membership is representative of the Customers in that area and include at least one Customer representing each of the following categories (where there are Customers in this category for the area associated with the Customer Advisory Group):</p> <ul style="list-style-type: none"> a) stock and domestic water users; b) Regulated River water users; c) Unregulated River water users; d) groundwater users; e) environmental water users; f) industrial and commercial water users; g) Local Water Utilities; h) Major Utilities; i) small water users based on their Water Licence volume; j) medium water users based on their Water Licence volume; k) large water users based on their Water Licence volume ; and l) Aboriginal cultural heritage water users. 	Audit	<p>Last audited in 2016 for Water NSW (State Water Corporation) Operating Licence 2013-2018. Water NSW was assigned a Full compliance grade.</p>
6.5.5	<p>Water NSW must provide the Customer Advisory Groups with adequate information within its possession or under its control necessary to enable the Customer Advisory Groups to discharge the tasks assigned to them other than information or documents that are confidential.</p>	Audit	<p>Last audited in 2016 for Water NSW (State Water Corporation) Operating Licence 2013-2018. Water NSW was assigned a Full compliance grade.</p>
6.6 Customer Advisory Group Charter			
6.6.1	<p>Water NSW, in consultation with Customers representing all of the categories in clause 6.5.4, must for the term of this Licence, establish and maintain a Customer advisory group charter in accordance with this clause 6.6 (Customer Advisory Group Charter). Water NSW may have one or more Customer Advisory Group Charters, for different Customer Advisory Groups, as it deems appropriate.</p>	SC	
6.6.2	<p>The Customer Advisory Group Charter must address all of the following issues:</p> <ul style="list-style-type: none"> a) the role of the Customer Advisory Group; b) how members and the chair of the Customer Advisory Group will be appointed; c) the term for which members are appointed; d) information on how the Customer Advisory Group will operate; e) a description of the type of matters that will be referred to the Customer Advisory Group and how those matters will be referred; f) procedures for communicating the outcomes of the Customer Advisory Groups' work to the public; g) procedures for monitoring issues raised at meetings of the Customer Advisory Groups and ensuring appropriate follow-up of those issues; h) procedures for amending the charter; and i) funding and resourcing of the Customer Advisory Groups by Water NSW. 	SC	

6.6.3	Water NSW or any member of the Customer Advisory Groups may propose any amendments to the Customer Advisory Group Charter(s). However, such amendments will not be effective until they have been approved by the relevant Customer Advisory Group.	SC
6.6.4	Water NSW must make the Customer Advisory Group Charter available free of charge on its website for downloading by any person.	SC
6.7 Customer Service Charter		
6.7.1	Water NSW must, in consultation with relevant Customers and/or Customer Advisory Groups, establish and maintain a Customer service charter (Customer Service Charter) in accordance with this clause 6.7. Water NSW may have one or more Customer Service Charters, for different categories of Customers, as it deems appropriate. Where Water NSW has established a Customer Supply Agreement with a Customer (or category of Customers), or where Water NSW has entered into an arrangement with Sydney Water under section 25 of the Act, a Customer Service Charter covering that Customer or category of Customers is not required.	SC
6.7.2	The Customer Service Charter(s) must set out the mutual responsibilities of Water NSW and its Customers consistently with this Licence, the Act, the <i>Water Management Act 2000</i> (NSW), the <i>Water Act 1912</i> (NSW) and any other applicable law.	SC
6.7.3	Water NSW must make the Customer Service Charter available free of charge on its website for downloading by any person.	SC
6.8 Code of Practice on Payment Difficulties		
6.8.1	Water NSW must maintain and fully implement a code of practice that assists Customers experiencing financial hardship to better manage their current and future Bills (Code of Practice on Payment Difficulties) in accordance with this clause 6.8.	Audit
6.8.2	The Code of Practice on Payment Difficulties must: <ul style="list-style-type: none"> a) provide for a payment plan for Customers who are responsible for paying their Bills and who are, in Water NSW's reasonable opinion, experiencing financial hardship; b) include procedures for identifying the circumstances under which Water NSW may restrict the provision of services to a customer (including in respect of CSR Water and Supply water); c) include procedures for identifying the circumstances under which Water NSW may suspend water access licences when a Customer has not paid its Bill and an overview of the process that must be followed prior to suspension; and d) include procedures for self-identification, identification by community welfare organisations and identification by Water NSW of Customers experiencing financial hardship. 	Audit
6.8.3	Water NSW must set out details of the Code of Practice on Payment Difficulties in the Customer Service Charter, or, where a Customer Supply Agreement is established in respect of a Customer, in that Customer Supply Agreement. <i>[Note: This requirement does not apply to any arrangements with Sydney Water under section 25 of the Act.]</i>	Audit

6.8.4	Water NSW must provide, free of charge, information on the Code of Practice on Payment Difficulties: a) to Customers, except Sydney Water, at least once annually with their Bills; and b) to Customers whom Water NSW identifies as experiencing financial hardship on the date that Water NSW first identifies that the Customer is experiencing financial hardship; and c) on its website for downloading by any person	Audit
6.9	Internal Complaints Handling Procedure	
6.9.1	Water NSW must maintain a procedure for receiving, responding to and resolving Complaints, which is consistent with the Australian Standard AS/NZS 10002:2014: Guidelines for complaints management in organizations (AS/NZS 10002:2014) or other standard approved by IPART on request by Water NSW (Internal Complaints Handling Procedure).	Audit
6.9.2	Water NSW must ensure that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the Internal Complaints Handling Procedure.	Audit
6.9.3	Water NSW must provide to Customers, at least annually with their Bills, information concerning internal Complaints handling, which explains how to make a Complaint and how Water NSW will receive, respond to and resolve Complaints.	Audit
6.9.4	Water NSW must make the information concerning internal Complaints handling referred to in clause 6.9.3 available to any person, free of charge, on its website for downloading.	Audit
6.10	External dispute resolution scheme	
6.10.1	Water NSW must be a member of the Energy and Water Ombudsman of NSW to facilitate the resolution, by a dispute resolution body, of disputes between Water NSW and its Customers.	SC
6.10.2	Water NSW must: a) prepare information that explains the dispute resolution service provided by the Energy and Water Ombudsman of NSW, including any right to have a Complaint or dispute referred to the Energy and Water Ombudsman of NSW and how such a Complaint or dispute can be assessed; b) provide the information prepared under clause 6.10.2(a), free of charge to Customers at least once a year with their Bills; and c) make the information prepared under clause 6.10.2(a) available to any person, free of charge, on its website for downloading.	SC
6.11	Educative role	
6.11.1	Water NSW must undertake an educative role in the community on its activities and functions in Declared Catchment Areas consistent with its objectives under section 6(1)(c) of Act, and report on its activities in accordance with the Reporting Manual.	SC
6.12	Code of Conduct with WIC Act Licensees	
6.12.1	Water NSW must use reasonable endeavours to cooperate with any WIC Act Licensee that seeks to establish with Water NSW a code of conduct required under a licence under the WIC Act.	SC
6.12.2	Where the Minister administering the WIC Act has established a code of conduct under clause 25 of the WIC Regulation, Water NSW will be taken to have satisfied its obligation under clause 6.12.1 by applying the water industry code of conduct established by the Minister to the relevant WIC Act Licensee.	NR

6.13	Memorandum of Understanding with NSW Health		
6.13.1	<p>Water NSW must:</p> <p>a) maintain a memorandum of understanding with the Secretary of the Ministry of Health entered into under section 21(1) of the Act; and</p> <p>b) comply with the memorandum of understanding maintained under clause 6.13.1(a).</p> <p><i>[Note: Clause 6.13.1 does not limit the persons with whom Water NSW may enter into a memorandum of understanding.]</i></p>	SC	<p>NSW Health made comments on WaterNSW's compliance with obligations under the Memorandum of Understanding. See NSW Health's letter to IPART dated 17 August 2018 for details.</p> <p>These comments do not trigger an audit of this clause this year.</p>
6.13.2	<p>The purpose of the memorandum of understanding referred to in clause 6.13.1 is to form the basis for cooperative relationships between the parties to the memorandum of understanding and particularly to recognise the role of NSW Health in providing advice to the NSW Government in relation to water quality standards and public health, with respect to CSR Water and the Supply of water by Water NSW.</p>	NR	
6.13.3	<p>The memorandum of understanding referred to in clause 6.13.1 must include arrangements for Water NSW to report to NSW Health information on any events, in relation to Water NSW's systems or service that might impact on public health.</p> <p><i>[Note: Clause 6.13.2 does not limit the matters which may be included in the memorandum of understanding with NSW Health.]</i></p>	SC	<p>NSW Health made comments on WaterNSW's compliance with obligations under the Operating Licence and Memorandum of Understanding. See NSW Health's letter to IPART dated 17 August 2018 for details.</p> <p>These comments do not trigger an audit of this clause this year.</p>
6.13.4	<p>Water NSW must publish on its website for downloading by any person, the memorandum of understanding maintained with NSW Health under clause 6.13.1(a).</p>	SC	
6.14	Memorandum of Understanding with Environment Protection Authority		
6.14.1	<p>Water NSW must:</p> <p>a) maintain the memorandum of understanding with the Environment Protection Authority entered into under section 21(1) of the Act; and</p> <p>b) comply with the memorandum of understanding maintained under clause 6.14.1(a).</p> <p><i>[Note: Clause 6.14.1 does not limit the persons with whom Water NSW may enter into a memorandum of understanding.]</i></p>	SC	<p>EPA has provided comments in its submission relating to the operation of the Memorandum of Understanding with WaterNSW, dated 19 December 2016. See the EPA's letter to IPART dated 15 August 2018 for details.</p> <p>These comments do not trigger an audit of this clause this year.</p>
6.14.2	<p>The purpose of the memorandum of understanding referred to in clause 6.14.2 is to form the basis for cooperative relationships between the parties to the memorandum of understanding and particularly to recognise the role of the Environment Protection Authority as the environment regulator of New South Wales.</p> <p><i>[Note: Clause 6.14.2 does not limit the matters which may be included in the memorandum of understanding with the Environmental Protection Agency.]</i></p>	NR	
6.14.3	<p>Water NSW must publish on its website, for downloading by any person, the memorandum of understanding maintained with the Environmental Protection Authority under clause 6.14.1(a).</p>	NR	
6.15	Memorandum of Understanding with Department of Planning and Environment		

6.15.1	<p>Water NSW must:</p> <p>a) use its best endeavours to establish and maintain a memorandum of understanding with the Department of Planning and Environment; and</p> <p>b) comply with the memorandum of understanding maintained under clause 6.15.1(a).</p> <p><i>[Note: Clause 6.15.1 does not limit the persons with whom Water NSW may enter into a memorandum of understanding.]</i></p>	Audit	<p>IPART will audit (not included in auditor's scope).</p> <p>WaterNSW reported to us that DPE no longer requires a Memorandum of Understanding with WaterNSW. We received confirmation of this from DPE. See email from DPE to IPART dated 5 September 2018.</p> <p>Based on these comments we will audit this clause and report findings in the IPART report to the Minister.</p>
6.15.2	<p>The purpose of the memorandum of understanding referred to in clause 6.15.1 is to form the basis for a cooperative relationship between the parties to the memorandum regarding the role of Water NSW for the review and implementation of the Metropolitan Water Plan.</p> <p><i>[Note: Clause 6.15.2 does not limit the matters which may be included in the memorandum of understanding with the Department of Planning and Environment.]</i></p>	NR	
6.16 Roles and Responsibilities with Department of Primary Industries Water			
6.16.1	<p>Water NSW must:</p> <p>a) agree in writing with the Department of Primary Industries Water (DPI Water) the roles and responsibilities regarding the conduct of Conferred Functions specified in Schedule A of this Licence; and</p> <p>b) comply with the agreement established under clause 6.16.1(a).</p> <p><i>[Note: Clause 6.16.1 does not limit the persons with whom Water NSW may enter into an agreement or the matters which may be contained in the agreement.]</i></p>	Audit	<p>This role/function is now with Department of Industry – Water.</p> <p>Department of Industry - Water has not made any relevant comments relating to this clause. See Department of Industry – Water's letter to IPART dated 31 August 2018 for details.</p>
6.16.2	<p>By 30 June 2018, Water NSW must publish on its website, for downloading by any person, a statement setting out the roles and responsibilities required under clause 6.16.1(a).</p> <p><i>[Note: The statement may also include roles and responsibilities agreed with the Water Administration Ministerial Corporation or any other relevant Government departments or agencies.]</i></p>	Audit	<p>IPART will audit (not included in auditor's scope).</p> <p>This brochure has been produced, titled: Roles of water management agencies in NSW - June 2018. Available from the WaterNSW website.</p>
7 Performance monitoring and reporting			
7.1 Operational Audits			
7.1.1	<p>IPART may annually, or from time to time as occasion requires, undertake, or may appoint an Auditor to undertake, an audit on Water NSW's compliance with:</p> <p>a) this Licence;</p> <p>b) the Reporting Manual; or</p> <p>c) any other matters required by the Minister.</p> <p>(Operational Audit).</p>	NR	
7.1.2	<p>Water NSW must provide to IPART or the Auditor all information in Water NSW's possession, or under Water NSW's custody or control, which is necessary or convenient for the conduct of the Operational Audit.</p>	SC	

7.1.3	Without limiting clause 7.1.2, Water NSW must provide to IPART or the Auditor any information necessary or convenient for the conduct of the Operational Audit which IPART or the Auditor requests in writing, within any reasonable period of time specified by IPART or the Auditor in writing.	SC
7.1.4	For the purpose of any Operational Audit or verifying a report on an Operational Audit, Water NSW must, within a reasonable period of time from receiving a request from IPART or the Auditor, permit IPART or the Auditor to: <ul style="list-style-type: none"> a) access any Works, premises or offices occupied by Water NSW; b) carry out inspections, measurements and tests on, or in relation to, any such Works, premises or offices; c) take on to any such premises, Works or offices any person or equipment necessary for the purpose of performing the Operational Audit or verifying any report on the Operational Audit; d) inspect and make copies of, and take extracts from, any books and records of Water NSW that are maintained in relation to the performance of Water NSW's obligations under this Licence (including the Reporting Manual); and e) discuss matters relevant to the Operational Audit or any report on the Operational Audit with Water NSW, including Water NSW's officers and employees. <p><i>[Note: Water NSW is required under section 60 of the Act to pay to the Treasurer the cost (as certified by IPART) involved in and in connection with carrying out the Operational Audit of Water NSW.]</i></p>	SC
7.2	Reporting in accordance with this Licence and the Reporting Manual	
7.2.1	Water NSW must comply with its reporting obligations set out in this Licence and in the Reporting Manual, including in relation to: <ul style="list-style-type: none"> a) water source protection and conservation; b) Bulk Water storage and transmission; c) Performance Standards; d) organisational systems management; e) Customer and stakeholder relations; and f) performance monitoring and reporting including: <ul style="list-style-type: none"> i) IPART performance indicators; and ii) the National Water Initiative Performance Indicators. 	SC
7.2.2	Water NSW must maintain sufficient record systems that enable it to report accurately in accordance with clause 7.2.1.	SC
7.2.3	In the case of any ambiguity in the interpretation or application of any requirements in the Reporting Manual, IPART's interpretation or assessment will prevail. <p><i>[Note: The Reporting Manual identifies the details of when, what, to whom and how Water NSW must report to IPART and NSW Health. The Reporting Manual also specifies what and how reports and other information must be made publicly available.]</i></p>	NR
7.3	Provision of information to IPART and Auditor	

7.3.1	Water NSW must provide IPART or an Auditor with information relating to the performance of any of Water NSW's obligations under clause 7.2 (including providing IPART with physical and electronic access to the records required to be kept under clause 7.2) within a reasonable period of time from Water NSW receiving a request from IPART for that information.	SC
7.3.2	Water NSW must provide IPART or an Auditor with such information as is reasonably required to enable IPART or an Auditor to conduct any review or investigation of Water NSW's obligations under this Licence within a reasonable period of time from Water NSW receiving a request from IPART for that information.	SC
7.3.3	If Water NSW contracts out any of its activities to any person (including a subsidiary), it must take all reasonable steps to ensure that, if required by IPART, or any Auditor, any such persons provide information and do the things specified in this clause 7.3 as if that person were Water NSW.	SC
7.3.4	Where this Licence requires Water NSW to provide information to IPART or an Auditor that is information to which: a) section 24FF of the IPART Act applies; or b) section 24FF of the IPART Act does not apply but IPART or the Auditor has agreed to treat the information as though section 24FF of the IPART Act applies to that information, Water NSW must, to the maximum extent permitted by the law, provide that information even if it is confidential.	SC

Table 3 Recommendations / outstanding items from previous audits

Recommendation number	Operational issue (licence reference where applicable)	IPART's recommendation to the Minister	2017 audit findings, and status as reported in audit report ^a	Guidance for 2018 audit
Recommendations under State Water Licence				
2016-17-01	Water metering (Clause 4.2.1)	By 30 June 2018, Water NSW takes action to ensure that it determines the volume of water extracted by (or supplied to) each of its Customers at least annually.	New recommendation from 2017 audit.	Auditor to assess completion.
Recommendations under SCA Licence				
2016-17-02	Water Quality Management System (Clause 2.1.2)	By 30 June 2018, Water NSW repairs or replaces the failed Napean Reservoir mixer.	New recommendation from 2017 audit.	Auditor to assess completion..
2016-17-03	Water Quality Management System (Clause 2.1.2)	By 30 June 2018, Water NSW undertakes a risk assessment to determine appropriate strategies and controls to address any current reliability concerns or potential failure of all such mixer or aerator assets within its portfolio. (SCA licence clause 2.1.2)	New recommendation from 2017 audit.	Auditor to assess completion.
2016-17-04	Water Quality Management System (Clause 2.1.2)	By 31 December 2018, Water NSW implements appropriate strategies and controls to address any reliability concerns or potential failure of all such mixer or aerator assets within its portfolio.	New recommendation from 2017 audit.	Auditor to assess progress.

Source: Water NSW - Status of Recommendations – 2016-17 Operational Audit, Letter and Report received by IPART on 31 March 2017.

Note: Licence clauses referred to in the above table are from the previous licences as described.

Table 4 Previous field verification locations for Water NSW

Audit year	Location	Facility
Water NSW (State Water Corporation) Operating Licence 2013-2018		
2016-17	Griffith - Murrumbidgee, Beavers Creek, Tombullen Creek	Weirs, Outlet
2015-16	Burrinjuck Dam	Infrastructure
2014-15	Fish River	Water Supply
2013-14	Warren	Marebone Weir fishway
	Dubbo	Burrendong Dam floating curtain
Previous Licence		
2012-13	Dubbo	Burrendong Dam
	Macquarie River near Dubbo	Metering sites
2011-12	Fish River	Water Supply
	Duckmaloi	Water Treatment Plant
2010-11	Nil	-
Water NSW (Sydney Catchment Authority) Operating Licence 2012-2017		
2016-17	Nepean	Catchment Areas
2015-16	Brayton	Catchment Areas
	Goulburn	Bradley Street Sewage Pumping Station
2014-15	Leura Falls	Catchment works
2013-14	Cataract Dam	Chemical dosing facility
		Outlet works
	Broughton's Pass	Weir
	Prospect Reservoir	Warragamba Pipeline Outlet Works
		Prospect RWPS (WP0903)
2012-13	Broughton's Pass to Prospect Reservoir	Upper Canal
	Prospect Reservoir	Prospect Reservoir
2011-12	Nil	-
2010-11	Nil	-

C Operational audit report 2018 – WaterNSW



WaterNSW

2018 OPERATIONAL AUDIT

IPART

January 2019

Version 4.0

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Executive Summary

Auditor's declaration

This report presents the findings of the audit of WaterNSW operations against the *WaterNSW Operating Licence 2017-2022* and the *Water NSW Act 2014 (NSW)*, consistent with audit requirements set out in IPART's Audit Guideline Public Water Utilities (September 2018) for the period 1 July 2017 to 30 June 2018.

The auditors confirm that:

- We have seen sufficient evidence on which to base our conclusions.
- Our audit findings accurately reflect the professional opinions of the auditors.
- We have conducted the audit, determined audit findings and prepared the report consistent with audit requirements set out in IPART's Audit Guideline Public Water Utilities (September 2018) and IPART's Request for Quote.
- Our audit findings have not been unduly influenced by the utility and/or any of its associates.

Major findings

A summary of major audit findings for the 2017-2018 audit period is shown in Table 1.

The auditors note that there have been a number of changes since the previous operational audit:

- WaterNSW is operating under a new operating licence (2017-2022).
- There have been changes in clause requirements, including for asset management and water quality management systems.
- There are licence clauses that are interlinked, so a requirement in one clause may impact the compliance grade of another clause.
- IPART's audit grades have changed.

WaterNSW is also still integrating legacy systems from the three organisations (State Water, Sydney Catchment Authority and Department of Primary Industry Water).

Table 1. Summary of audit findings against audited licence obligations

Section	Clause	Sub clauses	Audit findings
2 Water Source protection and conservation	2.1 Water Quality Management System	2.1.1	Non-compliant (material)
		2.1.2	Non-compliant (material)
		2.1.3	Non-compliant (material)
		2.1.4	Compliant (minor shortcomings)
		2.1.5	Compliant
	2.2 Catchment management	2.2.1	Non-compliant (non-material)
	2.4 Catchment Infrastructure Works management	2.4.1	Non-compliant (non-material)
	2.8 Research on catchments	2.8.1	Compliant (minor shortcomings)
	2.8.2	Compliant	
3 Bulk Water storage and transmission	3.1 Construct, maintain and operate Water Management Works	3.1.1	Non-compliant (non-material)
		3.2 Water Supply	3.2.1
4 Performance Standards	4.2 Water Supplied Performance Standards	4.2.2	Compliant
		4.2.3	Non-compliant (material)
5 Organisational systems management	5.1 Asset Management System	5.1.1	Non-compliant (material)
		5.1.2	Non-compliant (non-material)
6 Customer and stakeholder relations	6.1 Customer Supply Agreements – Customers other than Sydney Water	6.1.1	Non-compliant (non-material)
		6.1.2	Non-compliant (material)
		6.1.3	Non-compliant (non-material)
	6.3 Water metering and monitoring	6.3.1	Non-compliant (material)
		6.3.2	Compliant (minor shortcomings)
	6.5 Customer advisory groups	6.5.1	Compliant
		6.5.2	Compliant
		6.5.3	Compliant (minor shortcomings)
		6.5.4	Compliant (minor shortcomings)
		6.5.5	Compliant
	6.8 Code of Practice on Payment Difficulties	6.8.1	Compliant
		6.8.2	Non-compliant (non-material)
		6.8.3	Non-compliant (non-material)
		6.8.4	Compliant (minor shortcomings)
	6.9 Internal Complaints Handling Procedure	6.9.1	Non-compliant (material)
		6.9.2	Compliant
6.9.3		Compliant	
6.9.4		Compliant	
6.16 Roles and Responsibilities with Department of Primary Industries Water	6.16.1	Non-compliant (material)	

As required by the IPART audit guidelines a summary of the risks of non-compliance is provided in Table 2.

Table 2. Risks of non-compliances

Clause and finding	Risk
2.1 Water Quality Management System	The risks from non-compliance are the potential for chemicals and taste or odour to be introduced into the bulk water system and the potential for the system to be operated inconsistently due to poor documentation.
2.1.1 Non-compliant (material)	
2.1.2 Non-compliant (material)	
2.1.3 Non-compliant (material)	
2.2 Catchment management	The lack of defined outcomes within the Asset Management System for aspects such as water quality and catchment health mean there is potential that asset management activities do not support the broader management of the Declared Catchments.
2.2.1 Non-compliant (non-material)	
2.4 Catchment Infrastructure Works management	Operation and management of the Catchment Infrastructure in accordance with the Design Criteria is essential to ensuring the continuity of water supply. There is a lack of defined outcome within the Asset Management System with respect to continuity of supply which means that there is potential that asset management activities do not support meeting continuity of supply objectives.
2.4.1 Non-compliant (non-material)	
3.1 Construct, maintain and operate Water Management Works	Effective management of Water Management Works throughout their lifecycle is required to maintain service, minimise lifecycle costs and manage risk to an acceptable level. Under an asset management system approach, this requires documented understanding of stakeholder requirements and defined objectives to guide planning and asset management activities. The Asset Management System is not fully implemented to give confidence that Water Management Works are effectively managed to meet service requirements, minimise lifecycle costs and manage risks.
3.1.1 Non-compliant (non-material)	
4.2 Water Supplied Performance Standards	If service interruptions are not managed in accordance with the Asset Management System, customers may not receive the required level of service which has been agreed to by both parties. This may cause hardship for customers that expect and have planned for the agreed level of service.
4.2.3 Non-compliant (material)	
5.1 Asset Management System	Failure to have an Asset Management System in place for undertaking the licence functions that meets the requirements of ISO55001:2014 represents a high risk of reduced levels of service, higher operating risk and costs not minimised across their lifecycle. Further, if the Asset Management System is not adequately defined, stakeholders cannot have confidence that asset management activities are supporting corporate strategic objectives.
5.1.1 Non-compliant (material)	
5.1.2 Non-compliant (non-material)	Failure to implement the Asset Management System defined at Clause 5.1.1 presents a high risk of reduced levels of service, higher operating risk and costs not minimised across their lifecycle.

Clause and finding	Risk
6.1 Customer Supply Agreements – Customers other than Sydney Water	The finding reflects incorrect references to regulatory instruments and a missing reference to the dispute resolution clause in the FRWS agreement template, and therefore, largely an administrative risk.
6.1.1 Non-compliant (non-material)	
6.1.2 Non-compliant (material)	'Water quality' does not exist as a customer complaint category recorded by WaterNSW. A two-fold potential for a public health risk exists, (a) that a water complaint is not appropriately recorded and (b), because it is not recorded, may not be correctly acted upon.
6.1.3 Non-compliant (non-material)	The FRWS agreement template omits the required inclusion of the dispute resolution and complaints handling procedure. This poses a low customer relation risk to WaterNSW.
6.3 Water metering and monitoring	Accurate determinations of water extraction and supply is needed for effective account management, billing and reporting, e.g. for resource management. There is no definition of what constitutes accuracy for determining water take.
6.3.1 Non-compliant (material)	
6.8 Code of practice on payment difficulty	Deficiencies identified in the requirements for managing financial hardship may compromise customer experience and relations.
6.8.2 Non-compliant (non-material)	
6.8.3 Non-compliant (non-material)	Omission of the Debt Management Code of Practice or details of the process in the event of payment difficulties in the customer supply agreement for FRWS customers, may compromise customers' awareness of their options if experiencing financial hardship.
6.9 Internal complaints handling procedure	Several risks were identified for this clause, these being a gap in terms of meeting all requirements of the standard (responsibilities of complainants or complaints involving multiple parties) and the consequences of not including 'water quality' as a customer complaint category (see 6.1.2).
6.9.1 Non-compliant (material)	
6.16 Roles and Responsibilities with Department of Primary Industries Water	The evidence provided is not sufficient to demonstrate that WaterNSW reached agreement with DoI Water regarding the conduct of the Conferred Functions in Schedule A. The risk arising is that there is a lack of clarity in the responsibility or execution of these functions. Procedures and staff were transferred with the functions so in practice most conferred functions are being carried out in a manner that is understood by both parties (if not formally agreed).
6.16.1 Non-compliant (material)	

Recommendations

Recommendations arising from the WaterNSW 2018 Operational Audit are shown in Table 3.

Table 3. Operational audit 2017-18 recommendations

Section	Clause	Recommendations
2 Water Source protection and conservation	2.1.1	<p>Recommendation 2.1.1-1: By 30 June 2019, WaterNSW should ensure that each water category covered by the WQMS addresses each element, component and activity of the ADWG Framework.</p> <p>Recommendation 2.1.1-2: By 30 September 2019, WaterNSW should document its procedures and process to manage materials and chemicals used in its system where the water is supplied for an end use as potable water.</p> <p>Recommendation 2.1.1-3: By 31 December 2019, WaterNSW should identify the required operational procedures from catchment to consumer for processes and activities under its control and develop a plan to compile this information.</p> <p>Recommendation 2.1.1-4: By 31 December 2020, WaterNSW should have implemented the plan and have detailed procedures for the operation of all processes and activities (both ongoing and periodic) including preventive measures, operational monitoring and verification procedures, and maintenance requirements.</p>
	2.1.2	<p>Recommendation 2.1.2-1: By 31 December 2019, WaterNSW should review the manner in which it conducts water quality risk assessments to ensure it meets the requirements of elements 2 and 3 of the framework and its licence obligation.</p> <p>Recommendations made under clause 2.1.1 apply to clause 2.1.2 and should consider these findings when implementing the recommendations.</p>
	2.1.3	<p>Recommendations made under clause 2.1.1 and clause 2.1.2 apply to clause 2.1.3 and should consider these findings when implementing the recommendations.</p>
	2.1.4	<p>Recommendation 2.1.4-1: By 31 December 2019, WaterNSW should ensure staff are trained and proficient in the procedures identified in Recommendation 2.1.1-2 and Recommendation 2.1.1-4.</p>
	2.2.1	<p>No additional recommendations are made for this clause. See recommendations made for clause 5.1</p>
	2.4.1	<p>Recommendation 2.4.1-1: By 30 September 2019, WaterNSW should revise its asset management system so that the stakeholder requirements relating to the Design Criteria and related requirements for water supply security, robustness and reliability are adequately incorporated within the system.</p> <p>Recommendation 2.4.1-2: By 30 September 2019, WaterNSW should provide an updated plan for completion of Asset Class Standards with owners assigned to each.</p>
	2.8.1	<p>Recommendation 2.8.1-1: By 31 December 2019, improve articulation of the links between the science research program and other stakeholder programs, such as the C2C reviews, QAP risk assessments, CCP exceedances etc. and show how these links have been used to influence and direct priority research areas for WaterNSW.</p>

Section	Clause	Recommendations
3 Bulk Water storage and transmission	3.1.1	Recommendation 3.1.1-1: By 30 June 2019, WaterNSW should identify if any other elements of the asset management system do not meet the requirements and intent of the Strategic Asset Management Plan and if found, make a plan to revise them so that they do meet the requirements and intent of the Strategic Asset Management Plan.
	3.2.1	No specific recommendations are made for this clause. Recommendations for clauses 2.1. and 6.1 clauses apply here.
4 Performance Standards	4.2.3	Recommendation 4.2.3-1: By 30 June 2019, WaterNSW should revise its asset management system so that stakeholder requirements relating to supply interruptions are adequately incorporated in the system
		Recommendation 4.2.3-2: By 30 September 2019, WaterNSW should revise the Fish River Water Supply Scheme Incident Management Plan so that it is consistent with stakeholder requirements.
		Recommendation 4.2.3-3: By 30 June 2019, WaterNSW should identify if any other processes or plans for managing supply interruptions require revision to meet stakeholder requirements and make a plan for completing revision of these processes and plans.
5 Organisational systems management	5.1.1	Recommendation 5.1.1-1: By 31 December 2019, WaterNSW revise its asset management system so that the scope is aligned with the licence requirement and so that relevant stakeholders are identified, their requirements documented and these requirements reflected throughout the system.
	5.1.2	Recommendation 5.1.2-1: By 30 September 2019, WaterNSW should prepare an internal audit program that tests the implementation of the asset management system. While WaterNSW will likely have internal audits already planned for asset management, the audits should consider the outcomes of this audit and be for a length of time and scope informed by WaterNSW's understanding of its business risk.
6 Customer and stakeholder relations	6.1.1	Recommendation 6.1.1-1. By 31 December 2019, ensure that all customer agreement templates are cross-checked for inclusion of the relevant and current regulatory instruments e.g. New South Wales Code of Practice, Plumbing and Drainage in the Fish River Agreement for the Supply of Filtered Water (D2016/103968[v2]) should be the Plumbing Code of Australia.
		Recommendation 6.1.2-1: By 31 December 2019, undertake a review of all customer water supply agreements and ensure that the supply of water is in accordance with the terms and conditions of those agreements e.g. the appropriate monitoring of analytes is at the appropriate locations and reported in the appropriate timeframes. Recommendation 6.1.2-2: By 30 June 2020, based on the outcomes of Recommendation 6.1.2-1, develop and implement processes to address identified gaps.
	6.1.3	Recommendation 6.1.3-1: By 30 September 2019, ensure that a process is in place to assure that all future water supply agreements comply with all requirements of clause 6.1.3.
	6.3.1	Recommendation 6.3.1-1: By 30 September 2019, WaterNSW should set objectives for the accuracy of water take determination with respect to billing, account management and reporting.
Recommendation 6.3.1-2: By 31 December 2019, WaterNSW should assess the accuracy of its water take estimates for the purposes of billing, account management.		

Section	Clause	Recommendations
	6.3.2	Recommendation 6.3.2-1: By 30 September 2019, WaterNSW should establish a definitive register of ownership and responsibilities for all meters in which it has a joint interest with a larger customer.
	6.5.3	Recommendation 6.5.3-1: At least 6 months before the next round of nominations, ensure that a process is in place to capture the evidence base (records) for assessment and approval of nominations to the CAGs. Examples could include recording of minutes from assessment and approval meetings and/or an additional column in the register as a record of the outcome of assessment of the nominee.
	6.5.4	Recommendation 6.5.4-1: At least 6 months before the next round of nominations, ensure that a process is in place (perhaps as a record in the register) to improve demonstration of WaterNSW's 'best endeavours' in meeting the requirements of this clause.
	6.8.2	Recommendation 6.8.2-1: By 31 December 2019, address the requirement to include all parts of clause 6.8.2(d), i.e. development and implementation of procedures for community welfare organisations to identify customers experiencing hardship.
	6.8.3	Recommendation 6.8.3-1: By 31 December 2019, ensure that a process is in place to assure that all future water supply agreements comply with the requirements of clause 6.8.3
	6.8.4	Recommendation 6.8.4-1: By 30 September 2019, include a definition of financial hardship in the Debt Management Code of Practice. Ensure that Customer Support Officers are trained in this definition and that records are kept to support when customers are first identified as experiencing financial hardship.
	6.9.1	Recommendation 6.9.1-1: By 30 September 2019, ensure that water quality is added to the customer complaint issues for capturing relevant information e.g. noting whether the customer is being supplied with drinking or other water product and recording the type of complaint e.g. 'milky water', taste and odours etc. Recommendation 6.9.1-2: By 31 December 2019, ensure that CSOs are trained in responding to issues relating to water quality, including distinguishing whether the customer understands whether they are receiving potable or non-potable water
	6.16.1	Recommendation 6.16.1-1: By 31 December 2019, WaterNSW agrees in writing with DoI Water roles and responsibilities regarding the conduct of each of the Conferred Functions specified in Schedule A.

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Glossary

Item	Detail
ADWG	NHMRC, NRMCC (2011) <i>Australian Drinking Water Guidelines Paper 6 National Water Quality Management Strategy</i> . National Health and Medical Research Council, National Resource Management Ministerial Council, Commonwealth of Australia, Canberra. ISBN Online: 1864965118
AMCV	Asset Management Customer Value
AMS	Asset Management System
AS	Australian Standard
ASAE 3100	Standard on Assurance Engagements ASAE 3100 Compliance Engagements
AS ISO 19600:2015	Compliance management systems – Guidelines
ISO 19011:2018	Guidelines for auditing management systems
AS/NZ ISO 9001:2016	Quality Management Systems – Requirements (the Quality Management System)
AS/NZS 4020:2018	Australian and New Zealand Standards for testing of products for use in contact with drinking water
AS 4747:2013	Australian Standard, Meters for non-urban water supply – In-service compliance for non-urban water meters
Audit Guideline	IPART Public Water Utility Audit Guideline (September 2018)
Audit Period	The dates of 1 July 2017 to 30 June 2018 over which WaterNSW compliance is checked against certain clauses of its Operating Licence (as determined by IPART)
C2C	Catchment to Consumer
CAG	Customer Advisory Group
CCP	Critical control point
CEMP	Construction Environmental Management Plan
CIMS	Consolidated information management system
CMMS	Computerised maintenance management system
Component	Either refers to the Element components of the ADWG Framework for the Management of Drinking Water Quality or WaterNSW WQMS component depending upon the context
CSO	Customer Service Officer
DBPs	Disinfection by-products
DCA	Declared Catchment Area
DoI	NSW Department of Industry

Item	Detail
DPI	NSW Department of Primary Industries (now DoI)
Element	Elements of the ADWG Framework for the Management of Drinking Water Quality
EMS	Environment management system
ESOP	Environmental Standard Operating Procedure
EWON	Energy & Water Ombudsman NSW
Framework	Framework for Management of Drinking Water Quality
FRWS	Fish River Water Supply Scheme
ICT	Information and communications technology
IPART	Independent Pricing and Regulatory Tribunal of NSW
ISO	International Standards Organisation
ISO 14001:2015	Environmental management systems – Requirements with guidance for use
ISO 55000:2014	Asset management – Overview, principles and terminology
ISO 55001:2014	Asset management – Management systems – Requirements
KPI	Key performance indicator
Licence	WaterNSW Operating Licence 2017-2022
LOS	Levels of Service
MoU	Memorandum of Understanding
MSC	Meter service charging
NOCTSO	Notification of Change to System Operation
NRAR	Natural Resource Access Regulator
NSW Health	NSW Ministry of Health
PSAT	Pollution Source Assessment Tool
QAP	Quality assurance plan
RACS	Risk Assurance and Compliance System
Reporting Manual	WaterNSW Reporting Manual Operating Licence 2017-2022 (IPART July 2017)
SASPoM	Special Areas Strategic Plan of Management
SCA	Sydney Catchment Authority
SCADA	System Control and Data Acquisition
SOP	Standard operating procedure
SWC	Sydney Water (Corporation)
SWIRL	Sydney Water Incident Recording and Learning System
TRIM (ARK)	WaterNSW's electronic document and record management system

Item	Detail
WAMC	Water Administration Ministerial Council
WAS	Water Accounting System
WaterNSW / Water NSW	Unless specified in the <i>Water NSW Act</i> or licence WaterNSW is used.
WQMS	Water Quality Management System
WRAP	Water Reform Action Plan
WSC	Wingecarribee Shire Council

1 Introduction

1.1 Objectives

The objective of this engagement was to conduct an audit of WaterNSW's performance against the terms and conditions (as defined in the audit scope) of its operating licence and any other Ministerially-imposed requirements for the period from 1 July 2017 to 30 June 2018, including:

- WaterNSW Operating licence 2017-2022
- WaterNSW Reporting Manual – Operating Licence 2017-2022
- IPART's Audit Guideline Public Water Utilities (September 2018)
- IPART's WaterNSW Operational Audit 2016-17 - Report to the Minister.

The Atom Consulting team also audited existing recommendations outstanding from previous audits and expressed an opinion on progress to meeting or closing-out these recommendations.

1.2 Audit method

Audit scope

The scope of the audit was:

- The operational licence clauses listed in Table 4. These clauses have been selected by IPART on a risk basis.
- Recommendation 2016/17-01: Water Metering (4.2.1)
- Recommendation 2016/17-02: Water Quality Management System (2.1.2)
- Recommendation 2016/17-03: Water Quality Management System (2.1.2)
- Recommendation 2016/17-04: Water Quality Management System (2.1.2).

The audit covers the 2017-18 financial year.

Table 4. Licence sections within the 2017-18 audit scope

Section	Clause	Sub clauses
2. Water source protection and conservation	2.1 Quality Management System	2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5
	2.2 Catchment management	2.2.1
	2.4 Catchment Infrastructure Works management	2.4.1
	2.8 Research on catchments	2.8.1, 2.8.2
3. Bulk Water storage and transmission	3.1 Construct, maintain and operate Water Management Works	3.1.1
	3.2 Water Supply	3.2.1
4. Assets	4.2 Water Supplied Performance Standards	4.2.2, 4.2.3

Section	Clause	Sub clauses
5. Organisational systems management	5.1 Asset Management System	5.1.1, 5.1.2
6. Customer and stakeholder relations	6.1 Customer Supply Agreements – Customers other than Sydney Water	6.1.1, 6.1.2, 6.1.3
	6.3 Water metering and monitoring	6.3.1, 6.3.2
	6.5 Customer advisory groups	6.5.1, 6.5.2, 6.5.3, 6.5.4, 6.5.5
	6.8 Code of Practice on Payment Difficulties	6.8.1, 6.8.2, 6.8.3, 6.8.4
	6.9 Internal Complaints Handling Procedure	6.9.1, 6.9.2, 6.9.3, 6.9.4
	6.16 Role and Responsibilities with Department of Primary Industries - Water	6.16.1

Audit standard

In conducting the audit, the auditors are following IPART's Audit Guideline Public Water Utilities (September 2018).

Regard was also given to the following standards and codes, especially where these provided specific detail that is appropriate to the audit:

- ISO 19011:2018 Guidelines for auditing management systems
- ASAE 3100 (2017) Compliance Engagements issued by the Auditing and Assurance Standards Board
- AS/NZS ISO 9001:2016: Quality management systems – Requirements
- Aquamark asset management benchmarking tool (now referred to as AMCV).

Audit steps

The audit process was conducted as described in the IPART's Audit Guideline Public Water Utilities (September 2018).

Audit team

The audit team and audit qualifications are provided in Table 5.

Table 5. Audit team members and their qualifications

Team Member	Details
Dr Annalisa Contos Atom Consulting	<p>Dr Annalisa Contos holds the following auditor qualifications:</p> <ul style="list-style-type: none"> • Registered Exemplar Global lead auditor (Certificate No. 113465): • Exemplar Global -DW (Drinking Water) • Exemplar Global -RW (Recycled Water) • Exemplar Global TL-AU (Lead Auditor) • Skill Examiner <p>NSW IPART (Independent Pricing and Regulatory Tribunal) qualified:</p> <ul style="list-style-type: none"> • Lead Auditor and Area Specialist Drinking Water Quality • Lead Auditor and Area Specialist Licence and Regulatory Compliance • Lead Auditor and Area Specialist Infrastructure Performance • Lead Auditor and Area Specialist Recycled Water Quality • Lead Auditor and Area Specialist Sewage Management • Area Specialist Environmental Management
Dr Annette Davison Risk Edge™	<p>Dr Annette Davison holds the following auditor qualifications:</p> <ul style="list-style-type: none"> • Moderating Auditor, registered by the Water Services Association of Australia (WSAA) with skills to use the WSAA “Aquality” benchmarking tool • Registered Exemplar Global lead auditor (Certificate No. 12454): • Exemplar Global-DW (Drinking Water) • Exemplar Global TL-AU (Lead Auditor) • Certified ISO 22000 competency from NCSI (Food Safety Management Systems) <p>NSW IPART (Independent Pricing and Regulatory Tribunal) qualified:</p> <ul style="list-style-type: none"> • Lead Auditor and Area Specialist Drinking Water Quality • Lead Auditor and Area Specialist Recycled Water Quality • Lead Auditor and Area Specialist Sewage Management • Lead Auditor and Area Specialist Environmental Management • Lead Auditor Licence and Regulatory Compliance • Auditor Retail Supply
Stephen Walker Cardno	<p>Mr Stephen Walker holds the following auditor qualifications:</p> <ul style="list-style-type: none"> • World Partners in Asset Management Certified Asset Management Assessor No. 59 (www.wpiam.com). This accreditation demonstrates compliance with ISO 17021-5 Competence requirements for auditing and certification of asset management systems. <p>Registered Exemplar Global lead auditor (Certificate No. 638040):</p> <ul style="list-style-type: none"> • Exemplar Global TL-AU (Lead Auditor) • Exemplar Global -DW (Drinking Water) <p>NSW IPART (Independent Pricing and Regulatory Tribunal):</p> <ul style="list-style-type: none"> • Lead Auditor and Area Specialist Infrastructure Performance • Lead Auditor Licence and Regulatory Compliance • Lead Auditor and Area Specialist Sewage Management • Lead Auditor and Area Specialist Retail Supply
Natalie Crawford Atom Consulting	<p>Natalie Crawford holds the following auditor qualifications</p> <ul style="list-style-type: none"> • Registered Exemplar Global auditor (Certificate No. 130608): • Exemplar Global -DW (Drinking Water) • Exemplar Global -RW (Recycled Water) • Exemplar Global -AU (Auditor)

Audit grades

The audit grade definitions used in assessing the auditee's performance against the requirements are set out in Table 6.

Table 6. Audit grades

Audit finding	Description
Compliant	Sufficient evidence is available to confirm that the requirements have been met.
Compliant (minor shortcomings)	Sufficient evidence is available to confirm that the requirements have been met apart from minor shortcomings which to date have not compromised the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
Non-compliant (non-material)	Sufficient evidence is not available to confirm that the requirements have been met and the deficiency does not adversely impact the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
Non-compliant (material)	Sufficient evidence is not available to confirm the requirements have been met and the deficiency does adversely impact the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
No requirement	There is no requirement for the utility to meet this criterion within the audit period.

Source: Audit Guideline Public Water Utilities (September 2018).

1.3 Regulatory regime

WaterNSW operates largely in a NSW context but must also have regard to matters outside of that jurisdiction, where those matters may affect how it does business. A summary of the key legal and regulatory instruments for WaterNSW is provided in Table 7.¹

Table 7. Key legal and formal instruments relevant to WaterNSW's operating licence²

Instrument	Relevance
<i>Competition and Consumer Act 2010</i> (Cth)	An Act for the promotion of competition and fair trading and provision for consumer protection. Could apply to the 'fitness for purpose' of any product or service supplied.
Current version of the Australian Drinking Water Guidelines	These guidelines are called up under WaterNSW Operating Licence obligations.
<i>Government Information (Public Access) Act 2009</i> (NSW)	Information may be requested from WaterNSW, which relates to aspects of the licence.
<i>Water NSW Act 2014</i> (NSW)	An Act which establishes Water NSW, defining the functions and objectives of Water NSW.

¹ Intended to be illustrative, not exhaustive, for the purposes of this report.

² Where legislation is identified in this table, a reference to that legislation should be taken to include any Regulation/s made pursuant to it.

Instrument	Relevance
<i>Water NSW Operating Licence 2017-2022</i>	A licence issued by the Governor under section 11 of the <i>Water NSW Act</i> , which enables WaterNSW to provide relevant services within its area of operations. This licence also gives effect to the operational audits (this audit) to which WaterNSW is subject.
<i>Independent Pricing and Regulatory Tribunal Act 1992 (NSW)</i>	Allows for the regulation of utilities such as WaterNSW including the administration and auditing of licences and pricing functions.
Memorandum of Understanding with NSW Health 2016	Sets out the working relationship between NSW Health and WaterNSW.
Memorandum of Understanding with Environment Protection Authority 2016	Sets out the working relationship between Environment Protection Authority and WaterNSW.
Memorandum of Understanding with Department of Planning and Environment	Sets out the working relationship between Department of Planning and Environment and WaterNSW.
<i>Public Health Act 2010 (NSW)</i>	The objectives of this Act are to protect and promote public health, control risks to public health, promote the control and prevent the spread of infectious diseases and recognise the role of local governments in protecting public health. Supporting Regulations are intended to support the smooth operation of the Act. WaterNSW has obligations under this Act including notifying the Minister of any situation that is likely to be a risk to public health.

1.4 Quality assurance process

Our quality assurance approach to this audit involved peer review from a qualified auditor who was not part of the on-site team. This process commenced at the development and submission of the audit questionnaires. Checks of information received were conducted and included aspects such as dates for audit scope compliance, veracity of information, coverage of the subject area being audited and depth of implementation. Professional scepticism (as per ASAE 3100) was applied as part of the document review and on-site audit. Auditors liaised frequently with each other. Support auditors were used for clauses where the audit load was heavy.

Throughout the audit report writing process, the documentation was proofread and cross-checked by the audit team members. An overall quality assurance review was conducted by the audit team leader and a peer review undertaken by a qualified auditor who was not part of the on-site team.

2 Detailed audit findings

2.1 Site visit report

Policies: Policies for AMS, EMS and WQMS were checked at each site visited. A record of the findings is provided in Table 8.

Table 8. Policies sighted at site visits

Policy Name	Date	Review Date	Current?	In place Burrawang (31/10/18)?	In place Nepean (01/11/18)?	In place Parramatta (02/11/18)?
Asset Management (AMS)	27/02/2015	February 2017	No (by 16 months at the end of the audit date scope)	Yes	N/A	Yes
Environmental (EMS)	30/08/2017	December 2018	Yes	Yes	N/A	Yes
Water Quality (WQMS)	21/12/2017	December 2019	Yes	Yes	N/A	Yes

Risk Assessment WQMS: To test embedding of risk assessment, staff were asked about their involvement in risk assessments to support the implementation of the management systems. Staff were knowledgeable of risks but had not been involved specifically in a catchment risk assessment e.g. as part of the overall understanding and management of water quality risks. Staff cited a good risk 'neutral or beneficial effect' culture although it was difficult to confirm how the WQMS was used to direct specific actions.

Incident Management WQMS: Staff were able to state what their response would be for managing a water quality incident. The response matched the requirements in the Incident Response Plan. We sighted evidence of training in water quality incident response management (see below).

Controls: At the time of visiting the Burrawang site, the pump station was undergoing upgrade. The tender schedules were sighted for the pump station upgrade. An EMS was required³ from the successful contractor but water quality protection was not required. We note that the contract was outside of the audit date scope but covered work to be completed within the audit date scope and therefore relevant as part of the implemented controls for this audit date scope. A satisfactory Construction Environmental Management Plan (CEMP) was requested and provided as evidence of

³ Page T-54, contract no. 03917291, August 2015

environmental controls for contractors.⁴ We noted a discrepancy in the dates on the front cover of the CEMP versus the revision history table inside the front cover. We were provided with evidence⁵ that paint contractors used by the prime contractor were also subject to checks under the prime contractor's CEMP however, the evidence was just out of the audit date scope. We were also supplied with evidence to confirm that the paint used by the paint contractors was certified to AS/NZS 4020:2005 dependent upon formulation and/or manufacturing site.⁶ We note that AS/NZS 4020:2005 has been superseded by AS/NZS 4020:2018 and WaterNSW should, in future, require compliance with this standard.

We also discussed with the project manager for the upgrade, the circumstances and planning undertaken during the upgrade that led to the scope being widened to include the mechanical works. We queried the extent to which the possibility that the extended scope would lead to WaterNSW being unable to meet the trigger for the Shoalhaven transfer (discussed further at Clause 2.4.1). We received and reviewed the Burrawang Pumping Station Upgrade Final Mechanical Refurbishments and Commissioning Variation Business Case following the site visit.

At the Burrawang site, we reviewed and confirmed the procedures for managing weeds in the catchment. Operators were well versed in the procedures in place. We requested evidence of permits to use certain biocides in the catchment (Wingecarribee Swamp and Prospect Reservoir). The operator was able to source the permits⁷ quickly and provided us with copies – the permits were current. The SOP⁸ provided for the record keeping and training requirements for pesticide use notes the requirement for a minimum AQF-3 qualification (e.g. as can be attained through the ChemCert Training Program) – the operator on site confirmed this to be the case. We also discussed the management of vertebrate pests and were supplied with the Environmental Standard Operating Procedure (ESOP).⁹ The ESOP also covers the need to protect water quality. Currently missing, it may be useful for WaterNSW to consider adding the WQMS and/or the Water Quality Policy as a 'relevant document' to the biocide SOPs to embed integration of the management systems.

We asked for information to support the correct disposal of waste in accordance with environmental controls at the upgrade site. Given the length of the upgrade, we were only able to view evidence from outside of the audit date scope, however, we did

⁴ Construction Environmental Management Plan Burrawang Pumping Station Electrical Systems Upgrade Doc #: 14856/CEMP – version 6, last revised 02/05/2017 – noting that the front cover stated version 5, date 01/09/2016.

⁵ RMP716F – RMP (painters) records, June 2017

⁶ Interline 850 Paint Details confirming appropriateness of use for potable water conditions AS/NZS 4020:2005

⁷ Australian Pesticides and Veterinary Medicines Authority PER12608 For Control of Willows and Blackberries in Wingecarribee Swamp Area Valid from 2011 till 31 March 2021; Australian Pesticides and Veterinary Medicines Authority PER83067 For Control of Water Primrose in Prospect Reservoir, Sydney Valid from 24 August 2016 to 30 October 2020.

⁸ D2018 114560 keeping and training requirements for pesticide use Standard Operating Procedure.pdf

⁹ CD2018/11 Vertebrate Pest Management Environmental Standard Operating Procedure.pdf Review Date February 2020 (in force from February 2018).

confirm the correct disposal of asbestos and transformers.¹⁰ We also note that WaterNSW undertook an environmental audit of the works – also outside of the audit date scope.¹¹ No major issues were noted with the contractor works.

We confirmed that the training we discussed at head office interviews occurs in practice.¹²

At the Burrawang office, we reviewed maintenance plans within Maximo (legacy Sydney Catchment Authority computerised maintenance management system) with the local maintenance scheduler. The operations staff present displayed a sound awareness of maintenance requirements and the use of the computerised maintenance management system. We also discussed WaterNSW's approach to scheduling and assigning works to crews for completion.

At Nepean Dam, we inspected the aerator system and confirmed that the replacement works were complete as required by recommendation 2016-17-02. We inspected the air compressor and the new pipework from the compressor into the dam. We discussed with operations staff how they operate and maintain the aerator system. Operations staff advised that as the pipework and diffusers under water cannot be readily inspected, the primary operational monitoring undertaken is observance of the bubble pattern of the diffusers.

We discussed with operations staff their understanding of the criticality of the aerator within the wider water supply system and its potential impact on water quality. WaterNSW stated that through its experience with the aerator at Nepean that if the asset failed catastrophically, it would be able to have a replacement system operational in around a month. The impact on water quality, water quality treatment and service delivery would be minor and able to be managed through other processes and controls.

At Nepean Dam we also discussed with operations staff and a reliability engineer the risk assessment to determine appropriate strategies and controls to address any current reliability concerns or potential failure of aerators/mixers as required by recommendation 2016-17-03. As noted above, it was confirmed that condition-based monitoring of the pipework and diffusers is not undertaken which is noted as a control in the risk assessment output relating to this recommendation. However, the operations staff displayed a good understanding of the asset failure risks relating to aerators/mixers and appropriate controls.

As part of assessing implementation of controls in the Declared Catchment Area, we visited the Corrimal No. 3 ventilation shaft and associated transformer yard. At that site, we met with the Environmental Field Team Coordinator (employee of the owner of the site) and queried them about the permit process. The Environmental Field Team

¹⁰ CD2018/11 Records for January and February 2017, waste disposal docket Burrawang.pdf Review Date February 2020 (in force from February 2018).

¹¹ D2017 44103 Burrawang PS Electrical Safety Works Environment Audit March 2017.doc (report completed April 2017)

¹² Operator training record confirming training in key areas pertinent to this audit including Environmental Essentials, Water Quality Awareness, Water Quality Incident Response, Procurement and Sourcing, and Asset Management Awareness

Coordinator was well aware of the requirements of the permit and noted that they are required to carry the permit in their cars. At that same site visit, the WaterNSW representative, in performing the induction, included making us aware of the fact we were in a Declared Catchment Area and therefore, to be mindful of environmental and water quality impacts. We were also able to sight the rehabilitation progress of the transformer site (the subject of the transformer oil spill in 2017).

2.2 Detailed audit findings by clause

WaterNSW's licence clauses are interlinked. The Assessment Management System (Clause 5.1) underpins a number of other licence clauses. We report on our finding on this clause first.

Clause 5.1 – Asset Management System

Clause 5.1.1

Table 9. Clause 5.1.1 compliance grade

Subclause	Requirement	Compliance grade
5.1.1	WaterNSW must at all times maintain a Management System for carrying out its functions authorised under this Licence that is consistent with the Australian Standard AS ISO 55001:2014 Asset Management – Management systems – Requirements or other standard approved by IPART on request by WaterNSW (the Asset Management System).	Non-compliant (material)
Risk	Failure to have an Asset Management System in place is a high risk of reduced levels of service, higher operating risk and costs not minimised across their lifecycle. WaterNSW's assets include assets with a high consequence of failure such as dams and asset vital to water quality. Therefore, non-compliance with this clause presents a high risk.	Target for full compliance Evidence that WaterNSW has in place an Asset Management System for its licence functions and consistent with ISO55001:2014

Evidence sighted

- [CD2015 436] Strategic Asset Management Plan
- [CD2015 488] Asset Management Policy
- [D2018 14949] ISO55001 Surveillance Audit Report
- [D2018 66065] Internal Audit Report: Asset Planning Process Health Check
- [D2018 76994] Assurance Activity Report - Hume Dam
- [D2018 78056] Internal Audit Report - Leeton Office, Workshop and Gogeldrie Weir
- [D2018 100741] WaterNSW Organisation Chart

Summary of reasons for grade

This audit identified shortcomings in:

- the scope of the Asset Management System with respect to the licence requirement to support WaterNSW functions
- identifying stakeholders relevant to the Asset Management System and their requirements
- leadership commitment to meeting applicable requirements being explicitly expressed.

which we consider adversely impacts WaterNSW's ability to achieve its licence functions and objectives. This clause is graded *Non-compliant (material)*.

Discussion and notes

This clause requires that WaterNSW must at all times maintain a Management System for carrying out its functions authorised under this Licence that is consistent with the Australian Standard *AS ISO 55001:2014 Asset Management – Management systems – Requirements* or other standard approved by IPART.

WaterNSW has in place a management system for asset management that was certified against the standard *ISO 55001:2014 Asset management – Management systems – Requirement* on 10 January 2017. The Strategic Asset Management Plan which defines the management system, states that the scope of the Asset Management System is “physical assets utilised by the organisation to deliver its services including infrastructure, water quality management, catchment protection and internal support”. WaterNSW's asset management policy states that “WaterNSW will apply the Asset Management System to all physical assets”.

The scope of the Asset Management System defined by WaterNSW does not make reference to its functions under its licence. We queried WaterNSW on this inconsistency and there was no apparent awareness of the licence requirement. In practice, the inconsistency may not make a material difference to how assets are managed or how service is delivered. However, ISO 55001:2014 requires that in setting the scope of the Asset Management System that the requirements for the system are determined and reflected in the scope of the system. The licence is a vital requirement for the Asset Management System to account for. We therefore conclude that in scoping its Asset Management System, WaterNSW has not adequately identified this important stakeholder requirement as required at Clause 4.2 of the standard. Recommendation 5.1.1-1 is made to address this finding.

The Strategic Asset Management Plan at Section 1.2 identifies the stakeholders relevant to the Asset Management System and their expectations. In reviewing this list of stakeholders, we note that:

- Sydney Water and Customer Service Committees are listed as stakeholders but customers generally are not considered a stakeholder, nor any of the larger customers such as local governments.
- The environmental regulator and NSW Health are not included in the list of stakeholders.
- No explicit stakeholder expectations with regards to water security have been included.

We consider that the stakeholders and expectations identified above are important to WaterNSW's management of its assets to provide service and deliver its licenced functions. We challenged WaterNSW as to whether it considered these stakeholders should have been identified. We were not provided with a reason for their omission and in our opinion, they should have been included. There are consequences of not adequately identifying stakeholders and their requirements. For example, requirements under the supply agreement to the customers on the Fish River Water Supply Scheme

hadn't been accounted for in the Asset Management System (see Clause 4.2.3). There is a gap in the Asset Management System as no document exists that comprehensively identifies stakeholders relevant to the Asset Management System and their requirements.

Leadership is a crucial element in establishing an Asset Management System. Leadership support is evidenced by WaterNSW progressing the development and implementation of the ISO55001:2014 accredited Asset Management System and formally in the asset management policy which forms part of the system. We saw that the asset management policy was displayed in WaterNSW's head office and at the Burrawang office. We questioned WaterNSW site staff and they were familiar with the Asset Management System and had undertaken awareness training. We note that the Strategic Asset Management Plan specifies a two-year review period for the asset management policy. WaterNSW confirmed that during the audit period, a review of the policy had been completed five months late.

In reviewing the asset management policy, we note that there is no explicit commitment to "satisfy applicable requirements". This is a requirement under ISO55001:2014 Clause 5.2. We would not expect that this commitment be reflected word for word but we cannot identify a commitment of this nature, i.e. that stakeholder expectations (which typically relate to areas such as regulatory compliance, service performance reliability, affordability etc.) will be met. This observation reinforces that made above that WaterNSW does not appear to have robustly identified stakeholders and their requirements. In its response to the revised draft report, WaterNSW disagreed with this conclusion. However, WaterNSW did not provide evidence sufficient to lead us to change this conclusion.

We consider that the following identified shortcomings adversely impacts WaterNSW's ability to achieve its licence functions and objectives:

- scoping the Asset Management System
- identifying stakeholders and their requirements
- leadership commitment to meeting applicable requirements.

We therefore consider that WaterNSW's performance against this clause is *Non-compliant (material)*.

Relationship with previous licence requirements and audit findings

At the 2016-17 audit, WaterNSW achieved full compliance against the following two clauses:

- WaterNSW (State Water) Clause 4.1.1 - By 30 June 2018, WaterNSW must develop a Management System that is consistent with:
 - a. the International Standard ISO 55001:2013 Asset Management – Management systems - Requirements; or
 - b. another asset management standard agreed to by IPART, (Asset Management System).
- WaterNSW (Sydney Catchment Authority) Clause 5.1.1 - By 30 June 2015, WaterNSW must develop a Management System that is consistent with:

- a. the BSI PAS 55:2008 (PAS 55) Asset Management standard;
- b. the Water Services Association of Australia’s Aquamark benchmarking tool; or
- c. another asset management standard agreed to by IPART.

That WaterNSW can achieve full compliance against these clauses for 2016-17 but be assessed against a similar clause as non-compliant for 2017-18 is explained by the changed frame of reference under the new licence which requires that the Asset Management System be developed and implemented to support WaterNSW’s licence functions rather than merely development of a management system as required by the previous licences.

Recommendation

Recommendation 5.1.1-1: By 31 December 2019, WaterNSW revise its asset management system so that the scope is aligned with the licence requirement and so that relevant stakeholders are identified, their requirements documented and these requirements reflected throughout the system.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 5.1.2

Table 10. Clause 5.1.2 compliance grade

Subclause	Requirement	Compliance grade
5.1.2	WaterNSW must fully implement the Asset Management System and carry out all relevant activities in accordance with the Asset Management System	Non-compliant (non-material)
Risk		Target for full compliance
Failure to implement the Asset Management System presents a high risk of reduced levels of service, higher operating risk and costs not minimised across their lifecycle. WaterNSW’s assets include assets with a high consequence of failure such as dams and asset vital to water quality. Therefore, non-compliance with this clause presents a high risk.		Evidence that WaterNSW carries out all relevant activities in accordance with the Asset Management System

Evidence sighted

- Strategic Asset Management Plan - Asset Management System Manual [CD2015 436]
- Asset Management Policy [CD2015 488]
- WaterNSW External Training Database 2016-18 [D2016 7260]
- CALOSS Training PowerPoint [D2017 75832]
- Attendance Record for MSPOL On-boarding and training [D2017 137670]
- AMP: An Introduction [D2018 4054]
- AMP: Table Synch Wizard [D2018 4057]
- AMP: Visual Leveler [D2018 4059]

- Guide to Using PowerPlan AMP [D2018 4067]
- AMP: Condition Curves [D2018 4068]
- AMP: Custom Functions [D2018 4070]

Summary of reasons for grade

We found non-compliance in the implementation of the Asset Management System including:

- the Asset Class Standard for land was not finalised for implementation during the audit period
- evidence of WaterNSW customers in relation to service interruptions is lacking
- the uncertainty over ownership of joint meters with large customers.

Based on these findings we conclude that WaterNSW has not fully implemented the Asset Management System and does not carry out all relevant activities in accordance with the system. The shortcomings do not adversely impact on WaterNSW's ability to achieve objectives and have therefore assigned a grading of *Non-compliant (non-material)*.

Discussion and notes

WaterNSW's Asset Management System has been externally certified as meeting the requirements of ISO55001:2014. WaterNSW provided a surveillance report from September 2017 the purpose of which was to *"look for positive evidence to ensure that elements of the scope of certification and the requirements of the management standard are effectively addressed by the organisation's management system"*. The report recommends that WaterNSW's certification be continued.

In addition to the external audit, WaterNSW performed several internal audits to ensure ongoing compliance. A sample of these audits was provided.

While the internal and external audits conclude that WaterNSW is successfully implementing its Asset Management System, this licence audit has raised concerns with the adequacy and the implementation of the Asset Management System.

We observed a number of aspects where full implementation of the Asset Management System had not occurred or where relevant activities were not carried out in accordance with the Asset Management System.

The Asset Class Standards are not complete and in use (Clause 3.1.1). The objective of the Asset Class Standard is to *"specify planning guidelines and asset requirements for assets"* and that they *"...represent the consolidation of technical knowledge within WaterNSW about the long term care of the relevant type of equipment and systems"*.

Therefore, the purpose of the Asset Class Standards have been defined within the Asset Management System but these documents have not been prepared and implemented to fulfil this function. For example, the Asset Class Standard for Land was not finalised and in use during the audit period (Clause 2.2.1).

At Clause 4.2.3 which requires service interruptions to be managed in accordance with the Asset Management System, we identified issues with how the Asset Management

System has been defined in that it does not account for service interruptions requirements adequately. In addition, we also identified shortcomings with the implementation of the Asset Management System as WaterNSW was not able to provide evidence to demonstrate that it notifies customers in the Fish River Water Supply System of interruptions to supply as required under its customer agreements.

We noted that WaterNSW was uncertain over the ownership of meters in which it has a joint interest (Clause 6.3.2). This is an issue with the implementation of the Asset Management System as knowledge of the asset for which the business is responsible is fundamental to managing these assets.

Based on the non-compliance across a number of areas tested in relation to implementation of the Asset Management System including:

- the Asset Class Standard for Land was not finalised for implementation during the audit period (Clause 2.2.1)
- evidence of WaterNSW customers in relation to service interruptions is lacking
- the uncertainty over ownership of joint meters with large customers.

We conclude that WaterNSW has not fully implemented the Asset Management System and does not carry out all relevant activities in accordance with the system. We have therefore assigned an audit grade of non-compliant. We consider that the shortcomings do not impact on WaterNSW's ability to achieve objectives and have assigned a rating of *Non-compliant (non-material)*.

Recommendation

Recommendation 5.1.2-1: By 30 September 2019, WaterNSW should prepare an internal audit program that tests the implementation of the asset management system. While WaterNSW will likely have internal audits already planned for asset management, the audits should consider the outcomes of this audit and be for a length of time and scope informed by WaterNSW's understanding of its business risk.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 2.1 – Water Quality Management System

Clause 2.1.1

Table 11. Clause 2.1.1 compliance grade

Subclause	Requirement	Compliance grade
2.1.1	WaterNSW must maintain a Water Quality Management System in accordance with this clause 2.1.	Non-compliant (material)
Risk	Target for full compliance	
Without a Water Quality Management System, the risk posed to public health from non-compliance with this clause could be significant.	Systems and processes in place that meet the requirements of the Australian Drinking Water Guidelines Framework for Management of Drinking Water Quality and ensure the Water Quality Management System remains up to date.	

Evidence sighted

- CD2013 56[v4] Water Quality Management System 2018
- CD2004 183[V3] Water Quality Incident Response Protocol.doc
- CD2007 13[v4] Complaints and Compliments Handling Procedure.DOC
- CD2007 2[v3] Raw Water Supply Protocols - Sydney Water Corporation and WaterNSW.PDF
- CD2004 183[v3] Water Quality Incident Response Protocol¹³
- CD2011 179[v5] Water Monitoring Program.DOC
- CD2012 130 [v4] Water Quality Data Review and Reporting Procedure.DOCX
- CD2014 5[v4] Water Quality Policy.DOCX
- CD2015 469[v2] Hazardous Substances Procedure.DOC
- CD2015 546 Records Management Procedure.doc
- CD2016 57[v2] Asset Change Management Procedure.doc
- CD2016 59[v2] Asset Planning Manual.DOCX
- CD2016 67[V2] How to Guide - Assessing an Asset Change Request (ACR).doc
- CD2017 180 Incident Management Procedure.DOCX
- CD2018 13 Compliance Management Framework.DOCX
- D201 875972 2018 Report C2C Mid-term review Uncertainties from 2014 review.PDF
- D2013 94543 WaterNSW Water Quality Contact List.DOCX
- D2015 126524 WaterNSW Science Program 16-20.doc
- D2015 94637 Comms protocols guidelines 17Mar2015.XLSX
- D2015 98663 Full Report - Pollution Source Assessment Tool 2012-2016.DOCX
- D2016 141047 NSW EPA - Memorandum of Understanding 2016 signed by EPA.PDF
- D2016 141934 Greater Sydney Hydrometric Asset Class Standard 2016-2020.DOCX

¹³ This file was provided as A 5.4.1 CD2007 2[v3] Water Quality Incident Response Protocol.DOCX

- D2016 37053 Assessing pasture health on properties a grazing incentive program.doc
- D2016 62112 How To Guide - Lodging a potential complaint.DOCX
- D2016 64197 Validation of CCPs with SWC.DOCX
- D2016 65686 monthly_operations_report WQ incidents in Tickit.xls.XLSX
- D2016 78089 Woronora Water Supply System Schematic.PPTX
- D2016 90171 Signed MoU WaterNSW and NSW Health August 2016.PDF
- D2016 95846 H&WM Compliance Review Program 2015-18.XLSX
- D2016 96321 Greater Sydney Water Supply System Schematic.PPTX
- D2017 101068 Water Quality Management System Report 2016-17.pdf
- D2017 102153 Corrimal Shaft 3 Oil Spill Investigation Completion Report_JBS&G Report August 2017 R05 Illawarra Coal_ 52896 110528 Rev 0.PDF
- D2017 102323 Annual Catchment Management Report 2016-17.pdf
- D2017 111072 WaterNSWSCC 4 monthly meeting Minutes - 14 September 2017.DOCX
- D2017 112201 ATS - Fish Biomonitor - Short Form ATS.DOCX
- D2017 118949 Media - Microplastics in Water Talking Points.EML
- D2017 120122 Screenshot SCADA for Nepean turbidity showing alarms.JPG
- D2017 121601 CCPs in Supply to Greater Sydney process health check Sep 2017.XLSX
- D2017 121727 WaterNSW LCC NOCTSO - Stage 1 Outage October 2017.DOCX
- D2017 128518 COPY Board Comm WQHCP Annual WQM report 16-17.doc
- D2017 130612 Cryptosporidium Catchment Assessment 3 November 2017.EML
- D2017 131328 OEH Invoice Reconciliation and Verification of Works 2016-7.doc
- D2017 137054 Mgt Comm WQHCP Meeting November 2017.DOCX
- D2017 137072 EIA Form - Ludwigia Control Prospect Reservoir Nov 2017 - 2020.PDF
- D2017 137548 Incident Management - Training Material - Level 1 Workbook v1 - Tigertail.DOCX
- D2017 137612 Incident Management - Training Material - Level 2 Workbook v1 - Tigertail.DOCX
- D2017 137615 Incident Management - Training Material - Level 3 Workbook v1 - Tigertail.DOCX
- D2017 138707 WaterNSW LCC NOCTSO Stage 1 Outage December 2017.DOCX
- D2017 143760 Statutory Report IPART WNSW 30 Nov 17 acknowlegd rec.eml
- D2017 143761 NSW Health acknowledge receipt of WNSW WQM report 16-17.eml
- D2017 143763 Statutory Reporting to IPART - WaterNSW 30 November report.eml
- D2017 149408 WQ data review and reporting procedure process health check Dec 2017.XLSX
- D2017 53004 WNSW New Starters 90 Day Plan TEMPLATE.pdf

- D2017 58449 WNSW Water Quality Awareness eLearning module.pptx
- D2017 5869 Manager Water Quality Programs.DOCX
- D2017 5883 Water Quality Systems Officer.PDF
- D2017 59282[v3] Approval(amended)-REF-WingecarribeeSwampPestandWeed _ Nov2017#67896#(RITM0012875).pdf
- D2017 64436 PSAT Validation Using Water Monitoring Data.DOCX
- D2017 68067 Shoalhaven Water Supply System Schematic.PPTX
- D2017 68141 Blue Mountains Water Supply System Schematic.PPTX
- D2017 71240 Rural Landscape Program - Program data - 2013-2018.XLSX
- D2017 71880 Upper Nepean Water Supply System Schematic.PPTX
- D2017 81900 5.4 ToR PH SLG JOG Admin July 17.DOCX
- D2017 84625 WaterNSW LCC NOCTSO Template.DOCX
- D2017 87631 WQ Management Report 16-17 including WQ Improvement Plan 2017 18.XLSX
- D2017 87631 WQMS Water Quality Improvement Plan 2017 18.xlsx
- D2017 87814 DRAFT Minutes SLG 6 July 2017 for review distributed 14 July 2018.DOCX
- D2017 88048[v3] Warragamba Dam Raising Stakeholder Strategy Final (V6).PDF
- D2017 88406 Operational Change (NOCTSO) process system health check Jul 2017.XLSX
- D2017 90107 Catchment Protection Work Program 2017-18 Final.DOCX
- D2017 94407 D2017 82747 Board Committee on Water Quality, Health and Catchment Protection - 19 July 2017 - Transformer Oil Spill - ICAM final- Item 6.3 PRES.PPTX
- D2017 94408 D2017 83198 Board Committee on Water Quality, Health and Catchment Protection - 19 July 2017 - Transformer Oil Spill - ICAM.DOCX
- D2017 94482 E-mail _ Sydney Catchment Area assessments.EML
- D2017 98938 Lake Nepean Vertical Profiler Short Form ATS.DOCX
- D2018 100060 Copy Water Qual Trend Feb 18.doc
- D2018 100063 Board Committee on WCP- Annual Review- Emerging Trends in Water Science.PPTX
- D2018 100063 Board Paper Annual Review Emerging trends.pptx
- D2018 100066 Board Committee on WCP - Annual Board on C2T risk assessment.DOCX
- D2018 100066 Board on Catchment to Tap Risk Assessment.docx
- D2018 100066 Board WQHCP Annual update to Board on C2T risk assessment.DOCX
- D2018 100066 C2C mid term review - new hazards anomalies.DOCX
- D2018 100066 Copy Board WQHCP Annual C2T risk assessment process.DOCX
- D2018 100068 Board WQHCP 6Dec17Qtly WQ Trend Analysis.docx.docx
- D2018 100069 Board WQHCP Revised WQ Policy.PDF
- D2018 100071 Board WQHCP Revised WQ Requirements in OL.DOC

- D2018 100072 Copy WNSW Response to Catchment Audit.doc
- D2018 100074 Copy Board WQHCP 2016 Catchment Audit.doc
- D2018 100077 Copy Board WQHCP Water Quality Management System Jul 17.doc
- D2018 100078 Board Committee on WCP- Metropolitan Eastern Tributary Performance.DOCX
- D2018 100079 Board Committee on WCP-Environmental Risk review paper to Board July 2017.DOCX
- D2018 100079 Board WQHCP 19 Jul 17 Enviro Risk Review 2017.DOCX
- D2018 100079 Copy Board WQHCP 19 Jul 17 Enviro Risk Review 17.DOCX
- D2018 100089 Board WQHCP Actions from Catchment Audit.doc
- D2018 100094 Board update on Chemicals stored within declared catchments.DOCX
- D2018 100094 Board WQHCP 23 May Chemicals within decl catchment.DOCX
- D2018 100096 Copy Board Quarterly Water Quality Trend Apr 18.doc
- D2018 100099 Board Pres Proposed Carp Herpes virus.pptx
- D2018 100100 ICAM presentation to Board on transformer oil spill incidents.pptx
- D2018 101708 Example SCADA plots.MSG
- D2018 102068 Screen shot of WQMR on wnsw website.doc
- D2018 102353 Example ACR for water monitoring.PDF
- D2018 11052 Cryptosporidium Catchment Assessment 2 February 2018.EML
- D2018 117833 Tng mod for Water Quality Incident Response Protocol draft 18 May 2018.EML
- D2018 117876 Rapid Induct screenshot showing status of training records.EML
- D2018 117878 training module for _ progress to May 2018(2).EML
- D2018 120126 FW Water Quality Exception Report - Wingecarribee algae August 2017.EML
- D2018 120127 FW Winge algal incident internal notification.EML
- D2018 120129 FW Wingecarribee algal notifications.EML
- D2018 120206 Weekly Catchment Cryptosporidium Assessment.XLSX
- D2018 120209 Board endorsement of Water Quality Policy.EML
- D2018 120211 AVPMA approval for pesticide use at Prospect Reservoir.PDF
- D2018 120212 AVPMA approval for pesticide use at Wingecarribee Reservoir.PDF
- D2018 120336 - Motorised Control Gates Works - 091214_FINAL.PDF
- D2018 120342 Copy of D2018 1786 Bowantz_Environmental Management Plan for Wingecarribee Swamp_2018.doc
- D2018 120524 FW Wingecarribee algal Update Feb 2018.EML
- D2018 120560 Screenshot from Chris ESS - review Sep 2017.JPG
- D2018 120659 FW [Request ID #250037 Pesticide and Organics Water Quality Data - Request for Information - R Mann, Western Sydney University].EML
- D2018 120718 Agreed media statement re microplastics.EML
- D2018 120737 Customer helpdesk response Fluoride levels in Lake Oberon.EML

- D2018 122848 Maximo Completed PM's.xlsb
- D2018 123175 Bowantz_Env Mgt Plan Winge Swamp 18.DOC
- D2018 123175 CEMP Winge Swamp Weed Control Jan18.PDF
- D2018 123175 Inc response plan Triclopyr in Winge res.PDF
- D2018 123175 Ozwater18 case study Prospect Ludwigia A Davie.PDF
- D2018 123175 PER12608(v4) Permit Issued Winge Swamp Garlon.EML
- D2018 123175 review Pest Weed Winge Swamp SArea 2017 - 2022.DOCX
- D2018 123175 Weed Winge Swamp Risk review Glyphosat.PDF
- D2018 128536 COPY Board Comm WQHCP AWQMR 16-17 Appendices.doc
- D2018 14396 WaterNSW SCC 4 monthly meeting Minutes - 13 February 2018 including C2T review.DOCX
- D2018 14967 Item 2.1 Minutes JOG meeting 20 November 2017.DOCX
- D2018 18826 Item 2.1 Minutes JOG meeting 19 Feb 2018.DOCX
- D2018 20602 NOCTSO Nepean Tunnel Outage.EML
- D2018 21180 Catchment Oil Spills Update to agencies 28 February 2018.DOCX
- D2018 28327 WNSW WSC SOG Meeting Minutes - Thursday 15 March 2018 including C2T review.DOCX
- D2018 29205 Tigertail Incident management training-05329K20.PDF
- D2018 30078 C2C MidTerm Review new hazards anomalies amended.XLSX
- D2018 32538 C2T MidTerm Review - Kangaroo Valley - Final.XLSX
- D2018 33271 C2T MidTerm Review - Oberon-Lithgow.XLSX
- D2018 34156 31 March Report to IPART - Signed.pdf
- D2018 43958 Catchment Cryptosporidium Assess May 18.xlsx
- D2018 43958 Catchment Cryptosporidium Hazard Assessment process health check April-May 2018.XLSX
- D2018 48556 Item 5.3 SWC and WNSW Consolidated Incident List_May 2018.DOCX
- D2018 48696 Item 3.1 Source Water Quality Update 21 May 18.pptx
- D2018 48696 Item 3.1 Source Water Quality Update JOG 21 May 2018 with notes.PPTX
- D2018 48964 SMWG Minutes and Actions 2 February 2018.DOCX
- D2018 50525 Proposed changes to Corrimal No 3 Environmental Monitoring TARP_2018.DOCX
- D2018 51557 Final WNSW - Water Quality Incident Response Protocol - April 2018 to SWC.EML
- D2018 51561 Request to send Water Quality Incident Response Protocol to NSW Health.EML
- D2018 51563 Water Quality Incident Response Protocol April 2018 provided to NSW Health.EML
- D2018 51691 Copy of WQHCPCommittee - Annual Cyanobacteria Risk Forecast 2017-18.DOCX

- D2018 51711 Copy of September 2017 Management Monthly WQMS report Item 2.4b.DOCX
- D2018 51731 Copy of January 2018 Management Monthly _ Item 2.4b.DOCX
- D2018 51745 Copy April 2018 Management Monthly WQMS Report.doc
- D2018 51747 Copy of Water Quality Dashboard Report April 2018.DOCX
- D2018 51748 Copy of WQMS Trend Analysis April 2018.DOCX
- D2018 51749 Copy Annual System Effectiveness and Health Check 23 May 18.doc
- D2018 52274 Item 4.3 C2C Mid-Term Risk Review SLG-New hazards and Anomalies.DOC
- D2018 52436 Dairy Program - Workshop Attendance and EOIs at 17 May 2018.XLSX
- D2018 55872 Cryptosporidium Catchment Assessment 18 May 2018.EML
- D2018 56639 Comms Kit - May 2018 FINAL.PPTX
- D2018 58737 Lake Burragarang WQ Report 23 May 2018.PDF
- D2018 59000 C2C - Chemicals stored in Catchment.XLSX
- D2018 61965 Item 2 1 Minutes SLG 23 March 2018.DOCX
- D2018 62006 Item 5.2 Project Status NOM Research.pptx
- D2018 62020 Item 2.1 Draft Minutes JOG meeting 21 May 2018.DOCX
- D2018 63942 Exercise Crystal Ball Incident Debrief Report June 2018.DOCX
- D2018 65072 C2T MidTerm Review - Wingecarribee & Goulburn - final.XLSX
- D2018 65108 Water Monitoring Program process health check June 2018.XLSX
- D2018 68295 Rivers of Carbon - Source Water Linkages - Program data 2017-18.XLSX
- D2018 70228 2017-18 Financial Year Snapshot.PDF
- D2018 7046 Concurrence Conditions Audit Report 2016-17.DOCX
- D2018 71487 Annual Catchment Management Report (ACMR) 2017-18 - Draft.DOCX
- D2018 71512 Greater Sydney Customer Advisory Group - eCAG Meeting Notes - June 2018.PDF
- D2018 7182 Short Form ATS Northern Sites Water Treatment Plants Upgrade.doc
- D2018 72794 SWIRL Notification 170817 Water Quality Incident Record INC-17350 Raw Water.EML
- D2018 72794 Eg.SWIRLnotif_170817 WaterQualIncidentRec.INC-17350-WaterNSWRawWater-WingecarribeeShireCouncil.EML
- D2018 72814 Example Tickit Notification - Wingecarribee algae August 2018.EML
- D2018 72843 SWIRL notification - remediation transformer oil incident April 2017.msg
- D2018 72926 Water Quality Incident Record INC-17520 Raw Water Cryptosporidium.msg
- D2018 72928 Example Tickit Notification - Algal ASU Avon WFP Sep 2017.EML
- D2018 72934 Example Tickit Notification - hydrocarbon alarm Dec 2017.EML

- D2018 72935 Water Quality Incident Record INC-18823 Upper Canal hydrocarb high alarm.msg
- D2018 72937 Response to Hydrocarbon alarm at HPR1.EML
- D2018 72942 SWIRL update Dec 2017 Water Quality Incident INC19334 WQ-557 Illawarra Algae.EML
- D2018 72961 RACS notification Incident Record #12 Scum odour reported at Avon dam.EML
- D2018 73263 Teacher Professional Development Event Debrief.DOCX
- D2018 74409 Science Program - Project summary April 2018.docx
- D2018 75972 2018 C2C Mid-term review appendix 13 reviewed hazards.PDF
- D2018 75972 Final 2018 Report C2C Mid-term review - (appendix 3 - method).PDF
- D2018 75972 Final 2018 Report C2C Mid-term review Appendix 11-12 actions from C2C review.PDF
- D2018 75972 Final 2018 Report Catchment to Customer Mid-term review - (appendix 3-Method).PDF
- D2018 75972 Final 2018 Report Catchment to Customer Mid-term review.PDF
- D2018 76171 C2C MidTerm Review - new hazards anomalies.XLSX
- D2018 76239 DestratificationAeration Systems - Risk Assessment Review & Validation.EML
- D2018 76308 Rapid Induct WQA Status report as at 30 June 2018.XLSX
- D2018 76331 Exercise Hume Attendees April 2018.DOCX
- D2018 77135 WaterNSW Position Descriptions describing responsibilities for water quality.DOCX
- D2018 79319 Review of SOPs 2017-18.xlsx
- D2018 79404 Screenshot WNSW Intranet documents (with approval dates).jpg
- D2018 79466 C2T risk assessment workshop at Wallerawang.EML
- D2018 79472 Email arranging Fish River C2T review.EML
- D2018 79609 Wallerawang C2T workshop attendees.PDF
- D2018 81525 incident-INF-005102-record-number-of-red-level-algae-alerts-in-nsw.PDF
- D2018 89423 WQMSystem Outcomes performance 2017-18.doc
- D2018 94378 Copy of D201588093 Water Quality Adviser Position Description.DOCX
- D2018 95494 Rapid Induct Course for water quality awareness.PPTX
- D2018 99158 SWC interface meeting WQ trends Sep 18.doc
- D2018 99358 Copy of WaterNSW-Customer-Advisory-Group-Charter.PDF
- D2018 99530 Provision in Laboratory Contracts.EML
- D2018 99567 Extract from field services contract - ALS exp and quals.DOCX
- Screenshot - SCADA for Nepean turbidity showing alarms.JPG

Summary of reasons for grade

In assessing the requirement for this clause, we note that 2.1.1 specifically states that the Water Quality Management System is to be maintained in accordance with clause 2.1. Clause 2.1.1 therefore requires us to consider the maintenance of the WQMS in clause 2.1.2 and 2.1.3. As part of these requirements WaterNSW is required to maintain the WQMS in light of the downstream aspects and requirements of its customer including potential impacts on drinking water quality. This requirement is given effect through:

- The notes for clause 2.1.2:
“WaterNSW should have adequate systems and processes in place to manage Bulk Water quality to its water Supply Customers, taking into account the implementation of planning and risk management across the whole Drinking Water Supply system.”
- The notes for clause 2.1.3
“It is generally expected that WaterNSW will manage the water under its control in light of its knowledge of the downstream water supply system, including that of its Customers. Therefore the Water Quality Management System should be developed in consultation with the relevant Customers to whom it Supplies water.”

WaterNSW has an overarching Water Quality Management System (WQMS). We noted the identified *Components* for the WQMS did not always cover all the water categories specified in the WQMS Scope. Specific to the water categories within the audit scope, the WQMS *Component* is silent on materials and chemicals.

The Framework requires the following, for the water system as a whole:

- *“Ensure that only approved materials and chemicals are used.*
- *Establish documented procedures for evaluating chemicals, materials and suppliers.”*

We consider the gap in the WQMS to be a deficiency that adversely affects the utility’s ability to assure the quality of its water product.

This clause is graded *Non-compliant (material)*.

Discussion and notes

WaterNSW has an overarching WQMS. The WQMS has a *Scope* page showing whether the water category is covered by the WQMS and the relevant licence clause. This scope is helpful to understand the relevant licence obligations for each supply type. Table 12 outlines the categories relating to drinking and raw water (supplied to a customer for treatment) in the WQMS scope page, considered under clause 2.1.

Table 12. Water categories covered by the WQMS

Category	Supply	Relevant Licence Clause under 2.1	In audit scope
Drinking water	Drinking water supplied to picnic areas in the declared catchment	2.1.2	No
	Fish River Stage 1 Supply	2.1.3a	No

Category	Supply	Relevant Licence Clause under 2.1	In audit scope
	Direct supply to houses and offices from rural WaterNSW dams		
Raw water supplied for treatment in declared catchment areas	Raw water supplied to Sydney Water, Wingecarribee Shire Council, Shoalhaven City Council for Kangaroo Valley, supplementary raw water supply to Goulburn Mulwaree Council from Wingecarribee Reservoir	2.1.2	Yes
Raw water supplied for treatment in non-declared catchment areas	Raw water supply from Fish River to Oberon Council	2.1.3a	Yes

Drinking water supplied to picnic areas in the declared catchment and Fish River Stage 1 supply are regulated under the *Public Health Act 2010* (NSW) and regulations. These drinking water management systems were not in scope for the 2018 Operational Licence Audit.

The WQMS has an A3 page per ADWG element and tabulates the *Requirements* of the ADWG, the *Components* of the WQMS, the *Assurance* and *References and Responsibilities*. The identified *Components* for the WQMS do not always cover all the water categories specified in the WQMS Scope. For example, *Materials and Chemicals* only contains information on chlorine purchasing and handling procedures for picnic area water supplies and material selection for the potable water supply system. The *Component* is silent on materials and chemicals associated with the raw water supplied for treatment. While we were provided with specific examples where the suitability of materials and chemicals had been addressed, we saw no evidence of a systematic procurement approach for materials and chemicals in contact with water, with an intended potable water end use.

In accordance with the four parts of the ADWG Framework for Management of Drinking Water Quality, we have based our discussion on 'maintenance'¹⁴ of a WQMS on those parts as follows:

- Commitment to (Drinking) Water Quality Management
- System Analysis and Management
- Supporting Requirements
- Review.

The overarching system is discussed and graded at this clause (2.1.1). Scheme specific components are discussed and graded in the relevant clauses 2.1.2 and 2.1.3.

¹⁴ Macquarie Dictionary definition of maintain: to keep in a specified state

Commitment to Water Quality Management

A water quality policy is in place¹⁵, current¹⁶, and adequate. A compliance framework, based on AS ISO 19600:2015 is in place¹⁷, current and adequate. A Risk Assurance and Compliance System (RACS) tool is in place and confirmed¹⁸ at interview. Communication of water quality responsibilities was checked by reviewing position descriptions¹⁹, quarterly Board Committee on Water Quality, Health and Catchment Protection WQMS trend analysis reports (April 2018)²⁰ and training as noted below. Material was provided²¹ (and confirmed) to show evidence of regulatory review and changing of content as required. Identification of stakeholders was checked by reviewing the contact list.²² The list is adequate for water quality stakeholders. Liaison with stakeholders was checked with reference to various documents (MoUs, terms of reference, strategy, charter)²³ and a sample of records²⁴ to support the implementation requirements of the various instruments and processes. Liaison with stakeholders was also checked (and confirmed) through licence clauses 6.1 and 6.8 and Element 8 of the Framework.

System Analysis and Management

The WQMS document is silent on ADWG Framework requirements for materials and chemicals for the water categories in the audit scope. The Framework requires the following:

- *“Ensure that only approved materials and chemicals are used.*
- *Establish documented procedures for evaluating chemicals, materials and suppliers.”*

The Framework further notes:

“Contaminants may also be introduced when water comes into contact with materials such as filter media, protective coatings, linings and liners, joining and sealing products, pipes and fittings, valves, meters and other components. Materials used should comply with Australian Standard AS/NZS 4020 Products for use in contact with drinking water.

¹⁵ A 1.1.1 CD2014 5[v4] Water Quality Policy.DOCX

¹⁶ 21 December 2017, review date December 2019

¹⁷ A 1.2.1 CD2018 13 Compliance Management Framework.DOCX

¹⁸ 2/11/2018

¹⁹ A 1.2.2 D2017 5869 Manager Water Quality Programs.DOCX (September 2015); A 1.2.2 D2017 5883 Water Quality Systems Officer.PDF (September 2015); A 1.2.2 D2018 77135 WaterNSW Position Descriptions describing responsibilities for water quality.DOCX

²⁰ A 1.2.2 D2018 51748 Copy of WQMS Trend Analysis April 2018.DOCX

²¹ A 1.2.3 D2018 100069 Board WQHCP Revised WQ Policy.PDF; A 1.2.3 D2018 100071 Board WQHCP Revised WQ Requirements in OL.DOC (revisions to policy checked and confirmed by auditor)

²² A 1.3.1 D2013 94543 WaterNSW Water Quality Contact List.DOCX

²³ A 1.3.2 D2016 90171 Signed MoU WaterNSW and NSW Health August 2016.PDF; A 1.3.2 D2016 141047 NSW EPA - Memorandum of Understanding 2016 signed by EPA.PDF; A 1.3.2 D2017 81900 5.4 ToR PH SLG JOG Admin July 17.DOCX; A 1.3.2 D2017 88048[v3] Warragamba Dam Raising Stakeholder Strategy Final (V6).PDF; A 1.3.2 D2018 99358 Copy of WaterNSW-Customer-Advisory-Group-Charter.PDF

²⁴ A 1.3.2 D2018 48964 SMWG Minutes and Actions 2 February 2018.DOCX

The products used in water systems should be subjected to an audited system of quality control.”

We were provided with specific examples where the suitability of materials and chemicals had been addressed (see clause 2.1.4), however we saw no evidence of a systematic procurement approach for materials and chemicals in contact with the water categories relevant to this clause.

We note there was an action in the improvement plan²⁵ to “*Document materials purchasing procedure and ensure materials used for treating drinking water supply conform to AS4020 (WaterMark)*”. This action is specific to the drinking water supply rather than the water supply system generally.

We consider this to be a deficiency that adversely affects the utility’s ability to assure the quality of its water product.

We confirmed that a Water Quality Incident Response Protocol is in place.²⁶ While the protocol has been maintained (i.e. it is current), we observed some inconsistencies with the footer ‘review by dates’ – likely caused by section breaks in the document. We do not consider this to be a material issue given the good body of evidence on document history.

In further support of the maintenance aspects of this clause, we note that the document had been improved with learnings from previous incidents including a water quality incident risk assessment template. There was a sound body of information in the revision history in the protocol which could be further improved, by specifying which part of the revision history related to which revision of the document. We confirmed that the protocol includes a contact list with a link to the current contact details list which resides outside of the document. We confirmed that the revised protocol had been provided to NSW Health and Sydney Water.²⁷ We noted use of some legacy documentation for managing incidents – in particular, a Sydney Catchment Authority document for the management of triclopyr in Wingecarribee Reservoir from 2007.²⁸ Legacy documents such as these do not appear to have a clear process for updating within the incident management approach of the WQMS. The maintenance of these documents should be considered as part of implementing the recommendations for clause 2.1.

Many of the requirements for System Analysis and Management are scheme specific and are discussed in the relevant clauses 2.1.2 and 2.1.3 below. Deficiencies in the availability and currency of procedures were noted in these clauses and Recommendation 2.1.1-3 and Recommendation 2.1.1-4 have been made in this clause that also relate to the deficiencies identified below.

²⁵ D2017 87631 WQMS Water Quality Improvement Plan 2017 18.xlsx

²⁶ CD2004 183[v3] Water Quality Incident Response Protocol.DOCX

²⁷ D2018 51557 Final WNSW - Water Quality Incident Response Protocol - April 2018 to SWC.EML; D2018 51561 Request to send Water Quality Incident Response Protocol to NSW Health.EML; D2018 51563 Water Quality Incident Response Protocol April 2018 provided to NSW Health.EML

²⁸ D2018 123175 Inc response plan Triclopyr in Winge res.pdf

Supporting Requirements

Training programs are in place and include training appropriate to understanding context (i.e. water quality, water quality incident responses). Water quality awareness training materials²⁹ include reference to the policy and key points from the policy as well as other water quality management system requirements. The training material is adequate.

Processes and procedures for conducting community consultation and communication were reviewed as part of auditing Clauses 6.1, 6.5 and 6.8. Processes were found to be in place. However, we note the omission of water quality as a specific criterion for recording customer complaint issues (see Clause 6.9.1).

Processes are in place for document control and records management, including specific mechanisms for incident reporting. Management of documentation and records is undertaken largely through ARK (TRIM). We confirmed the presence of ARK at the audit interviews. Reporting mechanisms are in place including for reporting outside and inside the organisation.

There is an overarching Water Monitoring Program³⁰ which includes monitoring programs relevant to the WQMS:

- raw water supplied for treatment
- Fish River Water Supply Scheme
- picnic areas in the declared catchments
- water supplies at rural dams.

Within the program, operational monitoring is not clearly distinguished from verification monitoring. This has the potential to result in issues (outside the audit scope) where verification results are reported as CCP exceedances.

As an observation, radionuclides in the raw water for treatment (gross alpha and beta) are sampled more frequently than recommended in the ADWG. The ADWG³¹ state that radionuclides should be monitored before a new source is brought online, quarterly for one year then biennially for groundwater and every 5 years for surface water. The Water Monitoring Program includes annual sampling.

WaterNSW also undertakes monitoring at picnic areas and FRWS Stage 1. While outside the audit scope, we note an opportunity for improvement to review the sampling program as a whole which may result in savings.

Review

Mechanisms are in place to conduct long-term evaluation of results. Evidence was provided of system *Health Checks* (audits). We reviewed the following documents and confirmed these checks include both adequacy and implementation aspects:

²⁹ D2017 58449 WNSW Water Quality Awareness eLearning module.pptx

³⁰ CD2011 179[v5] Water Monitoring Program.DOC

³¹ NHMRC/NRMMC (National Health and Medical Research Council/Natural Resource Management Ministerial Council) (2011) Australian Drinking Water Guidelines (ADWG) National Water Quality Management Strategy. ISBN Online: 1864965118. Version 3.5 Updated August 2018. Table 9.5 Generic frequencies for monitoring non-microbial drinking water quality as supplied to the consumer

- Water Monitoring Program Process Health Check (D2018 65108)
- WaterNSW Critical Control Points in Supply to Greater Sydney Process Health Check (D2017 121601)
- Catchment Cryptosporidium Hazard Assessment Process Health Check (D2018 43958).

We note that the System Health Check forms are clear and for the completed forms we saw, the notes were to the point.

The audit process would benefit from being more 'risk-based' and with a focus on specific aspects of the Framework, e.g. on an element by element basis e.g. Element 3 (CCPs) being reviewed at a high frequency because of criticality of CCPs to the good function of the overall WQMS (we note that this is already identified within the WQMS System Outcomes Performance report).³² We consider this an opportunity for improvement.

We sighted mechanisms in place for review by senior executives including the board and board committees. We confirmed that WaterNSW has a WQMS Water Quality Improvement Plan³³ in place and the information is well laid out on an element by element basis with clear responsibility for each action. Evidence was sighted within the document to confirm that it is maintained as a living document. As an observation, we note that the plan contains numerous items that appeared to be 'business as usual' ongoing actions and question the utility of having such items on the improvement plan. In addition, there was no numbering for each action or information on how each improvement action had arisen (e.g. linkages back to a risk assessment or audit outcome). We consider these areas as non-material opportunities for improvement.

Recommendations

Recommendation 2.1.1-1: By 30 June 2019, WaterNSW should ensure that each water category covered by the WQMS addresses each element, component and activity of the ADWG Framework.

Recommendation 2.1.1-2: By 30 September 2019, WaterNSW should document its procedures and process to manage materials and chemicals used in its system where the water is supplied for an end use as potable water.

Recommendation 2.1.1-3: By 31 December 2019, WaterNSW should identify the required operational procedures from catchment to consumer for processes and activities under its control and develop a plan to compile this information.

Recommendation 2.1.1-4: By 31 December 2020, WaterNSW should have implemented the plan and have detailed procedures for the operation of all processes and activities (both ongoing and periodic) including preventive measures, operational monitoring and verification procedures, and maintenance requirements.

³² D2018 89423 WQMS System Outcomes performance 2017-18.doc

³³ D2017 87631 WQMS Water Quality Improvement Plan 2017 18.xlsx

Opportunities for improvement

OFI 2.1.1-1: Revise water quality awareness training materials to include the current version of the policy – currently version 3 is cited (not current).

OFI 2.1.1-2: Identification of stakeholders was checked by reviewing the contact list.³⁴ The mode of communication could be added to this list to improve its utility for WaterNSW e.g. NSW Health – MoU.

OFI 2.1.1-3: While processes are in place to undertake system *Health Checks* (audits), the audit process would benefit from being more risk-based and with a focus on specific aspects of the Framework.

OFI 2.1.1-4: The WQMS Water Quality Improvement Plan contains several items that appeared to be business-as-usual ongoing actions.³⁵ WaterNSW could consider reviewing the plan for removal of these actions, which could be tracked through other processes such as the *Health Checks*.

OFI 2.1.1-5: Consider adding numbering for each action in the WQMS Water Quality Improvement Plan.

OFI 2.1.1-6: Include information for the genesis of each improvement action in the WQMS Water Quality Improvement Plan (e.g. clear linkages back to a risk assessment or audit outcome).

OFI 2.1.1-7: In the Water Quality Incident Response Protocol (CD2004/183), consider specifying which part of the revision history relates to which revision.

OFI 2.1.1-8: Review the sampling program for these areas to confirm alignment with the ADWG and NSW Health guidance. This may result in savings in the sampling program.

³⁴ A 1.3.1 D2013 94543 WaterNSW Water Quality Contact List.DOCX

³⁵ E.g. 'Keep abreast of latest water quality management technology through attendance at conferences.'

Clause 2.1.2

Table 13. Clause 2.1.2 compliance grade

Subclause	Requirement	Compliance grade
2.1.2	<p>With respect to Declared Catchment Areas, WaterNSW must maintain a Water Quality Management System that is consistent with either:</p> <ul style="list-style-type: none"> a) the Australian Drinking Water Guidelines; or b) if NSW Health were to specify any amendment or addition to the Australian Drinking Water Guidelines that applies to WaterNSW, the Australian Drinking Water Guidelines as amended or added to by NSW Health; or c) any other requirements specified or approved by NSW Health or IPART. <p>[Note: It is generally expected that for the Declared Catchment Areas WaterNSW will develop a Water Quality Management System consistent with the Australian Drinking Water Guidelines. However, where NSW Health considers appropriate, the application of those Guidelines may be amended or added to, to take account of WaterNSW's circumstances and/or policy and practices within New South Wales regarding Drinking Water quality.</p> <p>It is generally expected that WaterNSW will manage the Declared Catchment Areas and the associated Catchment Infrastructure Works in light of its knowledge of the whole system for the Supply of Drinking Water (including the Bulk Water Supply System associated with Declared Catchment Areas together with each system for treating, storing and supplying Drinking Water of each Customer to whom WaterNSW Supplies water which is sourced from Declared Catchment Areas). That is, WaterNSW should have adequate systems and processes in place to manage Bulk Water quality to its water Supply Customers, taking into account the implementation of planning and risk management across the whole Drinking Water Supply system.]</p>	Non-compliant (material)
Risk	Target for full compliance	
Without a Water Quality Management System, the risk posed to public health from non-compliance with this clause could be significant.	Evidence that a Water Quality Management System is maintained and kept up to date for the Declared Catchment Areas, that it is consistent with the ADWG, or as specified by NSW Health or IPART.	

Evidence sighted

- See evidence for clause 2.1.1

Summary of reasons for grade

A material gap for the WQMS for the water category audited in this clause (2.1.2) was the lack of documentation in the WQMS associated with material and chemicals selection and evaluation discussed in clause 2.1.1.

In auditing the WQMS for the Declared Catchment Area, we noted that

- There is no current operation and maintenance documentation for the aerators.

- The procedure *Operate destratification systems*³⁶ was two years out of currency.

The operation of the aeration system is a key control for the storage. The ADWG Framework requires:

- *“Identify procedures required for processes and activities from catchment to consumer (element 4).*
- *Document all procedures and compile into an operations manual (element 4).*
- *Document information pertinent to all aspects of drinking water quality management (element 10).*
- *Develop a document control system to ensure current versions are in use (element 10).*

The absence of current operation and maintenance documentation is a material gap.

Evidence was provided of some operational procedures as well as a spreadsheet listing SOPs, including *South East Operations – Routine Daily Dam Duties – CD2004/135[v2]*.

This clause is considered *Non-compliant (material)*.

Discussion and notes

This clause applies to the WQMS for the Raw water supplied for treatment to Sydney Water, Wingecarribee Shire Council and Shoalhaven Water. Audit findings noted in Clause 2.1.1 also apply to this clause unless specified.

During the audit we confirmed that there were no amendments or additional requirements relevant to parts 2.1.2 (b) and (c).

WaterNSW has developed a Pollution Source Assessment Tool³⁷ (PSAT) to calculate, at a drainage unit level, the relative risks from different categories of land use. Through the tool four priority pollutants; pathogens, nitrogen, phosphorus and suspended solids, have been identified as the most significant water quality risks in the Declared Catchment Area. Outputs from the PSAT model are used to prioritise intervention actions under the Source Water Protection Program.

The WQMS states *“Catchment Cryptosporidium Risk Assessments have been developed for the Declared Catchments based on Quantitative Microbial Risk Assessment methodology. These assessments provide a calculated inherent risk for each water supply system and allow for estimation of current risk based on rainfall, inflows and catchment events. Customers and NSW Health use these risk assessments to determine relative risks during events or filter turbidity exceedances at treatment plants.”* Evidence was provided for the procedures to undertake these assessments.

The risks were reviewed in the Mid-Term C2C Risk Review³⁸ conducted during the audit period. The review identified:

- hazards and hazardous events and impacts (risks)

³⁶ CD2003/62

³⁷ D2015 98663 Full Report - Pollution Source Assessment Tool 2012-2016.DOCX

³⁸ D2018 75972 Final 2018 Report C2C Mid-term review.PDF

- assessed raw risk, WaterNSW handover point risk and risk at the customer

Previous events have been captured in the mid-term review (e.g. transformer oil spills) and additional actions identified to improve understanding and management of the risk.

We observed that for the mid-term risk review a 4 x 5 risk matrix (likelihood x consequence) was used to assess the risks. This matrix was also used for the non-Sydney Water risk assessments (Oberon-Lithgow, Kangaroo Valley, Wingecarribee and Goulburn). We note that this 4 x 5 matrix is different to the WaterNSW corporate risk matrix which is a 5 x 5 matrix. WaterNSW has identified the development of a consistent matrix as an issue to be addressed in the next full C2C review with Sydney Water in 2020.

The Mid-Term C2C Risk Review with Sydney Water clearly identifies WaterNSW controls for the declared catchments. We were able to confirm a link between the C2C review and controls for Algae/cyanobacteria including the use of storage destratification/surface mixing (identifier 1P[9]).³⁹ We were unable to confirm, for WaterNSW, an event related to raw water contamination from the use of materials or chemicals or controls for this event.

The C2C risk assessments were also reviewed for Shoalhaven and Wingecarribee.

The Wingecarribee Risk Assessment Report and supporting documentation⁴⁰ contain errors and or inconsistencies including:

- references to Lithgow City Council's Drinking Water Management System and Duckmaloi WTP
- inconsistency in WTP nomenclature (e.g. Bowral WTP vs Wingecarribee WTP)
- incorrect recommendation to install activated carbon when it is already in place at Wingecarribee WTP.

There appears to be a disconnect between the representation of the C2C risk assessment report as an outcome of a "workshop". From the meeting minutes provided, the workshop consisted of a short consultation at the Operational Group Meeting.⁴¹

The flow diagrams which the WQMS state are used for the risk assessment do not contain sufficient detail for a C2C risk assessment. They do not include the catchment inputs nor treatment and distribution beyond a box. Evidence to support verification by field audits was not available. This is in contrast to the framework requirements which are:

"A generalised flow diagram should be constructed describing the water supply system from catchment to consumer. The diagram should:

³⁹ D2018/132290 C2C updated from 2014

⁴⁰ D2018 65072 C2T MidTerm Review - Wingecarribee & Goulburn - final.XLSX and D2017 68067 Shoalhaven Water Supply System Schematic.PPTX

⁴¹ Item 7 Catchment to Tap Presentation: "A revised C2T water quality risk assessment including new risks were presented at the meeting"(D2018 28327)

- *outline all steps and processes, whether or not they are under control of the drinking water supplier;*
- *summarise the basic characteristics of each component;*
- *make explicit any characteristics that are unique to the system;*
- *be verified by field audits and checked by those with specific knowledge of the system."*

The WQMS states that "CCPs and critical limits are developed and validated in consultation with relevant customers and NSW Health". Evidence was sighted for validation with Sydney Water. Wingecarribee and Shoalhaven supplies have only an algal CCP. WaterNSW advised that the critical limit selected is the cell count trigger for *Microcystis aeruginosa* in the Australian Drinking Water Guidelines and that this conservative approach of using ADWG values for end tap as critical limits was explained to the councils in quarterly meetings. We were unable to confirm the extent of consultation from the evidence provided⁴² and therefore the veracity of the statement in the WQMS regarding consultation with relevant customers. While not material to our findings, there is an opportunity to review the accuracy of this statement and the approach to development of CCPs in consultation with relevant customers.

From the information provided it was unclear what operational and process control procedures underpinned the WQMS. The WQMS states: "*Operations and Maintenance manuals have been developed for each major part of the water supply infrastructure. Procedures are updated according to the risk-based review frequency or as required following upgrades to assets or to incorporate better management practices identified as part of routine process improvement audits or following an incident.*"

As part of the audit evidence package operational procedures were provided for:

- CD2015 469v2 Hazardous Substances Procedure
- CD2018 11 Vertebrate Pest Management Environmental Standard Operating Procedure
- D2018 114560 Record Keeping and Training Requirements for Pesticide Use Standard Operating Procedure (SOP)
- CD2012 130[v4] Water Quality Data Review and Reporting Procedure
- CD2017 180 Incident Management Procedure

A spreadsheet listing SOPs was provided⁴³ and this list included a number of operational SOPs such as *South East Operations - Routine Daily Dam Duties - CD2004/135[v2]*.

During the field verification, the absence of operational procedures for the aerators was noted. An SOP for the operation of the destratification system was provided during audit interview, however the document was still in SCA format and had been due for review in April 2016.⁴⁴ We grade the currency of documentation in clause 2.1.4.

⁴² D2013 117448 SCA SCC 4 mthly meeting Minutes – Nov 2013, Agenda item 13

⁴³ D2018 79319 Review of SOPs 2017-18.xlsx

⁴⁴ CD2003/62 South East Operations – Operate Destratification Systems

Equipment capability and maintenance is discussed under Clause 5.1.1 and 2016-17-02 – 04.

Research and development is discussed in detail in Clause 2.8.

Recommendation

Recommendation 2.1.2-1: By 31 December 2019, WaterNSW should review the manner in which it conducts water quality risk assessments to ensure it meets the requirements of elements 2 and 3 of the framework and its licence obligation.

Recommendations made under clause 2.1.1 apply to clause 2.1.2 and should consider these findings when implementing the recommendations.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 2.1.3

Table 14. Clause 2.1.3 compliance grade

Subclause	Requirement	Compliance grade
2.1.3	<p>With respect to Non-Declared Catchment Areas from which WaterNSW Supplies water, WaterNSW must maintain Water Quality Management Systems that are consistent with:</p> <ul style="list-style-type: none"> a) in the case of water with the final end use as Drinking Water: <ul style="list-style-type: none"> i. a relevant quality assurance program under section 25 of the Public Health Act 2010 (NSW); ii. the Australian Drinking Water Guidelines; or iii. any other requirements as specified or approved by NSW Health or IPART, b) in the case of water that does not have a final end use as Drinking Water and that is not to be managed according to a Water Quality Management System that satisfies clause 2.1.3(a): <ul style="list-style-type: none"> i. the Australian Guidelines for Water Recycling; or ii. any other requirements as specified or approved by NSW Health or IPART. <p>[Note: It is generally expected that WaterNSW will manage the water under its control in light of its knowledge of the downstream water supply system, including that of its Customers. Therefore the Water Quality Management System should be developed in consultation with the relevant Customers to whom it Supplies water.]</p>	Non-compliant (material)
Risk	Target for full compliance	
Without a Water Quality Management System, the risk posed to public health from non-compliance with this clause could be significant.	Evidence that a Water Quality Management System is maintained and kept up to date for the Non-Declared Catchment Areas, that it is consistent with the ADWG, or as specified by NSW Health or IPART.	

Evidence sighted

Specific evidence:

- D2017 84621 Full Report - Oberon Pollution Source Assessment Tool 2016.DOCX
- D2018 59045 Lake Oberon and Duckmaloi Weir Water Quality Report - May 2018.PDF
- D2017 141064 Lake Oberon Water Quality Report - Nov 2017.pdf
- D2016 61031 Catchment to Tap Risk Assess 2016 Oberon Supply.DOCX
- See also evidence for clause 2.1.1

Summary of reasons for grade

This clause applies to the raw water supply from Fish River to Oberon Council. A material gap for the WQMS for the water category audited in this clause (2.1.3) was the lack of documentation in the WQMS associated with material and chemicals selection and evaluation discussed in clause 2.1.1. We also noted that explicit references to the Oberon system were missing in WaterNSW's overarching WQMS where explicit references had been made for water quality management in the declared areas. There were some gaps and errors with the risk assessment for Oberon that limited our evaluation of the adequacy of the risk assessment. This clause is graded *Non-compliant (material)*.

Discussion and notes

Clause 2.1.3 applies to raw water Supplied from Fish River to Oberon Council. Audit findings noted in Clause 2.1.1 also apply to this clause unless specified.

We noted that many aspects in the *References and responsibilities* column of WaterNSW's Overarching WQMS did not include the Oberon catchment although there was evidence in underlying procedures and processes to demonstrate that activities to meet the ADWG Framework was in place in practice. This documentation gap limits our ability to confirm that WaterNSW has addressed the requirements of this licence clause and that staff understand their obligations under this licence clause.

WaterNSW extended its PSAT modelling to Lake Oberon in 2017. The model predicted pollution sources for the catchment that indicated ground cover and rainfall play an important part in pollution source determination in the watershed. The report noted the modelling was in agreement with the visual observations for the area.⁴⁵ This work shows that WaterNSW has discharged its obligation under Element 2 of the ADWG framework "*Assemble pertinent information and document key characteristics of the water supply system to be considered.*"

A risk assessment for Oberon was completed as part of the Lithgow Oberon risk assessment. We could not determine the flow diagram that had been used in the risk assessment. Only flow diagrams for the declared catchments are listed in the WQMS document. The WQMS notes that "*Supply schematics for drinking water systems are included in individual Quality Assurance Plans.*" The schematic in the FRWS DWMS did not

⁴⁵ D2017 84621 Full Report - Oberon Pollution Source Assessment Tool 2016.DOCX

meet the requirements of the ADWG framework, for example it did not show the handover point to Oberon Council.

Workshop attendees are not documented in the excel sheet. A handwritten note was provided headed "C2T Meeting @ Wallerawang" with attendee names for the workshop on the 29/6/2018. We requested information on the attendee roles and organisations, which was provided as part of the post site visit evidence.⁴⁶

The risk owner column within the risk register has not been completed for all of treatment risks and none of the distribution risks. This omission made it difficult to determine whether the risk associated with WaterNSW's operation of the chlorinator, prior to handover at the Oberon WTP handover point, was considered in the risk assessment. We focussed on the risk evaluation of disinfection byproducts (DBPs) from pre-chlorination as this process step is known to contribute to DBPs and is the responsibility of WaterNSW. We would have expected to have sighted WaterNSW controls for this practice, as well as a validation for when this practice would be implemented – given its contribution to DBP formation. Neither controls or validation evidence are captured in the 'WaterNSW Controls (Catchment, storage, delivery)' column. WaterNSW advised that the risk of disinfection by-products from pre-chlorination was included in the full catchment to tap risk assessment undertaken in 2016.⁴⁷ We were not provided with the risk register itself and so could not confirm that the 2016 risk assessment addressed the control identification and validation aspects noted above.

The proposed control of an "MoU with LCC" (assumed to be Lithgow City Council) does not apply to the Oberon system⁴⁸, potentially undermining the veracity of this risk assessment.

Recommendation 2.1.2-1 is made to address the above issues with the risk assessments.

Monthly water quality sampling is undertaken of the Oberon Dam in accordance with the Water quality monitoring program. These results are compiled into a water quality report.⁴⁹ This evidence demonstrates the linkages between the overarching WQMS and the Water Monitoring Program. We are satisfied with the adequacy of these processes for operational decision making.

Recommendation

Recommendations made under clause 2.1.1 and clause 2.1.2 apply to clause 2.1.3 and should consider these findings when implementing the recommendations.

Opportunities for improvement

There are no opportunities for improvement.

⁴⁶ D2018 79609 Wallerawang C2T workshop attendees.PDF

⁴⁷ D2016 61031 Catchment to Tap Risk Assess 2016 Oberon Supply.DOCX

⁴⁸ Row 20 of the Oberon Table D2018 70182 C2T Mid Term Oberon Lithgow 2018.XLSX

⁴⁹ D2018 59045 Lake Oberon and Duckmaloi Weir Water Quality Report - May 2018.PDF, • D2017 141064 Lake Oberon Water Quality Report - Nov 2017.pdf

Clause 2.1.4

Table 15. Clause 2.1.4 compliance grade

Subclause	Requirement	Compliance grade
2.1.4	WaterNSW must ensure that the relevant Water Quality Management Systems are fully implemented and that all relevant activities are carried out in accordance with the relevant Water Quality Management System and to the satisfaction of NSW Health	Compliant (minor shortcomings)
Risk	Target for full compliance	
If the Water Quality Management System is not fully implemented, there is a high risk that WaterNSW may not be able to effectively manage risks to water quality and protect public health.	Evidence that the Water Quality Management System is fully implemented and that all relevant activities are carried out in accordance with the Water Quality Management System. Evidence to show that NSW Health is satisfied with the Drinking Water Quality Management System and its implementation.	

Evidence sighted

- See evidence for clause 2.1.1

Summary of reasons for grade

For the water categories audited implementation was generally sound. We identified deficiencies in the reporting of CCPs, review and improvement aspects of the WQMS. This included CCPs not being reported in the monthly Dashboard Reports as stated in the DWQMS, current operational documentation not being available to operational staff, not undertaking review of key documents within the required cycle, and not completing improvements in the required timeframes.

NSW Health is satisfied that WaterNSW has met its obligations under the Operating Licence and MoU.

This clause is graded *Compliant (minor shortcomings)*.

Discussion and notes

This clause covers the implementation of the WQMS for:

- raw water supplied for treatment in the declared catchment area
- raw water supplied for treatment in non-declared catchment areas (Oberon).

We have discussed the overarching aspects of the WQMS and then provided specific comments on each of the above systems to explain how we arrived at our finding below.

In accordance with the four parts of the Framework for Management of Drinking Water Quality, we have based our discussion on implementation⁵⁰ of a WQMS on those parts as follows:

- Commitment to (Drinking) Water Quality Management
- System Analysis and Management

⁵⁰ Macquarie Dictionary definition of implement: to put (a plan, proposal, etc.) into effect

- Supporting Requirements
- Review.

Commitment to Water Quality Management

For the policy, we confirmed that *"copies are displayed at WaterNSW offices"* as cited in the training materials (Table 8). We also asked for and received a copy of the Board's endorsement of changes to the policy.⁵¹ The monthly *"corporate messages for discussion and feedback with all teams"* (May 2018) were viewed⁵², we confirmed that water quality is included as part of this communication package. All evidence viewed was adequate and current. The process for understanding compliance and communicating the awareness is implemented in practice. Liaison with stakeholders was checked with reference to various documents (MoUs, terms of reference, strategy, charter⁵³) and a sample of records⁵⁴ to support the implementation requirements of the various instruments and processes. Liaison with stakeholders was also checked (and confirmed) through licence clauses 6.1 and 6.8 and Element 8 of the Framework.

System Analysis and Management

The risk assessments were reviewed in the audit period as discussed in clauses 2.1.2 and 2.1.3. The WQMS notes Catchment *Cryptosporidium* Risk Assessments are updated weekly⁵⁵ and as required during events. Evidence was requested and provided that the assessment was undertaken.⁵⁶

We could not clearly identify how proposed controls identified in the C2C risk registers were evaluated, and progressed to reduce the identified risk as captured by Recommendation 2.1.1-4.

The Source Water Protection Program was implemented as an output of the PSAT planning.

The WQMS states that performance of all CCPs are reported in the monthly water quality dashboard report. There was no evidence of CCP reporting in the *April 2018 Monthly Water Quality Performance Dashboard Report* or the *April 2018 Management Monthly WQMS Report*. The Quarterly WQMS Trend Analysis⁵⁷ discussed CCPs for both the raw and drinking water systems.

WaterNSW advised that

"Dashboard report content has been evolving over time (to meet audience needs) and the current version does not include reporting of all CCPs. CCP performance is and

⁵¹ D2018 120209 Board endorsement of Water Quality Policy.EML

⁵² A 1.2.2 D2018 56639 Comms Kit - May 2018 FINAL.PPTX (slide 9)

⁵³ A 1.3.2 D2016 90171 Signed MoU WaterNSW and NSW Health August 2016.PDF; A 1.3.2 D2016 141047 NSW EPA - Memorandum of Understanding 2016 signed by EPA.PDF; A 1.3.2 D2017 81900 5.4 ToR PH SLG JOG Admin July 17.DOCX; A 1.3.2 D2017 88048[v3] Warragamba Dam Raising Stakeholder Strategy Final (V6).PDF; A 1.3.2 D2018 99358 Copy of WaterNSW-Customer-Advisory-Group-Charter.PDF

⁵⁴ A 1.3.2 D2018 48964 SMWG Minutes and Actions 2 February 2018.DOCX

⁵⁵ Procedure D2016/117391 procedure to Update Weekly Catchment *Cryptosporidium* Hazard Assessment (Water Quality Services), F2016/4654 Weekly Catchment *Cryptosporidium* Risk Assessments

⁵⁶ D2018 11052 *Cryptosporidium* Catchment Assessment 2 February 2018.EML

⁵⁷ D2018 51748 Copy of WQMS Trend Analysis April 2018.DOCX

continues to be reported in quarterly reports provided to the Board. While WaterNSW acknowledges that the WQMS documentation could be updated to reflect this, CCP reporting continues to be reported to appropriate audiences."

We consider the discrepancy between what is stated in the WQMS and what occurs in practice to be a minor shortcoming. We are of this opinion because reporting on CCPs to the relevant people occurs in practice and the discrepancy is only in the frequency.

WaterNSW prepares water quality reports for each storage or supply system including trends for key characteristics.⁵⁸ For meetings with Customers and JOG meetings, water quality is plotted against standards or ADWG values.

We cross-checked the water quality monitoring requirements in the Water Monitoring Program against the storage Water Quality Reports and the Water Quality Data Review and Reporting Procedure.

The Water Quality Data Review and Reporting Procedure states the report should contain:

- "9. Long term trending – graphical representations of historical data for algal ASU, manganese, true colour, potentially toxin producing cyanobacteria and turbidity. Or other parameters, as relevant.*
- 11. Data tables for lake sites and associated water filtration plant, containing the data from the sampling event."*

The Lake Oberon reports reported all parameters at all stated depths with the exception of apparent colour which was not reported at any depth tested in either report provided. The report also did not contain the long-term trending as noted under item 9 *Long Term Trending* above.

Review of the Lake Avon Water Quality Report showed that results for a number of parameters including suspended solids, filterable reactive phosphorous and a number of reactive nitrogen species were not reported.

Due to time limitations we did not test whether the tests were undertaken and not reported or not undertaken. The disconnect between the procedure and the reporting is captured in Recommendation 2.1.1-3 and Recommendation 2.1.1-4. There is an improvement opportunity to review the parameters and their associated frequency in the monitoring program made in OFI 2.1.1-8.

There are procedures for aspects of the system operation.⁵⁹ A number of these were out of date and at least one was not known to the operational staff interviewed.⁶⁰ The following procedures:

- Measuring Chlorine Residual - CD2003/69[v2], approved 8 April 2013
- South East Operations - Operate Destratification Systems - CD2003/62[v2], approved 8 April 2013

⁵⁸ D2018 58737 Lake Burragorang WQ Report 23 May 2018.PDF

⁵⁹ D2018 79319 Review of SOPs 2017-18.xls

⁶⁰ South East Operations - Operate Destratification Systems - CD2003/62[v2], approved 8 April 2013

- Measuring Turbidity - CD2003/67[v2], approved 14 July 2013
- South East Operations - Routine Daily Dam Duties - CD2004/135[v2], approved 24 November 2014
- Upper Canal - Dechlorination Plant Procedure - CD2008/104[v2], approved 22 January 2013
- Upper Canal - Event Water Quality Testing Procedure - CD2003/80[v3], approved 3 October 2014
- Wingecarribee Dam - Manage Reservoir Operations - CD2007/65, approved 20 June 2008
- Wingecarribee Dam - Manage Reservoir (Sic) Operation - CD2008/91[v1], approved 20 June 2008
- Wingecarribee Dam - Operate Bowral Supply Intake - CD2007/19[v2], approved 4 August 2013

are relevant to the management of water quality and are significantly beyond their review date. Evidence was not provided of SOPs relevant to the Oberon raw water supply. The auditors acknowledge that WaterNSW is working through legacy systems of its preceding organisations, however a consistent approach to documentation of operations and procedures relating to water quality is important and a plan should be in place to achieve this. Recommendation 2.1.1-3 has been made in this regard.

While operational staff were not aware of the SOP for the destratifier, discussion with the operational and water quality staff determined that activities were undertaken to check daily operation and verification of the aerators' effectiveness. Operational staff had knowledge of the importance of materials and chemicals selection in relation to water quality. During the site visit, we were able to observe the use of procedures and systems in practice. E.g. ability to locate permits to use chemicals, ability to locate information regarding the type of hydraulic fluid used in dam valves. No deviations from the Hazardous Substance Procedure⁶¹ was observed during the site visit. At interview staff were generally observed to have an awareness of procedures relevant to their positions. Sites were neat and tidy. There was a good culture of water quality protection and continual improvement.

The Raw Water Supply Protocols specify a process for making operational changes to the raw water supply system (such as supply source or blend, offtake levels). A change proposed by WaterNSW is documented via a Notification of Change to System Operation (NOCTSO). Following the process ensures that both parties are in agreement on any system changes that may impact on water quality and are aware of any risks. An example of a NOCTSO was sighted for Nepean Tunnel inspection. See Clause 3.2 for further discussion of this.

To test implementation of the incident management processes, we reviewed incident training records and stepped through the process for defining and managing an incident for an incident that occurred in Wingecarribee. It was clear that staff members in the room understood what was required in their roles and were able to replicate the steps as they appeared in the protocol including directing us to records and other

⁶¹ CD2015 469v2 Hazardous Substances Procedure.DOC

information on request (noting that during the audit date scope, WaterNSW had moved from Tickit to RACS to capture incidents and also used the joint resource (with Sydney Water) SWIRL.⁶²

A list of incidents for 2017-18 was provided and no emergency level incidents were documented as occurring in the audit period⁶³ (D2018 822344 Appendix C Incidents). Notifications to Sydney Water for event SWIRL Notifications⁶⁴ were provided and we confirmed that notification for the major incidents were provided (A filter clogging algae in Avon occurred on 12/9/2017). We did note that a major incident in November recorded on the Incident list⁶³ was logged in SWIRL on 19/12/2017. Management of incidents is reported in Annual Water Quality Monitoring Reports.⁶⁵

We confirmed that water quality incident training had been undertaken in the audit date scope.⁶⁶

Supporting Requirements

Stakeholder management is well implemented – see the Site Visit discussion for additional comments.

Training in water quality awareness was implemented well across the organisation and not limited just to water quality specialists. We reviewed a suite of evidence to test implementation of training. A register⁶⁷ of inductees in the water quality awareness shows inductions completed for the audit period. We also requested and received records from RapidInduct⁶⁸ for a water quality staff member to confirm implementation of records management as well as implementation of training for incidents.⁶⁹ Training appears to be implemented soundly (see also training for incidents as noted above).

In testing document control, we note that several of the documents provided to us had some area of non-conformance including:

- not having been reviewed within their review cycle (the Risk Management Framework⁷⁰ was not current for part of the audit date scope)

⁶² D2018 72794 Eg.SWIRLnotif_170817 WaterQualIncidentRec.INC-17350-WaterNSWRawWater-WingecarribeeShireCouncil.EML; D2018 72814 Example Tickit Notification - Wingecarribee algae August 2018.EML; D2018 120126 FW Water Quality Exception Report - Wingecarribee algae August 2017.EML; D2018 120127 FW Winge algal incident internal notification.EML; D2018 120129 FW Wingecarribee algal notifications.EML

⁶³ D2018 82344 Appendix C Incidents 2017-18.DOCX

⁶⁴ D2018 94402 SWIRL Notifications 2017-18.XLSX

⁶⁵ D2017/128518 Copy of Annual Water Quality Monitoring Report 2016-17

⁶⁶ A 6.2.1 D2018 63942 Exercise Crystal Ball Incident Debrief Report June 2018.DOCX; A 6.2.2 D2017 137548 Incident Management - Training Material - Level 1 Workbook v1 - Tigertail.DOCX; A 6.2.2 D2017 137612 Incident Management - Training Material - Level 2 Workbook v1 - Tigertail.DOCX; A 6.2.2 D2017 137615 Incident Management - Training Material - Level 3 Workbook v1 - Tigertail.DOCX; A 6.2.2 D2018 29205 Tigertail Incident management training-05329K20.PDF

⁶⁷ A 1.1.2 D2018 76308 Rapid Induct WQA Status report as at 30.6.18.XLSX

⁶⁸ D2018 117876 Rapid Induct screenshot showing status of training records.EML

⁶⁹ D2018 117878 training module for _ progress to May 2018(2).EML

⁷⁰ CD2011 3[v4] Risk Management Framework.DOCX

- not including specific requirements of customer clauses (see comments in Clause 6.1.1, 6.1.3),
- not referencing current statutes, post completion of review (Clause 6.1.1) and containing differing document ('review by date') information⁷¹ in footers at various sections in the same document.

Issues with the currency of SOPs was discussed above.

We confirmed that reporting is implemented in practice through review of many samples of minutes of meetings⁷² (see above, Commitment to Water Quality Management), board presentations and information supplied in support of Clauses 6.5 and 6.8. We are satisfied with the implementation of reporting.

Review

We observed notification and record keeping systems were implemented including RACS, SWIRL, ARK (TRIM).

The transition and integration of the three organisations and their legacy systems is hampering implementation in the short term. See Clauses 2.2.1 and 5.1.1 for further discussion.

We observed that lessons had been learnt from incidents, for example investigations had been carried out to better understand the risk from transformers in the catchment following the transformer oil spill. See the Site Visit section for further discussion.

During the site visit we observed the improvement plan in relation to the project to install a second vertical profiler progressed during the audit period.

The Water Quality Improvement Plan contains a number of actions that are material to appropriate functioning of the water quality management system that are either overdue, not yet assigned a due date or containing an action status.⁷³ Examples include:

- align response plans in SCADA to revised RWQIRP (row 73)
- finalise & test contingency plans for high risk events (heavy rainfall) (row 125)
- utilise WSAA Aquality tool to assess conformance with ADWG for self assessment.

Recommendation

Recommendation 2.1.4-1: By 31 December 2019, WaterNSW should ensure staff are trained and proficient in the procedures identified in Recommendation 2.1.1-2 and Recommendation 2.1.1-4.

⁷¹ CD2004/183

⁷² E.g. D2018 51731 Copy of January 2018 Management Monthly _ Item 2.4b.DOCX; D2017 87814 DRAFT Minutes SLG 6 July 2017 for review distributed 14 July 2018.DOCX; D2018 51711 Copy of September 2017 Management Monthly WQMS report Item 2.4b.DOCX; D2018 51731 Copy of January 2018 Management Monthly _ Item 2.4b.DOCX

⁷³ D2017 87631 WQMS Water Quality Improvement Plan 2017 18.xlsx

Opportunities for improvement

OFI 2.1.4-1: A process should be developed to ensure that the WQMS is updated when there are changes to assurance practices recorded in the WQMS

OFI 2.1.4-2: The Water Quality Improvement Plan should be subject to more frequent reviews to improve currency.

Clause 2.1.5

Table 16. Clause 2.1.5 compliance grade

Subclause	Requirement	Compliance grade
2.1.5	WaterNSW must notify IPART and NSW Health, in accordance with the Reporting Manual, of any significant changes that it proposes to make to a Water Quality Management System.	Compliant
Risk	Target for full compliance	
Not having informed IPART and NSW Health of any significant changes proposed to the Drinking Water Quality Management System poses a risk of non-compliance with this licence clause.	Evidence to confirm that changes to the Drinking Water Quality Management System have been assessed for significance and that IPART and NSW Health have been notified.	

Evidence sighted

- D2018 14967 Item 2.1 Minutes JOG meeting 20 November 2017 Meeting with NSW Health (1).DOCX
- D2018 14967 Item 2.1 Minutes JOG meeting 20 November 2017 Meeting with NSW Health.DOCX
- D2018 18826 Item 2.1 Minutes JOG meeting 19 Feb 2018 Meeting with NSW Health noting NSW Health comments on draft WQMS (at item 1.2).DOC
- D2018 71140 Amended (Provision) Water Quality Management System 2018 provided to NSW Health.EML
- D2018 71146 NSW Health response - accepting Water Quality Management System 2018.EML
- D2018 34156 31 Letter to IPART – 31 March report including details of changes to WQMS.pdf

Summary of reasons for grade

We were able to confirm that WaterNSW had informed both NSW Health and IPART of significant changes to the WQMS as required by this clause.

We note that while “significant change” was not specifically defined, it was understood by WaterNSW that they were undergoing a significant review to the WQMS. This clause is considered to be *Compliant*.

Discussion and notes

WaterNSW made substantial changes to the WQMS during 2017-18. The WQMS was reformatted as a manual with references to supporting documents and assurance activities for each component in response to a previous Audit recommendation.

WaterNSW noted that “Significant change” was not defined for the purpose of addressing this clause requirement in the 2017-18 reporting period as it was acknowledged that the WQMS was undergoing a significant review. WaterNSW noted that for the purpose of future notifications significant change would be “changes to the scope of the WQMS and its application, addition or removal of component elements or changes to those component elements in excess of scheduled periodic reviews and updates to references”.

WaterNSW provided evidence of consultation with NSW Health (with meeting minutes of the Joint Operational Group, which NSW Health attend and through direct email communications) on the changes made to the WQMS in 2017-18.⁷⁴ Notification was given to IPART in a letter⁷⁵ to IPART detailing the significant changes made to the WQMS

Recommendation

There are no recommendations for this clause.

Opportunities for improvement

There are no opportunities for improvement for this clause.

⁷⁴ Email dated 11/04/2018 (D2018 71140 Amended (Provision) Water Quality Management System 2018 provided to NSW Health.EML) and Email dated 12/04/2018 (D2018 71146 NSW Health response - accepting Water Quality Management System 2018.EML); D2018 14967 Item 2.1 Minutes JOG meeting 20 November 2017 Meeting with NSW Health.DOCX and D2018 18826 Item 2.1 Minutes JOG meeting 19 Feb 2018 Meeting with NSW Health noting NSW Health comments on draft WQMS (at item 1.2).DOC

⁷⁵ D2018/34156 Letter to IPART dated 31 March 2018

Clause 2.2 – Catchment management

Clause 2.2.1

Table 17. Clause 2.2.1 compliance grade

Subclause	Requirement	Compliance grade
2.2.1	WaterNSW must manage and protect the Declared Catchment Areas in a manner that is consistent with its objectives and functions under the Act, the Water Quality Management System required under Clause 2.1 of this Licence, the Asset Management System required under Clause 5.1 of this Licence, and the Environmental Management System required under Clause 5.2 of this Licence.	Non-compliant (non-material)
Risk	Target for full compliance	
Not understanding and managing its obligations under this clause presents a risk to appropriate management of the Declared Catchment Areas according to WaterNSW's water quality, asset and environmental management obligations and functions.	<p>Checklist or other to show how the Act objectives, Water Quality Management System, Asset Management System and Environmental Management System obligations are clearly identified.</p> <p>Risk assessment or other to show how risks to meeting the above criteria for management of the Declared Catchment Areas were identified and prioritised for management action.</p> <p>Evidence to show how the checklist (or other) referred to above, is used to check and facilitate development of appropriate control measures including monitoring, for management of the Declared Catchment Areas, for the identified risks.</p> <p>Evidence for the Act objectives, Water Quality Management System, Asset Management System and Environmental Management System to show how the selected controls were implemented in practice.</p> <p>Evidence for the Act objectives, Water Quality Management System, Asset Management System and Environmental Management System to show that the selected controls are actually working in practice.</p>	

Evidence sighted

- CD2011 3[v4] Risk Management Framework.DOCX
- CD2011 179[v5] Water Monitoring Program.DOC
- CD2013 56[v4] Water Quality Management System 2018.DOCX
- CD2015 436[v4] Strategic Asset Management Plan and Asset Management System Manual.DOCX
- CD2015 445[v2] Environmental Management System Manual.DOCX
- D2015 98663 Full Report - Pollution Source Assessment Tool 2012-2016.DOCX
- D2016 37053 Assessing pasture health on properties a grazing incentive program.DOCX
- D2016 90171 Signed Memorandum of Understanding WaterNSW and NSW Health August 2016.PDF
- D2016 105176 Management Committee on I&O16 November 2017 - Urban Program Business Case 2017 - 2020- Item 3.1a.DOC

- D2016 106782 W&CP Risk Register.XLSX
- D2016 108736 WaterNSWs role in the NSW Planning System.DOCX
- D2016 141047 NSW EPA - Memorandum of Understanding 2016 signed by EPA.PDF
- D2017 13812 WaterNSW Board meeting - Final Business Case - Grazing and Erosion Program (Board approved).DOC
- D2017 64436 PSAT Validation Using Water Monitoring Data.DOCX
- D2017 65816 Board Committee on Water and Catchment Protection - Metropolitan Coal Eastern Tributary _ Item 6.3.DOC
- D2017 79197 Board Committee on Water and Catchment Protection - 19 July 2017 - Environment Risk Review 2017 - Item 4.1.DOC
- D2017 84621 Full Report - Oberon Pollution Source Assessment Tool 2016.DOCX
- D2017 90107 Catchment Protection Work Program 2017-18 Final 230218.DOCX
- D2017 100074 VEHICLE LOGSHEET CE13YM JULY B2017.PDF
- D2017 102323 Annual Catchment Management Report 2016-17.PDF
- D2017 131328 OEH Invoice Reconciliation and Verification of Works 2016-7.DOCX
- D2017 131543 Final Master Report SLA 2016_17 - NPWS Work Program.XLSX
- D2018 1141 AWQMR 2016-17 for publication.DOCX
- D2018 1142 AWQMR 2016-17 Appendices for publication.DOCX
- D2018 6787 Project Plan - Work Breakdown Structure.pdf
- D2018 7046 Concurrence Conditions Audit Report 2016-17.DOCX
- D2018 11502 Asset Class Standard - Lands.DOCX
- D2018 25068 WaterNSW Board meeting - Business Case Dairy Program 2018-2020 - (Business case as Approved by the Board).EML
- D2018 61520 CRAFT ATS Board Paper and Resolution Approval.EML
- D2018 65520 WaterNSW Executive Team Monthly Performance and Management Meeting - 3 and 4 July 2018 - Catchment Protection Performance Report.DOC
- D2018 71487 Annual Catchment Management Report (ACMR) 2017-18 - Draft v1.0 13.09.18.DOC
- D2018 73153 Compliance and Performance Report 2017-2018 - Asset Management System.PDF
- D2018 73234 Compliance and Performance Report 2017-2018 - Environmental Management System.PDF
- D2018 75972 Final 2018 Report Catchment to Customer Mid-term review.PDF
- D2018 94745 Annual Water Quality Management System Report 2017-18.PDF
- D2018 97032 State of the Parks -Assessment-Guidelines (1).PDF
- D2018 97032 State of the Parks -Assessment-Guidelines.PDF
- D2018 100060 Copy of D2018 15881 Board WCP Committee Report Water Quality Management System Quarterly Trend Analysis - February 2018.DOC

- D2018 100061 Copy of D2018 8695 Board WCP Committee Report - Environmental Management System Quarterly Trend Analysis February 2018.DOC
- D2018 100063 Copy of D2018 15532 Board Committee on Water and Catchment Protection --Emerging Trends in Water Science.PPT
- D2018 100066 Copy of D2018 15540 Board Committee on Water and Catchment Protection - 21 March 2018 - Annual Catchment to Customer Risk Review Item 4.1.DOC
- D2018 100069 Copy of D2017 130720 Board Committee on Water and Catchment Protection - 6 December 2017 - Revised Water Quality Policy Item 6.2 ATT.PDF
- D2018 100071 Copy of D2017 130709 Board WCP Committee Paper – Revised Water Quality Requirements in Operating Licence.DOC
- D2018 100072 Copy of D2017 132990 Board Committee on WCP - WaterNSW Response to the 2017 Catchment Audit.DOC
- D2018 100074 Copy of D2017 83809 Board Committee on Water and Catchment Protection - 20 September 2017 - 2016 Catchment Audit (Key Outcomes) Item 6.1.DOC
- D2018 100080 Copy of D2017 83927 WaterNSW Board meeting Board Committee on WCP- Environmental Management System (EMS) Health Check.DOC
- D2018 100094 Copy of D2018 35312 Board Committee on WCP Update on WaterNSW EPA Chemicals Stored within Special Areas.DOC
- D2018 100098 Copy of D2018 16041 Board Committee on WCP - Water Quality Management System - System Effectiveness and Health Check Report AWQMS _ Item 3.1.DOC
- D2018 100362 D2018 79596 Board Committee on Water Quality Health and Catchment Protection - 22 August 2018 - Catchment Audit Action Progress.DOC
- D2018 100363 CD2012 118[v3] Compliance to Legal & Other Obligations Procedure.DOC
- D2018 100380 Board Committee on WCP - Source Water Protection Program Paper - Sydney Drinking Water Catchment 2016-2020.DOC
- D2017140526 OEH Final Report SLA Spl Areas Financial review 2016_2017 (10 Oct 17) v1.0.PDF
- D2018 83428 – 18022 – Withholding concurrence advice letter.pdf, 3 August 2018
- D2018 11502 Asset Class Standard - Lands.DOCX
- D2018 122419 Operating Licence Audit - Interview Week~tional Evidence - FW Land Asset - Audit Response evidence and Alignment to AMS.EML
- AMS - Mapping of Land Asset Alignment to SAMP CD2016 56v2.DOCX
- D2018 6787 Project Plan - Work Breakdown Structure.pdf

Summary of reasons for grade

WaterNSW understood its Declared Catchment Area. As the management systems are risk-based, we sampled WaterNSW's understanding of risk identification and assessment, identification, implementation and checking of appropriate controls for those risks. A risk management framework was in place but was not fully current for the audit date scope and included reference to an out of date risk standard.⁷⁶ Based on the evidence review across AMS, EMS and WQMS there remain opportunities for WaterNSW to manage these systems in a more integrated fashion. Review of the evidence through desktop, interview and field verification confirmed the declared catchments are being managed and protected in a manner consistent with the WQMS and EMS.

There is considerable planning in place with respect to the lands asset class, however the requirements for Declared Catchment are not clear within the Asset Management System and there are no related performance measures defined within the Asset Management System relating to the Declared Catchments. Without this strategic direction, we are concerned that the effectiveness and efficiency of management of the Declared Catchment Areas cannot be clearly known.

This clause is graded *Non-compliant (non-material)*.

Discussion and notes

To audit this clause, we tested that WaterNSW:

- understood its Declared Catchment Area(s)
- understood its objectives and functions under the Act
- managed and protected the Declared Catchment Areas (DCAs) in a manner that was consistent with
 - its objectives and functions under the Act,
 - the Water Quality Management System required under Clause 2.1 of the Licence
 - the Asset Management System required under Clause 5.1 of this Licence
 - the Environmental Management System required under Clause 5.2 of this Licence.

To test the 'system' part of this clause and because the management systems required by the licence are risk based, we took a general approach of sampling WaterNSW's understanding of the following:

1. identification and assessment of risks
2. identification of appropriate controls for the identified risks (in the context of the Act objectives and functions), and
3. implementation and checking of the controls (i.e. that the controls were protecting and managing the DCAs as planned).

⁷⁶ 2.2.1 CD2011 3[v4] Risk Management Framework.DOCX, February 2018.

Declared Catchment Areas

WaterNSW's understanding of the DCAs is covered in the discussion under Clause 2.8.1. We are satisfied that WaterNSW understands its area of operations for the purposes of this component of Clause 2.2.1.

Objectives and Functions under the Act

The objectives and functions under the Act are covered in Sections 6 and 7 respectively. Within its questionnaire responses, WaterNSW outlined its functions and obligations under the Act. The objectives and functions are also outlined on the WaterNSW website⁷⁷ and covered in key catchment understanding documents such as the Science Program.⁷⁸ The information provided by WaterNSW for the most part, is consistent with the objectives and functions. We note that in its questionnaire response, only one objective was stated as being relevant for this clause:

“Section 6(1)(c) to ensure that declared catchment areas and water management works in such areas are managed and protected so as to promote water quality, the protection of public health and public safety, and the protection of the environment.”

Given that this licence clause relates to three management systems (AMS, WQMS and EMS), we believe that other of the objectives also apply to this clause, as supporting objectives, and not just the one with 'declared catchment areas' in the wording.

Based on the evidence review across AMS, EMS and WQMS there remain opportunities for WaterNSW to manage these systems in a more integrated fashion.

Water Quality Management System required under Clause 2.1 of this Licence

The WQMS is discussed in Clause 2.1 and Catchment protection in Clause 2.8. Review of the evidence through desktop, interview and field verification confirmed the declared catchments are being managed and protected in a manner consistent with the WQMS. The identified deficiencies in the WQMS were not observed to compromise WaterNSW's management and protection of the catchment.

Environmental Management System required under Clause 5.2 of this Licence

EMS: Risk Identification and Assessment

We tested the risk assessment component of the EMS by reviewing WaterNSW's aspects and impacts register⁷⁹ at the audit interviews. The register was current (last review date June 2018), showed a history of being reviewed and updated and contained appropriate risks with appropriate risk scores. Inherent and residual risks were included with current control measures clearly articulated against each risk. Importantly for this clause, the register documents whether the risk is specific to the EMS or is relevant in other business areas. For the four risks sighted at the interviews, all were managed by cross-business controls to provide integrated outcomes. For example, both the *Asset works* and *Resource procurement and use* aspects had the procurement framework as a

⁷⁷ <https://www.watnsw.com.au/about/legislation/water-nsw-act-2014>

⁷⁸ 2.8.1 D2016 124520 WaterNSW Science Program 2016 to 2020 - Updated November 2016.DOCX

⁷⁹ TRIM Ref: D2015/80203

control. This finding provides evidence of cross-system management, which is important for this clause.

EMS: Appropriate Controls

WaterNSW states it fulfils its responsibilities for water quality protection and management in the DCA via its Catchment Protection Work Program⁸⁰ covering works for six major areas, these being:

- water quality science
- engaged communities
- land management
- enforcement and surveillance
- development impact assessment
- source water protection.

There is no document history on the Catchment Protection Work Program document itself, although currency for the audit date scope was confirmed in the interviews.

The Catchment Protection Work Program⁸¹ shows how the activities fit within the overall catchment to tap supply chain as required by the WQMS, including overlap of responsibilities with Sydney Water and others. The programs of work appear appropriate in general. We undertook a more detailed review of the focus area and activities under each program area to check adequacy. The focus areas and activities are considered adequate and link back to the projects in the Science Program.⁸² However, what is not always clear is how each program area relates back to the WQMS, AMS and EMS.

As an overarching control, we note that an environmental policy is in place, providing evidence of commitment to environmental management by WaterNSW. We observed the policy at both the Burrawang Office and the Head Office in Parramatta. The policy was current for the audit date scope.

We observed signage in place at the Nepean Dam site visit stating that it was a Special Area and no admittance beyond the location of the sign.

We sighted RACS (Risk Assurance and Compliance System) and its use, specifically for the Environment and Heritage Business Unit as a tool for understanding and managing obligations.

WaterNSW issues permits to allow certain stakeholders access to the DCA. We were informed that permit holders must carry their permits with them at all times and produce them on request from WaterNSW. We tested and confirmed the permit process at the Corrimal No. 3 ventilation shaft and associated transformer yard (see site visit notes).

At the Burrawang site, we reviewed and confirmed the procedures for managing weeds in the catchment (see site visit notes). At the Burrawang site, the induction we received

⁸⁰ 2.2.1 D2017 90107 Catchment Protection Work Program 2017-18 Final 230218.DOCX

⁸¹ Figure 1, p3, Note 'fluoridation' in Figure 1.

⁸² 2.8.1 D2016 124520 WaterNSW Science Program 2016 to 2020 - Updated November 2016.DOCX

did not include information on ensuring catchment and water quality protection – the induction was focussed mainly on work health and safety.

EMS: Implementation and Checking of Controls

The Catchment Protection Work Program (through review of Figure 1) generally accords with WaterNSW's risk management framework.

We reviewed the Annual Catchment Management Report⁸³ to test outcomes of the planned works within the Sydney Catchment Area. The report includes a chapter for each of the six areas noted above. As an observation, 'actual activities' are reasonably general in nature, some are binary (have or have not happened), some are more imprecise in the nature of the expected outcome, some are well-defined. e.g.:

- **Investigation:**⁸⁴ 79 access consent applications were received, with 60 approved, 3 withdrawn, 1 refused, and 15 yet to be determined.

We requested and received evidence of a refused concurrence application.⁸⁵ On review of the refusal of concurrence, we were able to confirm the application of environmental and water quality considerations to review of the development application. While the refusal was just outside the audit date scope, we accepted the evidence based on the fact that the review of the development application had occurred within the audit date scope. This letter provides evidence of the implementation of environmental and water quality protection controls in practice.

Some of the information provided in support of this component was not relevant for the audit date scope.⁸⁶

Based on the information viewed and discussed as a result of the site visits, the certification and transition to ISO 14001:2015, we are satisfied that the EMS part of this clause is met.

Asset Management System

In clause 5.1.1. we discussed our findings on the WaterNSW Asset Management System. WaterNSW identified catchment land including special area land and controlled land as within the scope of the Asset Management System. WaterNSW states that an external factor that it continually takes account of is:

Management of catchment lands and public infrastructure to assure safe and reliable water delivery for future generations.

We observed that management of the Declared Catchments was not identified as a stakeholder requirement, nor within the asset management objectives and that we could not identify the desired performance with respect to the Declared Catchments. Stakeholder requirements, management objectives and articulated desired performance provide translation of corporate planning into asset management

⁸³ 2.2.1 D2018 71487 Annual Catchment Management Report (ACMR) 2017-18 - Draft v1.0 13.09.18.DOC

⁸⁴ p20

⁸⁵ D2018 83428 – 18022 – Withholding concurrence advice letter.pdf, 3 August 2018

⁸⁶ 2.2.1 D2016 37053 Assessing pasture health on properties a grazing incentive program.DOCX

planning. We challenged WaterNSW to identify how management of the Declared Catchment Areas are managed consistent with the Asset Management System. WaterNSW responded with a mapping of land management and unsealed roads management planning and activities to the elements of the asset management framework.⁸⁷ The mapping identified the following reference points within the Asset Management System:

1. Internal audit framework
2. Capital investment strategy
3. WaterNSW subject matter experts
4. Engineering and Maintenance Standards
5. WaterNSW Asset Class Standards
6. Plan
7. Asset Portfolio master data
8. Do Work
9. Check
10. Performance reports
11. Asset condition analysis
12. Risk profiling
13. Act.

Table 18 maps lands management and unsealed roads management to these reference points within the Asset Management System.

Table 18. Mapping of lands management and unsealed roads management to Asset Management System

Ref	Lands Asset Class relatable documents & process	Unsealed Road Asset – specific linkages
1	Land Asset Subject to same Audit Framework	
2	Maintain Capability Business Case covers the programs related to the Land Asset for Rolling Renewals within the Greater Sydney Declared Catchments (ARK reference unavailable).	0136P6 – Fire Trail Upgrades (Program as subset of Maintain Capability)
3	Catchment Asset Officers, Land Program Officers, Trades as required.	Catchment Asset Officer – Fire Trails & Erosion
4	Various e.g.: Managing urban stormwater https://www.environment.nsw.gov.au/resources/stormwater/0802soilsconststorm2c.pdf Fence and Gates Standards Signage Manual (Legacy), Bushfire Risk Management Plans, Building Code of Aust., Low Voltage Electrical	Managing urban stormwater: soils and construction - Volume 1, 4th Edition (PDF 21MB) – Volume 2C: Unsealed roads https://www.environment.nsw.gov.au/resources/stormwater/0802soilsconststorm2c.pdf Austroads References: https://austroads.com.au/ CD2008/90 -Road Management Manual (Legacy for reference and background of historical classifications)

⁸⁷ AMS - Mapping of Land Asset Alignment to SAMP CD2016 56v2.DOCX

Ref	Lands Asset Class relatable documents & process	Unsealed Road Asset – specific linkages
5	Special Areas Strategic Plan of Management (SASPoM) https://www.watarnsw.com.au/_data/assets/pdf_file/0020/71093/Special-Areas-Strategic-Plan-of-Management-2015_v7-Final_single_pages.pdf	CD2008/90 – Road Management Manual – (Legacy document for reference and background, with relevant sections being transferred to newer documents in line with new asset framework. Work in progress)
6	SASPoM Four year Land Management Priorities D2017/53736 (FY18), D2018/24832 (FY19) Catchment Protection Work Program 2017-18 D2017/90107 Land Portfolio detailed plans (Various). Some e.g.: Bushfire Risk Management Plans, Weed Management Plans.	Defect list & works prioritisation annually. Data held in Roads Database. Output D2018/121855 for 2017/2018 works program.
7	Maximo Pest & Weed Database Roads Database Various Excel Spreadsheets for component assets class (portable plant & equipment, Picnic area, signage, gates & barriers) Land Management Database (LMD) GIS System	Roads and Soil Conservation Database. See extracted information in D2018/121829 – WaterNSW – Roads Hierarchy – Road Classification – Inspection Program & Frequency
8	Various delivery mechanisms under corporate procedures/policy. GIS LMD Dashboards	Road inspection list managed by Catchment Asset Officer – Trails and Soil Conservation. Contract with Department of Soil Conservation (No. 04935DF0) GIS LMD Dashboards – 2017/2108
9	LMD Dashboards – GIS Datasets (Corporate GeoDatabase feature sets) Excel Spreadsheets for Hazard Inspection Program Annual Catchment Management Report D2017/90107	D2018/121856 – LMD Roads Dashboard 2017/2108
10	State of the Special Areas reports. These are derived from the NPWS State of the Parks reports and are cover all land management activities on WaterNSW Special Areas – F2017/5206 for 2017/2018 assessment. Catchment Audits (Triennial)	One of the inputs into State of the Special Area Reporting. Continual improvement opportunity with CIMS and GIS upgrades being implemented. F2017/5206
11	GIS analysis of land condition indicators – Pest/Weed, Fire, Access and Compliance.	Asset Condition is stored in Road Database. Raw data is found on Defects Reports. Trend analysis has not been saved as a document on this scoring system. Defects score card stored on file -D2018/54378
12	Water NSW Act & regulation – Classifies the land in 3 classes (Schedule 1, 2, Controlled Land) based on risk to water quality. This is an input into AM planning process.	WaterNSW Roads Hierarchy – Roads Classification – Inspection Program and Frequency D2018/121829

Ref	Lands Asset Class relatable documents & process	Unsealed Road Asset – specific linkages
13	State of the Special Areas reporting – addresses management review with recommendations Catchment Audit – 3 yearly recommendations feed into strategic plans. GIS modelling to review condition/works complete – inputs into subsequent plans.	SME reviews Roads Database to input/re-prioritise annual Corrective Maintenance Program D2018/121855

The above mapping of process and documents shows that WaterNSW has undertaken considerable work to align its processes with the Asset Management System.

We also reviewed the Asset Class Standard for Lands. This was a Final Draft dated May 2018. In considering the document mapping provided and the Asset Class Standard, an important area that is not clear is the desired performance with respect to the Declared Catchments. We would expect performance outcomes to be defined with respect to areas such as water quality, environmental impact and catchment health, which are all requirements under the *Water NSW Act 2014*. WaterNSW states in the Land Asset Management plan that the Asset Management System is based on the existing asset management processes and policies, methods and plans, and long-term corporate knowledge in the management of raw water assets and their ancillary systems and infrastructure. It appears that through this bottom up approach of making the most of existing system elements, the link to strategic objectives is not always clear, as pointed out for the definition of performance outcomes for the Declared Catchment. Asset Class Standards are further discussed under clause 2.4. In that discussion we make a recommendation for a plan to complete the Asset Class Standards (Recommendation 2.4.1-2).

We were also provided a program of work for land management planning activities (D2018 6787 Project Plan - Work Breakdown Structure.pdf). This program shows that there is ongoing work in this area with respect to the asset register and maintenance plan development.

This clause required that WaterNSW must manage and protect the Declared Catchment Areas in a manner that is consistent with its objectives and functions under the Act and its management systems including its Asset Management System. While there is considerable planning in place with respect to the lands asset class, we are concerned that the requirements for Declared Catchment are not clear within the Asset Management System and that there are no related performance measures defined within the Asset Management System relating to the Declared Catchments. As WaterNSW has not defined the outcomes within the Asset Management System for the management of the Declared Catchment Area (e.g. in water quality, environmental impact and catchment health) it cannot therefore demonstrate that it has achieved these outcomes.

There is insufficient evidence to demonstrate that WaterNSW has achieved defined objectives and outcomes in relation to the management of the Declared Catchment through the Asset Management System. Therefore a grading of *Non-compliant (non-material)* is made for this clause.

Recommendation

No additional recommendations are made for this clause. See recommendations made for clause 5.1

Opportunities for improvement

OFI 2.2.1-1: Ensure that for all inductions, that an awareness of water quality and environmental protection is included (contextualised for the induction).

OFI 2.2.1-2: It is not clear how the outcomes of the risk assessments and System Health Checks (audits) have been used to drive the Science Program and the Catchment Protection Work Program. There is an opportunity for WaterNSW to improve its process for linking identified risks to these programs

OFI 2.2.1-3: For future work including requirements for contractors, we note that AS/NZS 4020:2005 has been superseded by AS/NZS 4020:2018 and WaterNSW should require future compliance with this standard.

OFI 2.2.1-4: Currently missing, it may be useful for WaterNSW to consider adding the WQMS and/or the Water Quality Policy as a 'relevant document' to the biocide SOPs to further embed integration of the management systems across all aspects of the enterprise

Clause 2.4 – Catchment infrastructure works management

Clause 2.4.1

Table 19. Clause 2.4.1 compliance grade

Subclause	Requirement	Compliance grade
2.4.1	WaterNSW must ensure that, in Declared Catchment Areas, the Catchment Infrastructure Works are operated and managed consistently with the Design Criteria and the Asset Management System referred to in clause 5.1.	Non-compliant (non-material)
Risk	Target for full compliance	
This requirement represents a high operational risk. Operation and management of the Catchment Infrastructure in accordance with the Design Criteria is essential to ensuring the continuity of water supply. Under an asset management system approach, this requires documented understanding of stakeholder requirements and defined objectives to guide planning and asset management activities.	Demonstration that the Catchment Infrastructure was operated and managed consistent with the Design Criteria and the Asset Management System during the audit period.	

Evidence sighted

- D2018 18484 WaterNSW and Sydney Water 2018 Joint Asset Maintenance Program.pdf
- D2018 57627 Greater Sydney Storage System Nomograph 280518.XLSX
- Greater-Sydneys-water-supply-system-yield-2018.pdf
- Greater-Sydney-Water-Storage-Thursday-5-April-2018.pdf
- Greater-Sydney-Water-Storage-Thursday-12-April-2018.pdf
- Thursday-28-June-2018.pdf
- Thursday-5-July-2018.pdf
- Greater Sydney's water supply system yield
- Greater Sydney dam levels reporting available online through WaterNSW's website: <https://www.watarnsw.com.au/supply/Greater-Sydney/greater-sydneys-dam-levels>
- Burrawang Pumping Station Upgrade Final Mechanical Refurbishments and Commissioning Business Case
- Strategic Asset Management Plan [CD2015 436]

Summary of reasons for grade

We consider that there are shortcomings with how the Catchment Infrastructure Works are operated and managed consistently with the Design Criteria under the Asset Management System. The Design Criteria and related requirements relating to water supply security, robustness and reliability are not reflected as system requirements or

within the asset management objectives. Planning to support the Asset Management System has not yet been extended to most water supply assets. We therefore consider that WaterNSW is non-compliant with this clause but that the non-compliance is non-material because there are sufficient controls and processes in place (such as the WATHNET model, Master Schedule and operational plans) to manage impacts. These controls and processes do not appear in the specification of the Asset Management System. This clause is graded *Non-compliant (non-material)*.

Discussion and notes

Catchment Infrastructure Works are defined in the *Water NSW Act 2014* as being:

- a. *water storages, water mains, or connected or associated works, or*
- b. *monitoring devices in, under, over or near any works referred to in paragraph (a), or*
- c. *any works ancillary or antecedent to any works referred to in paragraph (a) or (b), or*
- d. *hydro-electric plants or associated infrastructure or works,*
- e. *and includes anything prescribed by the regulations as being within this definition, but excludes anything prescribed by the regulations as being outside this definition.*

The Design Criteria means the levels of service for security, robustness and reliability of water available for Supply to Customers (other than Small Customers) in or from Declared Catchment Areas, as published by WaterNSW on its website from time to time. The design criteria in place are:

- Security - storages should not approach emptiness (defined as 5% of water in the storage) more often than 0.001% of the time, or one chance in 100,000 in any one month
- Robustness – imposed water restrictions should not occur more often than once in every ten years on average i.e. restrictions should not be too frequent.
- Reliability – imposed water restrictions should not last longer than 3% of the time on average, or 3 months in 100 months

WaterNSW advised that there have been no changes to the Design Criteria during the audit period.

While 2017-18 has been a drier than average year with system inflows amongst the lowest on record, no storage has “approached emptiness” during the audit period. The Greater Sydney weekly verified storage and supply report is published weekly and can be found online. We were also provided with two examples as part of our audit evidence. The report covers the storage and catchment rainfall for Warragamba, Upper Nepean, Woronora, Shoalhaven and the Blue Mountains. The 30 June 2018 reported storage level was 69%.

WaterNSW manages the Catchment Infrastructure Works in accordance with the Design Criteria through the application of operating rules developed by the WATHNET system model. The WATHNET model is a monthly time step model for system optimisation. The operating rules, in the form of a system nomograph, as implemented in the Master

Schedule planning tool, are used to guide decision making around source selection in addition to considering water quality constraints, availability of assets and drought triggers as detailed in the Water Sharing Plan. The operating rules seek to maintain supply security at each supply point, meet water sharing requirements and prevent spilling from the storages.

Flow schedules are developed up to 12 months in advance to provide information on storage balancing and outline the current drivers governing system configuration. The schedules are reviewed at least on a weekly basis to take into account any changes resulting from inflows, water quality or asset availability. The schedule is designed to take into account planned outages.

The trigger to commence transfers from the Tallowa Dam (Shoalhaven transfers) was reached on 8 April 2018. Transfers did not occur due to a lack of water available in Tallowa Dam and because the Burrawang Pump station was undergoing a major mechanical and electrical upgrade. Tallowa Dam has a total capacity of 90,000 ML but only 7,500 ML can be made available for transfer to Sydney. For multiple reasons, drawdown is limited to one metre below the full supply level (three metres in severe drought). This means that the available water from Tallowa Dam fluctuates considerably from month to month.

We queried WaterNSW as to whether there was a reasonable chance of the Shoalhaven transfer trigger occurring at the same time as the outage at the Burrawang pump station. WaterNSW advised that the outage was initially for electrical maintenance and renewal works and that it commenced in June 2016. When the outage commenced, the total system storage levels were at 100%. During the outage, WaterNSW considered it prudent to undertake mechanical inspection of the pumps. This found that considerable mechanical maintenance and renewal work was required. As the pumps are large and unique, this required transporting the pumps interstate for the work which added to the length of the total outage. The work on the pump station was complete in September 2018, two years and three months after it commenced. Commissioning of the pump station was delayed due to the lack of water in Tallowa Dam.

WaterNSW further advised that since the work commenced in June 2016, inflows into the system have been very low meaning that storage levels have decreased at a rate that is around the worst case possible. Based on the historical probability of inflows, some replenishment of storage levels would have been expected to occur providing mitigation against the pump station being out of service when the trigger was reached. The mechanical inspection which identified the further issues occurred when the pump station was already out of service and the storage levels had declined. We requested WaterNSW provide evidence of its planning at this time with relation to the impact of the outage on the Design Criteria. We were provided with a business case⁸⁸ for the mechanical maintenance and renewal work which included a multi-criteria analysis on options, of which time to complete was a criterion considered.

⁸⁸ Burrawang Pumping Station Upgrade Final Mechanical Refurbishments and Commissioning Business Case

We accept that the coincidence of the outage of the Burrawang station and the Shoalhaven transfer trigger was of a very low likelihood when planning for the outage commenced. However, we consider that the planning for the mechanical maintenance work was limited with respect to considering the possibility that the outage would extend past a point in time when the Shoalhaven transfer trigger would be reached. At the time that the planning for the mechanical maintenance and renewal work was undertaken, the storage levels had decreased, and inflows had been negligible. Stochastic modelling of scenarios coupled with contingency planning could have been undertaken at this time to provide a stronger basis for the preferred option. By their nature, multi-criteria analyses are subjective.

We consider that there is an opportunity for WaterNSW to improve its outage planning based on the example of the Burrawang station outage. WaterNSW should consider whether outage planning would be improved by using stochastic approaches to forecast the probability of water security and reliability triggers being breached.

Under the new licence, WaterNSW also has to manage the Catchment Infrastructure Works in accordance with the Asset Management System. The requirement for this system is specified under Clause 5.1.1 of this licence and discussion on this obligation is included under the section of this report relating to Clause 5.1.1.

Fundamental to an Asset Management System is the concept of alignment (ISO55000:2014, Clause 2.4.2) so that it is evident how whole of organisation objectives are translated into technical and financial decisions, plans and activities. This alignment is affected through asset management objectives which are to (ISO55001:2014, Clause 6.2.1) (among other requirements):

- be developed considering the requirements of relevant stakeholders and of other financial, technical, legal, regulatory and organizational requirements in the asset management planning process
- consistent and aligned with the organisational objectives
- consistent with the asset management policy.

At Clause 5.1.1 of this report, we discuss that water security has not been identified as an explicit stakeholder expectation within the strategic asset management plan. Table 20 provides a mapping of the corporate objectives and the asset management objectives within the strategic asset management plan. This table has been limited to the asset management objectives relevant to this clause.

Table 20. Mapping of corporate objectives and asset management objectives

Asset Management Objectives	Measure of AM objectives (area, measure)	Corporate Objectives Focus Area	Corporate Strategic Initiative
5 Assets are reliable and maintained to acceptable standards	<u>Asset Performance:</u> <ul style="list-style-type: none"> Dam Safety surveillance Audits Asset Condition and Capability Audits Asset downtime/System downtime Asset reliability analysis. <u>Compliance:</u> <ul style="list-style-type: none"> Operating Licence & other Audits/corrective actions. 	Asset Health and Capability Management	To improve the efficiency of our asset management processes and activities and our asset development projects performance
6 Work management processes are consistently delivered and reviewed by competent people, in accordance with Operational requirements incorporating risk controls.	<u>Maintenance Work Management:</u> <ul style="list-style-type: none"> CMMS / WO reporting (e.g. schedule completion). 		
8 Planning is applied consistently to balance cost, risk and asset performance to ensure the capability required to meet all operational requirements, including compliance and stakeholder requirements.	<u>Planning:</u> <ul style="list-style-type: none"> Asset criticality, condition & service potential ratings Asset expected life projections & annualised risk cost Internal Auditing of Planning process. 	Customer value creation and Responsiveness	To improve customer value

In considering the stakeholder requirements detailed in the strategic asset management plan⁸⁹ and the objectives set out in Table 20, there is no mention of the levels of service for security, robustness and reliability of water available for supply to customers in or from Declared Catchment Areas. Sydney Water is mentioned as a stakeholder but without any reference to these requirements. There is no mention of these requirements anywhere in the strategic asset management plan. At this strategic level, we conclude that the Asset Management System has been formulated without regard for the Design Criteria as an important requirement for the system to meet. The strategic asset management plan does mention reliability but only at an asset level. Asset reliability is only one small part of supply reliability and security. With respect to planning under the Asset Management System, Asset Class Standards are important documents as these specify planning guidelines and asset requirements for related sets of assets. They consolidate technical knowledge regarding the long-term care of the relevant type of equipment and systems. As detailed in this audit report

⁸⁹ Strategic Asset Management Plan [CD2015 436] (2015). Water NSW

under Clause 5.1.2, Asset Class Standards have not yet been prepared for all asset classes relating to water supply including dams, pumping stations, canals and tunnels, dosing facilities and SCADA.

We consider that there are shortcomings with how the Catchment Infrastructure Works are operated and managed consistently with the Design Criteria under the Asset Management System. The Design Criteria and requirements relating to water supply security, robustness and reliability are not reflected as system requirements or within the asset management objectives. The planning to support the Asset Management System that is documented in Asset Class Standards has not yet been extended to most water supply assets. We therefore consider that WaterNSW is non-compliant with this clause but that the non-compliance is non-material because there are sufficient controls and processes in place (such as the WATHNET model, Master Schedule and operational plans) to manage impacts. These controls and processes do not appear in the specification of the Asset Management System.

WaterNSW did not agree with this conclusion as presented in the draft report. It comments that:

“The design criteria are the NSW Government’s policy settings....they are not customer levels of service or standards that can be targeted on a short-term basis.

The Asset Management System captures these policy dimensions through a number of artefacts, and relevantly the capital Investment strategy (and sub-ordinate Asset Strategies), which are specified in the SAMP and are the mechanisms through which we address any projected ‘gap’ in meeting our long-range design criteria (or other policy criteria for that matter). Specifically, the Greater Sydney Supply Augmentation Strategy was completed in anticipation of that ‘gap’ materialising in the next 10 years, and consistent with the direction, processes and context of the Asset Management System and SAMP.

We would contend that this rating is a difference in interpretation and a difference in opinion of how the AMS could be structured”.

Our audit finding is not based on WaterNSW’s understanding of its operating environment as implied in WaterNSW’s response. The audit finding is based on the lack of definition of stakeholder requirements (ISO55001:2014, Clause 4.2) within the Asset Management System with respect to water security, the absence of objectives (ISO55001:2014, Clause 6.2.1) relating to water security within the Asset Management System and the lack of alignment of the asset management approach to meeting these requirements and objectives. The conclusion is not drawn because of a difference in opinion over how an Asset Management System may be structured but due to the lack of evidence that WaterNSW has met important requirements of ISO55001:2014.

Recommendation

Recommendation 2.4.1-1: By 30 September 2019, WaterNSW should revise its asset management system so that the stakeholder requirements relating to the Design Criteria and related requirements for water supply security, robustness and reliability are adequately incorporated within the system.

Recommendation 2.4.1-2: By 30 September 2019, WaterNSW should provide an updated plan for completion of Asset Class Standards with owners assigned to each.

Opportunities for improvement

OFI 2.4.1-1: By 30 June 2019, WaterNSW should consider whether outage planning would be improved by using stochastic approaches to forecast the probability of water security and reliability triggers being breached.

Clause 2.8 – Research on catchments

Clause 2.8.1

Table 21. Clause 2.8.1 compliance grade

Subclause	Requirement	Compliance grade
2.8.1	WaterNSW must maintain a program of research for each Declared Catchment Area which: <ol style="list-style-type: none"> relates to catchments within that Declared Catchment Area generally and in particular their health; is consistent with its objectives under section 6 of the Act; and assists WaterNSW to discharge its functions under sections 7(1)(g) and 7(1)(h) of the Act. 	Compliant (minor shortcomings)
Risk	Target for full compliance	
Not fully understanding the hazards and risks to catchments, based on the specific context of each Declared Catchment Area, may mean that hazards and risks are not managed appropriately.	WaterNSW must show that it has identified appropriate programs of research, that are targeted to each Declared Catchment Area, and are based on the section 6 objectives of the <i>Water NSW Act 2014</i> (NSW) as well as section 7(1)(g) and 7(1)(h) requirements.	

Evidence sighted

- CD2015 591[v4] Approval to Spend (ATS) Process Framework.DOCX
- D2015 98663 Full Report - Pollution Source Assessment Tool 2012-2016.DOCX
- D2016 124520 WaterNSW Science Program 2016 to 2020 - Updated November 2016.DOCX
- D2017 82947 Sydney Catchment Audit Vol 1.pdf
- D2017 90107 Catchment Protection Work Program 2017-18 Final 230218.DOCX
- D2017 101720 Short Form Approval to Spend (ATS) - management of benthic cyanobacteria WaterRA.DOC
- D2017 136235 Project Status Report - P-WCP-20 - Science Program Implementation.PPTX
- D2018 15532 Board Committee on Water Quality Health and Catchment Protection - 21 March 2018 Annual Review Emerging Trends in Water Science Item 6.1.PPT
- D2018 18177 Macroinvertebrate Monitoring Program Review 2018.DOCX
- D2018 71487 Annual Catchment Management Report (ACMR) 2017-18 - Draft v1.0 13.09.18.DOCX
- D2018 73940 AWQMR 2017-2018 Draft.DOCX
- D2018 74409 Science Program - Project summary April 2018 (1).DOCX
- D2018 74409 Science Program - Project summary April 2018.DOCX
- D2018 75972 Final 2018 Report Catchment to Customer Mid-term review (1).PDF
- D2018 75972 Final 2018 Report Catchment to Customer Mid-term review.PDF

- D2018 76171 D2018_30078 C2C MidTerm Review - new hazards anomalies - updated after PC&RC amendments.XLS
- D2018 76209 P12. June 18 Expense by natural account - D - WCP.XLSX
- Email from WaterNSW's internal advisor confirming evidence was sought on the definition of the declared Sydney Catchment Areas (4 May 2018).
- D2018 122120 Declared_Sydney_Catchment_Area.jpg

Summary of reasons for grade

WaterNSW was able to demonstrate that it understood its area of operations in relation to the Declared Catchment Area (DCA) and that it had maintained a program of research. The program of research was explicit for water quality research and implicitly covered catchment health. We confirmed coverage of catchment health through review of other materials provided as evidence for this clause and other clauses (2.2.1 and 2.1.1). The significance of priority of projects was last undertaken in 2015. We are satisfied that given the programs of research, WaterNSW is discharging its functions and meeting its objectives under this clause however, there are some minor shortcomings which do not impact on compliance, but would strengthen outcomes under this clause. We have included a recommendation and opportunities for improvement around review of project priorities, making explicit reference to management of the DCA and catchment health and better articulation of outcomes from projects such as the joint Catchment to Consumer risk reviews, as a feed-in to research programs.

This clause is graded *Compliant (minor shortcomings)*.

Discussion and notes

We reviewed this clause by testing that WaterNSW:

- understood where its Declared Catchment Areas were
- that it maintained a program of research for each of those Declared Catchment Areas
- that the program of research covered the 'health' of the catchment areas
- that the program of research was consistent with the objectives under section 6 of the Act
- that the program of research assisted WaterNSW to discharge its functions under sections 7(1)(g) and 7(1)(h) of the Act.

Location of Declared Catchment Areas

Given that clause 2.8.1 and 2.8.2 are new licence clauses, we needed to test how the 'new' component fits with the 'previous' operating context and the understanding of that by the licensee.

We confirmed that there is currently only one gazetted DCA – this being the Sydney catchment area. However, WaterNSW's website⁹⁰ stated that there are 5 declared

⁹⁰ <https://www.waternsw.com.au/about/pubs/exhibitions/h20-2u-exhibition/timeline3/catchments> (checked prior to audit interviews) "Using the best science and technical advice, the WaterNSW manages **five declared catchment areas** [bold our emphasis] that supply drinking water for 4.5 million people living in Sydney, Blue Mountains, Illawarra, Southern Highlands and the Shoalhaven."

catchment areas, these being Warragamba, Shoalhaven, Upper Nepean, Woronora and Blue Mountains. We therefore discussed at interview how WaterNSW understands what constitutes the DCA given the discrepancy on the website. Post interviews, we were provided with evidence (email)⁹¹ of internal consultation within WaterNSW, as confirmation that advice had been sought on the makeup of the DCA.

WaterNSW's internal opinion is that 'Sydney Catchment Area', is defined in the *Water NSW Act 2014* (NSW) and is taken to mean the declared catchment area referred to in clause 17 of Schedule 2 of that Act. WaterNSW's opinion was also that the DCA is identical to that of the former Sydney Catchment Authority area of operations.⁹² For the purposes of this audit, we were therefore testing the understanding of, and application of this clause, to the DCA outlined in Table 22.

Table 22. Understanding of the constitution of the DCA for the purposes of Clause 2.8.1

Area	Inclusion	Evidence	
Sydney Catchment Area	Inner catchment area Outer hydrological catchment	Sydney Water Catchment Management (Catchment Areas) Order 1999	Gazette No 76 of 2 July 1999 at page 4648
Prospect Special Area	Hydrological catchment of the Prospect Reservoir as part of the inner catchment area	Sydney Water Catchment Management (Catchment Areas) Order 1999 (Clause 3(a)(ii)) Sydney Water Catchment Management (Prospect Special Area) Order 2008	Gazette No 92 of 25 July 2008 at page 7326

We are satisfied that WaterNSW understands where the DCA boundaries are and therefore, its area of operations for the purposes of this clause.

Maintenance of a program of research for each of the Declared Catchment Areas

Given the above, the program of research needs to focus on the Sydney Catchment Area.

WaterNSW provided the document – WaterNSW Science Program 2016-2020 (Updated November 2016) – as its program for the purposes of this part of the clause. The document was current for the audit date scope. The program of research includes the DCA as a component of the overall WaterNSW science program. In line with this new clause, it may be helpful to make explicit reference to management of the DCA (including a catchment map or other identifier) at the next review of the program, as well as include an explicit reference to the management of catchment 'health'.

We took several documents (but not limited to) as part evidence of maintenance of the program:

⁹¹ Email from Water NSW's internal advisor confirming evidence was sought on the definition of the declared Sydney Catchment Areas (4 May 2018).

⁹² D2018 122120 Declared_Sydney_Catchment_Area.jpg

- D2017 136235 Project Status Report - P-WCP-20 - Science Program Implementation.PPTX.
- D2018 15532 Board Committee on Water Quality Health and Catchment Protection - 21 March 2018 Annual Review Emerging Trends in Water Science Item 6.1.PPT
- D2018 73940 AWQMR 2017-2018 Draft.DOCX (water quality monitoring)
- D2015 98663 Full Report - Pollution Source Assessment Tool 2012-2016.DOCX (PSAT)
- D2018 75972 Final 2018 Report Catchment to Customer Mid-term review.PDF

We confirmed that the water quality monitoring program includes aspects of water quality and catchment health monitoring and it is implemented in practice (therefore satisfying the 'maintain' aspect of this part of the clause).

We confirmed that tools, such as the PSAT are robust and are used to help support the science program. PSAT also includes aspects of modelling for catchment health such as vegetation cover and types.

We confirmed that WaterNSW participated in the multi-stakeholder Catchment to Consumer (C2C) mid-term risk review – actions⁹³ of which will help to inform the research program. The C2C document also showed how WaterNSW research outcomes have been used to feed into the overall risk review. This information further facilitates demonstration of the 'maintenance' aspects of this clause component however, it would be useful to sight increased formalisation between such reviews and the science program. For instance, the research program does not cite the C2C process specifically, further, the current portfolio of projects with an identified science need has a ranked priority order from June 2015⁹⁴ (which is now 3 years old and may not be reflective of current needs).

Program of research covers the 'health' of the catchment areas

The program of research does not specifically state that the 'health' of the catchment areas is covered, although it is inferred. The main focus of the science program appears to be on water quality protection:

"For the declared catchments, we ensure that we can supply reliable, safe raw water that can be treated to meet Australian Drinking Water Guidelines (ADWG). In accordance with the framework recommended by the ADWG, we manage our part of the water supply system within a multiple barrier approach to reduce risks to water quality and protect water quality from the catchments to customers' taps. Science and research is required to provide evidence to target catchment works and manage the water supply system to reduce water quality risks and to verify the effectiveness of those actions."

At the site visits, we confirmed that operators are aware of and undertake water quality and catchment protection works (as referenced in the science program and other programs as noted in the water quality clauses (2.1.1 in particular)).

⁹³ 2.8.1 D2018 75972 Final 2018 Report Catchment to Customer Mid-term review.PDF, Appendix 11.

⁹⁴ Page 5.

There are some areas of research which may require further thought such as the ‘low risk’ position on microplastics in Sydney’s Water supplies. Microplastics may act in two ways either as a hazard in their own right or act like a ‘trojan horse’ whereby they can carry adsorbed pollutants⁹⁵ (including antibiotic resistance genes) into cells. While we acknowledge that public health risks are far higher from human pathogenic microorganisms such as those found in sewage, this clause also relates to catchment health and therefore, we believe microplastics should be reviewed given their potential risk to the aquatic ecology.

Program of research was consistent with the objectives under section 6 of the Act

For the purposes of this component, we took the principal objectives⁹⁶ of the Act to be of priority for the audit. The research program clearly outlines WaterNSW’s legislative context.⁹⁷ Given the former and the information discussed above, as well as the discussion under Clause 2.2.2 and Clause 2.1.1, we are satisfied that the program of research is consistent with the objectives.

Program of research assisted WaterNSW to discharge its functions under sections 7(1)(g) and 7(1)(h) of the Act

The functions are:

- *(g) to protect and enhance the quality and quantity of water in declared catchment areas*
- *(h) to manage and protect declared catchment areas and water management works vested in or under the control of WaterNSW that are used within or for the purposes of such areas.*

Given the materials reviewed as evidence above and in Clauses 2.2.1 and 2.1.1, and by our findings during the site visit, we are satisfied that the program of research assists WaterNSW to discharge its functions under this component of the clause. In particular, we commend the good culture around water quality and catchment protection of the operators, which we observed during the site visit. We also observed good stakeholder relations pertaining to the management and remediation of a previous site’s transformer oil spill, including development of a monitoring and remediation program to protect and enhance the quality of water in one part of the DCA.

Recommendation

Recommendation 2.8.1-1: By 31 December 2019, improve articulation of the links between the science research program and other stakeholder programs, such as the C2C reviews, QAP risk assessments, CCP exceedances etc. and show how these links have been used to influence and direct priority research areas for WaterNSW.

⁹⁵ <https://www.cell.com/action/showPdf?pii=S0960-9822%2813%2901253-0>;
<https://www.ncbi.nlm.nih.gov/pubmed/27145606>

⁹⁶ Section 6(1).

⁹⁷ Page 4.

Opportunities for improvement

OFI 2.8.1-1: In line with the new clause requirements, it may be helpful to make explicit reference to management of the DCA (including a catchment map or other identifier) at the next review of the WaterNSW science program, including the context of managing catchment 'health'.

OFI 2.8.1-2: Consider reviewing the previous WaterNSW position of some hazards (in particular microplastics) as being of 'low risk' – specifically in relation to the catchment health (ecological assemblages) aspects of this clause.

Clause 2.8.2

Table 23. Clause 2.8.2 compliance grade

Subclause	Requirement	Compliance grade
2.8.2	WaterNSW must report on its research programs referred to in clause 2.8.1 in accordance with the Reporting Manual.	Compliant
Risk	Target for full compliance	
Not reporting in the required manner poses a risk to reporting compliance as well as a risk to appropriate review of the research programs for efficacy and value for money.	A report satisfying the requirements of the Reporting Manual.	

Evidence sighted

- D2018 13144 Catchment Protection Work Program - Water Quality Science Progress Report as at 31 December 2017.DOC
- D2018 71487 Annual Catchment Management Report (ACMR) 2017-18 - Draft v1.0 13.09.18.DOCX
- OL2017 150 2 – Water Source Protection and Conservation (screen shot of notes).docx
- OL2017 151 2 – Water Source Protection and Conservation (screen shot of notes).docx
- D2017 102323 Annual Catchment Management Report 2016-17.PDF
- Email from WaterNSW to IPART (Compliance Mailbox) 30 November 2017, attaching the Annual Report on Catchment Management.

Summary of reasons for grade

An Annual Report on Catchment Management was developed for the 2016-17 period and was submitted 30 November 2017. This report is Reporting Manual (Section 2.1.3)-compliant and available on the WaterNSW website (Section 2.3 compliant). Evidence was sighted to confirm that WaterNSW has a process in place for developing the 2017-2018 report and a draft of this report was provided to confirm that the process has largely been implemented for the reporting year ending June 2018 for submission by 30 November 2018. This clause is *Compliant*.

Discussion and notes

The WaterNSW Reporting Manual⁹⁸ requires WaterNSW to report on several items relating to Part 2 of the Operating Licence:

- Annual compliance and performance reporting - Water quality management
- (*Annual report on the Water Quality Management System*) (Section 2.1.1)
- Annual water quality monitoring reporting relevant to Declared Catchment Areas only (*Annual Report on Water Quality Monitoring*) (Section 2.1.2)
- Annual compliance and performance monitoring - catchment management relevant to Declared Catchment Areas only (*Annual Report on Catchment Management*) (Section 2.1.3).

IPART notes that this clause requirement pertains specifically to Section 2.1.3 of the Reporting Manual. Two aspects were tested for this clause:

- submission of a Reporting Manual-compliant 2016-2017 report within the 30 November 2017 time limit
- preparation of a Reporting Manual-compliant 2017-2018 report to a stage ready for submission.

Table 24 shows the assessment of this clause against the requirements of Section 2.1.3 of the Reporting Manual.

Table 24. Review against Reporting Manual Section 2.1.3 requirements

Requirement	Met?	Evidence
What: Annual Report on Catchment Management	Yes	D2017 102323 Annual Catchment Management Report 2016-17.PDF Current year's report in draft format: D2018 71487 Annual Catchment Management Report (ACMR) 2017-18 - Draft v1.0 13.09.18.DOCX
Period: financial year	Yes	For 2016-2017. Draft viewed for 2017-2018 (D2018 71487 Annual Catchment Management Report (ACMR) 2017-18 - Draft v1.0 13.09.18.DOCX).
To whom: IPART	Yes	Email from WaterNSW to IPART (Compliance Mailbox) 30 November 2017, attaching the Annual Report on Catchment Management.
To whom: the public (in accordance with section 2.3 of this Reporting Manual i.e. freely available on its website)	Yes	https://www.watarnsw.com.au/_data/assets/pdf_file/0016/130093/Annual-Catchment-Management-Report-2016-17.pdf
When: on 30 November after the end of the financial year, or at a later date agreed to by IPART	Yes	Email from WaterNSW to IPART (Compliance Mailbox) 30 November 2017, attaching the Annual Report on Catchment Management.

⁹⁸ <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-working-papers-water-reporting-manuals-all-public-water-utilities/reporting-manual-watarnsw-operating-licence-2017-2022---july-2018.pdf>

Requirement	Met?	Evidence
Inclusions: Must cover WaterNSW's catchment management and protection activities, relevant to the Declared Catchment Areas only	Yes	Only one declared catchment area. Reports (2016-2017 and 2017-2018) are for the Sydney Catchment Area. Reports are split into sections based on the six areas of focussed risk management relating to aspects of catchment management and protection.
Must cover the following: Inclusion 1: the planned and actual catchment management and protection activities	Yes	Each focus area includes information on the planned and actual catchment management and protection activities for that focus area.
Inclusion 2: the planned and actual expenditure for each of the catchment management and protection activities	Yes	A section of each report is devoted to the financial performance set out in operational expenditure per focus area and activities in each as well as capital expenditure. Further, each focus area of the report has, when relevant, explanations of any variations (timing, dollar values etc) to the budget.
Inclusion 3: the planned and actual outcomes for each of the catchment management and protection activities	Yes	Each focus area includes information on the planned and actual catchment management and protection outcomes for that focus area.
Inclusion 4: identification of program activities in response to the recommendations or findings of the Operational Audit, Catchment Audit, or WaterNSW's research or monitoring programs	Yes	Appendix 1 covers the responses to operational licence audit and the triennial catchment audit (last being 2013 for the scope of the 2016-2017 Annual Report on Catchment Management and 2016 for the 2017-2018 report – date of audit for Appendix 1 was not stated but confirmed at interview as being the current audit for that report) recommendations. Footnotes are also used in the document to show where aspects of key focus areas address this requirement.
Inclusion 5: an explanation of the types of catchment research activities and programs undertaken by WaterNSW and the planned and completed catchment research activities, to meet WaterNSW's research objectives	Yes	Catchment research activities are covered throughout each of the key focus areas however, area 1 Water Quality Science is one of the main focus areas relevant to this requirement.
Inclusion 6: an explanation of any annual changes in catchment management and protection activities or programs and expenditure	Yes	See response to 'Inclusion 2'.
Inclusion 7: an explanation of the types of community education activities and programs run by WaterNSW	Yes	Focus area 2 Engaged Communities.
Inclusion 8: the actual (completed) community education activities	Yes	Focus area 2 Engaged Communities.
Inclusion 9: any other matter notified by IPART to WaterNSW	N/A	There was no other matter was notified by IPART to WaterNSW (confirmed at interviews with IPART representatives present).

Recommendation

There are no recommendations for this clause.

Opportunities for improvement

OFl 2.8.2-1: To improve clarity ensure that any references to previous catchment audits are clearly articulated including the date and what the audit was undertaken for – specifically, Appendix 1 in the Annual Report on Catchment Management.

Clause 3.1 – Construct, maintain and operate Water Management Works

Clause 3.1.1

Table 25. Clause 3.1.1 compliance grade

Subclause	Requirement	Compliance grade
3.1.1	WaterNSW must construct, maintain and operate its Water Management Works in accordance with its Asset Management System referred to in clause 5.1.	Non-compliant (non-material)
Risk	Target for full compliance	
This clause represents a high risk. Effective management of Water Management Works throughout their lifecycle is required to maintain service, minimise lifecycle costs and manage risk to an acceptable level.	Evidence that the Water Management Works are effectively managed throughout their lifecycle under the asset management system.	

Evidence sighted

- Asset Condition Assessment Guidelines [CD2015 335]
- Strategic Asset Management Plan [CD2015 436]
- Asset Condition and Capability Audit Procedure [CD2016 15]
- Annual Asset Performance and Health Report [D2018 102243]
- Portfolio of Project Status Reports [D2018 82577 0000]
- Full Portfolio of Project Status Reports [D2018 82579 0000]
- How to Guide-RACS-Report an Incident [D2018 53285]. WaterNSW
- D2018 100843 Maximo Job Plans - General Instructions Greater Sydney.XLSX
- D2018 100844 Smart Asset Activity Instructions - All Rural.XLSX
- D2018 16530 WaterNSW Standard Operations & Maintenance Plan.XLSX
- Internal Audit Report: Asset Planning Process Health Check [D2018 66065]
- D2018 32040 Asset Class Strat Dev Plan.DOC

Summary of reasons for grade

WaterNSW has specified that Asset Class Standards are a “key planning tool” for its Asset Management System but to date only two of 14 have reached draft status and consistency under the Asset Management System. There is no plan agreed to complete the remaining 12. WaterNSW does not offer an alternative place within its Asset Management System where the objectives for Asset Class Standards are met or where technical knowledge is consolidated. We are therefore left to conclude that the objectives of specifying planning guidelines and asset requirements for assets as an important planning tool are either not in place or outside the Asset Management System. We therefore consider that an audit grading of non-compliant is valid. We accept that there is sufficient evidence that WaterNSW understands and is managing its risk with respect to achieving its asset management objectives for water management works and therefore have graded this clause as *Non-compliant (non-material)*.

Discussion and notes

Water Management Works are defined under the *Water Management Act 2000* as a water supply work, a drainage work or a flood work, and includes any part of such a work. WaterNSW interprets Water Management Works as the core assets used to store and deliver bulk water to customers and includes those auxiliary fixed assets that are integral in facilitating the water delivery and storage role.

The requirement for WaterNSW to have in place management system for asset management is specified under Clause 5.1.1 of the operating licence and the primary discussion on this obligation is included under the section of this report relating to Clause 5.1.1.

Within this audit report for other clauses relating to the Asset Management System (e.g. Clause 2.4.1 and 4.2.3), we have identified shortcomings in how WaterNSW has identified stakeholder requirements and reflected these within the scope of the Asset Management System and the asset management objectives which guide the system. For this clause, which relates to those assets directly used for water supply, we do not have the same concerns. The Asset Management System is heavily orientated towards these assets that are fundamental to its business.

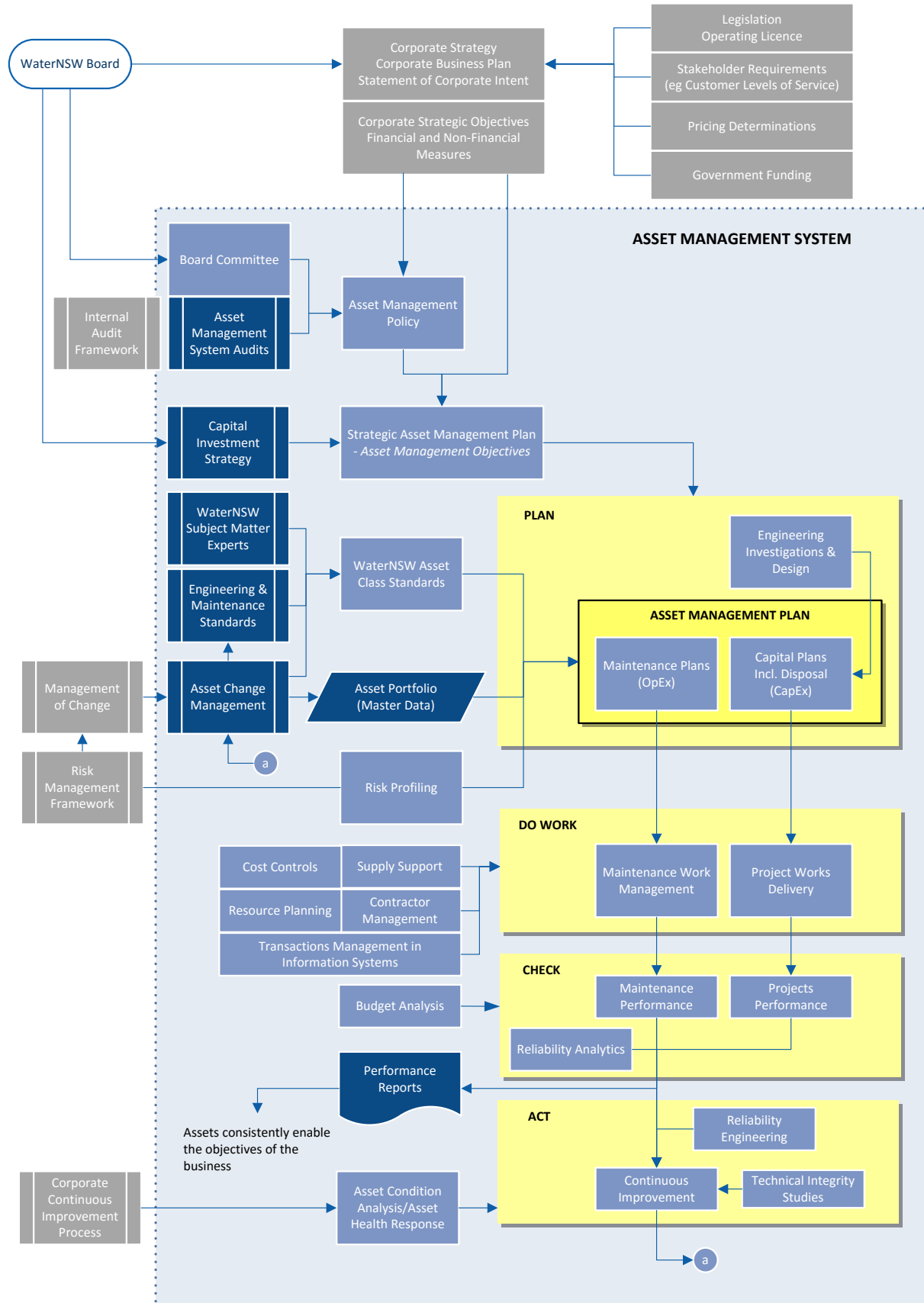
Within the strategic asset management plan, WaterNSW has defined the scope of the Asset Management System to cover:

- major infrastructure items such as storage and supply infrastructure
- catchment land
- support infrastructure and SCADA systems
- fleet assets
- ICT systems
- property and buildings
- recreation areas.

Water Management Works fall within this scope, primarily as major infrastructure items such as storage and supply infrastructure.

The framework for WaterNSW's Asset Management System is shown in Figure 1. As a system, the interrelated parts are intended to work together to achieve the system objectives. Each of the framework elements are described in the strategic asset management plan. At the audit interviews we discussed a number of these elements including capital investment plans, maintenance planning, and asset class standards.

Figure 1. Asset management system framework



ARK Ref: CD2016/56 [v2]

Capital investment plans

Construction of Water Management Works is delivered under WaterNSW's project delivery framework. This includes frameworks for project management and project assurance. Projects over \$10 million are subject to the State Government's Infrastructure Investor Assurance Framework.

Various Water Management Works were constructed (achieved Practical completion) throughout 2017-18. Achievement of this milestone is noted in monthly project reporting documents. In the May 2018 projects' report (D2018 82577 0000) there were 92 major capital projects and 27 non-major capital projects. The report includes the status of each project with written descriptions and overall health ratings for project subcomponents such as schedule, costs, risk, and safety.

Maintenance planning

WaterNSW advised that with the coming implementation of its consolidated information management system (CIMS) (outside of the audit period) it has taken the opportunity to review and consolidate its maintenance plans from the former Sydney Catchment Authority and State Water Corporation to enable a consistent approach to be implemented on maintenance activities across WaterNSW. We reviewed the consolidated maintenance plans (D2018 16530 WaterNSW Standard Operations & Maintenance Plan.XLSX) and note that it is still a work in progress with an expected completion date of 3 December 2018. The consolidation of the maintenance plans suggest that WaterNSW has further work to do before it can be assured that it is allocating resources consistently across its business to balance cost, service and risk.

At our site visit to the Burrawang office, we reviewed maintenance plans within Maximo (legacy Sydney Catchment Authority computerised maintenance management system) with the local maintenance scheduler. The operations staff present displayed a sound awareness of maintenance requirements and the use of the computerised maintenance management system.

Asset class standards

The strategic asset management plan defines asset class standards as "controlled documents which specify planning guidelines and asset requirements for related sets of assets, which may be specific for asset categories and/or valleys". WaterNSW states in D2018 32040 Asset Class Strat Dev Plan that "*Asset Class Strategies play an important function in the efficient management of related assets*". We note that the reference to Asset Class Strategies appears to be in error and that this should refer to Asset Class Standards to be consistent with the strategic asset management plan. The contents of Asset Class Standards are detailed in the Asset Planning Manual (CD2016/59). This manual also recommends the following Asset Class Standards:

- a. Dams
- a. Pipelines
- b. Pumping Stations
- c. Canals and Tunnels
- d. Dosing Facilities

- e. System Control and Data Acquisition (SCADA) Systems
- f. Monitoring and Test Equipment
- g. Working Plant and Equipment
- h. Information, Communication and Technology (ICT)
- i. Property and Buildings
- j. Recreational Areas
- k. Land
- l. Archaeological Items, Movable Heritage and Exhibitions
- m. High Voltage (HV) Electrical Assets.

Currently, WaterNSW has working Asset Class Standards for the following asset classes:

- Greater Sydney Hydrometric Asset Class Standard
- Dam Structures
- Pumping Station
- Canals and Tunnels
- Pipelines
- Archaeological Items, Movable Heritage and Exhibitions
- Information, Communication and Technology (ICT)
- Land (draft).

WaterNSW states that (D2018 32040): *"The Asset Class Strategies listed above have been inherited from previous legacy organisations and require significant work to standardise them and ensure they meet the requirements and intent of the Strategic Asset Management Plan"*. D2018 32040 details the plan for revising and aligning these documents. Of the 14 documents, two have been assigned to authors and have expected drafting dates of 30 June 2018. The remaining 12 documents have not been assigned authors and do not have expected completion dates recorded.

In its response to the draft report, WaterNSW states that the above information was not subject to management review and does not reflect WaterNSW's position.

We note that this document, Asset Class Strat Dev Plan (D2018 32040) includes objective information regarding the status of the development of Asset Class Strategies and subjective information regarding the quantum of work required to update these plans and to align them with the Strategic Asset Management Plan. We understand that WaterNSW's statement only relates to the subjective statement regarding the quantum of work required to update these plans and to align them with the Strategic Asset Management Plan. It is irregular that WaterNSW would repudiate information submitted as audit evidence without providing evidence to support an alternative position. Nevertheless, we consider the implication of WaterNSW not supporting the statement in this document following alongside the other responses provided by WaterNSW.

In addition to the above WaterNSW expressed strong disagreement with the findings of this audit for this clause. The key elements of WaterNSW's response are that:

1. Its legacy documentation was the basis of historic risk-based approaches to asset management prior to the current requirement for its Asset Management

- System to be certified to ISO55001:2014 and that these processes and procedures have been previously found to be 'fully compliant' in previous audits
2. 'Full compliance' means that the business was effectively managing risks in the delivery of its asset management functions and obligations.
 3. The new operating licence includes a requirement to gain certification against the requirements of the ISO55001:2014 standard but there has been no change to its risk profile or its required functions. WaterNSW has gained independent certification of meeting the requirements of the ISO55001:2014 standard.
 4. A fundamental principle of ISO55001:2014 is to incorporate continuous improvement. This applies to WaterNSW's legacy artefacts for which bringing them together in a unified and consistent way is a logical continual improvement activity which has been managed and updated throughout the certified period to date (AMS Continuous Improvement Plan D2017/58363), and prioritised based on risk.
 5. As the underlying artefacts are still as effective as they once were and are not inconsistent with the strategic intent or implementation of the new Asset Management System, then it is not reasonable to suggest that there is a material risk to the implementation of the Asset Management System function or obligation.

We understand WaterNSW's position in that its previous compliance with Asset Management System clauses under its licences and the independent certification of its Asset Management System as meeting the requirements of ISO55001:2014 would suggest that compliance with this clause should be likely. However, our position is that there is not sufficient information to conclude that WaterNSW is managing its Water Management Works in accordance with its Asset Management System. This is evidenced by how WaterNSW has specified its Asset Management System such that:

1. Asset Class Standards are identified by WaterNSW in the Strategic Asset Management Plan as a "key planning tool"
2. WaterNSW has only completed two asset class standards under its Asset Management System and these are only at draft status.
3. There are 12 further Asset Class Standards which have not been assigned an author or have a planned completion date.

The objective of the Asset Class Standard is to "specify planning guidelines and asset requirements for assets" and that they "...represent the consolidation of technical knowledge within WaterNSW about the long term care of the relevant type of equipment and systems". WaterNSW does not offer an alternative place within its Asset Management System where the objectives for Asset Class Standards are met or where technical knowledge is consolidated. We are therefore left to conclude that the objectives of specifying planning guidelines and asset requirements for assets as an important planning tool are either not in place or outside the Asset Management System. We therefore consider that an audit grading of non-compliant is valid.

With respect to WaterNSW's argument regarding putting in place these standards as a future continual improvement activity, we consider that the importance of the work, quantum of effort and urgency should be noted. WaterNSW considers that these are

key documents but to date only two of 14 have reached draft status and consistency under the Asset Management System. There is no plan agreed to complete the remaining 12. We consider that the work to be done represents an important part of the system, not an improvement to existing functioning parts of the system.

We accept that there is sufficient evidence that WaterNSW understands and is managing its risk with respect to achieving its asset management objectives for water management works and therefore consider this to be a non-material non-compliance.

In summary, WaterNSW has specified that Asset Class Standards are a “*key planning tool*” for its Asset Management System but to date only two of 14 have reached draft status and consistency under the Asset Management System. There is no plan agreed to complete the remaining 12. WaterNSW does not offer an alternative place within its Asset Management System where the objectives for Asset Class Standards are met or where technical knowledge is consolidated. We are therefore left to conclude that the objectives of specifying planning guidelines and asset requirements for assets and an important planning tool are either not in place or outside the Asset Management System. This clause is graded *Non-compliant (non-material)*.

Recommendation

See Recommendation 2.4.1-2: By 30 September 2019, WaterNSW should provide an updated plan for completion of Asset Class Standards with owners assigned to each.

Recommendation 3.1.1-1: By 30 June 2019, WaterNSW should identify if any other elements of the asset management system do not meet the requirements and intent of the Strategic Asset Management Plan and if found, make a plan to revise them so that they do meet the requirements and intent of the Strategic Asset Management Plan.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 3.2 – Water supply

Clause 3.2.1

Table 26. Clause 3.2.1 compliance grade

Subclause	Requirement	Compliance grade
3.2.1	WaterNSW must ensure that any water Supplied to Customers is Supplied in accordance with a relevant Water Quality Management System, any relevant Customer Supply Agreement, and any relevant arrangements with Sydney Water established under section 25 of the Act.	Compliant (minor shortcomings)
Risk	Target for full compliance	
WaterNSW breaches its licence or contractual agreements or supplies water than may impact public health	A fully implemented WQMS as per clause 2.1.4, evidence that water supplied meets all the customer agreements and any relevant arrangement with Sydney Water (including the protocol and agreement)	

Evidence sighted

- 4.2.2 CD2007 2[v3] Raw Water Supply Protocols - Sydney Water WaterNSW.PDF
- 4.2.2 CD2013 16 Shoalhaven Council Bulk Water supply Agreement.PDF
- 4.2.2 CD2013 17 Raw Water Supply Agreement Protocol -Shoalhaven City Council.PDF
- 4.2.2 CD2014 66 Raw Water Supply Agreement Wingecarribee Shire Council.PDF
- 4.2.2 D2012 97095 Goulburn Mulwaree Council - Raw Water Supply Agreement.PDF
- 4.2.2 D2017 33055 Raw Water Supply Agreement SCA and SWC.PDF
- 4.2.2 D2018 82344 Appendix C Incidents 2017-18.DOCX
- 4.2.2 D2018 89423 Water Quality Management System Outcomes - performance 2017-18.DOCX
- 4.2.2 D2018 94402 SWIRL Notifications 2017-18.XLSX
- See also evidence in Clauses 2.1.1 - 2.1.4 and 4.2.2

Summary of reasons for grade

Based on the evidence provided we are satisfied that WaterNSW has supplied water in accordance with the relevant arrangements established with Sydney Water.

We noted minor shortcomings relating to adequacy of monthly water quality testing to demonstrate compliance with the customer supply agreement with Wingecarribee Shire Council and the implementation of the water quality management system including procedures associated with water quality testing. This clause is graded *Compliant (minor shortcomings)*.

Discussion and notes

The scope of water Supplied to Customers under this Clause considered in this audit is shown in Table 27.

Table 27. Water supplied scope

Supply	Requirement
Raw water supplied to Sydney Water	Water Quality Management System and relevant arrangements with Sydney Water established under section 25 of the Act.
Raw water supplied to Wingecarribee Shire Council, Shoalhaven City Council for Kangaroo Valley, and Oberon Council and supplementary raw water supply to Goulburn Mulwaree Council from Wingecarribee Reservoir	Water Quality Management System and any relevant Customer Supply Agreement
Drinking water supplied to FRWS Stage 1	Relevant Customer Supply Agreement (noting that the FRWS Water Quality Management System is not within the current audit scope)

To audit this clause, we tested that Water Supplied to Customers was supplied in accordance with:

- a relevant Water Quality Management System (where in scope)
- any relevant Customer Supply Agreement
- any relevant arrangements with Sydney Water established under section 25 of the Act.

Supply in accordance with arrangements with Sydney Water

WaterNSW is required to establish arrangements with Sydney Water⁹⁹, which include the following:

- (a) the standard of quality of the water supplied
- (b) the continuity of water supply
- (c) the maintenance of adequate reserves of water by WaterNSW.

These arrangements are established through the *Sydney Catchment Authority and Sydney Water Corporation Raw Water Supply Agreement*¹⁰⁰ and *Raw Water Supply Protocols Operational Protocol*.¹⁰¹

The protocols include raw water quality management (WSP 003), Operational Changes (WSO 006), System Configuration (WSP 008) and Joint Annual Maintenance Planning (WSP 010).

Evidence was provided that supported WaterNSW had supplied water in accordance with the Raw Water Supply Agreement and Raw Water Supply Protocols. During interviews we discussed the joint asset maintenance planning process generally and specifically discussed the planned maintenance on the Warragamba Pipeline and sighted the Operational Impact Application of an Upper Canal Inspection from Broughton Pass to Prospect scheduled from 5th March 2018 until 1st June 2018.

⁹⁹ Section 25 of the *Water NSW Act 2014*

¹⁰⁰ D2017 33055 Raw Water Supply Agreement SCA and SWC.PDF

¹⁰¹ CD2007 2[v3] Raw Water Supply Protocols - Sydney Water Corporation and WaterNSW.PDF

Evidence was also provided of a Notification of Change to System (NOCTSO) from Upper Nepean to Macarthur WFP and Prospect WFP. The NOCTSO included a timeline and risk assessment. It contained additional notation (in red) following discussions with Sydney Water) and confirmed the proposed outage was acceptable.

Water Quality Management System

The water supplied was not fully managed in accordance with the water quality management system as key operational procedures of the system were not current and operational staff were not aware of the procedures. The implementation of the WQMS was discussed in further detail in clause 2.1.4 and found to be compliant with minor shortcomings. Recommendation 2.1.4-1 is made to address these gaps in implementation.

Customer Supply Agreements

Minor shortcomings identified with supply of water in accordance with the customer supply agreements were found during the audit:

- Wingecarribee Raw Water Supply: insufficient evidence to confirm that the water supplied met the water quality requirements in the agreement. The monitoring requirements of the agreement are monthly; however, this provides insufficient data to confirm the water meets the agreed water quality requirements.
- Fish River Agreement:
 - WaterNSW states that it monitors complaints from these customers to ensure it is meeting its obligations. We note that water quality is not included as one of the criteria being captured as part of the customer complaints process (see Clause 6.9.1), therefore it is unclear how WaterNSW is monitoring all required aspects of its obligations.
 - From the evidence provided we could not confirm whether there had been service disruptions and associated notifications for the other recorded events (D2018 120996) or how complaints are monitored.

The supply of water in accordance with relevant Customer Supply Agreements is further discussed in clause 6.1.2. At Clause 6.1.2 some gaps were noted for the supply of water to its customers in accordance with the customer supply agreements.

Recommendation 6.1.3-1 is made to address the gaps in the Customer Supply Agreements.

Recommendation

No specific recommendations are made for this clause. Recommendations for clauses 2.1. and 6.1 clauses apply here.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 4.2 – Water supplied performance standards

Clause 4.2.2

Table 28. Clause 4.2.2 compliance grade

Subclause	Requirement	Compliance grade
4.2.2	WaterNSW must manage the quality of water Supplied to its Customers in accordance with the relevant Water Quality Management System required under clause 2.1.2 or 2.1.3 (Supply Water Quality Performance Standard).	Compliant
Risk	Target for full compliance	
If the WaterNSW is not effectively managing water quality in accordance with the Water Quality Management System, there is potential for a high risk to public health	Evidence that the quality of the water supplied is in accordance with the Water Quality Management System for Declared Catchment Areas or Non-Declared Catchment areas from which WaterNSW supplies water.	

Evidence sighted

- WaterNSW Compliance and Performance Report Performance Standards 2017-2018
- See also evidence in Clauses 2.1.1 - 2.1.4

Summary of reasons for grade

We were satisfied that WaterNSW had managed the quality of the water to its customers in accordance with the preventive measures in the relevant water quality management system. Understanding of the incident notification protocol was tested as part of this clause and found to be sound. This clause is graded *Compliant*.

Discussion and notes

The scope of water quality to be considered in this clause is the same as that noted in Table 27.

Water quality results

WaterNSW notes that for the 2017-18 period:

1. Water quality supplied for treatment met the Australian Drinking Water Guidelines for 100% of health-related characteristics.¹⁰²
2. Water quality supplied for treatment met 99.99% of the Raw Water Supply Agreements¹⁰³ which was above the target of 95%.
3. Water quality supplied for treatment was within preferred operational ranges¹⁰⁴ for 89.9% of samples, which was above the target of 85%.

¹⁰² based on routine samples of agreed health related characteristics set out in table 1a of the Water Monitoring Program (CD2011/179[v5])

¹⁰³ based on monthly compliance sampling of raw water supplied for treatment against site specific standards in relevant raw water supply agreements

¹⁰⁴ based on preferred operational targets advised by customers – refer Table 7 in Water Quality Incident Response Protocol (CD2004/183[v3])

4. Compliance with Critical Limits at Critical Control Points was 95.4% of samples, which was above the target of 95%.¹⁰⁵

The above results report on the water quality supplied.

Water Quality Reporting

WaterNSW advised in the questionnaire that water quality performance against relevant standards is reported to the WaterNSW Board in monthly and quarterly reports as described in section 10.2 of the Water Quality Management System.

A report for the full 2017-18 year was reviewed.¹⁰⁶ Aspects noted as meeting a target or being on track are included in Table 29.

Table 29. Aspects noted to be meeting a target or being on track

Area	Aspect
Water Quality Risks Understood, Communicated and Responded To	Science Program delivered and current Source Water Protection Program addresses high priority risks Water Monitoring Program current and implemented Board informed regarding emerging trends in Science including subject specific reports Water quality continuously analysed and emerging risks identified and responded to as required. Catchment risks understood by WaterNSW and by NSW Health and customers No events in the Sydney Drinking Water Catchment that result in a risk to public health in the water supplies for treatment; zero 'emergency' water quality events
Culture and Competence Supports Water Quality Objectives	Response Plans for potential Water Quality Events prepared and tested All relevant WaterNSW staff aware of their water quality obligations
Continual Improvement in WQMS and Water Quality Performance	"High" to "Full" compliance awarded for all water quality related clauses in annual operational audit

While we noted minor short-coming with the implementation of the WQMS we were satisfied that these aspects did not impact on the quality of water supplied. This clause is graded *Compliant*.

Recommendation

No recommendations are made for this clause.

Opportunities for improvement

There are no opportunities for improvement for this clause.

¹⁰⁵ based on routine sampling for parameters as designated at Critical Control Points in relevant Quality Assurance Plans or as agreed with raw water customers

¹⁰⁶D2018 89423 Water Quality Management System Outcomes - performance 2017-18.DOCX

Clause 4.2.3

Table 30. Clause 4.2.3 compliance grade

Subclause	Requirement	Compliance grade
4.2.3	WaterNSW must manage service interruptions in accordance with the Asset Management System required under clause 5.1.1 (Supply Service Interruption Performance Standard).	Non-compliant (material)
Risk	Target for full compliance	
If service interruptions are not managed in accordance with the asset management system, customers may not receive the required level of service. The risk may be significant where a major customer is impacted.	Sufficient evidence to demonstrate that the service interruptions are accounted for in the asset management system and that service interruptions are managed to meet these requirements.	

Evidence sighted

- CD2013 16 Shoalhaven Council Bulk Water supply Agreement
- Annual Asset Performance and Health Report [D2018 102243]
- Raw Water Supply Agreement – WaterNSW/ Shoalhaven City Council [CD2013 16] (2015).
- Raw Water Supply Agreement – WaterNSW/ Wingecarribee Shire Council [CD2014 66].
- Raw Water Supply Agreement – Sydney Catchment/ Goulburn Mulwaree Council [CD2012 097095]
- D2017/33055 Raw Water Supply Agreement SCA and SWC
- CD2017/129 – Access Rules - Operational Impact Application Form
- D2018/18105 – Access Rules - Operational Impact Application – Upper Canal
- Major outage documentation:
- D2018/39079 2018 JAM Signed Documents
- NOCTSO – Outage for Macarthur WFP to facilitate Nepean Tunnel Inspection: D2018/51685 NOCTSO Nepean Tunnel Outage Inspection 20 June 2018
- FRWS Pipeline outage: D2017/138707 WaterNSW LCC NOCTSO Stage 1 Outage Dec 2017
- D2018 120996 FRWS Schedule of Pipe Breaks 2017-18 FY.XLSX
- DOC15 20828 Fish River Water Supply Scheme Incident Management Plan

Summary of reasons for grade

Based on the evidence reviewed at the Asset Management System level, business process level and event level, we conclude that WaterNSW does not manage water supply interruptions in accordance with its Asset Management System. The Asset Management System appears to have been specified without regard for requirements relating to supply interruptions. This observed deficiency does adversely impact the ability of WaterNSW to assure the controlled process of water supply continuity, as required in customer supply agreements or as may be required by stakeholders. For the

example of the Fish River water supply scheme, the incident management plan is inconsistent with the supply agreement as the incident management plan does not require notification for interruptions expected to last less than 8 hours but the supply agreement requires notification to customers whenever possible. This clause is graded *Non-compliant (material)*.

Discussion and notes

This clause requires that WaterNSW manages service interruptions in accordance with the Asset Management System required under clause 5.1.1.

WaterNSW has customers with varying requirements with respect to managing service interruptions. For its largest customer, Sydney Water, the requirements for managing supply interruptions are documented in D2017/33055 Raw Water Supply Agreement SCA and SWC.

Local government customers also have supply agreements. We reviewed prior to the audit meetings and at the audit meetings:

- The supply agreement with Shoalhaven City Council¹⁰⁷ which requires with respect to service interruptions that:
 - WaterNSW and Council liaise as appropriate in relation to the operational aspects of water supply planning.
 - WaterNSW and Council prepare incident response and contingency plans for major incidents and emergencies.
 - In the event of an incident or emergency that the plans be followed, and the parties cooperate.
- The supply agreement with Wingecarribee Shire Council¹⁰⁸ which requires with respect to service interruptions that:
 - WaterNSW and Council work together as appropriate on planning, risk management and incident management.
 - WaterNSW and Council respond jointly to events or incidents that may impact supply.
- The supply agreement with Fish River Customers which requires that:
 - WaterNSW notify customers where possible of supply interruptions.

We queried WaterNSW how these requirements, and requirements for managing supply interruptions, had been reflected within the Asset Management System. WaterNSW responded that service interruptions are managed through breakdown maintenance management. The Computerised Maintenance Management System (CMMS) is used to capture, schedule and manage asset related activities when supply assets are removed from service either for planned work or due to failure.

¹⁰⁷ Raw Water Supply Agreement – WaterNSW/ Shoalhaven City Council [CD2013 16] (2015).

¹⁰⁸ Raw Water Supply Agreement – WaterNSW/ Wingecarribee Shire Council [CD2014 66] (2015).

WaterNSW notes that asset outages or failures, planned or unplanned, do not necessarily result in a service interruption or failure to provide a service to a customer due to redundancy in the system and supply reserves within the network. Within the Asset Management System, loss of supply capability due to asset failure is recorded and reported on in the Annual Asset Performance and Health Report. Where necessary, supply interruptions would be managed under WaterNSW's incident management framework.

In the responses provided by WaterNSW, it has focused on the planning (clause 6.2.2) and operation (clause 8) clauses of ISO55001. We consider that WaterNSW has not adequately documented stakeholder requirements (Clause 4.2) with respect to supply interruptions. This is evidenced firstly by local government and small use customers not being included within the Strategic Asset Management Plan as stakeholders and secondly, by there being no statement of requirements within the Asset Management System documentation relating to supply interruptions.

We considered supply interruptions further with respect to the approximately 150 customers on the Fish River Water Supply Scheme. We reviewed the Fish River Water Supply Scheme Incident Management Plan.¹⁰⁹ This plan defines four incident management categories:

1. Minor incident
2. Significant incident (Action 3)
3. Major incident (Action 2)
4. Emergency incident (Action 1).

Within the plan there is an incident management procedure for pipe breaks. This procedure defines the following incident levels with respect to supply interruptions and the corresponding notification requirement as shown in Table 31.

Table 31. Incident management procedure for pipe breaks

Incident category	Supply interruption	Notification requirement
Minor incident	If the pipe break is not likely to interrupt supply for greater than 8 hours or will not interrupt supply to customers.	None
Significant incident (Action 3)	If the break is likely to interrupt supply outside of work hours and will interrupt supply to consumers.	<ul style="list-style-type: none"> • WaterNSW Water System Operations Manager will notify major consumers (Lithgow or Oberon Council, Delta or SWC), of the break and estimate time of supply interruption. • WaterNSW Communications Leader will issue a local media release to local radio station of an

¹⁰⁹ DOC15 20828 Fish River Water Supply Scheme Incident Management Plan

Incident category	Supply interruption	Notification requirement
		interruption of supply and the estimated time of interruption.
Major incident (Action 2)	If break occurs on Stage 1 and it is estimated that the pipe break will exceed 48 hours	Not specified
Emergency incident (Action 1)	N/a	N/a

Minor incidents include for supply interruptions less than 8 hours but do not have any notification requirement. WaterNSW advised that customers within this scheme do not expect a continuous supply and interruptions are not a major disruption to them. We have not tested this statement but even if it is the case, the incident management plan is inconsistent with the supply agreement which requires that notification of all supply incidents to be undertaken where possible. The notification approach for significant incidents through local media appears reasonable but we have not tested the efficacy of this approach for meeting the supply agreement requirement. There appears to be an oversight in that the notification procedures for a major incident have not been defined but these would be assumed to be at least as for a significant incident.

We requested WaterNSW provide the following:

1. schedule of service interruptions for the Fish River Water Supply Scheme in 2017/18
2. evidence of the notification undertaken for each of these interruptions.

WaterNSW provided a letter to minor customers of planned maintenance from 5 to 7 December 2017 and a schedule¹¹⁰ of eighteen outages which includes the job number, description of work, the relevant asset and the date raised, estimated start date and estimated finished date. For 12 of the 18 incidents, the estimated end finished date occurs before the date raised which is unusual. This may be because events are being input into the system retrospectively. From the evidence provided we could not confirm whether there had been service disruptions and associated notifications for the events provided.

In testing this clause, we have considered three complementary lines of enquiry:

1. The specification of the Asset Management System with respect to water supply interruptions.
2. Business processes relating to the management of supply interruptions through review of the Fish River Water Supply Scheme Incident Management Plan.
3. The handling of supply interruption events for the Fish River Supply Scheme.

At the management system level, we found that there is no documentation that clearly sets out stakeholder requirements with respect to supply interruptions and there is no clear alignment from the strategic documentation to action. At our interviews, WaterNSW staff demonstrated limited appreciation that service interruptions should or could be managed in accordance with the Asset Management System.

¹¹⁰ D2018 120996 FRWS Schedule of Pipe Breaks 2017-18 FY.XLSX

At the business process level, there is a crucial discrepancy within the Fish River Water Supply Scheme Incident Management Plan where supply interruptions that are unlikely to impact supply for more than 8 hours do not require notification. This is inconsistent with the supply agreement which requires notification for all interruptions of supply where possible, regardless of the duration of the interruption.

For the interruption events on the Fish River Water Supply Scheme for 2017-18, we were not provided evidence on which to conclude that customers had been notified where possible.

Based on the evidence reviewed at the Asset Management System level, business process level and event level, we conclude that WaterNSW does not manage water supply interruptions in accordance with its Asset Management System. The Asset Management System appears to have been specified without regard for requirements relating to supply interruptions. This observed deficiency does adversely impact the ability of WaterNSW to assure the controlled process of water supply continuity, as required in customer supply agreements or as may be required by stakeholders. For the example of the Fish River Water Supply Scheme, the incident management plan is inconsistent with the supply agreement as the incident management plan does not require notification for interruptions expected to last less than 8 hours but the supply agreement requires notification to customers whenever possible.

WaterNSW responded to the finding of the draft report for this clause by noting that while documentation could be improved, that this only constituted an improvement opportunity and that there was no material risk to delivering customer service. In support of this position, WaterNSW offered the following evidence:

- That communication of pipe breaks is undertaken verbally by maintenance team members and that the lack of customer complaints is evidence that customers are not dissatisfied with the level of service being provided.
- Improving system documentation will not materially alter the risk profile in this area.
- That as the *"underlying artefacts are still effective as they once were, and are not inconsistent with the strategic intent or our new ISO certified AMS, then it is not reasonable to suggest that there is all of a sudden, material risk to the implementation of the AMS function or obligation"*.

WaterNSW contends that the only changes required to address the observed shortcoming *"will be document structure, formatting and branding"*.

We do not agree with WaterNSW's responses regarding the nature of the non-compliance, the resulting risk profile and the actions needed to remedy the non-compliance.

Firstly, this clause requires that WaterNSW manages service interruptions in accordance with the Asset Management System required under clause 5.1.1. ISO55000:2014 defines a management system as a set of interrelated or interacting elements of an organization to establish policies and objectives and processes to achieve those objectives. The Asset Management System is then the system for asset management whose function is to establish the asset management policy and asset management

objectives. The non-compliance does not in the first instance relate to documentation or customer complaints. Our most fundamental finding is that WaterNSW has not set objectives and policies relating to service interruptions within its Asset Management System informed by stakeholder requirements. WaterNSW has not provided any further evidence of how service interruptions are managed in accordance with its Asset Management System.

Secondly, we have made an assessment of the materiality of the non-compliance in accordance with the grading criteria which requires that a material non-compliance does adversely impact the ability to achieve defined objectives or assure controlled processes, products or outcomes. In this instance the relevant objective is to meet the service interruption requirements documented in customer agreements. In the example we examined for the Fish River Water Supply Scheme, WaterNSW could not provide evidence to demonstrate that it notifies customers as required, i.e. that it meets these objectives. Staff interviewed could not demonstrate how this agreement sat within the Asset Management System and there is a fundamental misalignment between WaterNSW's incident management process and the supply agreement.

WaterNSW's argument regarding its risk profile being unchanged misunderstands that a fundamental tenet of asset management is alignment which includes understanding risks and translating objectives into action (ISO55000:2014). It cannot be argued that the risk of meeting service interruptions is adequately managed by the Asset Management System (as required by the licence obligation) if they are not adequately defined within the Asset Management System.

Lastly, we consider that addressing this recommendation is not a matter of updating documentation. Most importantly, stakeholder requirements with regards to service interruptions need to be sufficiently known. System processes may then be updated but beyond that, WaterNSW also needs to consider system elements such as staff competence, awareness and performance evaluation to fully address recommendation 4.2.3-1.

Recommendation

Recommendation 4.2.3-1: By 30 June 2019, WaterNSW should revise its asset management system so that stakeholder requirements relating to supply interruptions are adequately incorporated in the system

Recommendation 4.2.3-2: By 30 September 2019, WaterNSW should revise the Fish River Water Supply Scheme Incident Management Plan so that it is consistent with stakeholder requirements.

Recommendation 4.2.3-3: By 30 June 2019, WaterNSW should identify if any other processes or plans for managing supply interruptions require revision to meet stakeholder requirements and make a plan for completing revision of these processes and plans.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 6.1 – Customer Supply Agreements – Customers other than Sydney Water

Clause 6.1.1

Table 32. Clause 6.1.1 compliance grade

Subclause	Requirement	Compliance grade
6.1.1	<p>WaterNSW must establish and maintain agreements with each of its Customers to whom it Supplies water (except Sydney Water), which agreements must set out the terms and conditions for the Supply of water (Customer Supply Agreements).</p> <p>[Note: Under section 25 of the Act, WaterNSW is required to enter into arrangements with Sydney Water regarding the Supply of water by WaterNSW to Sydney Water. Therefore, this Licence does not regulate the Supply arrangements with Sydney Water under section 25 of the Act.]</p>	Non-compliant (non-material)
Risk	<p>Not understanding the customers and the requirements for the supply of water creates a risk to correct implementation and understanding of the intended use of the water resulting in potential public health and other risks.</p>	<p>Target for full compliance</p> <p>Evidence to demonstrate that each of WaterNSW's customers to whom it supplies water has been identified and that appropriate customer supply agreements are in place and current.</p> <p>That the customer supply agreements set out the appropriate terms and conditions for the supply of water.</p>

Evidence sighted

- 6.1.1 CD2007 13[v4] Complaints and Compliments Handling Procedure.DOC
- 6.1.1 CD2013 16 Shoalhaven Council Bulk Water supply Agreement.PDF
- 6.1.1 CD2014 66 Raw Water Supply Agreement Wingecarribee Shire Council.PDF
- 6.1.1 D2012 97095 Goulburn Mulwaree Council Raw Water Supply Agmnt.PDF
- 6.1.1 D2016 103968[v2] Fish River Agreement for Supply of Filtered Water.DOCX
- 6.1.2 WaterNSW letter_From October youll receive your bill from WaterNSW_mail-merged.DOC

Summary of reasons for grade

We confirmed that for the customers identified by WaterNSW, that it has established and maintained Customer Supply Agreements. All of the agreements viewed included the appropriate terms and conditions for the supply and intended use of the water. The Fish River agreement template (and therefore we assume, the agreements already entered into using that template) for minor consumers, does not include a reference to the process for dispute resolution. Even after a recent review of that template, we observed some errors in the regulatory instruments that are referenced in the template i.e. New South Wales Code of Practice, Plumbing and Drainage rather than Plumbing Code of Australia and *Trade Practices Act 1974* (Cth) rather than *Competition and Consumer Act 2010* (Cth). This clause is considered *Non-compliant (non-material)*.

Discussion and notes

To test this clause, we reviewed the following aspects:

- the customers to whom WaterNSW supplies water
- whether agreements were in place with those customers (establishment)
- whether the agreements set out the terms and conditions for the supply of water
- whether the agreements are maintained.

Customers and establishment of agreements

WaterNSW supplies water to a range of customers. Agreements are in place with those customers as noted below (Table 33).

Terms and conditions

The following documents were reviewed in detail as a sample of information to test whether the agreements contain terms and conditions for the supply of water:

- Two out of the six large customer agreements (Table 33). The conditions of supply, including the quality at point of supply, are clear. The terms and conditions appear appropriate for the intended use of the water. For Wingecaribee, it is pleasing to see a diagram included for the delivery point between the parties (Schedule 3), although the actual point of responsibility handover could be better articulated. The use of a diagram to illustrate handover points for responsibility is suggested as a useful initiative for inclusion in all future agreements.
- One of the two Fish River Agreements.¹¹¹ The conditions of supply, including the quality at point of supply, are clear. The terms and conditions appear appropriate for the intended use of the water. The reference to the New South Wales Code of Practice, Plumbing and Drainage needs to be updated to the current code (Plumbing Code of Australia).

Maintenance of agreement

All existing agreements reviewed are current.

We checked when the water supply agreement template CD2013/16 was last reviewed and confirmed the 21/11/2014 as per the document history information with endorsement on the 22/7/2015. We observed that after the review, a reference to an out of date statute was still included in the document even though the new Act, *Competition and Consumer Act 2010* (Cth) had superseded the *Trade Practices Act 1974* (Cth) (cited at page 11) and that there was a significant period of time between the review and endorsement date.

We observed a page numbering error for one of the documents (D2017 136611).

The procedure for dispute resolution is not specifically stated in the agreement template.¹¹²

¹¹¹ 6.1.1 D2016 103968[v2] Fish River Agreement for Supply of Filtered Water.DOCX

¹¹² D2016/103968

Certain WaterNSW's customers are billed by Sydney Water on behalf of WaterNSW. We discuss this aspect further in Clause 6.8.2.

Table 33. Customer types and supply agreement conditions

Customer Type	Agreement / Term	Location of Agreement	Water Type	Intended Use	Billing
Large customers (6)	Delta Energy (Energy Australia) (DOC12/32671) / Fixed Term	ARK	Not reviewed in detail this audit		WaterNSW
	Goulburn Mulwaree Council (D2012/97095) / Fixed Term				
	Lithgow Council (D2017/136611) / Fixed Term				
	Oberon Council (DOC12/32669) / Fixed Term				
	Shoalhaven City Council (CD2013/16) / Fixed Term				
Wingecarribee Shire Council (CD2014/66) / Fixed Term		Raw water	Not for human consumption without appropriate treatment	Quality (Appendix A) requirements specified in the agreement	
			Raw water	Not for human consumption without appropriate treatment	Quality (Schedule 2) requirements specified in the agreement
Small customers (60)	Minor Customer Agreement (D2018/98752) / No Fixed Term	Customer list currently managed by Sydney Water, copy resides in ARK Greater Sydney Small Customers (D2018/102348)	Raw or unfiltered	Not for human consumption. No quality or quantity obligations	Currently Sydney Water, transitioning to WaterNSW ¹¹³

¹¹³ We confirmed that Water NSW has written to customers informing them of the transition: 6.1.2 WaterNSW letter_From October youll receive your bill from WaterNSW_mail-merged.DOC.

Customer Type	Agreement / Term	Location of Agreement	Water Type	Intended Use	Billing
Fish River (311)	Fish River Agreement for the Supply of Raw Water (D2016/103969[v2]) / Annual Term	ARK	Raw	Stock and domestic but not human consumption. No quantity obligations	WaterNSW under the IPART Rural Valley Pricing Determination
	Fish River Agreement for the Supply of Filtered Water (D2016/103968[v2]) / Annual Term	ARK	Filtered	Stock and domestic human consumption (ADWG compliant) Covered by WaterNSW WQMS	

Recommendation

Recommendation 6.1.1-1. By 31 December 2019, ensure that all customer agreement templates are cross-checked for inclusion of the relevant and current regulatory instruments e.g. New South Wales Code of Practice, Plumbing and Drainage in the Fish River Agreement for the Supply of Filtered Water (D2016/103968[v2]) should be the Plumbing Code of Australia.

See also Recommendation 6.1.3-1: By 30 September 2019, ensure that a process is in place to assure that all future water supply agreements comply with all requirements of clause 6.1.3.

Opportunities for improvement

OFI 6.1.1-1: For all future water supply agreements, consider adding a diagram to clearly articulate the handover point for responsibility between WaterNSW and its customers.

OFI 6.1.1-2: For Wingecarribee, the articulation of the delivery point could be improved. Suggest making this clear on the diagram in Schedule 3 with an arrow or similar showing exactly the point at which WaterNSW's responsibility finishes and Wingecarribee Shire Council's commences.

Clause 6.1.2

Table 34. Clause 6.1.2 compliance grade

Subclause	Requirement	Compliance grade
6.1.2	WaterNSW must only Supply water to these Customers in accordance with the terms and conditions of these Customer Supply Agreements.	Non-compliant (material)
Risk	Target for full compliance	
Supplying water not in compliance with the terms and conditions of the water supply agreement could result in water being used in ways for which it is not intended, creating a risk to the end user.	Evidence, such as water quality monitoring records, customer complaint logs or other, to show that WaterNSW did in fact supply Customer Supply Agreement-compliant water to its customers.	

Evidence sighted

- 6.1.2 D2017 111072 WaterNSWSCC 4 monthly meeting Minutes 14 Sept 2017.DOCX
- 6.1.2 D2018 28327 WNSW WSC SOG Meeting Minutes 15 March 2018.DOCX
- 6.1.2 D2018 68771 FRWS Customer Ops Meeting Minutes 26 June 2018.DOCX
- 6.1.2 D2018 72767 Shoalhaven Council Water Quality Report June 2018.XLSX
- 6.1.2 D2018 72881 Wingecarribee Goulburn Mulwarree Council WQ Report.XLSX
- D2018 121304 Bendeela Pondage Water Quality Report.EML including WaterNSW Bendeela Pondage Water Quality Report 4th June 2018 as attachment

Summary of reasons for grade

For the most part, WaterNSW appears to be supplying water to its customers in accordance with the customer supply agreements. However, we observed some gaps which have material and non-material implications. For the June 2018 water quality reports, it is not possible for WaterNSW to show that it met the water quality requirements of the customer supply agreement for Wingecarribee (Table 35) (Clause 8.1 and Schedule 2 of the agreement). We note that the gap is not a comment on WaterNSW's diligence, it is due to the wording of the agreement and therefore, an administrative gap. For the Fish River agreements, WaterNSW states that it monitors complaints from these customers to ensure it is meeting its obligations. We checked the Customer Helpdesk Ticketing System for complaints monitoring as part of auditing Clause 6.9.1. Because water quality is not included as one of the criteria being captured as part of the customer complaints process (see Clause 6.9.1), it is unclear how WaterNSW is monitoring all required aspects of its obligations. This clause is therefore assessed as *Non-compliant (material)*, because of the Fish River omission.

Discussion and notes

This clause was assessed with reference to the customer groups noted above in Clause 6.1.1.

Large customers: WaterNSW stated that it meets regularly with these customers to discuss supply of water and to ensure that the supply agreements are maintained to a mutually agreeable level. Water quality reports are also provided to show that water was supplied at the required quality. The two large customers reviewed in detail above were also used to test this customer category:

- Minutes from operation liaison meetings were sighted.¹¹⁴ We confirmed that the minutes generally reflect the quality and operational requirements of the customer supply agreements. It was not possible to test meeting frequency as this is not stated in the customer supply agreements, although we confirmed that regular meetings occur in practice.
- As an observation, we note that radionuclides are monitored annually (WSC, D2018 28327 Item 5). The ADWG¹¹⁵ state that radionuclides should be monitored before a new source is brought online, quarterly for one year then bi-annually for groundwater and every 5 years for surface water.
- Attention to detail for analytes in meeting minutes could be improved, for instance: “E-coli was detected at 24,000 units at Lake Yarrunga (Hampden Bridge)¹¹⁶” – it is not clear in what volume or what units the analyte was being reported in that meeting.
- Water quality reports¹¹⁷ were sighted to test whether water quality was supplied as required by the requisite clauses
 - Clause 12 of the Shoalhaven agreement states that “WaterNSW provides and delivers raw water to the Council in accordance with the raw water quality specifications set out in Appendix A and/or agreed to between WaterNSW, the Council and NSW Health.”
 - Clause 8.1 of the Wingecarribee agreements states that: “The water supplied by WaterNSW to WSC must be in accordance with the specifications set out in Schedule 2.” Clause 8.4 that: “WaterNSW will provide copies of water quality data for water supplied by WaterNSW to WSC at the Delivery Point under this agreement and in accordance with its Operating Licence.”
 - Given that there is no timing stipulation on the delivery of water of the required concentration (e.g. 95% of the time), we have assumed that *at all times*, water delivered by WaterNSW to Wingecarribee should meet the

¹¹⁴ 6.1.2 D2017 111072 WaterNSWSCC 4 monthly meeting Minutes 14 Sept 2017.DOCX; 6.1.2 D2018 28327 WNSW WSC SOG Meeting Minutes 15 March 2018.DOCX. Note: Fish River minutes (6.1.2 D2018 68771 FRWS Customer Ops Meeting Minutes 26 June 2018.DOCX) were also sighted but no further comment provided in this report.

¹¹⁵ NHMRC/NRMMC (National Health and Medical Research Council/Natural Resource Management Ministerial Council) (2011) Australian Drinking Water Guidelines (ADWG) National Water Quality Management Strategy. ISBN Online: 1864965118. Version 3.5 Updated August 2018. Table 9.5 Generic frequencies for monitoring non-microbial drinking water quality as supplied to the consumer

¹¹⁶ D2017 111072

¹¹⁷ 6.1.2 D2018 72767 Shoalhaven Council Water Quality Report June 2018.XLSX; 6.1.2 D2018 72881 Wingecarribee Goulburn Mulwarree Council WQ Report.XLSX; D2018 121304 Bendeela Pondage Water Quality Report.EML including WaterNSW Bendeela Pondage Water Quality Report 4th June 2018 as attachment.

requirements of Schedule 2 and that water delivered by WaterNSW to Shoalhaven, *at all times*, should meet the requirements of Appendix A (Table 35).

- For the June 2018 water quality reports, WaterNSW demonstrated that it met the requirements for Shoalhaven and that it largely met the water quality requirements of the customer supply agreements for Wingecarribee (Table 35). We are of the opinion that wording of the agreement is the cause of the anomaly (in terms of not having a timing stipulation) and not a lack of diligence by WaterNSW. The current wording in several of the agreements creates an ongoing administrative and real compliance risk for WaterNSW if the current approach to monitoring, continues. We also note inaccuracies in the agreements (e.g. the reference in the Wingecarribee agreement in Schedule 2 to the non-existent 'Appendix G (point 5) in the RWQIRP' and 'SCA').
- Taking a pragmatic approach, monitoring should be in line with the analytical and measurement capability of the parameter, the cost of monitoring of that parameter and the public health risk of the parameter not being in compliance with its required value (e.g. Schedule 2 for the Wingecarribee agreement). Therefore, for parameters that can be monitored online and are relatively inexpensive to do so (turbidity and pH, for instance) it is reasonable to expect that they should be monitored in this manner at the Delivery Point to show that water supplied meets the water quality obligations. For other parameters, for which online monitoring is not yet possible, it is reasonable to expect they could be monitored less frequently, but more than once per month (depending on the incidence of the parameter e.g. cyanobacteria), at the Delivery Point, to provide a more informed view of compliance with the water quality obligations (i.e. linked to the period and volume of the water supplied).

Table 35. Comparison of selected customer supply agreements with water quality reports

Parameter	Customer Supply Agreement Requirement		Water Quality Report Inclusions ¹¹⁸	
	Shoalhaven (Appendix A)	Wingecarribee (Schedule 2)	Shoalhaven (Kangaroo Valley, June 2018)	Wingecarribee
Turbidity	Yes	Yes	Yes	Yes
True colour (400 nm)	Yes	Yes	Yes	Yes
Iron	Yes	Yes	Yes	Yes
Hardness	Yes	Yes	Yes	Yes
Alkalinity	Yes	Yes	Yes	Yes

¹¹⁸ 6.1.2 D2018 72767 Shoalhaven Council Water Quality Report June 2018.XLSX; 6.1.2 D2018 72881 Wingecarribee Goulburn Mulwarree Council WQ Report.XLSX; D2018 121304 Bendeela Pondage Water Quality Report.EML including WaterNSW Bendeela Pondage Water Quality Report 4th June 2018 as attachment. Wingecarribee Water Quality Report 28 June 2018.pdf.

Parameter	Customer Supply Agreement Requirement		Water Quality Report Inclusions ¹¹⁸	
	Shoalhaven (Appendix A)	Wingecarribee (Schedule 2)	Shoalhaven (Kangaroo Valley, June 2018)	Wingecarribee
Total manganese	Yes	N/A	Yes	Yes ¹¹⁹
pH	N/A	Yes	N/A	No (4 June 2018) Yes (28 June 2018)
Algae	Yes	Yes	Yes	Yes
Known toxin producing algae	Yes	Yes	Yes	No (4 June 2018) Yes (28 June 2018)
Algal toxins (measured as microcystin-LR toxicity equivalents)	Yes	Yes	Yes	No (4 June 2018) Yes (28 June 2018)

Small customer and Fish River customers: WaterNSW states that it monitors complaints from these customers to ensure it is meeting its obligations. We checked the Customer Helpdesk Ticketing System for complaints monitoring as part of auditing Clause 6.9.1. We note that water quality is not included as one of the criteria captured as part of the customer complaints process (see Clause 6.9.2), therefore it is unclear how WaterNSW is monitoring all required aspects of its obligations.

For those customers receiving drinking water from the Fish River Water Supply Scheme, WaterNSW notes that water is monitored for compliance with the ADWG.

Recommendation

Recommendation 6.1.2-1: By 31 December 2019, undertake a review of all customer water supply agreements and ensure that the supply of water is in accordance with the terms and conditions of those agreements e.g. the appropriate monitoring of analytes is at the appropriate locations and reported in the appropriate timeframes.

Recommendation 6.1.2-2: By 30 June 2020, based on the outcomes of Recommendation 6.1.2-1, develop and implement processes to address identified gaps.

Opportunities for improvement

OFI 6.1.2-1: For customer meetings to support implementation of the customer water supply agreements, improve the accuracy of minute taking in relation to analytes i.e. appropriate units and volumes, not just numbers.

¹¹⁹ But not required under Schedule 2. Note that the Wingecarribee agreement states: "Guideline values and trigger levels for SCA storages can be found in the RWQIRP at Appendix G, point 5." We checked in the current IRP, there is no Appendix G.

Clause 6.1.3

Table 36. Clause 6.1.3 compliance grade

Subclause	Requirement	Compliance grade
6.1.3	<p>The terms and conditions of the Customer Supply Agreements must, at a minimum, include provisions addressing:</p> <ul style="list-style-type: none"> a) the standard of water quality Supplied by WaterNSW; b) the continuity of the water Supplied by WaterNSW (that is, provisions relating to interruptions, disconnections and reconnections to Supply); c) any metering arrangements; d) the fees and charges to be paid by the Customers for the Supply of water to them; e) dispute resolution and Complaints handling procedures; and f) in the case of a Customer Supply Agreement with a Customer referred to in clause 1.2.1(e), terms and conditions preventing the Customer concerned from supplying the water for consumption by others within the State unless the Customer is authorised to do so by or under an Act. 	Non-compliant (non-material)
Risk	Target for full compliance	
Not including the relevant terms and conditions in the Customer Supply Agreements may result in uncertainty in obligations and understanding of water use and receipt for both parties.	Checklist, records or other quality assurance processes to demonstrate inclusion of, and checking for, the Clause 6.1.3 minimum provisions in the Customer Supply Agreement.	

Evidence sighted

- 6.1.3 CD2013 16 Shoalhaven Council Bulk Water supply Agreement.PDF
- 6.1.3 CD2014 66 Raw Water Supply Agreement Wingecarribee Shire Council.PDF
- 6.1.3 D2012 97095 Goulburn Mulwaree Council Raw Water Supply Agmnt.PDF
- 6.1.3 D2017 136611 Lithgow City Council Customer Agreement for Water Supply.PDF
- 6.1.3 DOC12 32669 Oberon Council customer contract.PDF
- 6.1.3 DOC12 32671 Delta Electricity customer contract.PDF
- 6.1.1 D2016 103968[v2] Fish River Agreement for Supply of Filtered Water.DOCX

Summary of reasons for grade

We confirmed that for the sample of agreements viewed, clause 6.1.3 a) to d) and f) were always included. Two out of the three agreements viewed also included clause 6.1.3 e). Clause 6.1.3 e) was missing from the Fish River template (D2016 103968[v2]). For the audit date scope, based on review of the template agreement, we conclude that the existing agreements (using this template) are non-compliant, as they are missing the requirement to include reference to dispute resolution and complaints handling procedures (clause 6.1.3 e)). WaterNSW's questionnaire response notes that due to the

small number of agreements entered into, representatives from its legal department are able to handle the review of these agreements to ensure that all required sub-clause provisions are included. The previous agreement entered into is used as the template for the following agreement once the period of the agreement has expired. We believe that this process could lead to cumulative errors and omissions (as noted in this audit) and that each template and agreement should include a wholesale review. Based on the omission relating to dispute resolution rather than a public health-related risk such as omission of Clause 6.1.3 a) and the fact that the other agreements viewed were fully compliant, we formed an opinion that this omission is *Non-compliant (non-material)*.

Discussion and notes

WaterNSW's questionnaire response notes that due to the small number of agreements entered into, representatives from its legal department are able to handle the checking of these agreements and review to ensure that all required sub-clause provisions are included. The previous agreement entered into is used as the template for the following agreement once the period of the agreement has expired.

To test this process and questionnaire response, we checked Customer Supply Agreements for Wingecarribee Shire Council and Shoalhaven City Council in detail as well as D2016 103968[v2] Fish River Agreement for Supply of Filtered Water.DOCX for Clause 6.1.3 f). We found that in all cases, the clause requirements were met (Table 37) apart from the Fish River Agreement Template not having a specific inclusion for 6.1.3e).

Table 37. Clause 6.1.3 requirement review

Clause 6.1.3 or other requirement	Shoalhaven	Wingecarribee	D2016 103968[v2] Fish River Agreement for Supply of Filtered Water
a) the standard of water quality Supplied by WaterNSW;	Part B: Standard of the Quality of Water Supply by WNSW Appendix A	Clause 8: Water Quality & Monitoring Clause 9: Water Quality Standards beyond the Delivery Point Schedule 2	Clause 10: Water Quality
b) the continuity of the water Supplied by WaterNSW (that is, provisions relating to interruptions, disconnections and reconnections to Supply);	Part D: Continuity of the Water Supplied, p8 (this only deals with major incidents and emergencies - discuss this at the interviews)	Clause 3: Water Quantity forecast by WSC Clause 6: Water Quantity	Clause 12: Restrictions Clause 13: Interruptions to Supply Clause 20 Disconnection and Reconnection
c) any metering arrangements;	Clause 23. Measurement of water supplied	Clause 10: Measurement of Water Supplied	Clause 6: Meters and Valves
d) the fees and charges to be paid by the Customers for the Supply of water to them;	Part E: Cost to be Paid by Shoalhaven City Council for the Supply of Water to Kangaroo Valley Water Filtration Plant	Clause 11: Water Charges	Clause 15: Charges for Water

Clause 6.1.3 or other requirement	Shoalhaven	Wingecarribee	D2016 103968[v2] Fish River Agreement for Supply of Filtered Water
e) dispute resolution and Complaints handling procedures; and	Clause 8: Dispute Resolution	Clause 14: 1 Dispute Resolution	No specific clause on dispute resolution.
(f) in the case of a Customer Supply Agreement with a Customer referred to in clause 1.2.1(e) ¹²⁰ , terms and conditions preventing the Customer concerned from supplying the water for consumption by others within the State unless the Customer is authorised to do so by or under an Act.	N/A as customer is a utility	N/A as customer is a utility	Clause 9: Use of Water Clause 11: Public Liability Clause 20: Disconnection and Reconnection

WaterNSW was asked to provide an example of the process for a new agreement if one had occurred within the audit period. No new small customer agreements had been entered into however, one new agreement for Lithgow City Council had been agreed and was awaiting signing by WaterNSW (we were provided with evidence¹²¹ to support this).

Recommendation

Recommendation 6.1.3-1: By 30 September 2019, ensure that a process is in place to assure that all future water supply agreements comply with all requirements of clause 6.1.3.

Opportunities for improvement

There are no opportunities for improvement for this clause.

¹²⁰ Clause 1.2.1: Subject to any terms and conditions, areas and circumstances specified in this Licence, this Licence authorises Water NSW to undertake the following listed functions within its Area of Operations:
(e): to supply water to other persons and bodies, but under terms and conditions that prevent the person or body concerned from supplying the water for consumption by others within the State unless the person or body is authorised to do so by or under an Act;

¹²¹ 6.1.3 D2017 136611 Lithgow City Council Customer Agreement for Water Supply.PDF

Clause 6.3 – Water metering and monitoring

Clause 6.3.1

Table 38. Clause 6.3.1 compliance grade

Subclause	Requirement	Compliance grade
6.3.1	WaterNSW must determine the volume of water Extracted by, or Supplied to, each of its Customers, at least annually, for the purpose of accurate account management, billing and reporting.	Non-compliant (material)
Risk	Target for full compliance	
This requirement represents a high operational risk. Accurate determinations of water extraction and supply is needed for effective account management, billing and reporting, e.g. for resource management.	Evidence that WaterNSW has determined the volume of water extracted by or supplied to customers at least annually and with respect to accurate account management, billing and reporting.	

Evidence sighted

- D2018 102356 Determining Water Take Procedure [102356] (2018). WaterNSW
- D2018 102359 17-18 Water take.XLSX
- D2018 102360 Regulated Customer Risk Based Water Take Tool.XLSX
- D2018 122849 Audit Response - Other.xlsx
- D2018 122849 IPART Audit - Water Take.pdf
- Flagged resource management RE CAMR - TMS ppt.msg

Summary of reasons for grade

We consider that the failure of WaterNSW to assess the accuracy of water take and to set objectives for accuracy with regard for the end uses of billing, account management and reporting adversely impacts that ability of WaterNSW to provide assurance over these processes. We therefore have assigned an audit grade of *Non-compliant (material)*.

Discussion and notes

WaterNSW has prepared a Determining Water Take Procedure¹²² during 2017-18 and finalised the procedure after the audit period. This is in response to this new licence clause and the recommendation arising from the 2017-18 audit that by 30 June 2018, it takes action to ensure that it determines the volume of water extracted by (or supplied to) each of its Customers at least annually.

The Determining Water Take Procedure describes the different types of water take and the accepted forms of measuring water take. It also prescribes the frequency of site visits and meter reads and who can undertake the various types of water take reporting such as customers and WaterNSW. The approach to determining water take varies across the customer base. Some customers have meters in place but for customers

¹²² D2018 102356 Determining Water Take Procedure [102356] (2018). ARK Ref: D2018/99208

taking water or supplied from unregulated or groundwater sources, supply or take is not measured and has to be determined. The majority of customers in the unregulated and groundwater water sources are billed on a one part tariff which assumes the full water take by customer. WaterNSW estimates that 50% of all customers across the three water sources are billed on the minimum charge which in a lot of cases is well in excess of the actual entitlement and usage charges.

In the evidence provided¹²³, WaterNSW categorises approaches for determining take into three groups: assessed, flowmeter, telemetry. The approaches for determining take in each of these categories are:

1. Assessed
 - Meter equivalent approaches where there is no flowmeter such as logbooks and power consumption.
 - Customers completing an online survey or hardcopy survey.
2. Flowmeter
 - Physical meter reading by a customer field officer.
 - Customer provided meter readings by email, fax or phone. customers are to provide photographs of readings and WaterNSW seeks to visit larger use customers at least once a year to verify the reported figures.
3. Telemetry
 - Readings sent by telemetry and entered and validated by Customer Field Officers into the Water Accounting System (WAS).

Table 39 provides a breakdown of the number of readings and usage by the three approaches for determining take (assessed, flowmeter and telemetered) for the three source types: regulated, unregulated and groundwater.

Table 39. Breakdown of readings and usage by method

Method for determining take	Readings		Usage	
	No.	% of total	ML	% of total
Regulated				
Assessment	1,643	7%	2,323,016	44%
Flowmeters	14,004	59%	2,396,225	45%
Telemetered	8,020	34%	604,030	11%
Total	23,667	100%	5,323,272	100%
Unregulated				
Assessment	985	40%	32,462	37%
Flowmeters	138	6%	42,746	49%
Telemetered	1,311	54%	11,638	13%
Total	2,434	100%	86,846	100%

¹²³ D2018 102359 17-18 Water take.XLSX

Method for determining take	Readings		Usage	
	No.	% of total	ML	% of total
Groundwater				
Assessment	778	9%	107,211	16%
Flowmeters	5,555	66%	248,197	36%
Telemetered	2,087	25%	333,811	48%
Total	8,420	100%	689,219	100%
Total				
Assessment	3,406	10%	2,462,689	40%
Flowmeters	19,697	57%	2,687,168	44%
Telemetered	11,418	33%	949,479	16%
Total	34,521	100%	6,099,336	100%

This analysis shows that the majority of usage (5,323 GL of 6,099 GL, 87%) has been determined as being from regulated sources. Groundwater sources account for 11% of the total and unregulated sources 1% of the total. For the regulated sources, 44% of usage was determined through assessment and 45% through flowmeters. Therefore, these two approaches are the most material for the regulated sources. In total across all sources, the proportions change by a small amount with 40% of total usage being determined through assessment and 44% through flowmeters.

WaterNSW outlined at audit and in the evidence provided various checks and balances in place to provide assurance over the estimates of water extracted and supplied. These include:

- Visits to customers to verify readings and assessed take that have been provided by customers. If customers do not provide photographic evidence of readings or have usage higher than a threshold, WaterNSW intends to conduct visits annually but the frequency may be three yearly in lower risk circumstances.
- An overall resource assessment and forecast that is prepared monthly and provided to the Department of Industry. This resource assessment is based on storage levels, customer account balances (determined through the take procedure) and accounts for inflows and budgeted losses. Reconciliation of the resource assessment provided a check on the determined water take. Unusual loss figures may indicate problems with the determined take.
- Daily water balances on flows between gauging stations.

We queried WaterNSW as to how it interpreted accuracy for this licence clause. WaterNSW responded that accuracy was largely not within its control and therefore it did not make an assessment of accuracy of water take. WaterNSW owns and is responsible for a fleet of meters that number around 2,700 of a total of around 10,000 meters. For around 50,000 customers, there is no meter and take is assessed through an alternative approach.

We challenged this argument as the licence clearly states that accuracy is an objective in determining take for the purposes of account management, billing and reporting. WaterNSW identified limitations in determining accuracy, for example customer owned meters are of varying type and manufactured accuracy and which are maintained by

customers; these factors will lead to considerable variance in accuracy. WaterNSW stated that it cannot warrant the accuracy of customer readings taken from customer meters. Also, for customers assumed to take their full allowance on a one-part tariff the actual take is not known.

Notwithstanding these challenges, we consider that it is possible to provide an assessment of the accuracy of water take. Firstly, accuracy can be seen within the context of the end uses of billing, account management and reporting. At audit, WaterNSW provided no indication that it had considered what the accuracy for these end uses of the take data should be. Secondly, it is possible to segment the source of take data and assign an accuracy to each segment. WaterNSW has not undertaken this exercise.

WaterNSW responded to the draft report findings stating that “The clause does not stipulate that WaterNSW must accurately measure the volume of water extracted by or supplied to each of its customers. Rather, the requirement is that WaterNSW must determine the volume extracted or supplied through accurate account management. WaterNSW has documented its Determining Water Take Procedure in compliance with this requirement.”

We disagree with this interpretation on two grounds:

1. Accuracy is desirable for billing and reporting also. While we appreciate that the clause is somewhat ambiguous, to reduce the clause to apply to only account management is not consistent with sound business management.
2. We do not consider that the accuracy of outputs (be they account management, billing or reporting) can be known without having an appreciation for the accuracy of the inputs.

WaterNSW also responded to the draft report stating that its processes demonstrate that it has considered what the accuracy for determining water take should be with respect to its operating licence obligations for account management, billing and reporting: it is determined in accordance with its Determining Water Take Procedure. And further that “until the recent introduction of the NSW Government’s “metering framework” (regulation and policy) there has been no regulatory clarity on how meter accuracy was defined or measured. It is not possible that the Operating Licence required WaterNSW to measure or validate the accuracy of meters (particularly customer-owned meters) in the absence of clear legislative and regulatory direction as to how this could be done.”

We disagree with this position taken by WaterNSW, Firstly, we do not agree that a clear legislative and regulatory direction is required to define accuracy. Accuracy can be understood based on the context and in particular, the use of the measurements. To require a clear legislative and regulatory direction on accuracy is to imply that customers don’t have expectations with regard to the accuracy of their bills. Lastly, WaterNSW suggests that accuracy is an outcome of following its procedures. We do not suggest that the Determining Water Take Procedure is insufficient for the purpose of measurement and estimation but rather that it lacks consideration of accuracy which is an obligation of the licence.

While WaterNSW has provided further opinion and evidence regarding this clause, we consider that our conclusion made in the first draft report still stands and that the failure of WaterNSW to assess the accuracy of water take and to set objectives for accuracy with regard for the end uses of billing, account management and reporting adversely impacts that ability of WaterNSW to provide assurance over these processes. We therefore have assigned an audit grade of *Non-compliant (material)*.

Recommendation

Recommendation 6.3.1-1: By 30 September 2019, WaterNSW should set objectives for the accuracy of water take determination with respect to billing, account management and reporting.

Recommendation 6.3.1-2: By 31 December 2019, WaterNSW should assess the accuracy of its water take estimates for the purposes of billing, account management.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 6.3.2

Table 40. Clause 6.3.2 compliance grade

Subclause	Requirement	Compliance grade
6.3.2	<p>Prior to WaterNSW operating, replacing, repairing, maintaining, removing, connecting, disconnecting or otherwise modifying Metering Equipment it does not own, it must obtain the agreement of the owner of that equipment.</p> <p>[Note: In accordance with section 31(1) of the Act and clause 1.2.5 of this Licence, WaterNSW is authorised to operate, replace, repair, maintain, remove, connect, disconnect or modify Metering Equipment that WaterNSW does not own. WaterNSW must only exercise this authority in accordance with this condition.].</p>	Compliant (minor shortcomings)
Risk	Target for full compliance	
If WaterNSW undertakes work on meters owned by others without the owner's consent, the owner's responsibilities for that meter and its objectives for the meter may be comprised.	Sufficient evidence that WaterNSW has not undertaken works on meters that it does not own without consent	

Evidence sighted

- Customer-factsheet- - Meter-not-working-91i.pdf
- Customer-factsheet – What to do if your meter is broken.pdf
- D2018 121847 Evidence Clause 6.3.2 - RE IPART data - meter ownership.EML
- Metering page on WaterNSW's external website located at <https://www.waternsw.com.au/customer-service/water-licensing/metering#stay>
- 6.16.1 D2018 102563 Deed of Business Transfer.pdf

Summary of reasons for grade

Based on the information provided, there is no evidence that WaterNSW has undertaken work on meters owned by others without the owner's consent. However, at audit there was uncertainty expressed by WaterNSW as to ownership of meters it has a joint interest with its large customers. The list of meters owned by WaterNSW provided does not cover all larger customers and we therefore recommend that WaterNSW establishes a definitive register of ownership and responsibilities for all meters in which it has a joint interest with a larger customer. We consider that the uncertainty over meter ownership and responsibilities constitutes a minor shortcoming and have accordingly assigned an audit grade of *Compliant (minor shortcomings)*.

Discussion and notes

WaterNSW advised that it does not complete activities on meters that it does not own and as such, no procedures exist for gaining agreement for operating, replacing, repairing, maintaining, removing, connecting, disconnecting or otherwise modifying Metering Equipment owned by others. WaterNSW advised that the meters owned and managed by it are clear with two main fleets:

- Southern Valleys: WaterNSW executed a design, construct and maintain contract for meters in the southern valleys. The maintenance contract is performance based.
- Hawksbury/Nepean and Bega: Meters transferred to WaterNSW from Department of Industry. These were installed by Department of Industry. Knowledge of those meters was transferred to WaterNSW. These meters are maintained on a reactive basis. These meters are covered by the Deed of Transfer from Department of Industry to WaterNSW.

For the approximately 7,700 meters owned by customers, there is clear guidance from WaterNSW that work on the meters is the customer's responsibility. This is located on the website page "metering"¹²⁴ and in supporting factsheets. The metering page states:

- If you need to install a new water meter then a flow meter should be installed.
- You will be required to install a meter to the Australian Standard AS4747 to ensure compliance with the National Metering Standards.

The metering page also provides a reference to where to find registered meter installers and validators.

We queried WaterNSW as to meters at supply points to its larger customers – Sydney Water, local governments and Energy Australia. WaterNSW advised that:¹²⁵

1. Meter ownership
 - a. WaterNSW owns one meter at Picton that is for Sydney Water. It could not be confirmed if Sydney Water owned meters used for joint purposes as WaterNSW does not have access to this information.

¹²⁴ <https://www.waternsw.com.au/customer-service/water-licensing/metering#stay>

¹²⁵ D2018 121847 Evidence Clause 6.3.2 - RE IPART data - meter ownership.EML

- b. WaterNSW owns
 - One meter for Wingecarribee Council
 - One meter for Goulburn Mulwaree Council
 - One meter for Goulburn City Council
 - One meter for Blacktown City Council
 - Two meters for Penrith City Council
 - Two meters for Camden Council
 - One meter for Lithgow Council
 - One meter for Upper Lachlan Shire Council:
 - c. For Energy Australia, there are no records of meters owned by WaterNSW.
2. Work on meters
 - a. WaterNSW could not find record of any maintenance undertaken at these WaterNSW owned meter sites during the audit year.

The above response identifies meters owned by WaterNSW but does not identify meters owned by others in which WaterNSW has an interest. Nor does it identify if any work was undertaken by WaterNSW on those meters owned by others.

Based on the information provided, there is no evidence that WaterNSW has undertaken work on meters owned by others without the owner's consent. However, at audit there was uncertainty expressed by WaterNSW as to ownership of meters it has a joint interest in with its large customers. The list of meters owned by WaterNSW provided does not cover all larger customers and we therefore recommend that WaterNSW establishes a definitive register of ownership and responsibilities for all meters in which it has a joint interest with a larger customer. We consider that the uncertainty over meter ownership and responsibilities constitutes a minor shortcoming and have accordingly assigned an audit grade of *Non-compliant (material)*.

Recommendation

Recommendation 6.3.2-1: By 30 September 2019, WaterNSW should establish a definitive register of ownership and responsibilities for all meters in which it has a joint interest with a larger customer.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 6.5 – Customer advisory groups

Clause 6.5.1

Table 41. Clause 6.5.1 compliance grade

Subclause	Requirement	Compliance grade
6.5.1	WaterNSW must establish and maintain area-based advisory groups representing a broad cross-section of its Customers for those areas (Customer Advisory Group).	Compliant
Risk	Target for full compliance	
Not involving customers from a broad cross-section may mean that WaterNSW could miss customer insights and requirements for delivery of its products and services.	Evidence to demonstrate how WaterNSW identifies areas for which Customer Advisory Groups are assigned, how it ensures an appropriate cross-sectional membership and how it maintains the groups.	

Evidence sighted

- 6.5.1 CD2015 281[v2] WNSW CAG Charter.doc
- 6.5.1 D2017 43440 Customer Advisory Group Nominations Register 17-19.xlsx
- 6.5.1 D2017 86808 Letter of Appointment Barwon-Darl CAG TS.pdf
- 6.5.1 D2017 86847 Letter of Appointment Border Rivers CAG BC.pdf
- 6.5.1 D2017 86907 Letter of Appointment Gwydir CAG JR.pdf
- 6.5.1 D2017 86929 Letter of Appointment Macq-Cudg CAG GT.pdf
- 6.5.1 D2017 105315 Gwydir CAG - Minutes - 29 August 2017.docx
- 6.5.1 D2017 109801 Macq-Cudg CAG New Mem Dubbo R Council CD Sept 17.pdf
- 6.5.1 D2017 114046 Namoi-Peel CAG - Minutes - 18 Sept 2017.docx
- 6.5.1 D2017 114498 Macquarie-Cudgegong CAG - Minutes - 14 Sept 2017.docx
- 6.5.1 D2017 141253 Murray-Lower Darling CAG - Minutes - 23 Aug 2017.pdf
- 6.5.1 D2017 143565 Namoi-Peel CAG eCAG- Minutes - 29 Nov 2017.docx
- 6.5.1 D2017 143574 Murray-Lower Darl eCAG - Min - 30 Nov 17.docx
- 6.5.1 D2017 143577 Macq-Cudg CAG eCAG - Min - 30 Nov17.docx
- 6.5.1 D2017 143583 Gwydir CAG eCAG- Minutes - 29 Nov 17.docx
- 6.5.1 D2017 148920 Lachlan CAG New Member Cowra Council PD Dec 17.pdf
- 6.5.1 D2018 20982 Namoi-Peel CAG - Minutes - 22 Feb 18.docx
- 6.5.1 D2018 24334 Gwydir Customer Advisory Group - Minutes - 1 March 2018.DOCX
- 6.5.1 D2018 26042 Barwon-Darl CAG New Member Nom AFA JM Mar 18.pdf
- 6.5.1 D2018 32187 Macq-Cudg CAG - Minutes - 14 Mar 18.docx
- 6.5.1 D2018 33403 Murray-Lower Darling CAG - Mins - 22 Feb 18.docx
- 6.5.1 D2018 71572 Gwydir CAG - eCAG - Notes - 27 Jun 18.pdf
- 6.5.1 D2018 71587 Macquarie-Cudgegong CAG - eCAG Meeting notes 26 June 18.pdf
- 6.5.1 D2018 71603 Murray-Lower Darling CAG - eCAG Meet 28 Jun 18.pdf

- 6.5.1 D2018 71616 Namoi-Peel CAG - eCAG Meet 27 Jun 18.pdf
- 6.5.1 D2018 97291 Murr-LDaring CAG New Member Nom PD GC.pdf
- 6.5.1 D2018 98261 Barwon-Darling and Far Western Catchment Map.GIF
- 6.5.1 D2018 98262 Border Rivers NSW Catchment Map.GIF
- 6.5.1 D2018 98263 Gwydir Catchment Map.GIF
- 6.5.1 D2018 98264 Lachlan Valley Catchment Map.GIF
- FW IPART OL Audit - CAG Members pack.msg
- 6.5.1 E Bank_Details_Request_Form.pdf
- 6.5.1 E Standard_Super_Choice_Form_NAT_13080.01.pdf
- 6.5.1 E Tax_Declaration_Form_NAT_3092.pdf
- 6.5.1 Murray-Lower Darling Customer Advisory Group (CAG) - Membership List - 2017-19.pdf
- D2018 122203 CAG Feb 18 - All Valleys Generic Presentation 2.1.pdf
- D2018 122203 Customer feedback on CAG PPT Dec 2017.docx
- D2018 122203 Presentation Irrigator Forum (30 Nov).pptx

Summary of reasons for grade

The Customer Advisory Groups (CAG) areas are clearly identified with CAGs established and well-maintained for each area. This clause is very well executed by WaterNSW. The clause is *Compliant*.

Discussion and notes

We tested this clause by reviewing the following:

- identification of the areas to which the CAG applies
- establishment of the CAGs
- maintenance of the CAGs.

Identification of areas: The CAG Charter (Charter)¹²⁶ covers the 10 CAGs (Charter Appendix 1) that have been assigned to cover the catchments within WaterNSW's area of operations. Catchment maps for Barwon-Darling and Far Western, Border Rivers, Gwydir and Lachlan Valley were sighted and checked against the CAGs. The Charter Appendix Table 1 matches the Office of Environment and Heritage information¹²⁷.

Establishment of CAGs: The Charter sets out the terms of reference and operation of the CAG. The Charter includes appropriate requirements for such a group including appointment and selection criteria, term, roles and responsibilities as well as operating procedures including meeting frequencies. The Charter covers 10 areas for which customer representation is sought (depending on context for that CAG) up to a maximum of fifteen members. The areas and number of members is considered appropriate. Letters of appointment of four individuals to four separate CAGs were sighted, the representatives concurred with the Charter areas. There is no date on the

¹²⁶ CD2015/281

¹²⁷ <https://www.environment.nsw.gov.au/ieo/catchlist.htm>

appointment letters, however, we accept that the appointment period¹²⁸ stated in the letter establishes their currency for the purposes of this audit.

WaterNSW's website¹²⁹ states that CAGs have been established for the 10 areas. The establishment requirement of this clause is considered met.

The CAG Charter on the website has a different code (D2017/14743) to the one provided as evidence. However, additional evidence provided by WaterNSW confirmed the currency of the charter provided to the CAG members as well as additional components that make up the New Member's pack.¹³⁰

Maintenance of CAGs: We tested the process for maintenance of the CAGs. The Charter notes that CAGs are funded and resourced¹³¹ by WaterNSW. We confirmed that WaterNSW resources the CAGs through several modes including providing a website for the CAGs, taking of and recording minutes (minutes for 4/10 CAGs for four dates¹³² (2017-2018 audit period) each were sighted), keeping of a log of nominations and acceptances and providing pro formas to support maintenance of the CAGs. Recent and future meeting timelines are displayed on the website. We checked 6 out of the 10 CAGs and found them to have appropriate representation in terms of numbers (not more than the required 15 members) and representation/experience/skillset. We note a low representation by female members.

Recommendation

There are no recommendations for this clause.

Opportunities for improvement

There are no opportunities for improvement for this clause.

¹²⁸ "Your appointment is effective from 1 July 2017 through to 30 June 2019."

¹²⁹ <https://www.watnsw.com.au/customer-service/feedback/groups>

¹³⁰ Links within FW IPART OL Audit - CAG Members pack.msg

¹³¹ Clause 4.

¹³² CAGs are required to meet a minimum of twice per year.

Clause 6.5.2

Table 42. Clause 6.5.2 compliance grade

Subclause	Requirement	Compliance grade
6.5.2	WaterNSW must regularly consult with the area-based Customer Advisory Groups to enable Customer involvement in issues relevant to the performance of WaterNSW's obligations to Customers under this Licence or the Customer Service Charter, obtain advice on the interests of WaterNSW's Customers and such other key issues relating to WaterNSW's planning and operations as WaterNSW may determine consistent with the Customer Advisory Group Charter(s).	Compliant
Risk	Target for full compliance	
Not undertaking regular consultation with the CAGs may mean that WaterNSW could risk delivery of its customer obligations under the operating licence.	<p>Evidence to show how WaterNSW has determined the relevant modes of consultation and how it has implemented those modes of communication.</p> <p>Feedback evidence from Customer Advisory Groups on the appropriateness of the methods of consultation.</p> <p>Evidence to show how WaterNSW has determined the relevant issues for its operating, planning and performance and ensured consistency of these with the relevant Customer Advisory Group Charters.</p> <p>Evidence to show how WaterNSW has used advice provided by the Customer Advisory Groups to amend or other, its performance on customer obligations and/or its planning and operations.</p>	

Evidence sighted

- 6.5.2 CD2015 281[v2] WNSW CAG Charter.doc
- 6.5.2 D2015 107412 STRATEGY 2017-2019 CAG Comms Plan.doc
- 6.5.2 D2017 105315 Gwydir CAG Minutes 29 Aug 17.docx.DOCX
- 6.5.2 D2017 111043 Gwydir CAG Business Papers 29 Aug 17.pdf
- 6.5.2 D2017 114046 Namoi-Peel CAG Minutes 18 Sept 17.doc
- 6.5.2 D2017 114056 Gwydir CAG Attachment to Minutes 29 Aug 17.pdf
- 6.5.2 D2017 114474 Macq-Cudg CAG Business Papers 14 Sept 17.pdf
- 6.5.2 D2017 114498 Macq-Cudg CAG Minutes 14 Sept 17.doc
- 6.5.2 D2017 114512 Namoi-Peel CAG Business Papers 18 Sept 17.pdf
- 6.5.2 D2017 114516 Namoi-Peel CAG Attachment to Minutes 18 Sept 17.pdf
- 6.5.2 D2017 114519 Macq-Cudg CAG Attachment to Minutes 14 Sept 17.pdf
- 6.5.2 D2017 137669 Presentation Murray-LDarl CAG Aug 17.pdf
- 6.5.2 D2017 137684 Murray-LDarl CAG Agenda Business Papers 23 Aug 17.pdf
- 6.5.2 D2017 141253 Murray-LDarl CAG Minutes 23 Aug 17.pdf
- 6.5.2 D2017 147803 CAG Chairs Meeting Minutes 12 Dec 17.doc
- 6.5.2 D2018 8763 Presentation CAG Chairs 12 Dec 17.pptx
- 6.5.2 D2018 98250 Post-Meeting Survey CAGs Aug Sept 17.pdf
- 6.5.2 D2018 98253 Post-Meeting Survey CAGs Feb Mar 18.pdf

- 6.5.2 D2018 101278 CAG Chairs Meeting Notes 7 Jun 18.doc
- 6.5.2 D2018 101432 Presentation CAG Chairs 7 Jun 18.pptx
- 6.5.2 D2018 101843 Copy of D2017 124352 Claim form.PDF
- 6.5.2 D2018 101846 Copy of D2018 37014 - Claim form.pdf
- 6.5.2 D2018 101867 Screen shot of CAG webpage on WNSW website.doc
- Submission in response to Water Reform Action Discussion Papers (undated)
https://www.industry.nsw.gov.au/_data/assets/pdf_file/0019/162505/Water-reform-consultation-submission-178.pdf

Summary of reasons for grade

Based on the sound evidence presented by WaterNSW, and the discussions held at interview, we are of the opinion that WaterNSW consults well with the CAGs, providing support services and good consultation materials. Actual feedback from the CAG members supports the reliability of the consultation process put in place by WaterNSW. This clause is considered *Compliant*.

Discussion and notes

We tested this clause with reference to the following areas:

- consultation with the CAGs
- feedback from the CAG members (to test implementation of consultation).

Consultation: Minutes sighted in the above clause provide evidence of consultation. The minutes which exist for the meetings held (4 out of 10 CAG records sighted) show that requirement of twice-annual meetings was exceeded for the audit period. The WaterNSW website¹³³ provides a route for consultation generally. Meetings are held both in face to face and e-meeting (eCAG) format. We note that the consultation strategy document¹³⁴ terminated at 1 July 2017. At interview, it was confirmed that the strategy was developed for the 2017-2019 period and that a new strategy is underway for commencement, 1 July 2019.

At the audit interviews, we discussed how WaterNSW has determined the relevant issues for its operating, planning and performance and ensured consistency of these with the relevant Customer Advisory Group Charters. Customer voice meetings are held every 8 weeks with Level 3 Managers. At these meetings, critical issues being expressed by customers, and how they need to be managed, are discussed.

Further advice from WaterNSW was:

"...a series of meetings.....were held with Northern Irrigators, Southern Irrigators, major Customers and CAG Chairs (note: each group included CAG members) to directly hear from customers about their concerns with the Water Reform Action Plan [WRAP]. This feedback directly informed the WaterNSW submission to the Government reform programme, in addition to WRAP Reforms being discussed at CAG meetings in the audit period."

¹³³ <https://www.watnsw.com.au/customer-service/feedback/groups>

¹³⁴ 6.5.2 D2015 107412 STRATEGY 2017-2019 CAG Comms Plan.doc

We reviewed the WRAP submission¹³⁵ and confirmed inclusion of CAG consultation.

We sighted sound 2017 presentation material for 3 out of the 10 CAGs that we checked. Sound material for the CAG Chairs Forum¹³⁶ was also sighted for the audit date scope.

Feedback: WaterNSW provided evidence to show that it gets feedback from the CAGs. Post meeting surveys from two dates¹³⁷ were sighted and showed comprehensive feedback and good engagement by the CAG members. The CAG member responses indicate that WaterNSW is generally consulting well.

A recent example of how feedback is being used to facilitate improvements is the discussion around Levels of Service (LOS). LOS have been used to garner customer input and to help inform the IPART price determination¹³⁸ for WaterNSW. Month ahead roadmaps are also supplied to CAGs to facilitate readiness and participation in meetings. WaterNSW is also using customer feedback to increase the number of face to face meetings in the future.

Recommendation

There are no recommendations for this clause.

Opportunities for improvement

There are no opportunities for improvement for this clause.

¹³⁵ https://www.industry.nsw.gov.au/_data/assets/pdf_file/0019/162505/Water-reform-consultation-submission-178.pdf (no date on report but we assumed, from reviewing the document properties, that it met the audit date scope requirements – i.e. 'last modified 11/5/18').

¹³⁶ 12 December 2017

¹³⁷ 6.5.2 D2018 98250 Post-Meeting Survey CAGs Aug Sept 17.pdf; 6.5.2 D2018 98253 Post-Meeting Survey CAGs Feb Mar 18.pdf

¹³⁸ https://www.industry.nsw.gov.au/_data/assets/pdf_file/0019/162505/Water-reform-consultation-submission-178.pdf (no date on report but we assumed, from reviewing the document properties, that it met the audit date scope requirements – i.e. 'last modified 11/5/18').

Clause 6.5.3

Table 43. Clause 6.5.3 compliance grade

Subclause	Requirement	Compliance grade
6.5.3	For each Customer Advisory Group, WaterNSW must ensure that, at all times, the membership of the Customer Advisory Group is appointed and determined by WaterNSW in accordance with the Customer Advisory Group Charter.	Compliant (minor shortcomings)
Risk	Target for full compliance	
Not meeting the Charter requirements means that the Customer Advisory Groups may not be representative and that governance requirements for appointments are not met.	Records to show how Customer Advisory Group membership was determined and that the appointment followed due process according to the Customer Advisory Group Charter.	

Evidence sighted

- 6.5.3 CD2015 281v2 WNSW CAG Charter.doc
- 6.5.3 D2017 43440 CAG Nominations Register 17-19.xlsx
- 6.5.3 D2017 56768 CAG Nom DVIA DC.pdf
- 6.5.3 D2017 56936 CAG Nom Cudgegong Valley BC.pdf
- 6.5.3 D2017 57690 CAG Nomination MRFF TQ.pdf
- 6.5.3 D2017 57978 CAG Nom Central Darling Shire Council RW MB.pdf
- 6.5.3 D2017 58150 CAG Nom Eastern BC.pdf
- 6.5.3 D2017 59304 CAG Nom Barwon Darl Water GM JM.pdf
- 6.5.3 D2017 86808 Letter of Appointment Barwon-Darl CAG TS.pdf
- 6.5.3 D2017 86847 Letter of Appointment Border Rivers CAG BC.pdf
- 6.5.3 D2017 86929 Letter of Appointment Macq-Cudg CAG GT.pdf

Summary of reasons for grade

A register (for 2017-2019 nominations) is in place which shows which members with which skills and experience (essentially the requirements of the Charter criteria) are in place for each CAG. A process is in place for seeking, assessing and approving nominations although the evidence base for why each nominee was selected could be improved. The register confirms that each CAG has the appropriate membership spread according to the Charter. Due process according to the Charter's requirements has been met. Criterion is assessed as *Compliant (minor shortcomings)*.

Discussion and notes

To test this clause, we reviewed the following areas:

- Appointment of the CAG according to the Charter
- Membership determination of the CAG according to the requirements of the Charter:
 - stock and domestic water users
 - Regulated River water users

- Unregulated River water users
- groundwater users
- environmental water users
- industrial and commercial water users
- Local Water Utilities
- Major Utilities
- small water users based on their Water Licence volume
- medium water users based on their Water Licence volume
- large water users based on their Water Licence volume
- Aboriginal cultural heritage water users.

Appointment

A register (for 2017-2019 nominations) is in place which shows which members with which skills and experience (essentially the requirements of the Charter criteria) are in place for each CAG. A process is in place for seeking, assessing and approving nominations. Examples of nominations and pro formas for nomination were sighted and reviewed in this and the preceding clauses.

We requested and received evidence for 3 out of 10 of the CAGs, specifically that of Barwon-Darling, Macquarie-Cudgegong and the Border Rivers CAGs. Additional CAG evidence on nominations was also provided and reviewed.

The pro forma contains a section which matches the criteria in the Charter.

Determination

The register confirms that each CAG has the appropriate membership spread according to the Charter. Some notes are included in the register where nominations were not accepted or where other information was sought. At interview, it was confirmed that generally, notes were only made by exception rather than having a full evidence base for acceptance. Meetings were undertaken to facilitate the assessment and approval process but outcomes were not minuted.

Recommendation

Recommendation 6.5.3-1: At least 6 months before the next round of nominations, ensure that a process is in place to capture the evidence base (records) for assessment and approval of nominations to the CAGs. Examples could include recording of minutes from assessment and approval meetings and/or an additional column in the register as a record of the outcome of assessment of the nominee.

Opportunities for improvement

OFI 6.5.3-1: The register could be improved by separating out the charter criteria into their own columns to facilitate recording of information on how each nominee meets or does not meet each criterion.

Clause 6.5.4

Table 44. Clause 6.5.4 compliance grade

Subclause	Requirement	Compliance grade
6.5.4	<p>For each Customer Advisory Group, WaterNSW must use its best endeavours to ensure that membership is representative of the Customers in that area and include at least one Customer representing each of the following categories (where there are Customers in this category for the area associated with the Customer Advisory Group):</p> <ol style="list-style-type: none"> stock and domestic water users; Regulated River water users; Unregulated River water users; groundwater users; environmental water users; industrial and commercial water users; Local Water Utilities; Major Utilities; small water users based on their Water Licence volume; medium water users based on their Water Licence volume; large water users based on their Water Licence volume; and Aboriginal cultural heritage water users. 	Compliant (minor shortcomings)

Risk	Target for full compliance
Not having a diversity of members means that the Customer Advisory Groups may not be representative of customers and customer issues within that Customer Advisory Group's area.	<p>A procedure or other that shows the methods WaterNSW uses to determine Customer Advisory Group representation.</p> <p>Records to show implementation of the procedure for determining representation.</p> <p>Checklist or other to show that representation matches the requirements of this clause.</p>

Evidence sighted

- 6.5.4 CD2015 281v2 WNSW CAG Charter.doc
- 6.5.4 D2017 43440 CAG Nominations Register 17-19.xlsx
- 6.5.4 D2017 56768 CAG Nom DVIA DC.pdf
- 6.5.4 D2017 56936 CAG Nom Cudgegong Valley BC.pdf
- 6.5.4 D2017 57690 CAG Nomination MRFF TQ.pdf
- 6.5.4 D2017 57978 CAG Nom Central Darling Shire Council RW MB.pdf
- 6.5.4 D2017 58150 CAG Nom Eastern BC.pdf
- 6.5.4 D2017 59304 CAG Nom Barwon Darl Water GM JM.pdf
- 6.5.4 D2017 86808 Letter of Appointment Barwon-Darl CAG TS.pdf
- 6.5.4 D2017 86847 Letter of Appointment Border Rivers CAG BC.pdf
- 6.5.4 D2017 86929 Letter of Appointment Macq-Cudg CAG GT.pdf

Summary of reasons for grade

The nominations register clearly shows the nominees, their skill sets and areas of expertise (according to at least the Charter criteria and other) and approval. An alternate representative is shown in the register. Where there is no customer representative for a particular criterion, it is not clear whether there was no representative to meet that criterion or how WaterNSW sought out potential representation to fill that gap. While there was some verbal evidence, it was not possible to fully test the ‘best endeavours’ requirement of this clause. This clause is *Compliant (minor shortcomings)* as the outcomes do appear to match the overall requirements of this clause.

Discussion and notes

The nominations register clearly shows the nominees, their skill sets and areas of expertise (according to at least the Charter criteria and other) and approval. An alternate representative is shown in the register.

The nomination pro forma includes a section which matches the criteria in the Charter.

We reviewed 3 out of 10 of the CAGs against the requirements of the Charter clause 2.a.i. criteria (Table 45). Some of the criteria were not represented. It is not clear, where representation is missing from the Charter criteria, whether there was no representative which met that criterion or how WaterNSW sought out potential representation to fill that gap (if it was a gap). At the interviews, it was confirmed that no nomination had been received to fill the gap even though nominations were sought to meet all required criteria.

Table 45. Review of Charter 2.a.i criteria for 3/10 CAGs

Charter Criteria (Clause 2a(i))	Barwon-Darling	Macquarie-Cudgegong	Border Rivers
# Members	10	14	11
1. Stock and domestic users	6	8	6
2. Regulated river water users	1	10	6
3. Unregulated river water users	5	3	7
4. Groundwater users	0	5	4
5. Environmental water users	2	2	2
6. Industrial and commercial customers	1	0	0
7. Local Water Utilities	5	2	1
8. Major Utilities	0	0	0
9. Volumetric categories of users (small/medium/large)	2	10	4
10. Indigenous Australian water users.	0	1	0

There is no clear synthesis of all CAGs against the criteria i.e. no matrix to facilitate provision of an overarching view of membership.

Recommendation

Recommendation 6.5.4-1: At least 6 months before the next round of nominations, ensure that a process is in place (perhaps as a record in the register) to improve demonstration of WaterNSW's 'best endeavours' in meeting the requirements of this clause.

Opportunities for improvement

OFI 6.5.4-1: Consider developing an overarching matrix (Table 45 is an example) as a means of improving oversight of membership and criteria representation for each CAG.

See also, other preceding opportunities for improvement for this clause as a whole.

Clause 6.5.5

Table 46. Clause 6.5.5 compliance grade

Subclause	Requirement	Compliance grade
6.5.5	WaterNSW must provide the Customer Advisory Groups with adequate information within its possession or under its control necessary to enable the Customer Advisory Groups to discharge the tasks assigned to them other than information or documents that are confidential.	Compliant
Risk	Target for full compliance	
Not having a process in place may mean that WaterNSW may not be able to determine the appropriate tasks or information for consideration by Customer Advisory Groups. WaterNSW may not provide appropriate evidence or an appropriate standard of evidence to the Customer Advisory Groups which may mean that the groups are unable to undertake their tasks and fulfil their purpose.	Evidence to show the types of tasks assigned to the Customer Advisory Groups and how WaterNSW has matched the evidence with those tasks.	

Evidence sighted

- 6.5.5 D2017 105637 Border Riv CAG Mins 28 Aug 17.DOCX
- 6.5.5 D2017 111037 Border Riv CAG Bus Papers 28 Aug 17.pdf
- 6.5.5 D2017 114050 Border Riv CAG Attachment to minutes 28 Aug 17.PDF
- 6.5.5 D2017 114474 Macq-Cudg Bus Papers 14 Sep 17.pdf
- 6.5.5 D2017 114498 Macq-Cudg CAG Minutes 14 Sep 17.doc
- 6.5.5 D2017 114519 Macq-Cudg CAG Attachment to minutes 14 Sept 17.pdf
- 6.5.5 D2017 115771 Barwon-Darling CAG Bus Papers 21 Sept 17.PDF
- 6.5.5 D2017 116210 Barwon-Darling CAG mins 21 Sept 17.doc

Summary of reasons for grade

The evidence reviewed for Clause 6.5.2 in particular, supported by other clauses in this suite, confirms that the information provided to the CAGs is sound. CAG member feedback evidence and outcomes from the CAG process, confirms that the information provided is fit for purpose and is allowing the CAG to discharge its responsibilities. This clause is *Compliant*.

Discussion and notes

See discussion for clause 6.5.2.

Recommendation

There are no recommendations for this clause.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 6.8 – Code of practice on payment difficulties

Clause 6.8.1

Table 47. Clause 6.8.1 compliance grade

Subclause	Requirement	Compliance grade
6.8.1	WaterNSW must maintain and fully implement a code of practice that assists Customers experiencing financial hardship to better manage their current and future Bills (Code of Practice on Payment Difficulties) in accordance with this clause 6.8.	Compliant
Risk	Target for full compliance	
Not having an appropriate and fully implemented Code of Practice may mean that customers are disadvantaged.	A WaterNSW customer-specific Code of Practice, which was current for the audit period and which includes the requirements of Clause 6.8.2. Evidence to support implementation of the Code of Practice such as records of customer complaints and actions taken to address those complaints.	

Evidence sighted

- 6.8.1 CD2017 70 Debt Management Code of Practice.DOCX
- 6.8.1 D2018 102022 Overdue Notice Example.pdf
- 6.8.1 D2018 102023 Tax Invoice Copy - Customer And Community.pdf
- 6.8.1 Public version of debt management code of practice on website.docx
- Records for 4/16 of the licence suspensions and 5/59 'current' payment plans
- D2018 122345 Debt Management Process Map_Internal.pdf

Summary of reasons for grade

WaterNSW satisfies the requirement to have a 'Code of Practice on Payment Difficulties' via its 'Debt Management Code of Practice' (Debt Code). The records we reviewed confirmed that the Debt Code is being fully implemented. This clause is *Compliant*.

Discussion and notes

WaterNSW's version of the 'Code of Practice on Payment Difficulties' is the 'Debt Management Code of Practice' (Debt Code). WaterNSW provided a copy of the document as evidence and we sighted the section of WaterNSW's website which includes information relating to customer accounts and paying bills.¹³⁹ The Debt Code provided as evidence did not have any currency identifiers. Evidence was provided to confirm currency after the site visit. It was confirmed at interview that the Debt Code was current for the audit date scope and that it had not previously been a 'controlled document'. The Debt Code is now being managed as a 'controlled document'.

We checked that implementation of the code was consistent with the rest of the clauses under clause 6.8.

¹³⁹ <https://www.watnsw.com.au/customer-service/service-and-help/my-account#stay>

We sighted the sample implementation evidence provided in terms of the overdue notice and the tax invoice copy. We confirmed that the overdue notice includes information on how to pay the bill if experiencing hardship.

The tax invoice provided¹⁴⁰ confirms the process of billing for that customer type. We observed that the customer assistance section states that if experiencing hardship, the customer can contact customer assistance but there is no number in this section, the reader must look for the 1300 number at the top of the bill (in small font). We observed that the customer assistance section in the overdue notice includes the customer help number.

We requested information to show the process for identifying hardship and the steps initiated once this has occurred. We were provided with the debtor management and licence suspension process map.¹⁴¹

We reviewed records on licence suspensions (16) and 'current' payment plans (59) for the audit date scope. We requested records for 4 out of 16 of the licence suspensions and 5 out of 59 'current' payment plans to test implementation of process. Evidence for 3 of the payment plans and all of the suspensions requested was provided post site interviews.

While we did not receive all of the evidence for the payment plans, we were able to confirm the process of proceeding from identification of hardship, entering into of payment plans, licence suspension and then removal of suspension (where appropriate) by review of the provided records.

We are satisfied that code of practice is in place and fully implemented.

Recommendation

There are no recommendations for this clause.

Opportunities for improvement

OFI 6.8.1-1: For greater visibility, consider adding the customer help number to the 'customer hardship' paragraph on the tax invoice.

¹⁴⁰ 6.8.1 D2018 102023 Tax Invoice Copy - Customer And Community.pdf

¹⁴¹ D2018 122345 Debt Management Process Map_Internal.pdf

Clause 6.8.2

Table 48. Clause 6.8.2 compliance grade

Subclause	Requirement	Compliance grade
6.8.2	<p>The Code of Practice on Payment Difficulties must:</p> <ul style="list-style-type: none"> a) provide for a payment plan for Customers who are responsible for paying their Bills and who are, in WaterNSW's reasonable opinion, experiencing financial hardship; b) include procedures for identifying the circumstances under which WaterNSW may restrict the provision of services to a customer (including in respect of CSR Water and Supply water); c) include procedures for identifying the circumstances under which WaterNSW may suspend water access licences when a Customer has not paid its Bill and an overview of the process that must be followed prior to suspension; and d) include procedures for self-identification, identification by community welfare organisations and identification by WaterNSW of Customers experiencing financial hardship. 	Non-compliant (non-material)

Risk

Without informing customers and any other persons, they may not understand the circumstances for service restriction or water access licence suspension and their payment options in times of hardship.

Target for full compliance

A WaterNSW customer-specific Code of Practice, which was current for the audit period and which includes the requirements of Clause 6.8.2.

Evidence to show that the code was checked and signed off as meeting obligations by someone with the appropriate authority to do so.

Specifically defined criteria for financial hardship.

Procedures or other for identifying the circumstances under which WaterNSW may restrict the provision of services to a customer (including in respect of CSR Water and Supply water).

CRM database or other for records to show how the code was implemented.

Procedures for self-identification, identification by community welfare organisations and identification by WaterNSW of Customers experiencing financial hardship.

Evidence sighted

- 6.8.2 CD2017 70 Debt Management Code of Practice.DOCX
- 6.8.2 Public version of debt management code of practice on website.docx
- D2018 122345 Debt Management Process Map_Internal.pdf

Summary of reasons for grade

While WaterNSW has a Debt Management Code of Practice, it does not fully meet the requirements of clause 6.8.2(d). Currently, there is no procedure for identification of hardship by community welfare organisations although we note that WaterNSW is undertaking work on consultation and communication on drought hardship. WaterNSW stated that there have been no examples where a community welfare organisation has

referred a customer however, it is not possible to state if this absence of reporting is due to:

- absence of those groups having identified such a customer
- the community welfare organisations not being aware of a process whereby they could refer a WaterNSW customer.

Currently WaterNSW does not have a definition of hardship, it relies on the first non-payment of a bill by a customer.¹⁴² We note that the WaterNSW website provides guidance on the requirements for proving hardship and applying for a payment plan. We believe that while there are identified deficiencies, these deficiencies are partly addressed by other material outside of the Code and therefore, on balance, do not adversely impact on the ability of WaterNSW to achieve defined objectives or assure controlled processes, products or outcomes and therefore, this clause is *Non-compliant (non-material)*. However, we have included a recommendation to ensure that the deficiencies are addressed.

Discussion and notes

We checked the code against each of the requirements of clause 6.8.2 as noted in Table 49 against 6.8.1 CD2017 70 Debt Management Code of Practice.DOCX. The website version does not exactly match the document version, however, we accept that the differences are minor in nature and are not material i.e. the differences do not change the intent of the message. The differences are indicative of a document control/management issue however, and this aspect is covered in Element 10 of the ADWG Framework under Clause 2.1.1 obligations and therefore, is not covered further here to avoid double-counting.

At interview we discussed the requirement to have a link on WaterNSW's website to the Sydney Water hardship code for those WaterNSW customers currently billed by Sydney Water – given the potential for confusion between billing party and supplier party. However, given that the customers are still WaterNSW customers and that evidence was provided to confirm the future transition to WaterNSW billing, we feel that the approach adopted by WaterNSW is satisfactory.

For clause 6.8.2(d), we found that there was partial coverage of the clause requirements. We formed our opinion based on our findings for the requirements for community welfare organisations and definition of how WaterNSW defines financial hardship.

Currently, there is no procedure for identification by community welfare organisations although we note that WaterNSW is undertaking work on consultation and communication on drought hardship. WaterNSW stated that there have been no examples where a community welfare organisation has referred a customer however, it is not possible to state if this absence of reporting is due to:

- absence of those groups having identified such a customer

¹⁴² D2018 122345 Debt Management Process Map_Internal.pdf

- the community welfare organisations not being aware of a process whereby they could refer a customer.

Currently WaterNSW does not have a definition of hardship, it relies on the first non-payment of a bill by a customer.¹⁴³

Table 49. Review of requirements of clause 6.8.2 in WaterNSW's Debt Management Code of Practice¹⁴⁴

Clause 6.8.2 Requirement	Included?	Location
(a) provide for a payment plan for Customers who are responsible for paying their Bills and who are, in WaterNSW's reasonable opinion, experiencing financial hardship	Yes	Assisting you paying your water account
b) include procedures for identifying the circumstances under which WaterNSW may restrict the provision of services to a customer (including in respect of CSR Water ¹⁴⁵ and Supply water)	Yes	If you don't pay your bill
c) include procedures for identifying the circumstances under which WaterNSW may suspend water access licences when a Customer has not paid its Bill and an overview of the process that must be followed prior to suspension	Yes	If you don't pay your bill
d) include procedures for self-identification, identification by community welfare organisations and identification by WaterNSW of Customers experiencing financial hardship	Partial	If you don't pay your bill

Recommendation

Recommendation 6.8.2-1: By 31 December 2019, address the requirement to include all parts of clause 6.8.2(d), i.e. development and implementation of procedures for community welfare organisations to identify customers experiencing hardship.

Opportunities for improvement

There are no opportunities for improvement for this clause.

¹⁴³ D2018 122345 Debt Management Process Map_Internal.pdf

¹⁴⁴ 6.8.1 CD2017 70 Debt Management Code of Practice.DOCX

¹⁴⁵ Capture store and release water – Water NSW Operating Licence 2017-2022, Clause 8.1 Definitions

Clause 6.8.3

Table 50. Clause 6.8.3 compliance grade

Subclause	Requirement	Compliance grade
6.8.3	WaterNSW must set out details of the Code of Practice on Payment Difficulties in the Customer Service Charter, or, where a Customer Supply Agreement is established in respect of a Customer, in that Customer Supply Agreement. [Note: This requirement does not apply to any arrangements with Sydney Water under section 25 of the Act.]	Non-compliant (non-material)
Risk	Target for full compliance	
Without informing customers and any other persons, they may not understand the circumstances for service restriction or their payment options in times of hardship.	Documentation to show how the relevant details were identified. Clear articulation of those relevant details in a Customer Service Charter and a Customer Supply Agreement.	

Evidence sighted

- 6.8.2 CD2017 70 Debt Management Code of Practice.DOCX
- 6.8.2 Public version of debt management code of practice on website.docx
- 6.8.3 Customer Service Charter.docx
- 6.8.3 D2016 86897 Licence Suspensions 2017-18.XLSX
- 6.8.3 D2016 98389 Sydney Water Pymnt difficulty code of practice.PDF
- 6.8.3 D2018 75251 Rport & Chklist of Pymnt plns as at 11072018.XLSX
- 6.1.1 D2016 103968[v2] Fish River Agreement for Supply of Filtered Water.DOCX

Summary of reasons for grade

WaterNSW generally met the requirements for this clause apart from the Fish River filtered water agreements not having a reference to the Debt Management Code of Practice or details of the process in the event of payment difficulties. We believe that in terms of customer numbers and the fact that the Debt Code is on WaterNSW's website, that this deficiency does not adversely impact the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes and therefore this clause is *Non-compliant (non-material)*.

Discussion and notes

Fish River filtered water agreements do not include a reference to the Debt Code.

Greater Sydney customers are still on SCA agreements which have not yet been moved over to the WaterNSW agreements and are still covered by the Sydney Water hardship code. The Sydney Water document¹⁴⁶ includes document history and we confirmed that it was current for the audit date scope. We confirmed inclusion of the requirements of clause 6.8.2 in the Sydney Water Payment Assistance Policy.

¹⁴⁶ 6.8.3 D2016 98389 Sydney Water Pymnt difficulty code of practice.PDF, Doc no. 447786 Version: 2 Issue date: 14/03/2018

We sighted the WaterNSW Customer Hardship Policy on the website¹⁴⁷ including a download link for the policy. We downloaded the policy to test inclusion of the requirements of this clause. There is no specific reference to the Debt Code in the policy although we discussed and accepted at interview that the intent of the Debt Code is embedded in the document. There is no document history on the policy, so it is not possible to test currency of the document for the purposes of the audit date scope. It was confirmed at the audit interview that the document was current for the audit date scope. We requested evidence to confirm the review history for the Debt Code. We received an email in response to this request, showing that review history had been requested internally, but were unable to sight evidence to confirm where that review history had been provided.

Recommendation

Recommendation 6.8.3-1: By 31 December 2019, ensure that a process is in place to assure that all future water supply agreements comply with the requirements of clause 6.8.3.

Opportunities for improvement

There are no opportunities for improvement for this clause.

¹⁴⁷ <https://www.waternsw.com.au/customer-service/charter>

Clause 6.8.4

Table 51. Clause 6.8.4 compliance grade

Subclause	Requirement	Compliance grade
6.8.4	<p>WaterNSW must provide, free of charge, information on the Code of Practice on Payment Difficulties:</p> <ul style="list-style-type: none"> a) to Customers, except Sydney Water, at least once annually with their Bills; and b) to Customers whom WaterNSW identifies as experiencing financial hardship on the date that WaterNSW first identifies that the Customer is experiencing financial hardship; and c) on its website for downloading by any person. 	Compliant (minor shortcomings)
Risk	Target for full compliance	
<p>Putting in place barriers to the provision of information on the Code of Practice on Payment Difficulties creates a risk in understanding the provisions that customers are entitled to. Not making the information free of charge creates an equity risk to the provision of information. Not quickly identifying customers experience hardship poses a longer-term risk of payment default and amplified work for the organisation overall.</p>	<p>Records (CRM or other) that clearly show criteria for experiencing financial hardship and how a Customer is 'first identified' as experiencing that hardship.</p> <p>Records (print invoice or other) to prove that information on the Code of Practice on Payment Difficulties was provided to Customers at least once in the audit date scope, with their bills.</p> <p>Evidence of the appropriate version of the Code of Practice on Payment Difficulties on the WaterNSW website for the audit date scope.</p>	

Evidence sighted

- 6.8.4 D2016 86897 Licence Suspensions 2017-18.XLSX
- 6.8.4 D2018 75251 Rport & Chklist of Pymnt plns as at 11072018.XLSX
- 6.8.4 D2018 102022 Overdue Notice Example.pdf
- 6.8.4 Public Version Debt Mgmt Code of Practise.docx
- D2018 122345 Debt Management Process Map_Internal.pdf

Summary of reasons for grade

While most components of this clause are met, there is no specific and current definition of what constitutes financial hardship or requirement to document first identification of hardship (to support fulfilment of clause 6.8.4(b)). We were able to confirm that while there is no definition, there is a process in practice which allows a *de facto* identification of 'first hardship' to be recorded i.e. the first non-payment of a bill.

We are therefore comfortable that while there is a gap, the deficiency represents a shortcoming and therefore, this clause is *Compliant (minor shortcomings)*.

Discussion and notes

Discussion on the compliance of WaterNSW against the requirements of this clause is provided in Table 52.

Table 52. Review of requirements of clause 6.8.4 in provision of WaterNSW's Debt Management Code of Practice¹⁴⁸

Clause 6.8.4 Requirement	Met?	Evidence
(a) to Customers, except Sydney Water, at least once annually with their Bills	Yes	The overdue notice includes customer assistance. We accepted that the intent of the Debt Code is included.
(b) to Customers whom WaterNSW identifies as experiencing financial hardship on the date that WaterNSW first identifies that the Customer is experiencing financial hardship	Partial	First identification of financial hardship is taken as being the first non-payment of a bill. There is no specific and current definition of what constitutes financial hardship or requirement to document first identification of hardship.
(c) on its website for downloading by any person	Yes	While there is no 'download' link for the Debt Code, the components of the code are on WaterNSW's website therefore, it is accepted that this clause requirement is met.

There is no specific and current definition of what constitutes financial hardship or requirement to document first identification of hardship. We discussed this issue at the interview. WaterNSW's post audit response was:

"WaterNSW relies on customers to self identify if they are experiencing customer hardship. The debt management code of practice can be viewed by all customers on our website, at <https://www.waternsw.com.au/customer-service/service-and-help/my-account>.

Furthermore, on all notices provided to customers, WaterNSW does invite the customer to contact us if they are experiencing financial hardship.

A process map¹⁴⁹ for the debt recovery process also attached, summarised below:

- 1. Invoice issued*
- 2. First payment reminder notice issued 14 days after due date of invoice*
- 3. Second payment reminder noticed issued 14 days after first reminder*
- 4. First notice of intent to suspend issued to customer 14 days after second reminder notice*
- 5. Final notice of intent to suspend issued to customers 14 days of first notice of intent to suspend notice.*
- 6. Field officer form issued to nearest field officer for any additional notes that they may have on the customer, also to do a field visit to ensure nothing out of the ordinary*

¹⁴⁸ 6.8.1 CD2017 70 Debt Management Code of Practice.DOCX

¹⁴⁹ D2018 122345 Debt Management Process Map_Internal.pdf

7. *Recommendation for suspension to credit manager*

8. *Suspension with LRS, customer unable to order, trade or extract water*

9. *Accounts may also be referred to external debt collector”*

We confirmed the above by review of evidence supplied on request, for clause 6.8.1. We are therefore comfortable that while there is a gap, the deficiency does not adversely impact the ability of WaterNSW to achieve defined objectives or assure controlled processes, products or outcomes and therefore this clause is *Compliant (minor shortcomings)*.

Recommendation

Recommendation 6.8.4-1: By 30 September 2019, include a definition of financial hardship in the Debt Management Code of Practice. Ensure that Customer Support Officers are trained in this definition and that records are kept to support when customers are first identified as experiencing financial hardship.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 6.9 – Internal complaints handling procedure

Clause 6.9.1

Table 53. Clause 6.9.1 compliance grade

Subclause	Requirement	Compliance grade
6.9.1	WaterNSW must maintain a procedure for receiving, responding to and resolving Complaints, which is consistent with the Australian Standard AS/NZS 10002:2014: Guidelines for complaints management in organizations (AS/NZS 10002:2014) or other standard approved by IPART on request by WaterNSW (Internal Complaints Handling Procedure).	Non-compliant (material)
Risk	Target for full compliance	
Not maintaining a procedure for receiving, responding to and resolving complaints means that customers may be disadvantaged and not have their complaints managed appropriately.	<p>Evidence (such as a checklist) to show how the procedure has been cross-checked for compliance against the standard</p> <p>Document history to show currency (for 'maintenance')</p> <p>Evidence to confirm that if another standard is being used, that it has been approved by IPART</p>	

Evidence sighted

- 6.9.1 CD2007 13[V4] Complaints and Compliments Handling Procedure.DOC
- 6.9.1 CD2011 3[v4] Risk Management Framework.DOCX
- Internal email from WaterNSW (Customer Experience Service Improvement Specialist) 7 November 2018 relating to the audit RFI on KPI results
- Email from General Manager Governance, Awareness and Policy EWON to WaterNSW, 16 January 2018 on WaterNSW's compliance

Summary of reasons for grade

We confirmed with WaterNSW and IPART that no other standard, other than AS/NZS 10002:2014 is used. A current procedure is in place based on AS/NZS 10002:2014 (Complaints Handling and Compliments Procedure). For the components tested, the procedure is generally consistent with the requirements of the standard noting some deficiencies relating to the source of complaints not including those from social media. We were unable to sight evidence to confirm that the responsibilities of complainants (Standard Clause 5.3.1) or complaints involving multiple parties (Standard Clause 5.3.3) were covered in the procedure. There was a gap in the procedure and process in that water quality is not specifically recognised as a complaint category even though WaterNSW supplies drinking water via the Fish River Water Supply Scheme. Evidence was provided to show that the procedure and the website had been reviewed by EWON. Not responding appropriately (including timeliness) to a complaint originating from a drinking water system customer could lead to serious public health consequences. It is our opinion that overall, the identified gaps could adversely impact on the ability of WaterNSW to achieve defined objectives or assure controlled processes, products or outcomes and therefore this clause is *Non-compliant (material)*.

Discussion and notes

To test this clause, we reviewed the following aspects:

- whether another standard had been used
- that a complaints handling procedure is in place
- consistency of the procedure with AS/ NZS 10002:2014
- maintenance of the procedure
- relevance of the procedure to WaterNSW's products and services.

Another standard

We confirmed with WaterNSW and IPART that no other standard is used.

Complaints Handling Procedure

A procedure is in place based on AS/NZS 10002:2014 (Complaints Handling and Compliments Procedure).¹⁵⁰

Consistency of the procedure with AS/NZS 10002:2014

We checked the Complaints Handling and Compliments Procedure against key components of the standard. We found the following:

- The definitions used in the procedure matched those in the standard.
- Source of complaints does not specifically include those from social media (Standard Clause 4.6).
- Accessibility of the complaints management system generally matches the requirements of the standard (Clause 5.1.4).
- The complaints management process is visible (on WaterNSW website) and transparent (Clause 5.1.3), it is a controlled document available on TRIM (ARK).
- Managing complaints – the procedure includes KPIs for responsiveness in managing complaints, responses and escalation for managing risk, investigating complaints (Clause 5.2 overall). We tested this component by reviewing evidence of reporting on 3/7 of the KPIs:¹⁵¹
 - Acknowledgement, document initial investigation – 1 day, 100%:
 - Resolution – 85%
 - Ongoing review and resolution - <10 complaints @ 10 days +
 - Excluding complaints not relating to a metering service charge (which was explained at interview), at 30/6/18, only 4 were still open (with valid explanations given for all).
 - For a sample of a random 4 months¹⁵², 19 out of 25 complaints were within 10 business days and 6 out of 25 were outside of 10 days. Reasons were provided for the delay, some involved delays in response from the responsible Business Unit.

¹⁵⁰ CD2007/13[v4]

¹⁵¹ Internal email from Water NSW (Customer Experience Service Improvement Specialist) 7 November 2018 relating to the audit RFI on KPI results

¹⁵² Months chosen by WaterNSW

- Privacy of information is included in the procedure – consistent with the standard (Clause 5.2.4).
- Managing the parties – the clause (Clause 5.3) is generally met, however we did not sight evidence to confirm that the responsibilities of complainants (Clause 5.3.1) or complaints involving multiple parties (Clause 5.3.3) was covered in the procedure.

In addition, WaterNSW provided evidence to support the procedure's consistency with AS/NZS 10002:2014 based on a review by EWON. The evidence was in the form of an email¹⁵³ from the General Manager Governance, Awareness and Policy to WaterNSW. The email provides evidence that the procedure and website were reviewed from EWON's perspective and not the perspective of checking against the standard's requirements.

Maintenance of the Procedure

To test the 'maintain' component of this clause, we requested records to confirm the currency of the procedure. Screenshots confirmed the revision history of the document and its currency.¹⁵⁴

Relevance of the Procedure

The complaints handling process must incorporate the products and services of the enterprise it is developed and implemented for, with performance requirements for complaint receipt, response and resolution. Given that WaterNSW supplies drinking water as well as raw (non-potable) water, we discussed whether a checklist or other was available to help inform/direct Customer Service Officers (CSOs) on receipt of a customer response. In particular, we discussed the need to manage water quality responses (as part of cross-auditing customer WQMS Clause 2.1 requirements). It was confirmed that water quality is not currently covered as a specific item when logging customer responses.

Recommendation

Recommendation 6.9.1-1: By 30 September 2019, ensure that water quality is added to the customer complaint issues for capturing relevant information e.g. noting whether the customer is being supplied with drinking or other water product and recording the type of complaint e.g. 'milky water', taste and odours etc.

Recommendation 6.9.1-2: By 31 December 2019, ensure that CSOs are trained in responding to issues relating to water quality, including distinguishing whether the customer understands whether they are receiving potable or non-potable water.

¹⁵³ Email from General Manager Governance, Awareness and Policy EWON to Water NSW, 16 January 2018 on Water NSW's compliance

¹⁵⁴ D2018 122342 Complaints Procedure Revision Record.pdf

Opportunities for improvement

OFI 6.9.1-1: It would be advantageous for WaterNSW to complete a cross-check of the Complaints Handling and Compliments Procedure against all of the requirements of AS/NZS 10002:2014.

Clause 6.9.2

Table 54. Clause 6.9.2 compliance grade

Subclause	Requirement	Compliance grade
6.9.2	WaterNSW must ensure that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the Internal Complaints Handling Procedure.	Compliant
Risk	Target for full compliance	
Not fully implementing the complaint handling procedure causes a risk to achieving and managing customer service and satisfaction.	Evidence to demonstrate that the procedure was fully implemented in the audit date scope including, but not limited to, training of customer support and other staff, CRM or other records which show how the procedure was implemented in practice.	

Evidence sighted

- 6.9.2 CD2007 13[v4] Complaints and Compliments Handling Procedure.DOC
- 6.9.2 D2018 64674 How to Enter a Complaint in SuppCentre+.DOCX
- 'Canned' response to customers
- Successful completion of probation letters, 13 November 2017 and 17 January 2018
- Sighting of use of Customer Helpdesk Ticketing System (database)
- Sighted use of TRIM (ARK) for records management

Summary of reasons for grade

For the areas tested (source of complaints, databases and their use, training, records management, KPI assessment), we believe that the implementation of the Complaints and Compliments Handling Procedure is sound and in accordance with the requirements of the procedure. We note that the deficiency in the inclusion of water quality is captured in the previous clause and therefore, this clause is considered to be *Compliant* as the clause relates to implementation of the procedure as it currently stands.

Discussion and notes

We tested the implementation requirements of this clause by reviewing a sample of areas relating to training (content, induction program and records of training), use of databases, website access/facilitation of customer interfacing, complaint records,

evidence to support assessment and analysis of 3 out of 7 KPIs listed in Table 1¹⁵⁵ of the Complaints Handling and Compliments Procedure.

Source of complaints

Section 2 of the procedure covers some potential sources of customer complaints. We discussed the most common mode of communication and confirmed that telephone calls are still the majority of responses received. We reviewed the website at the interview including access of customers to e-lodgement of responses. The website provides easy access for customers (Customer Feedback and Complaints Form) and there are various opportunities through various points on the website for customers to contact WaterNSW.

Databases

To test the recording of a complaint, we sighted the Customer Helpdesk Ticketing System during the interview. We requested information relating to responses on meter service charging (MSC) (an issue that had arisen in the Nepean area due to historical governance and changes around meter responsibilities and pricing). We corroborated verbal evidence on the MSC issue by sighting several MSC records in the ticketing database (~25% of overall complaints for the audit date scope related to the MSC issue). We confirmed, by sighting several records that a standard response¹⁵⁶ had been provided (as covered by Section 2.1.1 of the procedure) and that internal discussion on management of the same issue had been recorded as required by the procedure. We asked for and were provided with the 'canned' response to customers cited in the procedure.

Training

As telephone calls form the majority of customer responses received, it is important that CSOs are trained in receipt and management of responses. We were able to confirm that an induction program¹⁵⁷ is in place and that a probationary period for new CSOs is implemented in practice with successful participants being formally signed off on completion – two letters¹⁵⁸ of probation completion from the audit date scope were sighted as evidence.

Records Management

Databases (Proclaim), Customer Helpdesk Ticketing System and TRIM (ARK) are used to capture records in relation to this clause. We confirmed that records are kept in accordance with the procedure and general good practices.

KPI Assessment

We checked evidence for meeting 3 out of 7 KPIs in Table 1 of the procedure. The discussion on this aspect is provided in clause 6.9.1.

¹⁵⁵ p3 of 6, CD2007/13[v4]

¹⁵⁶ Records from April 2018

¹⁵⁷ D2018 122342 Induction Calendar.pdf

¹⁵⁸ Successful completion of probation letters, 13 November 2017 and 17 January 2018

Recommendation

There are no recommendations for this clause.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 6.9.3

Table 55. Clause 6.9.3 compliance grade

Subclause	Requirement	Compliance grade
6.9.3	WaterNSW must provide to Customers, at least annually with their Bills, information concerning internal Complaints handling, which explains how to make a Complaint and how WaterNSW will receive, respond to and resolve Complaints.	Compliant
Risk	Target for full compliance	
Not regulatory providing information on how customers may make complaints and how those complaints will be handled provides a risk to equity of information and potential redress for customers.	Evidence to demonstrate that WaterNSW has provided information concerning internal complaints handling to its customers at least once per annum within in the audit date scope.	

Evidence sighted

- 6.9.3 D2018 98407 Annual complaints handling_FINAL 17-18 - COPY.PDF
- Email from print contractor to WaterNSW 10 April 2018 informing of lodgements of bill inserts (D2018 122342 Lodgements.msg)

Summary of reasons for grade

A bill insert including information on internal complaints handling and an email from the print contractor confirming that the insert had been lodged with Australia Post, were accepted as proof of compliance for this clause. This clause is *Compliant*.

Discussion and notes

A customer feedback bill insert was provided as evidence for this clause (dated March 2018). The insert is well presented and the information on internal complaints handling by WaterNSW is clear to read.

We used an email from the print contractor, to confirm the insert had been sent to customers with their bill, within the audit date scope year (and therefore, 'annually' as required by this clause).

Recommendation

There are no recommendations for this clause.

Opportunities for improvement

There are no opportunities for improvement for this clause.

Clause 6.9.4

Table 56. Clause 6.9.4 compliance grade

Subclause	Requirement	Compliance grade
6.9.4	WaterNSW must make the information concerning internal Complaints handling referred to in clause 6.9.3 available to any person, free of charge, on its website for downloading.	Compliant
Risk	Target for full compliance	
Not making the information on internal complaints handling free of charge creates an equity risk to the provision of information.	Evidence to show that the process for internal complaints handling has been made available for downloading, to any person, without cost, via WaterNSW's website.	

Evidence sighted

- <https://www.watarnsw.com.au/customer-service/feedback/feedback-and-complaints-handling-policy>
- 6.9.4 Customer Feedback and Complaints.docx

Summary of reasons for grade

Information on WaterNSW's complaints handling policy is available on its website. We are therefore satisfied that the requirements of this clause have been met. This clause is considered to be *Compliant*.

Discussion and notes

The internal policy is not available publicly however, a section of the website¹⁵⁹ is dedicated to customer feedback and complaints. We accepted that the information being available on the website satisfies the requirements of this clause.

Recommendation

There are no recommendations for this clause.

Opportunities for improvement

There are no opportunities for improvement for this clause.

¹⁵⁹ <https://www.watarnsw.com.au/customer-service/feedback/feedback-and-complaints-handling-policy>

Clause 6.16 – Roles and Responsibilities with Department of Primary Industries Water

Clause 6.16.1

Table 57. Clause 6.16.1 compliance grade

Subclause	Requirement	Compliance grade
6.16.1	<p>WaterNSW must:</p> <p>a) agree in writing with the Department of Primary Industries Water (DPI Water) the roles and responsibilities regarding the conduct of Conferred Functions specified in Schedule A of this Licence; and</p> <p>b) comply with the agreement established under clause 6.16.1(a).</p> <p>[Note: Clause 6.16.1 does not limit the persons with whom WaterNSW may enter into an agreement or the matters which may be contained in the agreement.]</p>	Non-compliant (material)
Risk	Target for full compliance	
Conferred functions are not undertaken resulting in water take non-compliances as well as economic impacts and uncertainty to water licensees, applicants and end users.	A written agreement that clearly documents the roles and responsibilities regarding the conduct of Conferred Functions specified in Schedule A of this Licence.	

Evidence sighted

- D2018 102563 Deed of Business Transfer
- D2018 91344 WAMC W08-01 reporting worksheet.DOCX
- D2018 91382 WAMC W09-01 MIS Report June 18.PDF
- D2018 91384 WAMC W09-01 Licensing group report Jun18.PDF
- D2018 104007 FY18 Conferred functions.xlsx.XLSX
- D2018 104008 BU Report Ass Approvals Jun18.XLSX
- D2018 122522 Deed vs Conferred functions.XLSX
- Roles of Water Management Agencies in NSW (https://www.waternsw.com.au/data/assets/pdf_file/0020/133940/Roles-of-Water-Management-Agencies-in-NSW.pdf)
- Email 9May2018 advising of NRAR functions.pdf
- Email 3May2018 notifying communication should issue regarding NRAR functions.pdf
- Email 9May2018 confirming cascading of communication re. NRAR functions.pdf
- Deed of Variation.pdf
- Email 24April2018 re. Draft Deed variation for review.pdf
- Chapter 1-Introduction-and-Governance.pdf
- Chapter 2.1-Guide-Water- Management-Act.pdf
- Chapter 2.2-NSW-Planning-Legislation-2011-1222-v1.0.pdf
- Chapter 2.3-Other-Legislation.pdf

- Chapter 3.1-Managing-Records-of-Customers.pdf
- Chapter 3.2-Guide-to-Data-Entry-of-Customer-Information.pdf
- Chapter 4.1-Translating-and-Interpreting-Service.pdf
- Chapter 5.1- Processing-and-Assessing-an-Application-for-a-WAL v1.0.pdf
- Chapter 5.2-Water-Access-Licence-Dealings.pdf
- Chapter 5.3 -Managing-a-Water-Access-Licence-Surrender-Suspend-Cancel.pdf
- Chapter 5.3-Managing a Water Access Licence - Partial Surrender v.01.pdf
- Chapter 5.5 -Exit-from-a-co-held-WAL-v2.pdf
- Chapter 5.6-Managing-the-Registration-of-Interest-(ROI)-process.pdf
- Chapter 6.1-Referrals-for-Integrated-Development_Apr14.pdf
- Chapter 6.2-Issuing-Approval-Part-4-EPA-Act-July14.pdf
- Chapter 6.3-Approvals-Part 5.pdf
- Chapter 6.6-Security-Deposits-and-Bank-Guarantees-v3.5.pdf
- Chapter 8.1-Writing-Imposing-Varying-and-Revoking-Conditions.pdf
- Chapter 9.2-Refunding-Waiving-Fees-v1.4.pdf
- Chapter 9.3-Recording-Assessment-Time-v1.0.pdf
- Chapter 10-Guidelines-for-Senior-Delegated-Officers-v1.0.pdf
- Chapter 11.1-Water-Act-Procedures.pdf
- Email 1May2018 re. Operating Licence amendments.pdf
- D2018 129869 WNSW letter - interim arrangements WAMC functions.pdf
- Chronology - Roles & Responsibilities - OL6.16.1.docx

Summary of reasons for grade

The Deed of Business Transfer¹⁶⁰ provided as evidence of the agreement did not clearly document the Conferred Function and is not fit for purpose for demonstrating compliance with this clause. Conferred Functions in relation to compliance are no longer being undertaken by WaterNSW. Evidence of agreement with DoI Water that these functions are no longer WaterNSW's responsibility was not provided. There was insufficient evidence to confirm that roles and responsibilities for each of the Conferred Functions had been agreed between the Parties.

We were satisfied that WaterNSW had complied with the aspects of the agreement relating to the Water Administration Ministerial Council (WAMC) reporting. We had insufficient evidence to confirm that WaterNSW had complied with the agreement for all aspects of the Conferred Functions due to the lack of clarity between the Conferred Functions and the Agreement.

This clause was found *Non-compliant (material)*.

Discussion and notes

To audit this clause, we tested the following aspects:

For part a):

¹⁶⁰ D2018 102563 Deed of Business Transfer

■ Clause 6.16 – Roles and Responsibilities with Department of Primary Industries Water

- The presence of an agreement in writing with DPI water (Now DoI Water).
- That the conferred functions specified in schedule A of the licence are included in the agreement.
- That the agreement included the roles and responsibilities of the conferred functions.
- That the agreement articulated how the roles and responsibilities of the Conferred Functions would be conducted.¹⁶¹

For part b):

- Evidence that the requirements noted in part a) were implemented according to the requirements.

Agreement in writing

WaterNSW provided the Deed of Business Transfer (executed 13 September 2016) as evidence of compliance with this clause. Schedule 1 of this Deed sets out the roles and responsibilities for Department of Industry, Skills and Regional Development (DPI Water) and WaterNSW.

This document was signed by those with relevant authority from WaterNSW (Chief Executive Officer) and DoI (Deputy Director General).

The Term of the Deed continues until 1 July 2020.

In the interview WaterNSW confirmed the Deed of Business Transfer was the appropriate document for this clause for the audit period. WaterNSW subsequently provided evidence of an Executed Deed of Variation (30 October 2018), between WaterNSW and the Department of Industry (on behalf of NRAR). The Deed of Variation was signed by those with relevant authority WaterNSW (Chief Executive Officer) and DoI (Deputy Secretary).

Schedule A conferred functions are included in the agreement

Schedule 1 of the above Deed sets out the following tasks:

- drought contingency plans
- temporary water restrictions
- cold water pollution
- water quality monitoring (surface and ground water)
- algal monitoring
- metering and other forms of water take measurement
- customer transactions and service
- licence conversion
- new access licence application
- dealings
- surrender (of licences)
- ministerial amendments
- controlled allocations
- access register administration

¹⁶¹ The licence is silent on the definition of the term conduct. We have therefore used the Macquarie Dictionaries 2018 definition of direction or management; execution

- customer transactions and service
- new approval application
- approval maintenance.

Schedule 1 of the Deed of Business Transfer does not have a clear link to Conferred Functions specified in Schedule A of the Operating Licence.

We requested evidence to show which of the tasks recorded in the Schedule related to the Conferred Functions. An excel spreadsheet¹⁶² noting the Schedule 1 Task, Source (from Schedule A of the licence), Section (of the relevant Act), Function Description (of the section of the Act), Manager, and Procedure and Ark Reference (where available) was provided as evidence. The spreadsheet contained all the Conferred Functions except one (107(1A)).

In response to the Draft Report WaterNSW stated:

“The audit’s preliminary findings misinterpret the relationship between Schedule A of the Operating Licence and the Deed of Business Transfer. We acknowledge that the:

a. Operating Licence requires the parties to agree in writing the roles and responsibilities for the conduct of the Conferred Functions; and

b. Deed of Business Transfer between WaterNSW and Department of Primary Industries – Water (now, Department of Industry, Land & Water) represents this agreement in writing.

Relevantly, however, the Deed of Business Transfer (dated on or around 13 September 2016) pre-dates the finalisation of the Operating Licence (1 July 2017) by approximately 10 months. As the functions to be conferred to WaterNSW were only operationally confirmed from 1 July 2017, at the time of its creation the Deed of Business Transfer was an accurate reflection of the roles and responsibilities of the parties.

The Deed of Business Transfer explains by a breakdown of operational themes, the roles and responsibilities of each party in relation to the relevant legislative framework. Schedule 1 to the Deed of Business Transfer deals with thematic roles and responsibilities with respect to the functions that both DPI-Water and WaterNSW had agreed to the separate but related performance of (as of 16 September 2016). The list in this Schedule is explicitly non-exhaustive. Given the non-exhaustive, thematic nature of Schedule 1 to the Deed, and that it pre-dated the Operating Licence, it is not feasible that the purpose of Schedule 1 to the Deed was to identify each of the functions that WaterNSW was conferred through Schedule A of the Operating Licence. Rather, Schedule 1 to the Deed was envisaged as an indicative operational guide.

We agree that the Deed does not identify each of the conferred functions nor how it will be conducted.

WaterNSW further responded *“The Deed of Business Transfer provides that WaterNSW would receive the benefit of the Department’s operating manuals. These manuals, referred to during the audit interview ..., describe how legislative functions are to be exercised. Unless internal legal advice was provided to the contrary, or for operational reasons, WaterNSW*

¹⁶² D2018 122522 Deed vs Conferred functions.XLSX

staff exercised (and continue to exercise) conferred legislative functions in accordance with these manuals. The Deed of Business Transfer provides for this relationship at clause 6.2.”

We acknowledge that clause 6.2 of the Deed of Business Transfer allows for the signatory organisations to provide access or copies to the records, files, plans, documents, books publication, or access to the software, hardware databased and other material which the other party relies on order to perform its functions, including transferred Functions.

While the manual describes how various functions are to be undertaken, we do not have evidence demonstrating an agreement in writing that the manuals describe the roles and responsibilities of the parties regarding the conduct of Conferred Functions in Schedule A.

Some Conferred Functions are no longer being undertaken by WaterNSW. The Deed of Variation was provided as evidence of agreement with DoI Water that these functions are no longer WaterNSW's responsibility. Clause 4.6 of the Deed documented that NRAR staff will conduct all compliance investigations and enforcement actives under the NSW Water legislation in accordance with the NRAR Act and WaterNSW must not commence any new compliance investigations or enforcement actions after 30 April 2018. Evidence was provided that WaterNSW had sought to advise staff not to continue in undertaking the functions transferred to NRAR.¹⁶³ The email evidence provided did not include the list of conferred functions so we were unable to verify the advice provided.

Agreement included roles and responsibilities

The role of DPI Water and WaterNSW are outlined under each task in Schedule 1 of the Deed of Business Transfer, however the linkage between of the roles and responsibilities of the Conferred Functions in Schedule A of the Operating Licence to Schedule 1 of the Deed of Business Transfer was not clear. Responsibilities for all the Conferred Functions were not explicit in the Deed.

There were some of the Conferred Functions that did not appear to be undertaken by WaterNSW, for example *Water Management Act 2000* (NSW) Sections 63(7), 71(3) and Schedule 1A (cl 1(2) and 1(4)) were noted as being a one-off requirement undertaken at commencement of the *Water Management Act 2000* (NSW). The agreement is not explicit as to the role and responsibilities of WaterNSW for these functions (or that WaterNSW had no role or responsibilities for those functions).

Roles and responsibilities regarding the Conferred Functions

Some tasks in the Deed of Business Transfer note how the function will be executed e.g. compliance and education a role of WaterNSW is “Documents all compliance cases on the CIRaM system”, however the Deed was silent on how many functions were to be conducted. The excel sheet¹⁶² provided did, in many cases, refer to a procedure or manual. Chapters of the NSW Office of Water Licensing procedure manual were provided as evidence of how the Schedule A Conferred Functions would be conducted. WaterNSW advised “*Unless internal legal advice was provided to the contrary, or for*

¹⁶³ Email 9May2018 advising of NRAR functions.pdf

operational reasons, WaterNSW staff exercised (and continue to exercise) conferred legislative functions in accordance with these manuals."

From the evidence provided we could not establish that written agreement had been reached regarding the roles and responsibilities regarding the Conferred Functions.

Complying with the agreement

We were provided with evidence for certain aspects of compliance against the agreement including WAMC reporting including the internal reporting and annual reporting to IPART.¹⁶⁴ We were satisfied with the conduct of WaterNSW in complying with the agreement for these aspects.

Some tasks in the Deed of Business Transfer requirement WaterNSW to "Set procedures relevant to these services". In the excel spreadsheet¹⁶² it was noted that there were not specific Standard Operating Procedures for a number of Conferred Functions. Due to the lack of clarity between the Conferred Functions and the Deed of Business Transfer discussed above, we could not determine if these Functions required procedures under the agreement.

There was insufficient evidence to confirm compliance of WaterNSW in conducting the conferred functions under Schedule 1 of the Deed of Business Transfer.

Recommendation

Recommendation 6.16.1-1: By 31 December 2019, WaterNSW agrees in writing with DoI Water roles and responsibilities regarding the conduct of each of the Conferred Functions specified in Schedule A.

Opportunities for improvement

There are no opportunities for improvement for this clause.

¹⁶⁴ D2018 91344 WAMC W08-01 reporting worksheet.DOCX, D2018 91382 WAMC W09-01 MIS Report June 18.PDF, D2018 91384 WAMC W09-01 Licensing group report Jun18.PDF, D2018 104007 FY18 Conferred functions.xlsx.XLSX, D2018 104008 BU Report Ass Approvals Jun18.XLSX

3 Previous Recommendations

Recommendation 2016-17-01: Water Metering Clause 4.2.1

Item	Detail
IPART's recommendation to the Minister	By 30 June 2018, WaterNSW takes action to ensure that it determines the volume of water extracted by (or supplied to) each of its Customers at least annually. (State Water licence clause 4.2.1)
2017-18 audit findings, and status as reported by utility on 30 June 2018	WaterNSW has prepared a Determining Water Take Procedure (D2018/99208) during 2017-18 and finalised the procedure after the audit period. The Determining Water Take Procedure describes the different types of water take and the accepted forms of measuring water takes. It also prescribes the frequency of site visits and meter reads and who can undertake the various types of water take reporting such as customers and WaterNSW. The approach to determining water take varies across the customer base. Some customers have meters in place but for customers taking water or supplied from unregulated or groundwater sources, supply or take is not measured and has to be determined. At audit we reviewed the Water Take Procedure and the water take determinations for 2017-18. We consider that WaterNSW has satisfied this recommendation.
IPART guidance	None
Audit finding	Closed
Recommendation status	Closed

Recommendation 2016-17-02: Water Quality Management System Clause 2.1.2

Item	Detail
IPART's recommendation to the Minister	By 30 June 2018, WaterNSW repairs or replaces the failed Nepean Reservoir mixer. (SCA clause 2.1.2)
2017-18 audit findings, and status as reported by utility on 30 June 2018	We were provided the completion report for the work on the failed Nepean Reservoir mixer (Rec 2 D2018 97462 Completion Report - Nepean Dam Aeration System). The completion report states that work commenced in December 2017 and describes the work undertaken. The completion report does not state the date that the works were completed. The completion report metadata records that the completion document was prepared on 5 September 2018. WaterNSW also provided contractor invoices for the works (Rec 2 D2018 97463 Invoices - Nepean Dam Aeration Project.PDF). These are dated between January and April 2018. The completion date for the works can only be inferred from the information provided. We saw that the works were complete and in place at the time of our site visit in October 2018. We conclude that the works to the Nepean Reservoir mixer are complete. We conclude on the balance of likelihood that the works were complete by 30 June 2018.
IPART guidance	None
Audit finding	Closed
Recommendation status	Closed

Recommendation 2016-17-03: Water Quality Management System Clause 2.1.2

Item	Detail
IPART's recommendation to the Minister	By 30 June 2018, WaterNSW undertakes a risk assessment to determine appropriate strategies and controls to address any current reliability concerns or potential failure of all such mixer or aerator assets within its portfolio. (SCA licence clause 2.1.2)
2017-18 audit findings, and status as reported by utility on 30 June 2018	<p>WaterNSW advised that it held a workshop to undertake a risk assessment to determine appropriate strategies and controls to address any current reliability concerns or potential failure of mixer or aerator assets within its portfolio. This workshop was held on 30 May 2018. We were provided with the materials prepared for the workshop and resulting from the workshop.</p> <p>In preparing for the workshop, the asset reliability first undertook a stock take of assets of this type so that the inventory was known. Failure data for these assets was then obtained to identify trends in failure modes and impacts. Standard failure modes for the assets were sourced from the WSAA condition assessment guideline for mechanical and electrical assets. The workshop used a failure modes effects and criticality analysis approach. At the workshop, the likelihood and consequence of asset failure that had been pre-populated across the asset portfolio was reviewed and changes made.</p> <p>In reviewing the outputs from the workshop, we observed that the planned maintenance task was referenced as the relevant planned maintenance task for the aerator pipework and diffusers. We reviewed the tasks under the work order and identified that these did not relate to the pipework and diffusers. WaterNSW confirmed that this reference was in error. We also identified that condition-based monitoring had been identified as an appropriate maintenance strategy for the diffusers and pipework. However, in our discussions with operations staff at Nepean Dam, they identified that the pipework and diffusers are not currently inspected or condition assessed as they are underwater. This may possibly be undertaken in future by floating the pipework and diffusers to the surface.</p> <p>Operations staff stated that observation of the diffuser bubble pattern was undertaken to monitor the performance of the aerator. We queried whether this was documented in a procedure to which the operations staff replied that it was not. Although the operations staff were not aware of the procedure, we were provided with a hard copy of "Operate Destratification Systems" procedure (CD2003/62). This procedure does include a specific task to observe the diffuser bubble pattern. The procedure is overdue for review, being due for review in April 2016.</p> <p>We queried WaterNSW regarding its understanding of the criticality of the aerator assets and the potential service impacts. WaterNSW stated that through its experience with the aerator at Nepean that if the asset failed catastrophically, it would be able to have a replacement system operational in around a month. The impact on water quality, water quality treatment and service delivery would be minor and able to be managed through other processes and controls.</p> <p>While we consider that WaterNSW understands the risks associated with its aerator assets, we conclude that appropriate strategies and controls for managing these risks have not been fully documented in the evidence required. Specifically:</p>

Item	Detail
	<ol style="list-style-type: none"> 1. There is apparently no planned maintenance task relating to aerator pipework and diffusers 2. Condition based maintenance has been incorrectly referenced as a maintenance strategy as condition based maintenance is not undertaken. 3. The procedure (CD2003/62) which includes the operational control to monitor the diffuser bubble pattern was not known to operations staff and is overdue for review. <p>We recommend that WaterNSW revisit its planning in this area to address the above identified shortcomings.</p>
IPART guidance	None
Audit finding	Recommendation not closed
Recommendation status	Recommendation not closed

Recommendation 2016-17-04: Water Quality Management System Clause 2.1.2

Item	Detail
IPART's recommendation to the Minister	By 31 December 2018, WaterNSW implements appropriate strategies and controls to address any reliability concerns or potential failure of all such mixer or aerator assets within its portfolio. (SCA clause 2.1.2)
2017-18 audit findings, and status as reported by utility on 30 June 2018	This recommendation follows Recommendation 2016-17-03 to identify appropriate strategies and controls to address any current reliability concerns or potential failure of mixer or aerator assets within its portfolio. Under this recommendation, the strategies and controls are to be implemented by 31 December 2018. For Recommendation 2016-17-03 we concluded that appropriate strategies and controls for managing risks with the mixer/aerator assets have not been fully documented in the evidence required. We accordingly recommended that WaterNSW revisited its analysis to address the shortcomings identified. As Recommendation 2016-17-03 is antecedent to this recommendation and is not closed, we conclude that this recommendation is also not satisfactorily closed.
IPART guidance	None
Audit finding	Recommendation not closed
Recommendation status	Recommendation not closed

D Annual Compliance statement



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ABN 21 147 934 787

27 August 2018

Contact: *Alexandra Spink*

Telephone: *9865 2474*

Our ref: *D2018/93703*

Statement of compliance 1 September 2018

For Financial Year 2017/2018

Submitted by WaterNSW

To:

Mr Hugo Harmstorf – The Chief Executive Officer

Independent Pricing and Regulatory Tribunal of NSW

PO Box K35

Haymarket Post Shop NSW 1240

Dear Mr Harmstorf,

WaterNSW reports as follows:

1. This statement documents compliance during 2017-2018 with all obligations to which WaterNSW is subject by virtue of its operating licence.
2. This report has been prepared by WaterNSW with all due care and skill, including to ensure that all information provided is true and correct, in full knowledge of conditions to which WaterNSW is subject under the *Water NSW Act 2014*.
3. Schedule A provides information on all obligations with which WaterNSW did not comply during 2017-2018.
4. Other than the information provided in Schedule A, WaterNSW has complied with all conditions to which it is subject.
5. This compliance report has been approved by the Chief Executive Officer (or equivalent) and the Chairman of the Board of Directors of WaterNSW/ Duly authorised Board Member of WaterNSW.

DATE:

Signed

Name:

Designation:

ANNIE McDONALD

ANNIE McDONALD

CHAIR

DATE:

Signed

Name:

Designation:

29 AUGUST 2018

[Signature]

DAVID HARRIS

CHIEF EXECUTIVE OFFICER

Schedule A: Non-Compliances for WaterNSW

List of clauses breached	Description of non-compliance
Nil	Nil