

WaterNSW Operational Audit 2014-15

Report to the Minister

Water — Compliance Report
March 2016

WaterNSW

Operational Audit 2014-15

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The Tribunal members for this review are:

Dr Peter J Boxall AO, Chairman

Ms Catherine Jones

Mr Ed Willett

Inquiries regarding this document should be directed to a staff member:

Erin Cini (02) 9113 7778

Mamata Titus (02) 9113 7750

Independent Pricing and Regulatory Tribunal of New South Wales

PO Box K35, Haymarket Post Shop NSW 1240

Level 15, 2-24 Rawson Place, Sydney NSW 2000

T (02) 9290 8400 F (02) 9290 2061

www.ipart.nsw.gov.au

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Executive summary

The Independent Pricing and Regulatory Tribunal of New South Wales (IPART) has completed the audit of WaterNSW's compliance against the terms and conditions of its licences: the 2013-2018 State Water Corporation (State Water) Operating Licence and the 2012-2017 Sydney Catchment Authority (SCA) Operating Licence (the licences). This audit covers the period from 1 July 2014 to 30 June 2015. We have engaged a specialist auditing firm (Cobbitty Consulting Pty Ltd) (Cobbitty Consulting), in partnership with Viridis Consultants Pty Ltd (Viridis), to assist with the 2014-15 operational audit. We have prepared this report to summarise the audit findings for the Minister for Lands and Water (the Minister).

The 2014-15 audit findings demonstrate that WaterNSW has a high level of compliance with both its licences and has improved its compliance performance with regard to managing water quality, water quantity and its customers. WaterNSW has shown that it has endeavoured to implement recommendations from previous audits, thereby improving its performance. We have made recommendations for WaterNSW to continue to improve, and generally maintain, its operational compliance with its licences.

Overview of audit findings

WaterNSW compliance with the State Water licence

The 2014-15 audit found that WaterNSW is operating effectively and demonstrated a high level of compliance with its State Water licence. This is the second audit in the 5-year term of the licence. The audit identified no non-compliance matters.

We have included an explanation of the compliance grades in Appendix A. WaterNSW achieved Full Compliance with 17 of the 19 clauses audited. The remaining two clauses were assigned High Compliance. In summary, WaterNSW was assigned the following compliance grades:

- ▼ **Full Compliance** with requirements relating to
 - water quality (clause 2.1.3)
 - water quantity (clauses 3.1.1, 3.1.2, 3.1.3, 3.1.4 and 3.2.1)

- assets (clause 4.1.4)
 - customers (clauses 5.3.1, 5.3.2, 5.3.3, 5.4.2, 5.5.2, 5.5.3, 5.6.2, and 5.6.3), and
 - performance monitoring (clauses 7.2.1 and 7.2.2).
- ▼ **High Compliance** with requirements relating to:
- water quality (clause 2.1.1), and
 - customers (clause 5.4.1).

WaterNSW's compliance with its State Water licence is summarised in Table 1.

Table 1 WaterNSW's compliance in 2014-15, the second year of its 2013-2018 State Water licence

Licence part	Number of audited clauses	Compliance grade assigned		
		Full	High	Adeq
Part 1 – Licence and licence authorisation	-	-	-	-
Part 2 – Water quality	2	1	1	-
Part 3 – Water quantity	5	5	-	-
Part 4 – Assets	1	1	-	-
Part 5 – Customers	9	8	1	-
Part 6 – Environmental management	-	-	-	-
Part 7 – Performance monitoring	2	2	-	-
Part 8 – End of term review	-	-	-	-
Part 9 – Notices	-	-	-	-
Total	19	17	2	0

Note: Full = Full Compliance; High = High Compliance; Adeq = Adequate Compliance

Source: Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

WaterNSW compliance with the Sydney Catchment Authority licence

In 2014-15, WaterNSW also demonstrated a high level of compliance with its SCA licence. This is the third audit in the 5-year term of the licence. The audit identified no non-compliance matters. However, WaterNSW self-reported three non-compliance matters.

WaterNSW achieved Full Compliance with five of the six clauses audited. The remaining clause was assigned High Compliance. In summary, WaterNSW was assigned the following compliance grades:

- ▼ **Full Compliance** for requirements relating to:
- water quality (clause 2.1.2)
 - water supply sufficiency (clause 3.1.1)
 - catchment (clause 4.1.1), and
 - performance monitoring (clauses 8.2.1 and 8.2.2).

▼ **High Compliance** for requirements relating to water quality (clause 2.1.1).

WaterNSW's compliance with its SCA licence is summarised in Table 2.

Table 2 WaterNSW's compliance in 2014-15, the third year of its 2012-2017 SCA licence

Licence part	Number of audited clauses	Compliance grade assigned			
		Full	High	Adeq	NC ^a
Part 1 – Licence details	-	-	-	-	-
Part 2 – Water quality	2	1	1	-	-
Part 3 – Water supply sufficiency	1	1	-	-	-
Part 4 – Catchment	1	1	-	-	-
Part 5 – Assets	-	-	-	-	2 ^a
Part 6 – Customers	-	-	-	-	-
Part 7 – Environment	-	-	-	-	1 ^a
Part 8 – Performance monitoring	2	2	-	-	-
Part 9 – Memoranda of understanding	-	-	-	-	-
Part 10 – End of Term Review	-	-	-	-	-
Part 11 - Notices	-	-	-	-	-
Total	6	5	1	0	3^a

^a WaterNSW Statement of Compliance with its SCA licence, 1 September 2015. These clauses were not audited. The non-compliances were self-reported in accordance with licence obligations.

Note: Full = Full Compliance; High = High Compliance; Adequate = Adeq Compliance ; NC = Non Compliant.

Source: Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

Annual statements of compliance

In preparing this report we reviewed WaterNSW's annual statements of compliance with its licences (Appendix D). These are exception based reports that have been certified by the Chief Executive Officer and the Chairman of the WaterNSW Board.

The statements list licence breaches that occurred in the 2014-15 audit period. Further, any remedial action taken, or in the process of being taken is reported.

In 2014-15, WaterNSW reported no breaches of its State Water licence. However, it reported three breaches of its SCA licence against clauses 5.1.1, 5.1.3, and 7.1.1. These breaches were in relation to implementation of an Asset Management System (AMS) and Environmental Management System (EMS). These non-compliances were the result of the merger of SCA and State Water. We consider that WaterNSW is on track to implement an AMS and EMS by 30 June 2016, and have them certified by 31 December 2016. We consider this matter to be minor in nature since the risk to public health, customers, and the environment is low and

it will be rectified within a reasonable timeframe.¹ This matter has not impacted on WaterNSW's compliance with the State Water licence.

Our recommendations

The auditor prepared a final audit report (Appendix C) detailing its findings and recommendations for achieving Full Compliance with the State Water and SCA licences.

WaterNSW's compliance with the State Water licence

We endorse the auditor's findings on WaterNSW's compliance with its State Water licence. The auditor did not assign Full Compliance for two licence clauses (clauses 2.1.1 and 5.4.1). The auditor made a recommendation to address the gaps in the audit evidence presented by WaterNSW for one of these licence clauses (clause 5.4.1). For the other licence clause (clause 2.1.1), the auditor did not make a new recommendation. The auditor considered that our recommendation to the Minister on this licence clause from the 2013-14 operational audit is ongoing (recommendation 2013-14:01²).

We make one recommendation, based on the auditor's recommendation. This is outlined below.

Recommendation

- 1 WaterNSW should ensure that it has exercised its best endeavours to enter into (and maintain) customer agreements with each of its Fish River Water Scheme customers, including all minor consumers (by 30 September 2016) (clause 5.4.1 of State Water licence).

WaterNSW's compliance with the Sydney Catchment Authority licence

We endorse the auditor's findings on WaterNSW's compliance with its SCA licence. There was one clause for which the auditor did not assign Full Compliance (clause 2.1.1.). We make one recommendation based on the auditor's recommendation. This is outlined below.

¹ Letter to IPART, Mr Jim Sly, Cobbitty Consulting, Assessment of WaterNSW Progress in Development of its Management Systems, 4 December 2015.

² IPART, *State Water Corporation Operational Audit 2013/14, Report to the Minister – Compliance Report*, December 2014.

Recommendation

- 2 WaterNSW should develop and maintain a Water Quality Management System (WQMS) that documents a consistent approach to managing risks, protecting water quality, and public health, across the range of WaterNSW's functions under the Sydney Catchment Authority licence (by 30 September 2016). The WQMS should be consistent with the requirements of the *Australian Drinking Water Guidelines 2011* (clause 2.1.1 of SCA licence).

Subject to the Minister's endorsement of the recommendations, we will request WaterNSW to provide a progress report to us addressing the recommendations, to achieve compliance with its licences, by 16 May 2016.

We recommend that the Minister does not take any enforcement action in relation to WaterNSW's breaches of its SCA licence. We consider that WaterNSW is on track to rectify this matter in 2016.

Progress with previous recommendations

We note that some recommendations from previous audits of WaterNSW's compliance with its licences are still ongoing. We have previously not recommended completion dates for these recommendations. We consider that it is reasonable for those recommendations that are ongoing from previous audit periods be completed by 30 September 2016.

1 Introduction and scope

WaterNSW is a State Owned Corporation, fully owned by the NSW State Government, which was formed on 1 January 2015 by bringing together two previous entities, State Water Corporation (State Water) and Sydney Catchment Authority (SCA). WaterNSW currently operates under the State Water and SCA licences. This audit covers the period from 1 July 2014 to 30 June 2015, including the period of the merger of the two previous organisations.

WaterNSW's primary role is to capture, store, release and supply water; construct, maintain and operate water management works; protect and enhance the quality and quantity of water in declared catchment areas; manage and protect declared catchment areas and water management works vested in or under the control of Water NSW; undertake flood mitigation and management; undertake research on catchments in general, and to undertake an educative role in the community.

These functions, as well as WaterNSW's objectives, are prescribed by the *State Owned Corporations Act 1989*, *Water NSW Act 2014* (WaterNSW Act) and any licence(s) issued to WaterNSW under part 2, division 4 of the WaterNSW Act. Currently, no such licence has been granted by the Governor under the WaterNSW Act. WaterNSW is currently operating under the provisions of the 2013-2018 State Water licence issued under part 2, division 11, of the now repealed *State Water Corporation Act 2004*, and the 2012-2017 SCA licence issued under Part 4, Division 1, of the now repealed *Sydney Water Catchment Management Act 1998*. Schedule 2 of the WaterNSW Act provides that these licences continue to be in force subject to certain modifications.

We have completed the 2014-15 annual operational audit of WaterNSW's compliance with obligations outlined in the State Water and SCA licences. We did this by receiving and reviewing reports, attending audit interviews with WaterNSW's staff, and undertaking field verification to investigate how effectively requirements of the licence are met in practice. At the completion of the audit, we publish the audit report and report our findings to the Minister for Lands and Water (the Minister).

We applied a risk-based approach to the WaterNSW audit. Further, we have assessed compliance by reviewing annual statements of compliance prepared by WaterNSW (Appendix D – statements of WaterNSW’s compliance with the State Water and SCA licences). These are exception based reports listing any licence breaches that occurred during the year and what remedial action(s) has been taken, or is being taken, to resolve the matter(s).

1.1 Purpose and structure of this report

The purpose of this report is to inform the Minister of WaterNSW’s performance against its audited licence obligations for the audit period and to set 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 a summary of the audit findings and recommendations
- ▼ Chapter 3 summarises the progress by WaterNSW to address and implement recommendations from previous audits
- ▼ Appendix A contains the table of compliance grades used for this audit
- ▼ Appendix B contains the audit scope
- ▼ Appendix C provides the auditor’s detailed audit report, and
- ▼ Appendix D provides WaterNSW’s annual statements of compliance with the State Water licence and SCA licence.

1.2 Audit scope

This audit covers the period from 1 July 2014 to 30 June 2015.

The audit scope included the following obligations for WaterNSW relating to the State Water licence:

- ▼ Water quality (Part 2) – requirements relating to maintenance of a register of local water utilities (LWU), and an information request procedure to provide bulk water quality information to these utilities.
- ▼ Water quantity (Part 3) – requirements relating to timely delivery of water to customers, conservation of water and minimisation of water losses, and maintenance of a notification system for its stakeholders.
- ▼ Assets (Part 4) – requirements relating to maintenance of programs to manage risks to assets, and conducting activities in accordance with these programs until an Asset Management System are developed.

- ▼ Customers (Part 5) – requirements relating to establishing and managing committees/councils to regularly consult with valley-based customers and Fish River Scheme customers, entering into agreements with the Fish River Water Scheme customers, explaining WaterNSW’s code of practice on payment difficulties in Customer Service Charter, and explaining this code and internal complaints handling procedure in other forms of communication with customers (eg, bills, website).
- ▼ Performance monitoring (Part 7) – requirements relating to WaterNSW’s reporting obligations as set out in the Reporting Manuals, and maintenance of sufficient record systems to accurately report on issues.

The audit scope also included the following obligations for WaterNSW relating to the SCA licence:

- ▼ Water quality (Part 2) – requirements relating to maintenance of a Water Quality Management System (WQMS) that is fully implemented and consistent with the *Australian Drinking Water Guidelines 2011* (ADWG). All of WaterNSW’s activities should be carried out in accordance with the WQMS, and to the satisfaction of the NSW Ministry of Health (NSW Health).
- ▼ Water supply sufficiency (Part 3) – requirements relating to operating and managing catchment infrastructure consistent with the design criteria (levels of service for security, robustness and reliability of water available for supply to customers).
- ▼ Catchment (Part 4) – requirements relating to managing and protecting the catchment area consistent with WaterNSW’s objectives and functions, as outlined in the WaterNSW Act.
- ▼ Performance monitoring (Part 8) – requirements relating to WaterNSW’s reporting obligations as set out in the Reporting Manuals and maintenance of sufficient record systems to report accurately.

The auditor contacted NSW Health prior to the audit interview to seek its views on WaterNSW’s compliance and any other areas which should be reviewed as part of this audit. NSW Health recommended that the audit should review WaterNSW’s implementation of its information request procedure for LWUs (clause 2.1.1 of the State Water licence) and WaterNSW’s WQMS (clause 2.1.1 of the SCA licence).³ NSW Health’s recommendations were included in the audit scope (Appendix B). NSW Health confirmed that it continued to work with WaterNSW to implement and improve the Water Quality Management Framework (WQMF).

³ Email to Cobbitty Consulting, Ms Kaye Power, IPART, 21 August 2015.

We sought submissions from the public on any matter related to the licences prior to the commencement of the audit interviews. We advertised for public submissions in the Sydney Morning Herald and The Daily Telegraph on 26 August 2015. We received one submission from NSW Health⁴ and no public submissions.

In its submission, NSW Health confirmed that it maintained an effective and open relationship with WaterNSW at an officer and strategic level. NSW Health requested that WaterNSW should revise its Memorandum of Understanding (MoU) with WaterNSW to reflect its current state-wide role. The MoU was previously developed with the former SCA. However, NSW Health confirmed that it was satisfied that WaterNSW had met its obligations under the SCA licence and MoU. NSW Health also confirmed that it had been satisfied with WaterNSW's prompt requests for information on catchment clauses and confirmed that the incidents that it reported in 2014-15 did not present a risk to public health.⁵

1.3 The audit process

The audit is the main regulatory instrument that we use to assess compliance with the licences. We apply a risk based approach to the audit. Under this approach, we assess the risk of non-compliance with a licence obligation to determine an appropriate audit frequency for that requirement. We audit clauses that we consider to be 'high risk' more frequently, while low risk clauses are audited less frequently. We audit all licence clauses at least once during the 5-year term of the licence.

Adopting a risk-based approach has improved the effectiveness and efficiency of the auditing process, without increasing risks to the community. The approach allows us to target areas of higher risk. It also reduces the overall burden of compliance for the utility.

We engaged Cobbitty Consulting Pty Ltd (Cobbitty Consulting), in partnership with Viridis Consultants Pty Ltd (Viridis), to assist with the 2014-15 audit of WaterNSW. The auditor was required to undertake the following tasks:

1. Consider stakeholder submissions and comments for inclusion in the audit scope.
2. Prepare an information request (questionnaire) to WaterNSW, setting out all information and evidence requirements, two weeks prior to the commencement of audit interviews.

⁴ Letter to IPART, Dr Wayne Smith, Director Environmental Health Branch, NSW Health, 24 September 2015.

⁵ Letter to IPART, Dr Wayne Smith, Director Environmental Health Branch, NSW Health, 24 September 2015.

3. Review reports and documents provided by WaterNSW in response to the questionnaire.
4. Conduct face-to-face 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 achieved by WaterNSW against each of the obligations of the licences set out in our risk-based audit scope, providing supporting evidence for this assessment and reporting compliance according to our compliance grades (Appendix A).
7. Assess and report on progress by WaterNSW in addressing any comments made by the relevant Minister and/or recommendations endorsed by us following previous audits, providing supporting evidence for these assessments.
8. Verify the calculation of performance indicators associated with requirements of the relevant licences and undertake an assessment of any underlying trends in performance arising from these indicators.
9. Provide drafts of the audit report to us and address any comments from WaterNSW and us regarding draft audit findings.
10. Prepare a final report outlining audit findings.

The auditor adopted an audit methodology that was consistent with the following standards:

- ▼ ISO 19011:2011 *Guidelines for Auditing Management Systems*
- ▼ ASAE 3100 (2008) *Compliance Engagements*
- ▼ Auditing and Assurance Standard AUS 110 *Assurance Engagements other than Audits or Reviews of Historical Financial Information*, and
- ▼ International Standards on Quality Control ISQC 2009.

The guidelines in the above standards set out a systematic approach to defining the requirements of an audit, ensuring that it is conducted in accordance with an established and recognised audit protocol.

The auditor also carried out the audit according to our *Audit Guideline for Public Water Utilities June 2015*.⁶ Under this guideline, the auditor can either make recommendations or suggest opportunities for improvement. Where we support an auditor's recommendation, we follow up the matter to ensure that it is addressed.

⁶ Available on our website (www.ipart.nsw.gov.au).

Where the auditor has suggested opportunities for improvement, we take a different approach. WaterNSW can decide to implement an opportunity, based on its own assessment of whether the improvement is a prudent and efficient way to achieve its outcomes. We take this approach to balance improved performance with the investment required to achieve it. That is, we want WaterNSW to consider the pricing implications of continued improvement and value for money, before WaterNSW implements further improvements. As a consequence, we do not follow up these matters.

We held a project start up meeting (teleconference) with the auditor on 18 August 2015, to agree on the project milestones and timing of the audit, and outline our audit expectations. We also held an audit inception meeting with WaterNSW and the auditor on the first day of the audit interviews, 28 September 2015. At this meeting, we established our mutual understanding and expectations of the audit and agreed on the protocols for the conduct of the audit. All parties adhered to the agreed protocols throughout the audit.

The auditor conducted the licence audit interviews from 28 September 2015 to 2 October 2015 at WaterNSW's offices in Penrith, Dubbo and Sydney CBD. On 29 September 2015, the auditor also undertook site visits to the Leura Falls Catchment and the Fish River Water Supply Scheme.

The auditor assessed WaterNSW's compliance with the relevant requirements of the licences according to the compliance grades in Appendix A.

2 Summary of audit findings and recommendations

This chapter provides a summary of the auditor's findings and recommendations for each of the audited clauses of the licences. The 2014-15 WaterNSW audit is the second audit of the State Water licence and third audit of the SCA licence.

Each section includes a table providing a comparison of WaterNSW's audit performance during its licence period. Compliance grades are abbreviated according to the following convention:

- ▼ **Full** = Full Compliance
- ▼ **High** = High Compliance
- ▼ **Adeq** = Adequate Compliance
- ▼ **NC** = Non Compliant, and
- ▼ **NR** = No Requirement.

Following each table, we discuss compliance and reasoning for the grade. We also discuss any recommendations and opportunities for improvement.

2.1 WaterNSW's compliance with the State Water licence

Water quality

WaterNSW achieved Full Compliance for one of the two audited clauses. One clause was assigned High Compliance.

Part 2 of the State Water licence outlines WaterNSW's obligation to maintain a register of LWUs, and have an information request procedure to provide bulk water quality information to these utilities. Under the risk-based auditing framework, we consider that this part of the licence poses a low to moderate risk with respect to both the likelihood and consequence of non-compliance.

Table 2.1 Summary of compliance with Part 2 of the State Water licence – Water Quality^a

Clause	Requirement	Compliance grading				
		2013-14 ^a	2014-15 ^b	2015-16	2016-17	2017-18
2.1.1	WaterNSW must maintain a register of all LWUs for bulk water supplied to the LWUs for drinking water purposes.	High	High	-	-	-
2.1.3	WaterNSW should have a LWU Information Request Procedure which should describe how a LWU is to request information, and how WaterNSW will respond to these requests for information and define any fees or charges.	High	Full	-	-	-

^a IPART, *State Water Corporation Operational Audit 2013/14 - Report to the Minister – Compliance Report*, December 2014.

^b Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

The auditor found that WaterNSW achieved High Compliance for clause 2.1.1 of the State Water licence and identified no new recommendations.

The auditor found that WaterNSW maintained a register of all LWUs, including the LWU's contact details and bulk water extraction locations. However, the administrative process of maintaining the currency of the register needs to be strengthened. There is currently no way to ensure that contact details in the register are accurate and current. WaterNSW sends letters to the LWUs to confirm or change their contact details by means of an automated 'Tickit' system. However, WaterNSW has not implemented a process to follow-up with LWUs that do not respond to these letters. There is a risk that WaterNSW may not be able to contact a LWU in a timely manner, in the instance of a water quality emergency, without an accurate and current contact register.

We make no new recommendation in relation to clause 2.1.1. We consider that WaterNSW should complete our recommendation to the Minister from the 2013-14 operational audit to achieve Full Compliance with this licence clause (recommendation 2013-14:01). The recommendation was as follows:

WaterNSW should:

- ▼ **prepare a documented procedure to maintain the register, and**
- ▼ **contact and confirm details for LWUs who have yet to confirm contact details for the register.**

We note that although this recommendation has not been completed, we consider that WaterNSW has improved its performance from the 2013-14 audits. Previously, the letters sent to LWUs did not include a request for the LWUs to respond and confirm that their details are correct. However, despite this improvement, WaterNSW's current process does not consider LWUs that do not respond to the letters.

The auditor suggested two opportunities for improvement. Details of the opportunities for improvement are available in the auditor's report in Appendix C.

The auditor found that WaterNSW achieved Full Compliance for clause 2.1.3 of the State Water licence and identified no recommendations.

The auditor found that WaterNSW complied with the requirement to maintain an Information Request Procedure which describes how a LWU can request information about water quality supplied by WaterNSW, how WaterNSW will respond to these information requests, and define any related fees or charges.

The auditor noted that the procedure also explained the type of water quality information that can be requested by LWUs. Further, it described the timeframe in which WaterNSW will respond to information requests and define fees that will be charged to the LWU to recover WaterNSW's costs of responding to the information requests. The procedure explained the basis for calculating these fees and described modes of payment available to the LWUs.

WaterNSW's operations in relation to this licence clause have improved since 2013-14 when it was assigned a High Compliance grade in this area. The auditor at the time considered that the administrative process of calculating fees was not adequately formalised.⁷

Water quantity

WaterNSW achieved Full Compliance for the audited clauses.

Part 3 of the State Water licence outlines WaterNSW's obligation to take reasonable steps to ensure timely delivery of water to customers, conserve water and minimise water losses, and maintain a notification system for its stakeholders. Under the risk-based auditing framework, we consider that this part of the licence poses a moderate to high risk with respect to both the likelihood and consequence of non-compliance.

We re-audited clauses 3.1.1, 3.1.2, 3.1.3 and 3.1.4 despite WaterNSW having achieved Full Compliance in 2013-14, because we consider that this part of the licence poses a high risk if non-compliance occurs.

⁷ IPART, *State Water Corporation Operational Audit 2013/14*, Report to the Minister, December 2014.

Table 2.2 Summary of compliance with Part 3 of the State Water licence – Water Quantity

Clause	Requirement	Compliance grading				
		2013-14 ^a	2014-15 ^b	2015-16	2016-17	2017-18
3.1.1	WaterNSW must take all reasonable steps to process all Water Orders promptly and efficiently.	Full	Full	-	-	-
3.1.2	WaterNSW must take all reasonable steps to manage Water Orders so as to ensure the timely delivery of water to its customers.	Full	Full	-	-	-
3.1.3	WaterNSW must maintain a Water Allocation Account for each access licence issued under the <i>Water management Act 2000</i> (NSW) and each licence issued under the <i>Water Act 1912</i> (NSW) held by a customer.	Full	Full	-	-	-
3.1.4	WaterNSW must take all reasonable steps to conserve water and minimise water losses that result from undertaking its operations under this Licence.	Full	Full	-	-	-
3.2.1	WaterNSW 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.	High	Full	-	-	-

^a IPART, *State Water Corporation Operational Audit 2013/14 - Report to the Minister – Compliance Report*, December 2014.

^b Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

The auditor found that WaterNSW achieved Full Compliance for clause 3.1.1 and identified no recommendations.

The auditor found that WaterNSW took all reasonable steps to process all water orders received. WaterNSW implemented a Water Ordering Procedure which provides a reasonable basis to make sure that water orders are processed promptly and efficiently.

The auditor noted that customers can place direct water orders online or via other means such as email, fax and phone. The Water Ordering Procedure establishes a protocol for the timely opening of orders received by WaterNSW, recording of the orders into WaterNSW's Ticketing System, and entering of the orders into WaterNSW's Water Accounting System (WAS). Only complying water orders are processed through WAS. WaterNSW has a separate protocol to deal with non-complying water orders.

The auditor found that WaterNSW achieved Full Compliance for clause 3.1.2 and identified no recommendations.

The auditor found that WaterNSW took all reasonable steps to manage water orders to ensure the timely delivery of water to its customers. The auditor noted that WaterNSW demonstrated this through the implementation of its Water Ordering Procedure, as described above, and use of its Computer Aided Improvement River Operations (CAIRO) management tool.

Once a water order is processed in WAS, it is entered into CAIRO, which is a water accounting spreadsheet which tracks flows. CAIRO has the capacity to calculate the quantity of water that needs to be released to customers from a storage asset to ensure that water orders are satisfied. CAIRO's calculations consider water losses across the delivery system (eg, due to leakage). The auditor noted that WaterNSW experienced no significant errors with water delivery through the use of CAIRO.

The auditor found that WaterNSW achieved Full Compliance for clause 3.1.3 and identified no recommendations.

The auditor found that WaterNSW maintained a Water Allocation Account for access licences held by a customer, issued under both the *Water Management Act 2000* and *Water Act 1912*. The auditor noted that WaterNSW effectively maintained and managed these Water Allocation Accounts.

WaterNSW had effective processes to monitor and update its customers Water Allocation Accounts in response to changes by DPI Water to Annual Available Water Determinations,⁸ purchase of water from other users, any water sharing rules, water orders, and usage. WaterNSW maintained separate Water Allocation Accounts for customers with multiple water access licences.

The auditor noted that WaterNSW developed effective processes and process monitoring checks to ensure the accuracy and reliability of the water allocation account system.

The auditor found that WaterNSW achieved Full Compliance for clause 3.1.4 and identified no recommendations.

The auditor found that WaterNSW took all reasonable steps to conserve water and minimise water losses that resulted from undertaking its operations under this Licence. The auditor noted that WaterNSW effectively managed its water delivery and water account functions and implemented drought management plans, when necessary.

⁸ Annual Available Water Determinations define the quantity of water which is available to be shared between water users in accordance with DPI Water's Water Sharing Plans.

In general, WaterNSW managed water conservation through scheduled releases from dams, and avoidance of over-releases. WaterNSW managed this by using CAIRO to estimate water quantities that needed to be released to customers, taking into account water losses. WaterNSW attempted to minimise evaporation losses by retaining water in deeper, upstream storages where possible. WaterNSW also managed water conservation by minimising unauthorised extraction of water. It managed this by diligently monitoring customers' Water Allocation Accounts and minimising inaccurate customer metering arrangements.

The auditor found that WaterNSW achieved Full Compliance for clause 3.2.1 and identified no recommendations.

The auditor found that WaterNSW maintained an effective system to provide advance notification of significant changes to flow release patterns from its Water Management Works to customers and other stakeholders that had registered to be notified of such changes. The auditor noted that interested stakeholders can register via the WaterNSW website, and are able to opt for specific notifications that suit their individual needs (eg, dam safety notifications, flood notifications, high regulated releases, and Fish River Supply interruptions).

The auditor noted that WaterNSW maintained an automated Early Warning Network (EWN) notification system to improve notification of dam and supply activities to the public. WaterNSW promoted the EWN through its website and customer newsletter. Interested stakeholders can register online and may elect to receive EWN notifications through SMS, messages to a landline, or an email. The WaterNSW help desk can also register interested stakeholders and/or direct these stakeholders to the registration page.

WaterNSW's operations in relation to licence clause 3.2.1 improved since the 2013-14 audit period when it was assigned a High Compliance grade in this area. WaterNSW initially reported a non-compliance with this clause in its 2013-14 Statement of Compliance. This was a result of significantly higher than usual flows being released through its network, without its knowledge. Consequently, WaterNSW could not notify any interested customers or stakeholders about these changed flow patterns in a timely manner. The auditor at the time assigned WaterNSW a High Compliance grade rather than a Non-Compliant grade because the auditor considered that by the time of the audit, WaterNSW had improved its monitoring system and EWN. The auditor at the time considered that the improvement prevented further incidents from occurring. This continued in the 2014-15 audit period.

Assets

WaterNSW achieved Full Compliance for clause 4.1.4.

Part 4 of the State Water licence outlines WaterNSW's obligation to maintain programs to manage risks to its assets, and ensure its activities are carried out in accordance with these programs, until an AMS is developed. Under the risk-based auditing framework, we consider that this part of the licence poses a high risk with respect to both the likelihood and consequence of non-compliance.

We re-audited clause 4.1.4 despite WaterNSW having achieved Full Compliance in the previous year, 2013-14, because we consider that this part of the licence poses a high risk if non-compliance occurs.

Table 2.3 Summary of compliance with Part 4 of the State Water licence – Assets

Clause	Requirement	Compliance grading				
		2013-14 ^a	2014-15 ^b	2015-16	2016-17	2017-18
4.1.4	Until an Asset Management System has been developed and certified, WaterNSW must maintain programs to manage risks to its assets and to maintain the appropriate levels of service of those assets, and ensure that all of its activities are carried out in accordance with those programs.	Full	Full	-	-	-

^a IPART, *State Water Corporation Operational Audit 2013/14 - Report to the Minister – Compliance Report*, December 2014.

^b Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

The auditor found that WaterNSW achieved Full Compliance for clause 4.1.4 and identified no recommendations.

The auditor found that WaterNSW maintained and implemented programs to manage risks to its rural assets and maintain appropriate levels of service for those assets.

The auditor noted that WaterNSW established a strong framework for managing risks to WaterNSW's assets, including the:

- ▼ WaterNSW Asset Management Policy
- ▼ WaterNSW Risk Management Framework
- ▼ State Water Asset Management Framework, and
- ▼ State Water Total Asset Management Plan.

The asset management programs that operated under this framework manage WaterNSW's dams in accordance with the NSW Dam Safety committee and ANCOLD guidelines. They also manage condition monitoring, maintenance and ongoing renewal/replacement/upgrade (as appropriate) of individual assets. Some programs included dam safety inspections, dam safety monitoring, training for staff on dam safety, dam safety emergency plans, maintenance audits, operations and maintenance manuals, and risk analysis for prescribed dams.

Customers

WaterNSW achieved Full Compliance for eight of the nine audited clauses. One clause was assigned High Compliance.

Part 5 of the State Water licence outlines WaterNSW's obligation to consult with its valley-based customers and Fish River Scheme customers, enter into agreements with Fish River Water Scheme customers, explain its code of practice on payment difficulties in its Customer Service Charter, and explain its internal complaints handling procedure. Under the risk-based auditing framework, we consider that this part of the licence poses a low to moderate risk with respect to both the likelihood and consequence of non-compliance.

Table 2.4 Summary of compliance with Part 5 of the State Water licence – Customers

Clause	Requirement	Compliance grading				
		2013-14 ^a	2014-15 ^b	2015-16	2016-17	2017-18
5.3.1	WaterNSW must regularly consult with a Fish River Customer council to enable Fish River Water Scheme Customer involvement in issues relevant to the performance of WaterNSW in its obligations to Fish River Water Scheme Customers under the State Water licence and any Fish River Customer contract.	-	Full	-	-	-
5.3.2	WaterNSW must invite at least one representative from each of Lithgow City Council, Oberon Council, and Delta Electricity, to be a member of the Fish River Customer Council.	-	Full	-	-	-
5.3.3	WaterNSW must provide the Fish River Customer Council with adequate information within its possession or under its control so as to enable the Fish River Customer Council to discharge the tasks assigned to it, other than information or documents over which WaterNSW or another person claims confidentiality or privilege and subject to any limitations on disclosure of the information at law.	-	Full	-	-	-

Clause	Requirement	Compliance grading				
		2013-14 ^a	2014-15 ^b	2015-16	2016-17	2017-18
5.4.1	WaterNSW must enter into and maintain an agreement with each of its Fish River Water Scheme Customers during the term of the State Water licence, for the water supply arrangements for the Fish River Water Supply Scheme.	-	High	-	-	-
5.4.2	The terms of agreements must, as a minimum, include provisions on the standard of the quality of water to be supplied by WaterNSW, the continuity of water to be supplied by WaterNSW, the metering arrangements, the costs to be paid by the Fish River Water Scheme customers for the supply of water and other services to them, and any other terms agreed between WaterNSW and its Fish River Water Scheme customers.	-	Full	-	-	-
5.5.2	WaterNSW must set out details of the code of practice on payment difficulties in the Customer Service Charter.	-	Full	-	-	-
5.5.3	WaterNSW must provide information on the code of practice on payment difficulties free of charge to customers at least once annually with their bills, on its website for downloading by any person, and to the public on request.	-	Full	-	-	-
5.6.2	WaterNSW must ensure that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the procedure.	-	Full	-	-	-
5.6.3	WaterNSW must provide information on the Internal Complaints Handling Procedure which explains how to make a complaint and how the internal Complaints Handling Procedure works free of charge to customers at least once annually with their bills, on its website for downloading by any person, and to the public on request.	-	Full	-	-	-

^a IPART, *State Water Corporation Operational Audit 2013/14 - Report to the Minister – Compliance Report*, December 2014.

^b Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

The auditor found that WaterNSW achieved Full Compliance for clause 5.3.1 and identified no recommendations.

The auditor found that WaterNSW regularly consulted with the Fish River Customer Council to enable customer involvement on issues relevant to the Fish River Water Scheme Customers. The auditor confirmed this assessment by consulting with representatives from the Fish River Customer Council.

The auditor noted that WaterNSW met with Fish River Customer Council four times during the audit period. WaterNSW demonstrated this by providing copies of the meeting minutes. WaterNSW advised that it consulted with the Council on issues including major capital upgrade works, pricing determinations and planned shutdowns. WaterNSW followed a standardised agenda for its meetings with the Council. This included discussion of matters such as drought planning, finance, assets, Work Health and Safety, environmental reports and customer reports. Two representatives of the Council reported that they considered WaterNSW's consultation processes to be appropriate and that WaterNSW comprehensively responded to all information needs raised via the Fish River Customer Council process.

The auditor suggested one opportunity for improvement. Details of the opportunity for improvement are available in the auditor's report in Appendix C.

The auditor found that WaterNSW achieved Full Compliance for clause 5.3.2 and identified no recommendations.

The auditor found that WaterNSW invited at least one representative of the nominated organisations to be members of the Fish River Customer Council. These organisations included Lithgow City Council, Oberon Council, Energy Australia and (the previous) SCA. The auditor sighted the MS Outlook meeting invitation and copies of minutes from the Fish River Customer Council Meeting as evidence.

The auditor found that WaterNSW achieved Full Compliance for clause 5.3.3 and identified no recommendations.

The auditor found that WaterNSW provided the Fish River Customer Council with adequate information in its possession or under its control, allowing the Fish River Customer Council to discharge tasks assigned to it. The auditor confirmed this assessment by consulting representative members of the Fish River Customer Council.

The auditor noted that WaterNSW implemented a procedure to provide guidance on confidential or privileged information that cannot be provided to Community Consultative Committees and Customer Service Committees. WaterNSW also provided a copy of its Provision of Confidential Information Policy. The Policy provided guidance with respect to information that cannot be provided to Community Consultative Committees and Customer Service Committees. The auditor considered that tasks assigned to the Fish River Customer Council were unclear as there were no terms of reference available.

The auditor suggested one opportunity for improvement. Details of the opportunity for improvement are available in the auditor's report in Appendix C.

The auditor assigned WaterNSW High Compliance for clause 5.4.1 of the State Water licence and made one recommendation.

The auditor found that WaterNSW entered into and maintained agreements with the majority of its Fish River Water Scheme customers. WaterNSW maintained a list of the four major customers serviced by the Fish River Water Scheme (Lithgow City Council, Oberon Council, Energy Australia and the previous SCA), and all minor customers. However, WaterNSW had not entered into formal agreements with a small number of its minor consumers. The auditor also noted that WaterNSW had not renewed some customer agreements, including the major customers, since 2011-12.

We consider that there is a risk to customers without effective supply agreements. An agreement enables customers to fully understand the terms under which the water is supplied, including, but not limited to, the quality of the water supplied and the purposes for which it is suitable for use.

We make one recommendation in relation to clause 5.4.1, based on the auditor's recommendation.

Recommendation

- 1 WaterNSW should ensure that it has exercised its best endeavours to enter into (and maintain) customer agreements with each of its Fish River Water Scheme customers, including all minor consumers (by 30 September 2016) (clause 5.4.1 of the State Water licence).

The auditor suggested two opportunities for improvement. Details of the opportunities for improvement are available in the auditor's report in Appendix C.

The auditor found that WaterNSW achieved Full Compliance for clause 5.4.2 and identified no recommendations.

The auditor found that WaterNSW's agreements with the Fish River Water Scheme Customers (including both minor and major customers) included provisions on water quality, continuity of water supply, metering, costs to customers and other terms such as customer responsibility, entry for inspection, use of water and requirement to not waste water, and third party indemnity for WaterNSW.

The auditor noted that WaterNSW effectively managed compliance with the terms of the agreements. Water quality test results were automatically uploaded to WaterNSW's water quality database. WaterNSW implemented a water quality testing program approved by NSW Health. WaterNSW also had a Water Quality Information Request Procedure which allowed customers to request information regarding the quality of water supplied from its storages.

The auditor found that WaterNSW achieved Full Compliance for clause 5.5.2 and identified no recommendations.

The auditor found that WaterNSW set out the details of its Debt Management Code of Practice (Code) in its Customer Service Charter. The auditor noted that WaterNSW's Customer Service Charter asked customers to notify WaterNSW if they experienced payment difficulties. WaterNSW would discuss the Code with them and any payment plan options. WaterNSW further explained that 89 of its customers used the Code to create payment plans.

The auditor found that WaterNSW achieved Full Compliance for clause 5.5.3 and identified no recommendations.

The auditor found that WaterNSW made information on its Debt Management Code of Practice, and the Code itself, available to its customers.

The auditor noted that WaterNSW included details of assistance available to customers having payment difficulties in its January 2015 customer newsletter, which was available on WaterNSW's website and was included in customer bills. Further, information contained in the Code to address difficulty paying bills was available for download from WaterNSW's website.

The auditor found that WaterNSW achieved Full Compliance for clause 5.6.2 and identified no recommendations.

The auditor found that WaterNSW implemented its Internal Complaints Handling Procedure (procedure) and that relevant activities were generally carried out in line with the procedure. The auditor identified some minor procedural deficiencies. However, we consider that these have been or are being addressed through internal improvement processes. We consider that WaterNSW fully implemented the intent of the procedure.

The auditor noted that the Internal Complaints Handling Procedure included a definition of 'complaint', steps to follow to handle a complaint (including escalation), reporting requirements, and regular audit requirements on frequency of compliance with the procedure. Evidence provided by WaterNSW showed that the procedure was being implemented but not always correctly. For instance, customer complaints were not always followed-up to determine customer satisfaction upon resolution. Audits of compliance with the procedure were not undertaken monthly, as required in the procedure.

We consider that these deficiencies in the implementation of the procedure are minor. The intent or objective of the procedure was achieved, in that WaterNSW is considering and responding to its customers' complaints.

The auditor suggested two opportunities for improvement. Details of the opportunities for improvement are available in the auditor's report in Appendix C.

The auditor found that WaterNSW achieved Full Compliance for clause 5.6.3 and identified no recommendations.

The auditor found that WaterNSW made information on the Internal Complaints Handling Procedure (its Feedback and Complaints handling Policy) available to its customers.

The auditor noted that WaterNSW included details of the principles it used to resolve complaints, options about who to contact, and the basics of the complaints handling procedure, in its January 2015 customer newsletter. The newsletter was available on WaterNSW's website and was included in WaterNSW's customer bills. Further information on the procedure was available on WaterNSW's website.

Performance monitoring

WaterNSW achieved Full Compliance for the audited clauses.

Part 7 of the State Water licence outlines WaterNSW's obligation to take reasonable steps to comply with its reporting obligations set out in the Reporting Manual, and maintain sufficient record systems that enable it to report accurately. Under the risk-based auditing framework, we consider that this part of the licence poses a low to moderate risk with respect to both the likelihood and consequence of non-compliance.

Table 2.5 Summary of compliance with Part 7 of the State Water licence – Reporting

Clause	Requirement	Compliance grading				
		2013-14	2014-15 ^a	2015-16	2016-17	2017-18
7.2.1	WaterNSW must comply with its reporting obligations set out in the licence and in the reporting manual which include reporting to IPART in accordance with the Reporting Manual and licence, and making reports and other information publicly available, in the manner set out in the Reporting Manual.	-	Full	-	-	-
7.2.2	WaterNSW must maintain sufficient record systems that enable it to report accurately in accordance with this Licence and the Reporting Manual (including its performance against the performance indicators specified in the Reporting Manual).	-	Full	-	-	-

^a Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

The auditor found that WaterNSW achieved Full Compliance for clause 7.2.1 and identified no recommendations.

The auditor found that WaterNSW complied with its reporting obligations set out in the State Water licence and Reporting Manual.

The auditor noted that WaterNSW prepared and submitted the required reports to IPART in accordance with the specified timelines and WaterNSW made the required reports publicly available on its website.

The auditor found that WaterNSW achieved Full Compliance for clause 7.2.2 and identified no recommendations.

The auditor found that WaterNSW had sufficient record systems to enable it to accurately measure its performance against the performance indicators specified in the Reporting Manual. These included the following:

- ▼ **Indicator #1:** percentage of customers, who after placing a non-complying water order, are contacted within one working day to rectify that order.
- ▼ **Indicator #2:** percentage of complying water orders delivered outside of +/- one day of the scheduled day of delivery, as measured by complaints.
- ▼ **Indicator #3:** percentage of complying Water Orders rescheduled in consultation with an affected customer, within one working day as an expected water shortage or delivery delay.
- ▼ **Indicator #4:** percentage of complying intra-valley transfers processed within five working days of State Water's report of a correct application and fee.

The auditor noted that WaterNSW did not correctly calculate and report on indicators #2 and # 3. However, WaterNSW remained compliant with the licence clause as it maintained sufficient record systems to enable it to report accurately against the indicators.

The auditor suggested one opportunity for improvement. Details of the opportunity for improvement are available in the auditor's report in Appendix C.

2.2 WaterNSW's compliance with its SCA licence

Water quality

WaterNSW achieved Full Compliance for one of the two audited clauses. One clause was assigned High Compliance.

Part 2 of the SCA licence outlines WaterNSW's obligation to maintain a Water Quality Management System (WQMS) that is consistent with the ADWG, or any addition or amendment to the ADWG made by NSW Health. WaterNSW must also ensure that its WQMS is fully implemented and that relevant activities are carried out in line with the WQMS and to the satisfaction of NSW Health. Under the risk-based auditing framework, we consider that this part of the licence poses a High risk with respect to both the likelihood and consequence of non-compliance.

Table 2.6 Summary of compliance with Part 2 of the SCA licence – water quality

Clause	Requirement	Compliance grading				
		2012-13 ^a	2013-14 ^b	2014-15 ^c	2015-16	2016-17
2.1.1	WaterNSW must maintain a WQMS that is consistent with the ADWG, or, if NSW Health specifies any amendment or addition to the ADWG that applies to WaterNSW, the ADWG as amended or added to by NSW Health.	High	High	High	-	-
2.1.2	WaterNSW must ensure that the WQMS is fully implemented and that all relevant activities are carried out in accordance with the WQMS, including to the satisfaction of NSW Health.	High	High	Full	-	-

Source

^a IPART, *Sydney Catchment Authority Operational Audit 2012/13 - Report to the Minister – Compliance Report*, December 2013.

^b IPART, *Sydney Catchment Authority Operational Audit 2013/14 - Report to the Minister – Compliance Report*, December 2014.

^c Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

The auditor assigned WaterNSW High Compliance for clause 2.1.1 and identified one recommendation.

The auditor found that WaterNSW maintained a Water Quality Management Framework (WQMF) that was consistent with the ADWG. There were adequate systems in place to manage raw water quality and risk across the drinking water supply chain. For the recreational areas, there was an overall Drinking Water Quality Management Plan (DWQMP) and site specific Quality Assurance Plans (QAP) which are consistent with the ADWG and the NSW Health specified QAP template, respectively.

The auditor noted that the WQMF failed to provide a sufficiently cohesive quality management system that outlined a systematic approach to water quality management for WaterNSW. WaterNSW should clearly document its structure and approach to managing water quality as this is the intent of the framework and a WQMS in general.

We make one recommendation in relation to clause 2.1.1, based on the auditor's recommendations.

Recommendation

- 2 WaterNSW should develop and maintain a Water Quality Management System (WQMS) that documents a consistent approach to managing risks, protecting water quality, and public health, across the range of WaterNSW's functions under the Sydney Catchment Authority licence (by 30 September 2016). The WQMS should be consistent with the requirements of the *Australian Drinking Water Guidelines 2011* (clause 2.1.1 of SCA licence).

We consider that while the compliance grade assigned for this clause remains High Compliance, WaterNSW improved its WQMS since previous audit periods (2012-13 and 2013-14). WaterNSW's progress in addressing previous audit recommendations and improving its WQMS is further explained in Chapter 3.

The auditor suggested one opportunity for improvement. Details of the opportunity for improvement are available in the auditor's report in Appendix C.

The auditor found that WaterNSW achieved Full Compliance for clause 2.1.2 and identified no recommendations.

The auditor found that although there were some deficiencies in the documentation of the WQMF, WaterNSW implemented the documented items. The auditor noted that WaterNSW managed its catchments in compliance with the WQMF. Further, NSW Health was satisfied that the incidents WaterNSW reported did not pose a risk to public health.⁹

WaterNSW's operations in relation to this licence clause improved from previous years, 2012-13 and 2013-14, when it was assigned High Compliance in this area. The auditor at the time considered that the WQMF was not developed sufficiently to enable implementation.¹⁰ The WQMF was developed further in 2014-15 to enable some implementation.

The auditor suggested one opportunity for improvement. Details of the opportunity for improvement are available in the auditor's report in Appendix C.

Water supply sufficiency

WaterNSW achieved Full Compliance for the audited clause.

Part 3 of the SCA licence outlines WaterNSW's obligation to ensure that its catchment infrastructure is operated and managed consistent with the design criteria (levels of service for security, robustness and reliability of water available for supply to customers). Under the risk-based auditing framework, we consider that this part of the licence poses a high risk with respect to both the likelihood and consequence of non-compliance.

⁹ Letter to IPART, Dr Wayne Smith, Director Environmental Health Branch, NSW Health, 24 September 2015.

¹⁰ IPART, *Sydney Catchment Authority Operational Audit 2013/14 - Report to the Minister – Compliance Report*, December 2014.

We re-audited clause 3.1.1 despite WaterNSW having achieved Full Compliance in previous years, 2012-13 and 2013-14, because we consider that this part of the licence poses high risk if non-compliance occurs.

Table 2.7 Summary of compliance with Part 3 of the SCA licence – water supply sufficiency

Clause	Requirement	Compliance grading				
		2012-13 ^a	2013-14 ^b	2014-15 ^c	2015-16	2016-17
3.1.1	WaterNSW must ensure that the Catchment Infrastructure is operated and managed consistent with the Design Criteria.	Full	Full	Full	-	-

^a IPART, *Sydney Catchment Authority Operational Audit 2012/13 - Report to the Minister – Compliance Report*, December 2013.

^b IPART, *Sydney Catchment Authority Operational Audit 2013/14 - Report to the Minister – Compliance Report*, December 2014.

^c Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

The auditor found that WaterNSW achieved Full Compliance for clause 3.1.1 and identified no recommendations.

The auditor found that WaterNSW operated and managed catchment infrastructure consistent with the design criteria, during the audit period. The design criteria included availability of water in WaterNSW's storages, and frequency and duration of water restrictions.

The auditor noted that WaterNSW implemented a set of Operating Rules to guide its approach to operating and managing its catchment infrastructure. These Operating Rules can be summarised as maintaining supply security across all supply zones, maintaining environmental flows, and avoiding spills. WaterNSW sometimes employed alternative operating regimes to achieve specific objectives. However, WaterNSW's operational arrangements only varied from the Operating Rules on a short-term basis.

The auditor noted that WaterNSW developed the Operating Rules using water balance modelling software in conjunction with a framework that guides decision making in respect of system configuration. The framework consisted of a series of documents within which decisions about system operational configuration are made. These documents included:

- ▼ a Water Licences and Approvals package
- ▼ Bulk Water Supply Protocols
- ▼ Flood Prediction Procedure
- ▼ Agreement for the Supply of Water from the Fish River Water Supply
- ▼ Warragamba Dam Operations Manual, and

- ▼ Agreement for Operations and Maintenance of the Kangaroo Fitzroy Project of the Shoalhaven Scheme.

Catchment

WaterNSW achieved Full Compliance for the audited clause.

Part 4 of the SCA licence outlines WaterNSW's obligation to manage and protect the catchment area consistent with its objectives and functions, as outlined under the WaterNSW Act. Under the risk-based auditing framework, we consider that this part of the licence poses a high risk with respect to both the likelihood and consequence of non-compliance.

We re-audited clause 4.1.1 despite WaterNSW having achieved Full Compliance in previous years, 2012-13 and 2013-14, because we consider that this part of the licence poses a high risk if non-compliance occurs.

Table 2.8 Summary of compliance with Part 4 of the SCA licence – catchment

Clause	Requirement	Compliance grading				
		2012-13 ^a	2013-14 ^b	2014-15 ^c	2015-16	2016-17
4.1.1	WaterNSW must manage and protect the Catchment Area consistent with its objectives and functions under the WaterNSW Act.	Full	Full	Full	-	-

^a IPART, *Sydney Catchment Authority Operational Audit 2012/13* - Report to the Minister – Compliance Report, December 2013.

^b IPART, *Sydney Catchment Authority Operational Audit 2013/14* - Report to the Minister – Compliance Report, December 2014.

^c Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

The auditor found that WaterNSW achieved Full Compliance for clause 4.1.1 and identified no recommendations.

The auditor found that WaterNSW undertook activities to manage and protect the catchment area consistent with its relevant objectives and functions under the WaterNSW Act.

WaterNSW had adequate catchment management strategies/plans that were implemented to protect water quality, the environment and public health, in line with the requirements of the ADWG. These included:

- ▼ a water quality policy consistent with WaterNSW's objectives and functions under the WaterNSW Act
- ▼ development of land use controls with other stakeholders to manage water quality in the catchments
- ▼ development of criteria for assessing development applications

- ▼ clarity of the relevant roles of various regulators and stakeholders in catchment management
- ▼ development of appropriate actions to reduce the risks to water quality and improve catchment health
- ▼ a monitoring program to identify pollution sources to the catchments
- ▼ undertaking inspections to monitor catchment clauses and land use changes
- ▼ spreading community awareness to support catchment management and protection, and
- ▼ development of an emergency response plan.

The auditor suggested two opportunities for improvement. Details of the opportunities for improvement are available in the auditor's report in Appendix C.

Performance monitoring

WaterNSW achieved Full Compliance for the audited clauses.

Part 8 of the SCA licence outlines WaterNSW's obligation to take reasonable steps to comply with its reporting obligations in the Reporting Manual, and maintain sufficient record systems that enable it to report accurately. Under the risk-based auditing framework, we consider that this part of the licence poses a low to moderate risk with respect to both the likelihood and consequence of non-compliance.

We re-audited clauses 8.2.1 and 8.2.2 despite WaterNSW having achieved Full Compliance previously in 2012-13 because we consider that it is necessary to periodically check that WaterNSW maintains appropriate systems and calculates reported indicators accurately.

Table 2.9 Summary of compliance with Part 8 of the SCA licence – performance monitoring

Clause	Requirement	Compliance grading				
		2012-13 ^a	2013-14	2014-15 ^b	2015-16	2016-17
8.2.1	WaterNSW must comply with its reporting obligations set out in the Reporting Manual which include: (a) reporting to IPART, NSW Health, the Minister, and the Catchment, and (b) making reports and other information publicly available in the manner set out in the Reporting Manual.	Full	-	Full	-	-
8.2.2	WaterNSW must maintain sufficient record systems that enable it to report accurately in accordance with clause 8.2.2.	Full	-	Full	-	-

^a IPART, *Sydney Catchment Authority Operational Audit 2012/13 - Report to the Minister – Compliance Report*, December 2013.

^b Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

The auditor found that WaterNSW achieved Full Compliance for clause 8.2.1 and identified no recommendations.

The auditor found that WaterNSW complied with its reporting obligations set out in the SCA licence and the Reporting Manual.

The auditor noted that WaterNSW prepared and submitted the required reports to IPART in accordance with the specified timelines and, where required, it made the reports publicly available on its website.

The auditor found that WaterNSW achieved Full Compliance for clause 8.2.2 and identified no recommendations.

The auditor found that WaterNSW had adequate record systems that enabled it to report in accordance with the Reporting Manual and measure its performance against performance indicators specified in the Reporting Manual. The performance indicators included the following:

- ▼ water quality in catchment underway in the catchment area measured against the applicable water quality objectives specified in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000, and
- ▼ water quality, occurrence of cryptosporidium and giardia cysts or oocysts in catchment waterways.

The auditor noted that WaterNSW does not have a documented procedure to analyse data for reporting purposes. However, the auditor considered that WaterNSW's records were adequately maintained to enable it to accurately measure and report on its performance, as required by the licence.

The auditor suggested one opportunity for improvement. Details of the opportunity for improvement are available in the auditor's report in Appendix C.

2.3 WaterNSW's statements of compliance

In addition to the scope of the audit, every item of the State Water licence and SCA licence is subject to an exception based Statement of Compliance (Appendix D) signed by the CEO and the Chairman of the WaterNSW Board.

The Statement of Compliance is a report which affirms compliance with all areas of the licences. Areas of non-compliance are listed in the schedule and details are provided regarding the:

- ▼ date or period of non-compliance
- ▼ nature and extent of non-compliance
- ▼ results of any monitoring
- ▼ reasons for non-compliance
- ▼ remedial action taken, and
- ▼ actual / anticipated date of full compliance.

WaterNSW's Statement of Compliance with the State Water licence reported that WaterNSW has fully complied with its licence in 2014-15 (including the clauses subsequently audited this year).

WaterNSW's Statement of Compliance with the SCA licence reported that WaterNSW has not fully complied with its licence in 2014-15 (including the clauses subsequently audited this year). WaterNSW does not have an Asset Management System (AMS) or Environmental Management System (EMS) in place. The SCA licence requires these systems to have been implemented by 30 June 2015 (three breaches of clauses 5.1.1, 5.1.3 and 7.1 of the SCA licence).

WaterNSW explained in its Statement of Compliance that this delay is attributed to the merger of SCA and State Water. WaterNSW has committed to implementing an AMS and EMS by 30 June 2016 that encompasses all of WaterNSW's functions. WaterNSW intends to have these systems certified by 31 December 2016. The auditor reviewed WaterNSW's progress in developing these systems and considers that WaterNSW will meet this timeframe.¹¹

We consider these non-compliance matters to be minor in nature since the risk to on public health, customers, and the environment is low and will be rectified within a reasonable timeframe. These matters have not impacted on WaterNSW's compliance with the State Water licence.

¹¹ Letter to IPART, Mr Jim Sly, Cobbitty Consulting, Assessment of WaterNSW Progress in Development of its Management Systems, 4 December 2015.

3 Progress on previous audit recommendations

Previous audits in 2012-13 and 2013-14 identified areas where WaterNSW's performance with its obligations in its State Water and SCA licences did not receive Full Compliance. We previously made recommendations to the Minister to address these issues. Table 3.1 explains these recommended actions and outlines WaterNSW's progress in implementing them.

WaterNSW has shown that it has made endeavours to implement these recommendations from the previous audits, thereby improving its performance during the 2014-15 audit period. We consider that it is important that WaterNSW completes these recommendations to minimise risks to water quality, public health, and customers.

We note that we have not previously recommended completion dates for these recommendations. We consider that it is reasonable for all previous audit recommendations to be completed by 30 September 2016. The majority of the recommendations are related to Recommendation 2014-15-02 from the 2014-15 audit which we recommend must also be completed at the same time.

Table 3.1 WaterNSW's progress in 2014-15 to address our recommendations from previous audits

Recommendation		Progress
WaterNSW compliance with the State Water licence		
SW 2013-14-01	Water quality, licence clause 2.1.1 - With regard to the LWU register, WaterNSW should: <ul style="list-style-type: none"> ▼ prepare a documented procedure to maintain the register, and ▼ contact and confirm details for LWUs who have yet to confirm contact details for the register.^a 	Ongoing WaterNSW has implemented a documented procedure to maintain it register. However it should strengthen its process for confirming contact details for the LWUs. ^b
SW 2013-14-02	Water quality, licence clause 2.1.3 - WaterNSW should update the water quality information request procedure to describe how fees or charges are to be paid. ^a	Complete^b WaterNSW has updated its information request procedure to include how fees or charges are to be paid.

	Recommendation	Progress
SW 2013-14-03	Customers, licence clause 5.6.2 - WaterNSW should take steps to increase awareness of its internal Complaints Handling Procedure and continue to monitor implementation of the procedure. ^a	Complete^b Organisational changes resulting from the merger of State Water and SCA has resulted in the intended outcomes being achieved.
WaterNSW compliance with the SCA licence		
SCA 2012-13-01	Water quality, licence clause 2.1.1 - WaterNSW should further develop the WQMS to: <ul style="list-style-type: none"> ▼ further address preventative measures and Critical Control Points (CCP) ▼ revise emergency information and formalise the emergency information revision process, and ▼ clearly define event based monitoring.^c 	Complete^b WaterNSW has updated its WQMS as follows: <ul style="list-style-type: none"> ▼ the WQMF includes: <ul style="list-style-type: none"> – preventative measures and CCPs – emergency information, including a formalised revision process, and – definition of the event based monitoring.
SCA 2012-13-02	Water quality, licence clause 2.1.2 – WaterNSW should <ul style="list-style-type: none"> ▼ formally identify and implement appropriate preventive measures for drinking water supplied to its recreational areas (picnic areas), including those designated as CCPs ▼ develop explicit, validated process control tables for each CCP, and ▼ ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs). 	Ongoing WaterNSW identified preventive measures, including CCPs, in its Quality Assurance Plans. However, the auditor considers that the appropriateness of CCP limits (targets and critical) should be further investigated. WaterNSW had procedures and validation tables for the CCPs, however it had not included the justifications for the CCP critical limits. WaterNSW undertakes monitoring for target criteria associated with chlorine residual and turbidity at an appropriate frequency. ^b
SCA 2012-13-03	Water quality, licence clause 2.1.2 – WaterNSW should : <ul style="list-style-type: none"> ▼ formally identify and implement appropriate preventive measures for raw water supplied, particularly those of high importance and any designated as CCPs ▼ develop explicit, validated process control tables for each CCP, and ▼ ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs).^c 	Ongoing WaterNSW identified preventive measures, including CCPs, in its Water Quality Management Framework. The auditor considers that WaterNSW should further investigate, in consultation with the respective stakeholders, the appropriateness of CCP limits (targets and critical). ^b

Recommendation	Progress
<p>SCA 2013-14-01 Water quality, licence clauses 2.1.1 and 2.1.2 – WaterNSW should clearly document the following:</p> <ul style="list-style-type: none"> ▼ which CCPs are monitored by WaterNSW (eg, through documenting the relevant instrument numbers which collect CCP data) ▼ CCP critical limits, with justification of these limits, and ▼ activities undertaken by WaterNSW to manage CCPs.^d 	<p>Ongoing</p> <p>The validation tables should include justification for the CCPs. The auditor noted that WaterNSW provided justification for the target values. We note that WaterNSW documented the CCPs, and included appropriate management actions.^b</p>

^a IPART, *State Water Corporation Operational Audit 2013/14 - Report to the Minister – Compliance Report*, December 2014.

^b Cobbitty Consulting and Viridis, *2014/15 Operational Audit of WaterNSW*, Final Audit Report, March 2016.

^c IPART, *Sydney Catchment Authority Operational Audit 2012/13 - Report to the Minister – Compliance Report*, December 2013.






^d IPART, *Sydney Catchment Authority Operational Audit 2013/14 - Report to the Minister – Compliance Report*, December 2014.



Appendices

A Compliance grades

Compliance grades for public utilities

Grades of compliance	Description
Full Compliance 	Sufficient evidence to confirm that the requirements have been fully met.
High Compliance 	Sufficient evidence to confirm that the requirements have generally been met apart from very few minor shortcomings which do not compromise the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
Adequate Compliance 	Sufficient evidence to confirm that the requirements have generally been met apart from a number of minor shortcomings which do not compromise the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes
Non compliant 	Sufficient evidence has not been provided to confirm that all major requirements are being met and the deficiency adversely impacts the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
No Requirement 	The requirement to comply with the licence condition does not occur within the audit period or there is no requirement for the utility to meet this assessment criterion.

Source: IPART, *Audit Guideline – Public Water Utilities*, June 2015.

B | 2014-15 Audit Scope

Water NSW: State Water Corporation

2014-15 audit scope

Requirement	Meaning
Audit/Review	Condition to be audited/reviewed for 2014-15
SC	Condition where IPART will rely on the utility's statement of compliance. As below, all conditions require a Statement of Compliance unless there is a "No requirement" designation.
NR	No requirement (for audit or statement of compliance).

This package includes the following tables:

Table 1: Audit scope 2014-15 Water NSW (State Water Corporation)

Table 2: Recommendations / Outstanding items from previous audits

Table 3: IPART Indicators to be audited in 2014-15

Table 4: Past field verification site visits for Hunter Water Corporation

Audit scope 2014-15

Auditors should note any directions shown in the comments column of Table 1.

This scope is based on the audit program determined for the operating licence 2013 - 2018 (IPART reference D15/1818).

Recommendations from previous years

Outstanding audit recommendations from previous years are shown in Table 2. These recommendations are reviewed to determine progress and are reported on separately within the audit report.

Statement of Compliance

By 1 September each year, the utility is required to provide a Statement of Compliance (SC) signed by the CEO and a Board Member. The Statement of Compliance is an exception report that lists any non-compliance of licence conditions during the financial year. It also outlines what remedial action has or is being taken in respect to these non-compliances. The SC covers all licence conditions (regardless of whether they are scheduled to be audited or not in that year). Where non compliances are reported this may lead to a late variation to the audit scope to enable a matter to be reviewed if considered warranted.

Development and implementation of new management systems.

Where a system is required to be developed and/or implemented by a date outside of the audit period, we have requested the utility provide a verbal update on progress during the audit interviews. The purpose of this update is to inform IPART and the auditor of progress that has been made in developing an effective management system by the due date set out in the licence.

The auditor is requested to provide a summary of this update and whether in the auditor's view sufficient progress has been made to meet the future licence requirement. The auditor should note that due to the Government imposing a merger of Sydney Catchment Authority (SCA) and State Water Corporation there may be consequential impacts on the development of a certified AMS and EMS. For State Water's licence this applies to the development of a certified AMS and EMS by 30 June 2018. This opinion should be provided in the cover letter to the audit report.

Table 1 Audit scope 2014-15 Water NSW (State Water Corporation)

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
1	Licence and licence authorisation		
1.1	Purpose of this Licence		
1.1.1	<p>This Licence is granted to enable and require State Water to carry out its functions within its Area of Operations on the terms and conditions set out in this Licence. This Licence sets out the terms and conditions under which State Water is to:</p> <ul style="list-style-type: none"> a) meet the objectives and other requirements imposed on it in the Act and other applicable law; b) provide, construct, operate, manage and maintain efficient, co-ordinated and commercially viable systems and services to capture, store and release water; c) comply with the performance standards specified in this Licence; d) comply with the reporting obligations set out in the Reporting Manual; e) be subject to Operational Audits; and f) where conferred on State Water by this Licence, undertake specified functions of: <ul style="list-style-type: none"> i) the Minister administering the Water Management Act 2000 (NSW) and the Water Act 1912 (NSW); and ii) the Ministerial Corporation under any Act or law. 	NR	Clarification condition does not require audit
1.1.2	<p>To the extent permitted by any applicable law, this Licence authorises State Water to carry out its functions:</p> <ul style="list-style-type: none"> a) outside the State; and b) within the area of operations of: <ul style="list-style-type: none"> i) Sydney Water Corporation; ii) Sydney Catchment Authority; iii) Hunter Water Corporation; or iv) a Water Supply Authority, <p>subject to State Water obtaining the written agreement of the relevant body.</p>	NR	Clarification condition does not require audit
1.2	Duration of this Licence		
1.2.1	<p>The term of this Licence is 5 years from the Commencement Date.</p> <p>[Note: This Licence starts on 1 July 2013, which means that it will end on 30 June 2018.]</p>	NR	Clarification condition does not require audit

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
1.3	Availability of Licence		
1.3.1	State Water must make this Licence available free of charge: a) on its website for downloading by any person; and b) to the public on request.	SC	
1.4	Conferred functions		
1.4.1	This Licence confers on State Water the functions specified in Schedule A to this Licence.	NR	Condition confers powers – no audit required
1.4.2	State Water must exercise any functions conferred on it under this Licence consistently with the Water Management Act 2000 (NSW), the Water Act 1912 (NSW), the New South Wales – Queensland Border Rivers Act 1947 (NSW), any other relevant law and any relevant Water Management Plan.	NR	Condition confers powers – no audit required
1.4.3	By 1 October 2013, State Water must publish a statement setting out any agreed roles and responsibilities regarding the functions conferred on it under condition 1.4.1 and Schedule A, as agreed with the NSW Office of Water, the Ministerial Corporation or any other relevant government departments or agencies. [Note: this obligation could be fulfilled by publishing those parts of any agreements (including memoranda of understanding) entered into by State Water and other government departments or agencies with which it shares the functions, which document roles and responsibilities regarding conferred functions.]	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.
1.4.4	State Water must make the statement described in condition 1.4.3 available free of charge: a) on its website for downloading by any person; and b) to the public on request.	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.
2	Water quality		

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
2.1	Bulk Water supplied to Local Water Utilities for Drinking Water purposes		Note: The purpose of condition 2.1 is to ensure that there are mechanisms in place for State Water to share information which it currently collects with interested Local Water Utilities, where that information could usefully inform a Local Water Utility's Drinking Water quality assurance program.
2.1.1	State Water must maintain a register of all Local Water Utilities: a) for which State Water maintains a Water Allocation Account; and b) to which State Water delivers water that will be used for the purposes of Drinking Water (Local Water Utility Customers). c) The register must include contact details for each Local Water Utility Customer, and the Valley and approximate location from which each Local Water Utility Customer extracts water.	Audit	The 2013-14 audit found LWUs register is in place. However the letters not responded by LWUs had not been followed up. State Water does not have a documented process to maintain updated the LWU register. Check if Water NSW is now fully compliant with this condition, following the 2013-14 auditor's comments.
2.1.2	By 1 October 2013, State Water must develop and implement a procedure for providing information when requested by any Local Water Utility to inform that utility's Drinking Water quality assurance program (LWU Information Request Procedure).	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
2.1.3	State Water's LWU Information Request Procedure under condition 2.1.2 above must: <ul style="list-style-type: none"> a) describe how a Local Water Utility is to request information; b) describe how State Water will respond to the request in a timely manner; and c) define any fees or charges that will be charged by State Water to recover reasonable costs incurred for responding to an information request, how these will be calculated, and how they are to be paid. 	Audit	This condition was last audited in 2013-14 and was awarded a high compliance grade due to administrative issues regarding calculation and payment of fees for information request. The procedure for updating the LWU register contact details not formalised. Check if Water NSW is now fully compliant with this condition, following the 2013-14 auditor's comments.
2.1.4	State Water must make details of the LWU Information Request Procedure free of charge: <ul style="list-style-type: none"> a) on its website for downloading by any person; and b) to the public on request. 	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.
3	Water quantity		
3.1	Delivery of water to Customers		
3.1.1	State Water must take all reasonable steps to process all Water Orders promptly and efficiently.	Audit	Note: Where a Customer places an incomplete or incorrect Water Order, Water NSW could fulfil this obligation by notifying that Customer promptly and efficiently of the error, and how to rectify it.
3.1.2	State Water must take all reasonable steps to manage Water Orders so as to ensure the timely Delivery of water to its Customers.	Audit	
3.1.3	State Water must maintain a Water Allocation Account for each access licence issued under the Water Management Act 2000 (NSW) and each licence issued under the Water Act 1912(NSW) held by a Customer.	Audit	

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
3.1.4	State Water must take all reasonable steps to conserve water and minimise water losses that result from undertaking its operations under this Licence.	Audit	
3.2	Advance notification of changes to flow release patterns		
3.2.1	State Water 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.	Audit	<p>This condition was last audited in 2013-14 and was awarded a high compliance grade.</p> <p>State Water acknowledged one non-compliance in its annual compliance report for 2013-14. The auditor noted that State Water has improved its monitoring system to prevent future incidents from occurring.</p>
3.3	Water balance reporting		
3.3.1	State Water must prepare water balance reports for each of the Valleys in which it operates, in accordance with the Reporting Manual.	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.
4	Assets		
4.1	Asset Management System		
4.1.1	By 30 June 2018, State Water must develop a Management System that is consistent with: <ul style="list-style-type: none"> 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).	NR	Can not be audited until 2017/18. Update on progress to be provided at audit interviews. Auditor to provide comments and attach to cover letter.

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
4.1.2	In the case of an Asset Management System which is developed under the International Standard ISO 55001: 2013 Asset Management – Management systems – Requirements, State Water must ensure that: <ul style="list-style-type: none"> a) by 30 June 2018, the Asset Management System is certified by an appropriately qualified third party to be consistent with the International standard ISO 55001:2013: Asset Management – Management systems - Requirements; and b) once the Asset Management System is certified under condition 4.1.2(a) above, the certification is maintained during the remaining term of this Licence. 	NR	
4.1.3	State Water must ensure that, by 30 June 2018, the Asset Management System is fully implemented and that all relevant activities are carried out in accordance with the system.	NR	
4.1.4	Until the Asset Management System has been developed in accordance with condition 4.1.1 and certified in accordance with condition 4.1.2 (if applicable), State Water must: <ul style="list-style-type: none"> a) maintain programs to manage risks to its assets and to maintain the appropriate levels of service of those assets; and b) ensure that all its activities are carried out in accordance with those programs. 	Audit	Audit until new asset management system is in place.
4.1.5	Once the Asset Management System is certified in accordance with condition 4.1.2 (if applicable), State Water must notify IPART of any significant changes that it proposes to make to the Asset Management System in accordance with the Reporting Manual.	NR	As no system is in place yet notification is not required during this licence term.
4.2	Water metering		Note: This condition 4.2 enables State Water to perform the metering functions set out in this condition for the purposes of section 22A(1) of the Act, subject to the terms and conditions of this Licence.
4.2.1	State Water must read each of its Customers' meters.	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
4.2.2	Where provided for in any agreement between State Water and the Minister or the NSW Office of Water, State Water must: <ul style="list-style-type: none"> a) read Metering Equipment (if applicable); or b) determine water extraction for groundwater and Unregulated River licence holders. 	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.
4.2.3	State Water may operate, replace, repair, maintain, remove, connect, disconnect or modify Metering Equipment installed under a government-funded meter program.	SC	This condition confers powers and does not need to be audited.
5	Customers		
5.1	Valley-based customer service committees (excluding Fish River Water Scheme Customers)		
5.1.1	State Water must regularly consult with Valley-based customer service committees (CSCs) to enable Customer involvement in issues relevant to the performance of State Water's obligations to Customers under this Licence or the customer service charter referred to in condition 5.2 of this Licence.	SC	Condition is not dissimilar to previous obligation— last audited in 2011-12 where full compliance was awarded We have deferred the first audit to 2015/16 to balance out the audit scope in year 2 and 3 of the licence.
5.1.2	For each CSC, State Water must invite at least 1 representative from each of the groups or bodies identified in paragraphs (a) to (e) below to be a member of that CSC: <ul style="list-style-type: none"> a) Customers which are Unregulated River water users; b) Customers which are groundwater users; c) the NSW environmental water entitlement holder; d) the Commonwealth Environmental Water Holder; and e) the relevant Catchment Management Authority; For the purposes of this condition 5.1.2, Customer does not include a Fish River Water Scheme Customer.	SC	Condition is not dissimilar to previous obligation— last audited in 2011-12 where full compliance was awarded We have deferred the first audit to 2015/16 to balance out the audit scope in year 2 and 3 of the licence.

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
5.1.3	State Water must provide the CSCs with adequate information within its possession or under its control to enable the CSC to discharge the tasks assigned to it, other than information or documents over which State Water or another person claims confidentiality or legal professional privilege and subject to any limitations on disclosure of the information at law.	SC	<p>Condition is not dissimilar to previous obligation— last audited in 2011-12 where full compliance was awarded</p> <p>We have deferred the first audit to 2015/16 to balance out the audit scope in year 2 and 3 of the licence.</p>
5.2	Customer Service Charter (excluding Fish River Water Scheme Customers)		
5.2.1	State Water must, in consultation with the CSCs, establish and maintain a customer service charter (Customer Service Charter).	SC	<p>Condition is not dissimilar to previous obligation— last audited in 2011-12 where full compliance was awarded</p> <p>We have deferred the first audit to 2015/16 to balance out the audit scope in year 2 and 3 of the licence.</p>
5.2.2	The Customer Service Charter must set out the mutual responsibilities and obligations of State Water and its Customers (excluding Fish River Water Scheme Customers) consistently with this Licence, the Act, the Water Management Act 2000 (NSW), the Water Act 1912 (NSW) and any other applicable law.	SC	<p>Condition is not dissimilar to previous obligation— last audited in 2011-12 where full compliance was awarded</p> <p>We have deferred the first audit to 2015/16 to balance out the audit scope in year 2 and 3 of the licence.</p>
5.2.3	State Water must make the Customer Service Charter available free of charge: <ul style="list-style-type: none"> a) on its website for downloading by any person; and b) to the public on request. 	SC	<p>Condition is not dissimilar to previous obligation— last audited in 2011-12 where full compliance was awarded</p> <p>We have deferred the first audit to 2015/16 to balance out the audit scope in year 2 and 3 of the licence.</p>

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
5.3	Fish River Customer Council		
5.3.1	State Water must regularly consult with a Fish River Customer Council to enable Fish River Water Scheme Customer involvement in issues relevant to the performance of State Water in its obligations to Fish River Water Scheme Customers under this Licence and any Fish River Customer Contract.	Audit	
5.3.2	State Water must invite at least 1 representative from each of the entities identified in paragraphs (a) to (d) below to be a member of the Fish River Customer Council: a) Lithgow City Council; b) Oberon Council; c) Delta Electricity, a statutory State owned corporation constituted under the Energy Services Corporations Act 1995 (NSW); and d) Sydney Catchment Authority, a statutory corporation constituted under the Sydney Water Catchment Management Act 1998 (NSW), (Fish River Customer Council).	Audit	
5.3.3	State Water must provide the Fish River Customer Council with adequate information within its possession or under its control so as to enable the Fish River Customer Council to discharge the tasks assigned to it, other than information or documents over which State Water or another person claims confidentiality or privilege and subject to any limitations on disclosure of the information at law.	Audit	
5.4	Fish River Customer Contracts		
5.4.1	State Water must enter into and maintain an agreement with each of its Fish River Water Scheme Customers during the term of this Licence, for the water supply arrangements for the Fish River Water Supply Scheme.	Audit	

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
5.4.2	<p>The terms of the agreements must, as a minimum, include provisions on:</p> <ul style="list-style-type: none"> a) the standard of the quality of water to be supplied by State Water; b) the continuity of water to be supplied by State Water (that is, provisions relating to interruption, disconnection and reconnection to supply); c) the metering arrangements; d) the costs to be paid by Fish River Water Scheme Customers for the supply of water and other services to them; and e) any other terms agreed between State Water and its Fish River Water Scheme Customers. 	Audit	
5.5	Code of practice on payment difficulties		
5.5.1	<p>State Water must develop, maintain and fully implement a code of practice (the Code) relating to Customers having payment difficulties, which must:</p> <ul style="list-style-type: none"> a) provide for deferred payment or payment by instalment for Customers who are required to pay Bills and who are experiencing payment difficulties; and b) identify the circumstances under which State Water may suspend water access licences, and an overview of the process that must be followed prior to suspension. 	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.
5.5.2	State Water must set out details of the Code in the Customer Service Charter.	Audit	
5.5.3	<p>State Water must provide information on the Code free of charge:</p> <ul style="list-style-type: none"> a) to Customers, at least once annually with their Bills; b) on its website for downloading by any person; and c) to the public on request. 	Audit	
5.6	Internal Complaints Handling Procedure		

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
5.6.1	State Water must maintain a procedure for receiving, responding to and resolving Complaints, which is consistent with the Australian Standard AS ISO 10002-2006: Customer satisfaction - Guidelines for complaints handling in organizations (ISO 10002:2004, MOD) (Internal Complaints Handling Procedure).	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.
5.6.2	State Water must ensure that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the procedure.	Audit	<p>This condition was last audited in 2013-14 and was awarded a high compliance grade in that audit.</p> <p>The 2013-14 auditor noted the internal Complaints Handling was not fully implemented. The Customer Information Officers (CIOs) were not specifically trained in the above mentioned procedure.</p> <p>Check if Water NSW is fully compliant with this condition, following the 2013-14 auditor's comments.</p>
5.6.3	<p>State Water must provide information on the Internal Complaints Handling Procedure which explains how to make a Complaint and how the Internal Complaints Handling Procedure works free of charge:</p> <ul style="list-style-type: none"> a) to Customers, at least once annually with their Bills; b) on its website for downloading by any person; and c) to the public on request. 	Audit	
5.7	External dispute resolution scheme		
5.7.1	State Water must be a member of the Energy and Water Ombudsman NSW for the resolution of disputes between State Water and its Customers.	SC	No audit required, the Secretariat will check whether membership is maintained annually.

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
5.7.2	State Water must provide free of charge information that explains the operation of the dispute resolution service provided by the Energy and Water Ombudsman NSW (including any rights to have a Complaint or dispute referred to the Energy and Water Ombudsman NSW and how the dispute resolution service can be accessed): a) to Customers, at least once annually with their Bills; b) on its website for downloading by any person; and c) to the public on request.	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.
6	Environmental management		
6.1	Environmental management		
6.1.1	By 30 June 2018, State Water must develop a Management System which is consistent with the Australian Standard AS/NZS ISO 14001:2004: Environmental Management Systems - Requirements with guidance for use (Environmental Management System).	NR	Can not be audited until 2017/18. Update on progress should be requested and reported by the auditors as per condition 4.1.1 dealing with the AMS.
6.1.2	State Water must ensure that: a) by 30 June 2018, the Environmental Management System is certified by an appropriately qualified third party to be consistent with the Australian Standard AS/NZS ISO 14001:2004: Environmental Management Systems - Requirements with guidance for use; and b) once the Environmental Management System is certified under condition 6.1.2(a), the certification is maintained during the remaining term of this Licence.	NR	Can not be audited until 2017/18.
6.1.3	State Water must ensure that by 30 June 2018, the Environmental Management System is fully implemented and that all relevant activities are carried out in accordance with the system.	NR	Can not be audited until 2017/18.

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
6.1.4	<p>Until the Environmental Management System has been developed and certified in accordance with conditions 6.1.1 and 6.1.2, State Water must:</p> <ul style="list-style-type: none"> a) maintain programs to manage risks to the environment from carrying out its activities; and b) ensure that all its activities are carried out in accordance with those programs. 	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.
6.1.5	Once the Environmental Management System is certified in accordance with condition 6.1.2, State Water must notify IPART of any significant changes that it proposes to make to the Environmental Management System in accordance with the Reporting Manual.	NR	As no environmental management system is in place yet this requirement will not be triggered in the licence term.
7	Performance monitoring		
7.1	Operational Audits		
7.1.1	<p>IPART may undertake, or may appoint an Auditor to undertake, an audit on State Water's compliance with:</p> <ul style="list-style-type: none"> a) this Licence; b) the Reporting Manual; and c) any matters required by the Minister, (Operational Audit). 	NR	This condition confers audit powers to IPART and no auditing is required.
7.1.2	State Water must provide IPART or any Auditor with all information in its possession, or under its custody or control, which is necessary to conduct the Operational Audit, including whatever information is reasonably requested by IPART or an Auditor.	NR	Considered to be self checking
7.1.3	State Water must provide the information requested under condition 7.1.2 within a reasonable time of it being requested.	NR	Considered to be self checking

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
7.1.4	<p>For the purposes of any Operational Audit or verifying a report on an Operational Audit, State Water must, within a reasonable time of being required by IPART or an Auditor, permit IPART or the Auditor to:</p> <ul style="list-style-type: none"> a) have access to any works, premises or offices occupied by State Water; 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 purposes 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 State Water that are maintained in relation to the performance of State Water's obligations under this Licence (including under the Reporting Manual); and e) discuss matters relevant to the Operational Audit or any report on the Operational Audit with State Water, including any of State Water's officers and employees. 	NR	Considered to be self checking
7.2	Reporting		
7.2.1	<p>State Water must comply with its reporting obligations set out in this Licence and in the Reporting Manual, which include:</p> <ul style="list-style-type: none"> a) reporting to IPART in accordance with the Reporting Manual and this Licence, and b) making reports and other information publicly available, <p>in the manner set out in the Reporting Manual.</p>	Audit	
7.2.2	<p>State Water must maintain sufficient record systems that enable it to report accurately in accordance with this Licence and the Reporting Manual (including its performance against the performance indicators specified in the Reporting Manual).</p>	Audit	Refer to Table 3 for IPART indicators.
7.2.3	<p>In the case of any ambiguity in the interpretation or application of any performance indicators specified in the Reporting Manual, IPART's interpretation or assessment of the indicators will prevail.</p>	NA	Information condition, no audit required.

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
7.2.4	State Water must maintain sufficient record systems to enable it to measure accurately its performance against any system performance indicators specified in any instruments that give effect to the National Water Initiative.	SC	<p>This condition was last audited in 2011-12 and was awarded full compliance in that audit.</p> <p>The National Water Initiative Rural National Performance Report is not being released in 2014-15. We do not consider it necessary to audit this condition in 2014-15.</p>
7.3	Provision of information		
7.3.1	If IPART requests that State Water provide information relating to the performance of its obligations under condition 7.2, State Water must provide the information requested within a reasonable time of IPART's request, including providing IPART with physical and electronic access to the records required to be kept under condition 7.2.2.	NR	Considered to be self checking
7.3.2	State Water must provide IPART with such information as is reasonably required to enable IPART to conduct any review or investigation of State Water's obligations under this Licence.	NR	Considered to be self checking
7.3.3	If State Water contracts out any of its activities to third parties (including a subsidiary) it must take all reasonable steps to ensure that, if required by IPART or an Auditor, any such third parties provide information and do the things specified in this condition 7 as if that third party were State Water.	NR	Considered to be self checking
7.3.4	If IPART or an Auditor requests information under this condition 7 which is confidential, the information must be provided to IPART or the Auditor, subject to IPART or the Auditor entering into reasonable arrangements to ensure that the confidential information is not disclosed to third parties, without the consent of State Water.	NR	Considered to be self checking
8	End of term review		
8.1	End of term review		

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
8.1.1	In or around the first quarter of 2017, a review of this Licence will commence to investigate: 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	Requirement on IPART – no audit required.
8.1.2	State Water must provide to the person undertaking the End of Term Review such information as is reasonably required to enable the person to undertake the End of Term Review.	NR	Considered to be self-checking

Table 2 Recommendations / Outstanding items from previous audits

Recommendation number	Operational issue (Licence reference where applicable)	IPART Recommendation to the Minister	Findings from 2013-14 audit, and status as reported in 31 March 2015	Guidance for 2014-15 Audit
2013-14 – 1	Water quality (maintain register of LWUs) – condition 2.1.1	With regards to the Local Water Utility (LWU) register, State Water should: <ul style="list-style-type: none"> – prepare a documented procedure to maintain the register. – contact and confirm details for LWUs who have yet to confirm contact details for the register 	In progress <ol style="list-style-type: none"> 1. A procedure is being prepared to outline the process and timeframe to check LWU contact person and details by 30 June 2015. 2. Letters are being prepared to re-send to the LWUs who have not responded by 1 April 2015. 	Audit to check progress
2013-14 – 2	Water quality (ensure LWU information request procedure describes how State Water will respond to information requests and define fees or chargers) – condition 2.1.3	State Water should update the water quality information request procedure to describe how fees or charges are to be paid.	In progress <p>The link to the payment options page of the internet will be added to the procedure by 30 June 2015.</p>	Audit to check progress
2013-14 – 3	Customers (fully implement complaints handling procedure) – condition 5.6.2	State Water should take steps to increase awareness of its internal Complaints Handling Procedure and continue to monitor implementation of the procedure.	<p>Steps discussed and agreed with the auditors during the 2013-14 interviews (refer to page 100 of the final IPART report to the Minister).</p> <ol style="list-style-type: none"> 1. Re-appoint the Education Officer as a dedicated resource for complaints management. On-hold Appointment on hold due to the current merger and	Audit to check progress

			<p>restructure.</p> <p>2. Discuss outcomes of the ticket audit from last year's complaints with CIOs at their next meeting.</p> <p>In progress Outcomes of the audit were included on the agenda and discussed at the CIO weekly meeting on 28 October 2014 and 20 January 2015. Ways to improve the handling of complaints were discussed including what constitutes a complaint, how to better record complaints and how to determine customer satisfaction.</p> <p>3. Plan specific training for other Business Units</p> <p>In progress Awareness training on complaints completed for all water delivery staff. There is no further training planned until the merging of procedures of State Water and Sydney Catchment Authority to Water NSW is complete. Training is planned to resume following this.</p> <p>4. [Undertake] more detailed analysis and complete audits and checks of complaints during 2014-15 with reporting monthly to Manager of Customer Operations.</p> <p>In progress Planning to review 10% of 2014-15 complaints and report by 30 June 2015.</p>	
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Table 3 IPART Indicators to be audited in 2014-15

IPART Indicator No.	Indicator	Definitions
1	Percentage of customers, who after placing a non-complying water order, are contacted within 1 working day to rectify that order.	This indicator should be calculated as a percentage of all non-complying water orders placed. A “non-complying water order” is a water order that does not comply with the relevant licence holder’s licence conditions, or which contains insufficient information for State Water to supply water.
2	Percentage of complying water orders delivered outside of +/- 1 day of the scheduled day of delivery, as measured by Complaints.	This indicator should be calculated as a percentage of all complying water orders placed. A complying water order is an order that complies with licence conditions, and which contains sufficient information for State Water to supply water. The scheduled day of delivery takes into account the period of required notice specified in water management work approvals, licences, or entitlements.
3	Percentage of complying Water Orders rescheduled in consultation with an affected Customer, within 1 working day of an expected water shortage or delivery delay.	This indicator should be calculated as a percentage of all water orders rescheduled due to an expected shortage or delivery delay.
4	Percentage of complying intra-valley transfers processed within five working days of State Water’s receipt of a correct application and fee.	This indicator should be calculated as a percentage of all complying intra-valley transfers processed. “Intra-valley transfer” is the transfer of allocated water from one licence to another licence within a Valley, and includes transfers under the Water Management Act 2000 and the Water Act 1912.

Table 4 Past field verification site visits for Water NSW (State Water)

Audit Year	Location	Facility
2013-14	Warren	Marebone Weir fishway
	Dubbo	Burrendong Dam floating curtain
<i>Previous licence</i>		
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

2014-15 audit scope

Requirement	Meaning
Audit/Review	Condition to be audited/reviewed for 2014-15
SC	Condition where IPART will rely on the utility's statement of compliance. As below, all conditions require a Statement of Compliance unless there is a "No requirement" designation.
NR	No requirement (for audit or statement of compliance).

This package includes the following tables:

Table 1: Audit scope 2014-15 Water NSW (Sydney Catchment Authority)

Table 2: Recommendations / Outstanding items from previous audits

Table 3: IPART Indicators to be audited in 2014-15

Table 4: Past field verification site visits for Water NSW (Sydney Catchment Authority)

Audit scope 2014-15

Auditors should note any directions shown in the comments column of Table 1.

This scope is based on the audit program determined for the Sydney Catchment Authority Operating Licence 2012 - 2017 (IPART reference D15/1806).

Recommendations from previous years

Outstanding audit recommendations from previous years are shown in Table 2. These recommendations are reviewed to determine progress and are reported on separately within the audit report.

Statement of Compliance

By 1 September each year, the utility is required to provide a Statement of Compliance (SC) signed by the CEO and a Board Member. The Statement of Compliance is an exception report that lists any non-compliance of licence conditions during the financial year. It also outlines what remedial action has or is being taken in respect to these non-compliances. The SC covers all licence conditions (regardless of whether they are scheduled to be audited or not in that year). Where non compliances are reported this may lead to a late variation to the audit scope to enable a matter to be reviewed if considered warranted.

Development and implementation of new management systems

Where a system is required to be developed and/or implemented by a date outside of the audit period, we have requested the utility provide a verbal update on progress during the audit interviews. The purpose of this update is to inform IPART and the auditor of progress that has been made in developing an effective management system by the due date set out in the licence.

For SCA's licence this applies to the development of an Asset Management System (AMS) and Environmental Management System (EMS) by 30 June 2015 and that the EMS is certified by 30 June 2017. Due to the Government imposing a merger of Sydney Catchment Authority (SCA) and State Water Corporation, Water NSW has indicated that the AMS and EMS will not be developed by 30 June 2015 and have proposed that an AMS and EMS will be in place by June 2016 and that the EMS will be certified by December 2016. We intend to report this as a non-compliance, but in light of the circumstances, take no enforcement action. The auditor is therefore requested to provide a summary of the progress to date on the management systems and whether in the auditor's view sufficient progress has been made to meet the new proposed deadline for this requirement. This opinion should be provided in the cover letter to the audit report.

Table 1 Audit scope 2014-15 Water NSW (Sydney Catchment Authority)

Licence condition	Operating licence obligations	2014-15 audit requirement	Comments
1	Licence details		
1.1	Objectives of this Licence		
1.1.1	<p>The objective of this Licence is to set out the terms and conditions under which SCA is to:</p> <ul style="list-style-type: none"> a) meet the objectives and other requirements imposed on it in the Act; b) provide, construct, operate, manage and maintain efficient and co-ordinated viable systems and services for supplying Raw Water; c) comply with the quality and performance standards specified in this Licence; d) compile and report against indicators on the direct impact of its activities on the environment, or other matters as determined by IPART; e) recognise the rights given to Customers; and f) be subject to Operational Audits. 	NR	Clarification condition does not require audit
1.2	Duration of Licence		
1.2.1	<p>The term of this Licence is 5 years from the Commencement Date.</p> <p><i>[Note: This Licence starts on 1 July 2012, which means that it will end on 30 June 2017.]</i></p>	NR	Clarification condition does not require audit
1.3	Non-exclusive Licence		
1.3.1	This Licence does not prohibit a person from supplying water (whether Raw Water or otherwise) in the Area of Operations if the person is lawfully entitled to do so.	NR	Clarification condition does not require audit
1.4	Availability of Licence		
1.4.1	<p>SCA must make this Licence available free of charge:</p> <ul style="list-style-type: none"> a) on its website for downloading by any person; and b) at its offices for access or collection by any member of the public. 	SC	
1.5	Area of Operations		

1.5.1	This Licence enables SCA to exercise its functions in or in respect of an area in or outside the Area of Operations.	NR	Clarification condition does not require audit
2	Water Quality		
2.1	Water Quality Management System		
2.1.1	<p>SCA must maintain a Management System that is consistent with:</p> <ul style="list-style-type: none"> a) the Australian Drinking Water Guidelines; or b) if NSW Health specifies any amendment or addition to the Australian Drinking Water Guidelines that applies to SCA, the Australian Drinking Water Guidelines as amended or added to by NSW Health, <p>(Water Quality Management System).</p> <p><i>[Note: It is generally expected that SCA will develop a system consistent with the Australian Drinking Water Guidelines, including the Water Quality Framework. However, where NSW Health considers it appropriate, the application of those Guidelines may be amended or added to, to take account of SCA's circumstances and/or Drinking Water quality policy and practices within New South Wales.</i></p> <p><i>SCA must also manage the Raw Water Supply System in light of its knowledge of the Drinking Water Supply System. That is, SCA must have adequate systems and processes in place to manage Raw Water quality, taking into account the implementation of planning and risk management across the Drinking Water Supply System.]</i></p>	Audit	<p>This condition was last audited in 2013-14 and was awarded a high compliance grade in that audit.</p> <p>The 2013-14 audit found SCA had implemented its WWMF consistently with ADWG requirements, to the satisfaction of NSW Health. However some information was incomplete or missing from relevant documents.</p> <p>System based on ADWG framework is not able to be certified. A comprehensive adequacy audit would require at least 10 person days. So audit each year will be a combination of risk based adequacy and implementation.</p> <p>Components of the ADWG framework and site visits to be audited to be determined by the auditor in consultation with the IPART.</p> <p>Audit will be informed by consultation with NSW Health. IPART will seek comments from NSW Health regarding the scope and provide this to the auditor. Further, outcomes of previous audits are also considered.</p>

2.1.2	SCA must ensure that the Water Quality Management System is fully implemented and that all relevant activities are carried out in accordance with the System, including to the satisfaction of NSW Health.	Audit	<p>This condition was last audited in 2013-14 and was awarded a high compliance grade in that audit.</p> <p>The 2013-14 audit found that due to incomplete or missing information (see 2.1.1 above) the WQMS was unable to be fully implemented.</p> <p>Audit each year will be a combination of adequacy and implementation. Audit will be informed by consultation with NSW Health (see 2.1.1 above) and outcomes of previous audits</p> <p>Components of the ADWG framework and site visits to be audited to be determined by IPART.</p>
2.1.3	SCA must obtain NSW Health's approval for any significant changes that SCA proposes to make to the Water Quality Management System before implementing or carrying out its activities in accordance with them	SC	IPART will write to NSW Health to determine whether any audit of this condition is required.
2.1.4	SCA must advise IPART of any significant changes that it proposes to make to the Water Quality Management System in accordance with the Reporting Manual.	SC	<p>Audit following any notice of change.</p> <p>No notification was made in 31 March 2015 Report to IPART.</p>
3 Water Supply Sufficiency			
3.1 Catchment Infrastructure management			
3.1.1	SCA must ensure that the Catchment Infrastructure is operated and managed consistent with the Design Criteria.	Audit	
3.1.2	SCA must make the Design Criteria available to the public in accordance with the Reporting Manual.	SC	This condition was last audited in 2012-13 and was awarded full compliance in that audit.

3.2 Re-calculating Water Supply System Yield			
3.2.1	<p>SCA must re-calculate the Water Supply System Yield 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; b) the commencement of any major modification or augmentation to the Catchment Infrastructure or the Water Supply System Infrastructure which will have a significant impact on SCA's supply of water; c) any material change to the operating rules of the Catchment Infrastructure; or any material change to the Design Criteria. 	SC	<p>Audit following any notice of change.</p> <p>IPART to be advised of any changes prior to finalisation of audit scopes. IPART is not aware of any of these events.</p>
3.2.2	<p>SCA must advise the Minister:</p> <ul style="list-style-type: none"> a) of any changes to the Water Supply System Yield from the previous Water Supply System Yield (including reasons for the change) following a re-calculation under condition 3.2.1; or b) if SCA considers that future demand for Raw Water may exceed the Water Supply System Yield, <p>in accordance with the Reporting Manual.</p>	SC	<p>Audit following any notice of change</p> <p>IPART to be advised of any changes prior to finalisation of audit scopes.</p> <p>Audit if triggered by a recalculation of yield.</p>
3.2.3	<p>As soon as practicable after advising the Minister of any changes to the Water Supply System Yield under condition 3.2.2(a), SCA must make those changes and reasons for those changes available to the public in accordance with the Reporting Manual.</p>	SC	As required.
3.3 Reviewing the model for Water Supply System Yield			
3.3.1	<p>By 30 June 2016, SCA must retain an independent expert to:</p> <ul style="list-style-type: none"> a) review its model and procedure for calculating the Water Supply System Yield; b) test the robustness of the model, the key assumptions used in the model, and the process for calculating the Water Supply System Yield, including the appropriate frequency of yield calculation and the appropriateness of the trigger events in condition 3.2.1; and c) advise SCA on whether it should re-calculate the Water Supply System Yield based on the findings of the test conducted in condition 3.3.1(b). 	NR	<p>The intent of condition 3.3 was that the task comprising all three conditions be completed by the applicable date. Thus all sub conditions should be audited at the one time.</p> <p>Requirement due for completion 30 June 2016 – Audit in 2015/16 Audit.</p>
3.3.2	<p>During the independent expert's review under condition 3.3.1, SCA must consult with:</p>	NR	Requirement due for completion 30 June

	a) Sydney Water; b) stakeholders and regulators as agreed with IPART; and c) any other persons reasonably expected to have an interest in the review of the model under condition 3.3.1.		2016.
3.3.3	SCA must report: a) the findings of the independent expert's review under condition 3.3.1; and b) SCA's response to those findings, in accordance with the Reporting Manual.	NR	The requirement 3.3.3 (b) is that it be reported as soon as practical to the public. Reporting to the Minister is only required if there is to be a change (see Reporting manual 3.3.3).
4	Catchment		
4.1	Catchment management		
4.1.1	SCA must manage and protect the Catchment Area consistent with its objectives and functions under the Act.	Audit	
4.2	Information on Catchment Area		
4.2.1	SCA must: a) make available information collected by SCA on water quality relevant to the Catchment Area; and b) provide data in relation to the Catchment Health Indicators to the Catchment Auditor, in accordance with the Reporting Manual.	SC	This condition was last audited in 2013-14 and was awarded full compliance in that audit.
5	Assets		
5.1	Asset Management System		
5.1.1	By 30 June 2015, SCA 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, (Asset Management System).	SC	Imposed non-compliance due to Water NSW formation Water NSW has indicated in its 30 March 2015 letter that an AMS consistent with ISO55001 will be in place by June 2016, and certified by December 2016. This is due to the formation of Water NSW.

5.1.2	SCA must ensure that by 1 July 2015, the Asset Management System is fully implemented and that all relevant activities are carried out in accordance with the System.	NR	Audit once system is implemented. Audit each year will be a combination of risk based adequacy and implementation.
5.1.3	Until the Asset Management System has been developed in accordance with condition 5.1.1, SCA must take steps towards developing a Management System that will meet the requirements of condition 5.1.1 by 30 June 2015.	SC	<p>Imposed non-compliance due to Water NSW formation</p> <p>Water NSW has indicated in its 30 March 2015 letter that an AMS consistent with ISO55001 will be in place by June 2016, and certified by December 2016.</p> <p>Auditor to summarise the presentation by Water NSW and whether sufficient progress is being made to meet the new dates above.</p>
6	Customers		
6.1	Customer agreement – Customers other than Sydney Water		
6.1.1	SCA must establish terms and conditions for the supply of Raw Water to all of its Customers other than Sydney Water.	SC	This condition was last audited in 2012-13 and was awarded full compliance in that audit.
6.1.2	<p>The terms and conditions under condition 6.1.1 must at a minimum include:</p> <ul style="list-style-type: none"> a) the standard of the quality of the water supplied; b) the continuity of the water supplied; c) the costs to be paid by the Customers for the supply of water to them; and d) dispute resolution and complaint handling procedures. <p><i>[Note: SCA must enter into arrangements with Sydney Water regarding the terms and conditions of supply of water under section 22 of the Act.]</i></p>	SC	<p>This condition was last audited in 2012-13 and was awarded full compliance in that audit.</p> <p>Cost of supply is the responsibility of the IPART Water Pricing Team.</p>

6.2	Complaints		
6.2.1	SCA must maintain a procedure for receiving, responding to, and resolving Complaints, which is consistent with the <i>Australian Standard AS ISO 10002-2006: Customer satisfaction – Guidelines for complaints handling in organizations</i> (ISO 10002:2004, MOD) (Complaints Handling Procedure).	SC	This condition was last audited in 2012-13 and was awarded full compliance in that audit.
6.2.2	SCA must provide to Customers information concerning the Complaints Handling Procedure which explains how to make a Complaint and how Complaints are managed. SCA must make the information available free of charge: <ul style="list-style-type: none"> a) on its website for downloading by any person; and b) at its offices for access or collection by any member of the public. 	SC	This condition was last audited in 2012-13 with full compliance in that audit.
7	Environment		
7.1	Environment management		
7.1.1	By 30 June 2015, SCA must develop a Management System which is consistent with the Australian Standard AS/NZS ISO 14001:2004: Environmental management systems – Requirements with guidance for use (Environmental Management System).	SC	Non-compliant Due to the merger of SCA and State Water, Water NSW has indicated in its 30 March 2015 letter that an EMS consistent with ISO14001 will be in place by June 2016, and certified by December 2016.
7.1.2	SCA must ensure that by 1 July 2015, the Environmental Management System is fully implemented and that all relevant activities are carried out in accordance with the System.	NR	
7.1.3	SCA must ensure that: <ul style="list-style-type: none"> a) by 30 June 2017, the Environmental Management System is certified by an appropriately qualified third party to be consistent with the <i>Australian Standard AS/NZS ISO 14001:2004: Environmental management systems – Requirements with guidance for use</i>; and b) once the Environmental Management System is certified under condition 7.1.3(a), the certification is maintained 	NR	Audit once system is implemented. Audit each year will be a combination of risk based adequacy and implementation.

	during the remaining term of this Licence.		
7.1.4	Until the Environmental Management System has been developed and implemented in accordance with conditions 7.1.1 and 7.1.2, SCA must maintain programs to manage risks to the environment from carrying out its activities and must ensure that all its activities are carried out in accordance with those programs.	NR	Due to the merger of SCA and State Water, Water NSW has indicated in its 30 March 2015 letter that an EMS consistent with ISO14001 will be in place by June 2016, and certified by December 2016.
7.2	Environmental Indicators		
7.2.1	SCA must: <ul style="list-style-type: none"> a) monitor, record and compile data on the Environmental Indicators; and b) report on the Environmental Indicators in accordance with the Reporting Manual. 	SC	<p>Note this is reported in 1 September reports. Auditing this condition evaluates calculation method which is unlikely to change year to year.</p> <p>This condition was last audited in 2012-13 with full compliance.</p>
8	Performance monitoring		
8.1	Operational Audits		
8.1.1	<ul style="list-style-type: none"> a) IPART may undertake, or may appoint an Auditor to undertake, an audit on SCA's compliance with: this Licence; b) the Reporting Manual; c) and any matter required by the Minister, (Operational Audit). 	NR	Clarification condition - requirement on IPART.
8.1.2	SCA must provide IPART or any Auditor with all information in or under its possession, custody or control which is necessary to conduct the Operational Audit, including whatever information is reasonably requested by IPART or an Auditor.	NR	Considered to be self-auditing
8.1.3	SCA must provide any information requested under condition 8.1.2 within a reasonable time of it being requested.	NR	Considered to be self-auditing
8.1.4	<p>For the purposes of any Operational Audit or verifying a report on an Operational Audit, SCA must, within a reasonable time of being required by IPART or an Auditor, permit IPART or the Auditor to</p> <ul style="list-style-type: none"> a) have access to any works, premises or 	NR	Considered to be self-auditing

- offices occupied by SCA;
- 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 purposes 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 SCA that are maintained in relation to the performance of SCA's obligations under this Licence; and
- e) discuss matters relevant to the Operational Audit or any report on the Operational Audit with SCA, including any of SCA's officers and employees.

8.2 Reporting			
8.2.1	<p>SCA must comply with its reporting obligations set out in the Reporting Manual, which include:</p> <ul style="list-style-type: none"> a) reporting to IPART, NSW Health, the Minister, and the Catchment Auditor; and b) making reports and other information publicly available, 	Audit	<p>Audit of systems and calculations was not done in 2012-13. We would like to check that SCA maintains appropriate systems and calculate reported indicators accurately. See Table 3.</p> <p>Not audited in 2013-14 as planned, audit in 2014-15. See Table 3.</p>
8.2.2	<p>SCA must maintain sufficient record systems that enable it to report accurately in accordance with condition 8.2.1.</p>	Audit	<p>Audit of systems and calculations was not done in 2012-13. We would like to check that SCA maintains appropriate systems and calculate reported indicators accurately.</p> <p>Not audited in 2013-14 as planned, audit in 2014-15.</p>
8.3 Provision of information			
8.3.1	<p>If IPART requests that SCA provide information relating to the performance of its obligations under condition 8.2, SCA must provide the information requested within a reasonable time of IPART's request, including providing IPART with physical access to the records required to be kept under</p>	NR	<p>Considered to be self-auditing</p>

	condition 8.2 and providing physical and/or electronic records.		
8.3.2	SCA must provide IPART with such information as is reasonably required to enable IPART to conduct any review or investigation of SCA's obligations under this Licence.	NR	Considered to be self-auditing
8.3.3	If SCA contracts out any of its activities to third parties (including a subsidiary), it must take all reasonable steps to ensure that, if required by IPART or an Auditor, any such third parties provide information and do the things specified in this condition 8 as if that third party were SCA	NR	Considered to be self-auditing
8.3.4	If IPART or an Auditor requests information under this condition 8 which is confidential, the information must be provided to IPART or the Auditor, subject to IPART or the Auditor entering into reasonable arrangements to ensure that the confidential information remains confidential.	NR	Clarification condition - this is a requirement on IPART and the auditor
9.	Memorandum of Understanding		
9.1	Memorandum of Understanding		
9.1.1	<p>SCA must maintain a Memorandum of Understanding in accordance with section 36 of the Act, with each of the following:</p> <ul style="list-style-type: none"> a) Director-General of the Ministry of Health; and b) Environment Protection Authority. <p>[Note: Section 36(1) of the Act requires SCA to enter into a Memorandum of Understanding with the Director-General of the Department of Health. The name of the Department of Health was changed to the Ministry of Health on 5 October 2011.]</p>	SC	
9.1.2	<p>The purpose of a Memorandum of Understanding is to form the basis for co-operative relationships between the parties to the memorandum. In particular:</p> <ul style="list-style-type: none"> a) the Memorandum of Understanding with Ministry of Health is to recognise Ministry of Health's role in providing advice to the NSW Government in relation to water quality standards and public health. b) the Memorandum of Understanding with Environment Protection Authority is to recognise the role of the Environment Protection Authority in protecting the environment of New South Wales. 	NR	Definition condition does not require audit

10	End of term review		
10.1	End of term review		
10.1.1	<p>It is anticipated that a review of this Licence will commence in the first quarter of 2016 to investigate:</p> <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, <p>(End of Term Review).</p> <p><i>[Note: In the event that IPART undertakes the End of Term review, IPART intends to:</i></p> <ul style="list-style-type: none"> c) <i>commence the end of term review (including undertaking public consultation) in the first quarter of 2016;</i> d) <i>report to the Minister by 30 April 2017 on:</i> <ul style="list-style-type: none"> i. <i>the findings of the End of Term Review,</i> ii. <i>any recommendations for conditions to be included in a new licence, and</i> iii. <i>any recommendations for amending any law that adversely impacts on this Licence; and</i> e) <i>make the report to the Minister publicly available after the End of Term Review.]</i> 	NR	Clarification condition - requirement on IPART
10.1.2	SCA must provide to the person undertaking the End of Term Review such information as is reasonably required to enable the person to undertake the End of Term Review.	NR	End of term Review – requirement is self-auditing

Table 2 Recommendations / Outstanding items from previous audits

Recommendation number	Operational issue (Licence reference where applicable)	IPART Recommendation to the Minister	Findings from 2013-14 audit, and status as reported in 31 March 2015	Guidance for 2014-15 Audit
2013-14 – 1	2.1.1 & 2.1.2.	<p>SCA should clearly document the following:</p> <ul style="list-style-type: none"> – which Critical Control Points (CCPs) are monitored by the SCA (eg through documenting the relevant instrument numbers which collect CCP data) – CCP critical limits, with justification of these limits – activities undertaken by SCA to manage CCPs. 	<p>In progress</p> <p>The Water Quality Management Framework/System is being revised to address these requirements.</p> <p>It is expected that the revision will be complete by the end of June 2015.</p>	Audit to check progress
2012-13 - 1	2.1.1	<p>SCA should further develop the Water Quality Management System to:</p> <ul style="list-style-type: none"> - further address preventative measures and Critical Control Points (CCPs) - revise emergency information and formalise the emergency information revision process - clearly define event based monitoring develop a specific drinking water quality policy 	<p>In progress</p> <p>This recommendation is being addressed and will be incorporated in the revised DWQMP for picnic areas which is expected to be completed by the end of June 2015. The Water Quality Policy was revised in November 2014 to include drinking water supplied to picnic areas.</p>	Audit to check progress
2012-13 – 2	2.1.2	<p>The SCA should:</p> <ul style="list-style-type: none"> – formally identify and implement appropriate preventive measures for raw 	<p>In progress</p> <p>This recommendation is being</p>	Audit to check progress

Recommendation number	Operational issue (Licence reference where applicable)	IPART Recommendation to the Minister	Findings from 2013-14 audit, and status as reported in 31 March 2015	Guidance for 2014-15 Audit
		<p>water supplied, particularly those of high importance and any designated as CCPs</p> <ul style="list-style-type: none"> – develop explicit, validated process control tables for each CCP – ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs). 	<p>addressed and will be incorporated into the revised Drinking Water Quality Management Plan for picnic areas which is expected to be completed by the end of June 2015</p>	
2012-13 – 3	2.1.2	<p>The SCA should:</p> <ul style="list-style-type: none"> – formally identify and implement appropriate preventive measures for drinking water supplied to its recreational areas (picnic areas), including those designated as CCPs – develop explicit, validated process control tables for each CCP – ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs). 	<p>In progress</p> <p>This recommendation is being addressed and will be incorporated into the revised Drinking Water Quality Management Plan for picnic areas which is expected to be completed by the end of June 2015.</p>	<p>Audit to check progress</p>

Table 3 **IPART Indicators to be audited in 2014-15**

IPART Indicator No.	Indicator	Definitions
SCA H1	Water quality	Water quality in catchment waterways in the Catchment Area measured against the applicable water quality objectives specified in the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> 2000.
SCA H2	Water quality	Occurrence of Cryptosporidium and Giardia cysts or oocysts in catchment waterways.

Table 4 Past field verification site visits for Water NSW (Sydney Catchment Authority)

Audit Year	Location	Facility
2013-14	Cataract Dam	Chemical dosing facility Outlet works
	Broughton's Pass	Weir
	Prospect	Warragamba Pipeline Outlet Works Prospect RWPS (WP0903)
2012-13	Broughton's Pass to Prospect Reservoir	Upper Canal
	Prospect	Prospect Reservoir
2011-12	Nil	-
2010-11	Nil	-

C | Operational audit report 2014-15 – WaterNSW



2014/15 Operational Audit of WaterNSW

Final Audit Report

#14001-10-001 Version 4.1

Independent Pricing and Regulatory Tribunal

March 2016

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2014/15 Operational Audit of WaterNSW

Final Audit Report

Independent Pricing and Regulatory Tribunal

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Cobbitty Consulting Pty Ltd
ABN: 45 164 692 488

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

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Glossary

Acronym/Term	Description
ADWG (2011)	<i>Australian Drinking Water Guidelines, 2011</i>
ALARP	As Low as Reasonably Practicable (in relation to dam safety risk)
AMP	Asset Management Plan
ANCOLD	Australian National Committee on Large Dams
AUSRIVAS	Australian River Assessment System
AWD	Available Water Determination
BMS	Business Management System
C2T	Catchment to tap risk assessment
CA	Combined Water Supply Works and Water Use Approvals
CAIRO	Computer Aided Improved River Operations
CARM	Computer Aided River Management
CCP	Critical Control Point
CIO	Customer Information Officer
CMMS	Computerised Maintenance Management System
CRP	Current Recommended Practices
CSG	Coal Seam Gas
DA	Development Application
DCP	Development Control Plan
DPI Water	The regulatory and water policy branch within the NSW Department of Primary Industry (formerly the Office of Water)
DSC	NSW Dam Safety Committee
DWQMP	Drinking Water Quality Management Plan
EWN	Early Warning Network
EWON	Energy and Water Ombudsman, NSW
FRWS	Fish River Water Supply scheme
GMWSP	Greater Metropolitan Water Sharing Plan
HCP	Healthy Catchment Program
HCS	Healthy Catchment Strategy
HYDSTRA	A hydrological data management system
IERP	Incident and Emergency Response Protocol
IPAD	Infrastructure Planning and Development Board subcommittee of WaterNSW
IPART	The Independent Pricing and Regulatory Tribunal (NSW)
iSMART	Integrated surveillance, monitoring, automation and remote telemetry
iWAS	Internet Water Accounting System

Acronym/Term	Description
JOG	Joint Operating Group
KnowRisk	Risk management software
KPI	Key Performance Indicator
LEP	Local Environmental Plan
LGR	Local Government Reference Group
LWU	Local Water Utility
ML	Megalitre (1 million litres)
MMP	Macroinvertebrate Monitoring Program
MOU	Memorandum of Understanding
NATA	National Association of Testing Authorities
NOM	Natural organic matter
NorBE	Neutral or Beneficial Effect
NPWS	National Parks and Wildlife Service
NWI	National Water Initiative
OFI	Opportunity for Improvement
O&M	Operations and Maintenance
PIER	Performance Indicator Exception Report
PINO	Primary Incident Notification Officer
pH	A measure of acidity or alkalinity of water
PSAT	Pollution Source Assessment Tool
QAP	Quality Assurance Plan
QMRA	Quantitative Microbiological Risk Assessment
RWQIRP	Raw Water Quality Incident Response Plan
SASPoM	Special Areas Strategic Plan of Management
SCA	Sydney Catchment Authority
SCADA	Supervisory Control and Data Acquisition
SEPP	State Environmental Planning Policy
SLG	Strategic Liaison Group
SOP	Standard Operating procedure
SWC	Sydney Water Corporation
THM	Trihalomethanes
Tickit	Computer software for risk, compliance, incident and audit management used by WaterNSW
TRIM	Total Records and Information Management
UV	Ultraviolet (radiation)
WAL	Water Access Licence
WAS	Water Accounting System

Acronym/Term	Description
WATHNET	Water Headworks Network simulation model
WFP	Water Filtration Plant
WLS	Water Licensing System
WQMF	Water Quality Management Framework (<i>Australian Drinking Water Guidelines, 2011, Chapter 3</i>)
WQMS	Water Quality Management System
WSAA	Water Services Association of Australia
WSP	Water Sharing Plan

Executive Summary

Auditor Declaration

This report presents the findings of an Operational Audit of WaterNSW's compliance with the requirements of its Operating Licences (the *State Water Operating Licence* and *Sydney Catchment Authority Operating Licence*) during the period 1 July 2014 and 30 June 2015. The audit was undertaken by Cobbitty Consulting, in conjunction with Viridis Consultants, for the Independent Pricing and Regulatory Tribunal (IPART).

The audit team confirms that:

- the auditors have seen sufficient evidence on which to base their conclusions;
- the audit findings accurately reflect the professional opinion of the auditors;
- the lead auditor and team members have conducted the audit, determined audit findings and prepared this report in accordance with the requirements of the *Audit Guideline – Public Water Utilities*¹ and IPART's *Request for Quote*.²
- the audit findings have not been unduly influenced by the utility and/or any of its associates.

Major Findings

The audit team found that WaterNSW had performed well against the audited obligations over the audit period, with full compliance awarded to all but four of the clauses audited. The shortcomings identified relate to Water Quality, Customer Agreements and the Internal Complaints Handling Procedure.

The findings of the audit of performance against the audited Licence obligations are summarised in **Table E.1**. The assessment of progress in respect of previous audit recommendations is summarised in **Table E.2**.

Table E.1 Summary of Audit Findings

Licence Part	Clause/Obligation	Compliance Grade/Comment ³
<i>State Water Operating Licence:</i>		
2. Water Quality	2.1.1	High Compliance – The auditors found that whilst WaterNSW maintains a register of all Local Water Utilities (LWUs), the administration of the register needs strengthening. This presents a risk in that the register may not be adequately maintained and WaterNSW may not be able to contact a LWU in a timely manner in the instance of a water quality emergency.
	2.1.3	Full Compliance

¹ IPART, *Audit Guideline – Public Water Utilities* (Revision 6), June 2015, section 2.1, page 5.

² IPART, *Request for Scope of Work and Quote; Water NSW* (RFQ 15/65), 17 June 2015.

³ Comment provided where less than full compliance assessed.

Licence Part	Clause/Obligation	Compliance Grade/Comment ³
3. Water Quantity	3.1.1	Full Compliance
	3.1.2	Full Compliance
	3.1.3	Full Compliance
	3.1.4	Full Compliance
	3.2.1	Full Compliance
4. Assets	4.1.4	Full Compliance
5. Customers	5.3.1	Full Compliance
	5.3.2	Full Compliance
	5.3.3	Full Compliance
	5.4.1	High Compliance – WaterNSW demonstrated that it has agreements in place with the majority of its Fish River Water Scheme Customers; however, it appears that agreements may not be in place with a small number of minor consumers. Failure to have an effective agreement in place between WaterNSW and its Customers presents a commercial and customer relations risk, albeit low in this case. It is important that Customers fully understand the terms under which water is supplied.
	5.4.2	Full Compliance
	5.5.2	Full Compliance
	5.5.3	Full Compliance
	5.6.2	Full Compliance
	5.6.3	Full Compliance
7. Performance Monitoring	7.2.1	Full Compliance
	7.2.2 (including IPART Indicators Nos: 1, 2, 3 and 4)	Full Compliance
SCA Operating Licence:		
2. Water Quality	2.1.1	High Compliance – WaterNSW maintains a management system that is consistent with the ADWG and there are adequate systems in place to manage raw water quality and risk across the drinking water supply chain. However, the Water Quality Management Framework (WQMF) fails to provide a sufficiently cohesive quality management system that provides a systematic approach to water quality management. Certain sub-components of the elements or associated processes need to be better referenced, further developed or strengthened. The intent of the framework is to provide a structured and systematic approach to managing water quality. Accordingly, the structure and

Licence Part	Clause/Obligation	Compliance Grade/Comment ³
		<p>approach should be sufficiently and clearly documented in the framework.</p> <p>For the recreational areas (picnic sites), there is an overall Drinking Water Quality Management Plan (DWQMP) and site specific Quality Assurance Plans (QAPs) which are consistent with the ADWG and the NSW Health QAP template respectively. However, further work is required to verify the adequacy of some preventive measures.</p> <p>For both the WQMF and QAPs, the appropriateness of CCP critical limits has not been adequately demonstrated and further work is required to justify them.</p> <p>These inadequacies present a risk in that WaterNSW may not be able to effectively manage risks to water quality and protect public health.</p>
	2.1.2	Full Compliance
3. Water Supply Sufficiency	3.1.1	Full Compliance
4. Catchment	4.1.1	Full Compliance
8. Performance Monitoring	8.2.1	Full Compliance
	8.2.2 (including IPART Indicators Nos: H1 and H2)	Full Compliance

Table E.2 Summary of Assessed Progress in Respect of Previous Audit Recommendations

Recommendation	Operational Issue (Licence Reference) ⁴	Compliance Grade/Comment ⁵
<i>State Water Operating Licence:</i>		
2013/14-1	Water Quality – maintain register of LWUs (Licence sub-clause 2.1.1)	Partially Addressed – There is a process in place to maintain the currency of the register of Local Water Utilities. However, the process for confirming contact details still needs to be strengthened.
2013/14-2	Water Quality – ensure LWU information request procedure describes how State Water will respond to information requests and define fees or charges (Licence sub-clause 2.1.3)	Addressed
2013/14-3	Customers – fully implement complaints handling procedure (Licence sub-clause 5.6.2)	Addressed

⁴ Refer to **Section 7** and **Appendix A.6** for full details of previous State Water recommendations and **Section 12** and **Appendix B.5** for previous SCA recommendations.

⁵ Comment provided where less than full compliance assessed.

Recommendation	Operational Issue (Licence Reference) ⁴	Compliance Grade/Comment ⁵
SCA Operating Licence:		
2013/14-1	Water Quality – clearly document all aspects of Critical Control Points (CCPs) (Licence sub-clauses 2.1.1 and 2.1.2)	Partially Addressed – While the CCPs, including appropriate management actions, are documented, the recommendation remains outstanding because validation tables do not include the justification for the critical limits. Justification for the target values has, however, been provided.
2012/13-1	Water Quality – further develop the Water Quality Management System in respect of preventive measures and CCPs; revision of emergency information; and event based monitoring (Licence sub-clause 2.1.1)	Addressed
2012/13-2	Water Quality – for raw water supplied, identify and implement preventative measures; develop process control tables for each CCP; and ensure appropriate operational monitoring (Licence sub-clause 2.1.2)	Partially Addressed – Preventive measures, including CCPs, have been identified in the WQMF. The appropriateness of CCP limits (targets and critical) should be further investigated in consultation with the respective stakeholders.
2012/13-3	Water Quality – for drinking water supplied to recreational areas, identify and implement preventative measures; develop process control tables for each CCP; and ensure appropriate operational monitoring (Licence sub-clause 2.1.2)	Partially Addressed – Preventive measures, including CCPs, have been identified in the QAPs; however, the appropriateness of CCP limits (targets and critical) should be further investigated. Procedures and validation tables are present for the CCPs, however, the justifications for the CCP critical limits are not included. The monitoring for target criteria associated with chlorine residual and turbidity is undertaken at an appropriate frequency.

Recommendations

Recommendations arising from the audit are presented in **Table E.3**.

Table E.3 Audit Recommendations

Licence Part	Clause/Obligation	Recommendation
State Water Operating Licence:		
2. Water Quality	2.1.1	No new recommendation is made. The previous audit recommendation 2013/14-1 must be fully addressed in order to achieve full compliance for this sub-clause.
5. Customers	5.4.1	It is recommended that WaterNSW ensure that it has entered into (and maintained) an agreement with each of its Fish River Water Scheme Customers, including all minor consumers

Licence Part	Clause/Obligation	Recommendation
<i>SCA Operating Licence:</i>		
2. Water Quality	2.1.1	<p>WQMF – It is recommended that WaterNSW:</p> <ul style="list-style-type: none"> ▪ Update the flow charts to ensure that they are current. ▪ Validate the critical limits in the CCP validation tables and consult with stakeholders regarding the appropriateness of CCP limits (critical and target), for raw water and drinking water sites. This encompasses the outstanding elements from previous audit recommendations (2013/14-1, 2012/13-2 and 2012/13-3) associated with CCPs. ▪ When the WQMF is revised to also encompass the activities of the former State Water, it must reference all the required supporting documents and/or processes and make the transition from a report to a manual/plan. ▪ The improvement plan must be reviewed and updated to address identified needs/gaps for full implementation of the Water Quality Management System and to guide continual improvement. <p>Picnic Area QAPs – It is recommended that WaterNSW:</p> <ul style="list-style-type: none"> ▪ The CCP limits need to be reviewed (as identified under WQMF bullet point 2 above). ▪ Undertake investigations to inform assessment of the treatment required (ie. need for filtration process or otherwise), especially since the <i>NSW Private Water Supply Guidelines (2015)</i> state that surface waters may require filtration.

1. Introduction

1.1 Objectives

The objective of this audit was to assess, for the period from 1 July 2014 to 30 June 2015, WaterNSW's performance against the terms and conditions (obligations) of:

- the *State Water Corporation Operating Licence 2013-2018* (State Water Operational Audit);
- the *Sydney Catchment Authority Operating Licence 2012-2017* (SCA Operational Audit); and
- any other Ministerially-imposed requirements.

1.2 Audit Method

1.2.1 Audit Scope

The scope of the 2014/15 Operational Audit of WaterNSW is specified in detail in the *Request for Scope of Work and Quote; WaterNSW* (RFQ 15/65); it comprised:

- audit of WaterNSW's compliance with the obligations and requirements set out in its operating licences;⁶ and
- assessment of WaterNSW's progress in addressing outstanding recommendations arising from previous audits.

As outlined in its *Audit Guideline – Public Water Utilities*,⁷ IPART adopts a risk-based approach in setting the scope of public water utility operational audits. The clauses/obligations against which WaterNSW's compliance has been assessed are identified in **Table 1.1**.

Table 1.1 Scope of 2014/15 Operational Audit of WaterNSW

Licence Part	Clause/Obligation
<i>State Water Operating Licence:</i>	
2. Water Quality	2.1.1; 2.1.3
3. Water Quantity	3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.2.1
4. Assets	4.1.4
5. Customers	5.3.1; 5.3.2; 5.3.3; 5.4.1; 5.4.2; 5.5.2; 5.5.3; 5.6.2; 5.6.3
7. Performance Monitoring	7.2.1; 7.2.2 (including IPART Indicators Nos: 1, 2, 3 and 4)
<i>SCA Operating Licence:</i>	
2. Water Quality	2.1.1; 2.1.2
3. Water Supply Sufficiency	3.1.1
4. Catchment	4.1.1
8. Performance Monitoring	8.2.1; 8.2.2 (including IPART Indicators Nos: H1 and H2)

⁶ Refer to **Section 1.3** for a discussion of the regulatory regime under which WaterNSW operates, including identification of its operating licences.

⁷ IPART, *Audit Guideline – Public Water Utilities* (Revision 6), June 2015, section 2.1, page 5.

The outstanding recommendations against which WaterNSW's progress in addressing them was assessed are identified in **Table 1.2**.

Table 1.2 Recommendations/Outstanding Items from Previous Audits included in the Audit Scope

Licence	Recommendations/Outstanding Items ⁸
<i>State Water Operating Licence</i>	<ul style="list-style-type: none"> 2013/14-1: related to Water Quality – maintaining a register of LWUs 2013/14-2: related to Water Quality – LWU information request procedure 2013/14-3: related to Customers – implementation of the Complaints Handling Procedure
<i>SCA Operating Licence</i>	<ul style="list-style-type: none"> 2013/14-1: related to Water Quality – documentation of Critical Control Points (CCPs) 2012/13-1: related to Water Quality – further development of the Water Quality Management System 2012/13-2: related to Water Quality – raw water quality control 2012/13-3: related to Water Quality – drinking water supplied to recreational areas

1.2.2 Audit Standard

The auditing principles/guidance presented in ISO 19011:2011 *Guidelines for auditing management systems* have been applied in conducting this audit. Guidance presented in the following standards was also considered where appropriate:

- ASAE 3100 (2008) *Compliance Engagements*;
- Auditing and Assurance Standard AUS 110 *Assurance Engagements other than Audits or Reviews of Historical Financial Information*; and
- International Standard on Quality Control ISQC 2009.

1.2.3 Audit Steps

The audit was undertaken in accordance with the methodology outlined in IPART's *Audit Guideline – Public Water Utilities*.⁹ The audit steps are identified in **Table 1.3**.

Audit interviews and field verification site visits were undertaken during the five (5) day period 28 September 2015 to 2 October 2015. Interviews were conducted with WaterNSW representatives at WaterNSW's Penrith, Dubbo and Sydney CBD offices. Field verification site visits were made to:

- Leura Falls Catchment – inspection of Stormwater Infrastructure Grants Project with Blue Mountains Council; and
- Fish River Water Supply Scheme – inspection of infrastructure.

⁸ Refer to **Section 7** and **Appendix A.6** for full details of previous State Water recommendations and **Section 12** and **Appendix B.5** for previous SCA recommendations.

⁹ IPART, *Audit Guideline – Public Water Utilities* (Revision 6), June 2015.

Table 1.3 Audit Steps¹⁰

Step	Description	Responsibility
Step 1	Audit scoping	IPART
Step 2	Appointment of the auditor	IPART
Step 3	Audit preparation	Auditor/Utility/IPART
Step 4	Audit interview	Auditor/Utility (IPART observer)
Step 5	Field verification site visits	Auditor/Utility
Step 6	Wrap up and close out sessions	Auditor/Utility
Step 7	Audit assessment and reporting	Auditor/Utility/IPART
Step 8	Report to the Minister	IPART
Step 9	Report on audit recommendations	Utility

1.2.4 Audit Team

The audit team comprised of the following:

- Jim Sly – team lead and Lead Auditor;
- James Howey – Lead Auditor;
- Bob Burford – Lead Auditor providing audit support;
- Tasleem Hasan – Area Specialist providing audit support.

The allocation of responsibility for the various components of the audit (clauses audited by each auditor) was as nominated in **Table 1.4**.

Table 1.4 Allocation of Audit Responsibilities

Licence Part	Clause/Obligation	Auditor/Support
<i>State Water Operating Licence:</i>		
Water Quality	2.1.1; 2.1.3	James Howey/Tasleem Hasan
Water Quantity	3.1.1; 3.1.2; 3.1.3; 3.1.4; 3.2.1	Jim Sly/Bob Burford
Asset	4.1.4	Jim Sly/Bob Burford
Customers	5.3.1; 5.3.2; 5.3.3; 5.4.1; 5.4.2; 5.5.2; 5.5.3; 5.6.2; 5.6.3	Jim Sly/Bob Burford
Performance Monitoring	7.2.1; 7.2.2 (including IPART Indicators Nos: 1, 2, 3 and 4)	Jim Sly/Bob Burford
Recommendations/Outstanding Items from Previous Audits	2013/14-1; 2013/14-2 2013/14-3	James Howey/Tasleem Hasan Jim Sly/Bob Burford
Management Systems Development Status	Asset Management System and Environmental Management System	Jim Sly and James Howey



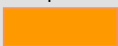
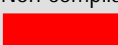
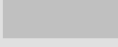
¹⁰ IPART, *Audit Guideline – Public Water Utilities* (Revision 6), June 2015, table 2.1, page 7.

Licence Part	Clause/Obligation	Auditor/Support
<i>SCA Operating Licence:</i>		
Water Quality	2.1.1; 2.1.2	James Howey/Tasleem Hasan
Water Supply Sufficiency	3.1.1	Jim Sly/Bob Burford
Catchment	4.1.1	James Howey/Tasleem Hasan
Performance Monitoring	8.2.1; 8.2.2 (including IPART Indicators Nos: H1 and H2)	James Howey/Tasleem Hasan
Recommendations/Outstanding Items from Previous Audits	2013/14-1; 2012/13-1; 2012/13-2; 2012/13-3	James Howey/Tasleem Hasan
Management Systems Development Status	Asset Management System and Environmental Management System	Jim Sly and James Howey

1.2.5 Audit Grades

Audit grades have been awarded in accordance with the guidance presented in the *Audit Guideline – Public Water Utilities*. The compliance grades used in this report are as identified in **Table 1.5**.

Table 1.5 Compliance Grades for Public Utilities¹¹

Grades of compliance	Description
Full Compliance 	Sufficient evidence to confirm that the requirements have been fully met.
High Compliance 	Sufficient evidence to confirm that the requirements have generally been met apart from very few minor shortcomings which do not compromise the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
Adequate Compliance 	Sufficient evidence to confirm that the requirements have generally been met apart from a number of minor shortcomings which do not compromise the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
Non-compliant 	Sufficient evidence has not been provided to confirm that all major requirements are being met and the deficiency adversely impacts the ability of the utility to achieve defined objectives or assure controlled processes, products or outcomes.
No Requirement 	The requirement to comply with the licence condition does not occur within the audit period or there is no requirement for the utility to meet this assessment criterion.

¹¹ IPART, *Audit Guideline – Public Water Utilities* (Revision 6), June 2015, table C.3.2, page 27.

1.3 Regulatory Regime

WaterNSW is constituted under the *WaterNSW Act 2014* and is a statutory State owned corporation pursuant to the *State Owned Corporations Act 1989*.

WaterNSW, formed by bringing together the two previous entities State Water and the Sydney Catchment Authority as of 1 January 2015, is responsible for developing infrastructure solutions for improved water supply and reliability, protecting water quality in its designated catchments, catchment protection in the Greater Sydney drinking water catchments, asset management, and flood operations and mitigation. WaterNSW's area of operations includes the whole of the State of NSW.

Pursuant to Section 11 of the *WaterNSW Act 2014*, WaterNSW can be granted one or more operating licences to authorise it to carry out its specified and other functions. For the purposes of this audit (which addresses the audit period 1 July 2014 to 30 June 2015), WaterNSW has been granted and has been operating under the provisions of the *State Water Corporation Operating Licence* and the *Sydney Catchment Authority Operating Licence*.

1.4 Quality Assurance Process

The quality assurance processes implemented in undertaking this audit has included:

- Peer review of the audit questionnaires prior to submission to IPART;
- Processes to control all documents used in the audit;
- Accuracy checks of reported data and the completeness of audit trails;
- Peer review of preliminary findings and audit assessments included in the Draft Reports;
- Quality review of the Draft Reports (both independently and by the Audit Team Leader);
- Peer review of the Revised Draft Reports, specifically the treatment of comments received on the Draft Report and the feasibility of recommendations and opportunities for continuous improvement; and
- Quality review of the Final Report (both independently and by the Audit Team Leader).

An independent review has been undertaken to ensure that the accuracy of each section of the report is checked through quality control steps and all audit judgements, conclusions and recommendations are validated. As Audit Team Leader, Jim Sly has also reviewed the Audit Report prior to release.

2. State Water Operating Licence

Section 2 – Water Quality

2.1 Summary of Findings

Clause 2.1.1 – High Compliance

This clause requires WaterNSW to maintain a register of all Local Water Utilities (LWUs), including contact details for each LWU Customer, and the Valley and approximate location from which each LWU Customer extracts water.

The auditors found that WaterNSW maintains a register of all LWUs, including the contact details and the extraction location; however, the administrative process of maintaining the register needs to be strengthened.

Detailed assessment in respect to this sub-clause is presented in **Table A.1.1** (refer **Appendix A**).

Clause 2.1.3 – Full Compliance

This clause requires WaterNSW to have a LWU Information Request Procedure which should describe how a LWU is to request information, how WaterNSW will respond and define any fees charged.

WaterNSW has an information request procedure that describes how a LWU will request information, describes how WaterNSW will respond (and timeframe), and defines fees that will be charged, basis of charging and mode of payment.

Detailed assessment in respect to this sub-clause is presented in **Table A.1.2** (refer **Appendix A**).

2.2 Recommendations

The following recommendation is made in respect of this section of the *State Water Operating Licence*:

- [Clause 2.1.1] No new recommendation is made. The previous audit recommendation 2013/14-1 must be fully addressed in order to achieve full compliance for this sub-clause.

2.3 Opportunities for Improvement

The following opportunities for improvement have been identified in respect of this section of the *State Water Operating Licence*:

- [Clause 2.1.1] Amend compliance and closure in Tickit to be based on 100 percent feedback from LWUs.
- [Clause 2.1.1] Include a 'date of confirmation' column in the register to show when the contact details for a particular LWU was last updated or confirmed.

3. State Water Operating Licence

Section 3 – Water Quantity

3.1 Summary of Findings

Clause 3.1.1 – Full Compliance

This clause requires WaterNSW to take all reasonable steps to process all Water Orders promptly and efficiently.

WaterNSW demonstrated that it has in place, and implements, a *Water Ordering Procedure* which provides a reasonable basis for ensuring that Water Orders are processed promptly and efficiently.

Detailed assessment in respect to this sub-clause is presented in **Table A.2.1** (refer **Appendix A**).

Clause 3.1.2 – Full Compliance

This clause requires WaterNSW to take all reasonable steps to manage Water Orders so as to ensure the timely Delivery of water to its Customers.

WaterNSW demonstrated that, through the implementation of its *Water Ordering Procedure* and use of its Computer Aided Improved River Operations (CAIRO) management tool, it has taken reasonable steps to ensure the timely Delivery of water to its Customers.

Detailed assessment in respect to this sub-clause is presented in **Table A.2.2** (refer **Appendix A**).

Clause 3.1.3 – Full Compliance

This clause requires WaterNSW to maintain a Water Allocation Account for each licence held by a Customer.

WaterNSW demonstrated that, through implementation of its Water Accounting System (WAS), it maintains and effectively manages a Water Allocation Account for each access licence issued under the *Water Management Act 2000* (NSW) and each licence issued under the *Water Act 1912* (NSW) held by customers.

Detailed assessment in respect to this sub-clause is presented in **Table A.2.3** (refer **Appendix A**).

Clause 3.1.4 – Full Compliance

This clause requires WaterNSW to take all reasonable steps to conserve water and minimise water losses that result from undertaking its operations under this Licence.

WaterNSW demonstrated that, through the effective management of its water delivery and water accounting functions and the implementation of drought management plans (when necessary), it has taken reasonable steps to conserve water and minimise water losses that result from undertaking its operations.

Detailed assessment in respect to this sub-clause is presented in **Table A.2.4** (refer **Appendix A**).

Clause 3.2.1 – Full Compliance

This clause requires WaterNSW to 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.

WaterNSW demonstrated that it is maintaining 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. Interested parties can register via the WaterNSW website, and are able to select specific notifications to suit their individual needs.

Detailed assessment in respect to this sub-clause is presented in **Table A.2.5** (refer **Appendix A**).

3.2 Recommendations

No recommendations are made in respect of this section of the *State Water Operating Licence*.

3.3 Opportunities for Improvement

No opportunities for improvement have been identified in respect of this section of the *State Water Operating Licence*.

4. State Water Operating Licence

Section 4 – Assets

4.1 Summary of Findings

Clause 4.1.4 – Full Compliance

This clause requires that, until it has developed an asset management system pursuant to clause 4.1.1 of the *Operating Licence*, WaterNSW must maintain programs to manage risks to its assets and to maintain the appropriate levels of service of those assets; and ensure that all its activities are carried out in accordance with those programs.

WaterNSW demonstrated that it continues to maintain and implement programs to manage risks to its rural (former State Water) assets and to maintain the appropriate levels of service of those assets. Operating under a well-established framework, these programs involve extensive activity associated with the management of its dam assets in accordance with NSW Dam Safety Committee and ANCOLD guidelines, as well as condition monitoring, maintenance and ongoing renewal/replacement/upgrade (as appropriate) of individual assets.

Detailed assessment in respect to this sub-clause is presented in **Table A.3.1** (refer **Appendix A**).

4.2 Recommendations

No recommendations are made in respect of this section of the *State Water Operating Licence*.

4.3 Opportunities for Improvement

The following opportunity for improvement has been identified in respect of this section of the *State Water Operating Licence*:

- [Clause 4.1.4] WaterNSW may wish to consider the use of more extensive field labelling of its assets, specifically at installations such as pumping stations, treatment plants and chlorination facilities. Such labelling should ideally include asset numbers to enable direct correlation between assets in the field and their records in the CMMS and/or asset register.

5. State Water Operating Licence

Section 5 – Customers

5.1 Summary of Findings

Clause 5.3.1 – Full Compliance

This clause requires WaterNSW to regularly consult with a Fish River Customer Council.

WaterNSW demonstrated that it has regularly consulted with the Fish River Customer Council to enable Fish River Water Scheme Customer involvement in issues relevant to the performance of State Water in its obligations to Fish River Water Scheme Customers. This assessment was confirmed by consultation with representative members of the Customer Council.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.1** (refer **Appendix A**).

Clause 5.3.2 – Full Compliance

This clause requires WaterNSW to invite at least one (1) representative from each of four (4) nominated entities (the Fish River Water Supply Scheme major customers) to be a member of the Fish River Customer Council.

WaterNSW demonstrated that it has invited at least one representative of the nominated organisations (Lithgow City Council, Oberon Council, Energy Australia (previously Delta Electricity) and the Sydney Catchment Authority) to be members of the Fish River Customer Council.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.2** (refer **Appendix A**).

Clause 5.3.3 – Full Compliance

This clause requires WaterNSW to provide the Fish River Customer Council with adequate information so as to enable the Fish River Customer Council to discharge the tasks assigned to it, subject to confidentiality (or similar) restrictions.

WaterNSW demonstrated that it provides the Fish River Customer Council with adequate information within its possession or under its control so as to enable the Customer Council to discharge the tasks assigned to it. This assessment was confirmed by consultation with representative members of the Customer Council.

WaterNSW also demonstrated that it has a procedure in place that provides guidance in respect of information that cannot be provided to Community Consultative Committees and Customer Service Committees due to confidentiality or privilege.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.3** (refer **Appendix A**).

Clause 5.4.1 – High Compliance

This clause requires WaterNSW to enter into and maintain an agreement with each of its Fish River Water Scheme Customers during the term of this Licence, for the water supply arrangements for the Fish River Water Supply Scheme.

WaterNSW demonstrated that it has agreements in place with the majority of its Fish River Water Scheme Customers; however, on the basis of the evidence provided, it appears that agreements may not be in place with a small number of minor consumers.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.4** (refer **Appendix A**).

Clause 5.4.2 – Full Compliance

This clause requires that the terms of the agreements between WaterNSW and its Fish River Water Scheme Customers include provisions on water quality, continuity of water supply, metering, costs to be paid by Customers and other agreed terms.

WaterNSW demonstrated that the terms of the agreements with its Fish River Water Scheme Customers (including both minor consumers and major customers) include provisions on the nominated items.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.5** (refer **Appendix A**).

Clause 5.5.2 – Full Compliance

This clause requires WaterNSW to set out details of its Code of Practice on Payment Difficulties (required pursuant to clause 5.5.1 of Licence) in the *Customer Service Charter*.

WaterNSW demonstrated that it has set out details of the *Debt Management Code of Practice* (which addresses the requirements of clause 5.5.1 of Licence) in the *Customer Service Charter*.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.6** (refer **Appendix A**).

Clause 5.5.3 – Full Compliance

This clause requires WaterNSW to provide details of its Code of Practice on Payment Difficulties (required pursuant to clause 5.5.1 of Licence) free of charge to Customer at least annually with their bills, on its website and to the public on request.

WaterNSW demonstrated that information on the *Debt Management Code of Practice* (which addresses the requirements of clause 5.5.1 of Licence), or the Code itself, is available in accordance with the nominated requirements.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.7** (refer **Appendix A**).

Clause 5.6.2 – Full Compliance

This clause requires WaterNSW to ensure that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the procedure.

WaterNSW demonstrated, by review of a number of sample cases, that it implements its *Internal Complaints Handling Procedure* and that relevant activities are carried out generally in accordance with the Procedure. Whilst some minor procedural deficiencies were identified, these have been/are being addressed through internal improvement processes and, for the purposes of this assessment, it is considered that the intent of the Procedure is being fully implemented.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.8** (refer **Appendix A**).

Clause 5.6.3 – Full Compliance

This clause requires WaterNSW to provide information on the Internal Complaints Handling Procedure which explains how to make a Complaint and how the Internal Complaints Handling Procedure works free of charge to Customer at least annually with their bills, on its website and to the public on request.

WaterNSW demonstrated that information on the Internal Complaints Handling Procedure (its *Feedback and Complaints Handling Policy*) is available in accordance with the nominated requirements.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.9** (refer **Appendix A**).

5.2 Recommendations

The following recommendation is made in respect of this section of the *State Water Operating Licence*:

- [Clause 5.4.1] It is recommended that WaterNSW ensure that it has entered into (and maintained) an agreement with each of its Fish River Water Scheme Customers, including all minor consumers.

5.3 Opportunities for Improvement

The following opportunities for improvement have been identified in respect of this section of the *State Water Operating Licence*:

- [Clause 5.3.1] WaterNSW may wish to consider publishing terms of reference (or operating guidelines) for the Fish River Customer Council on its website.
- [Clause 5.3.3] The opportunity for improvement identified in respect of clause 5.3.1 is again applicable.
- [Clause 5.4.1] It is suggested that the small customer agreement sheet be amended to include property and/or consumer number (as identified in the Minor Consumer Master File).
- [Clause 5.4.1] The small customer contracts still include some references to State Water (as opposed to WaterNSW); it is suggested that these be updated as the opportunity arises.
- [Clause 5.6.2] WaterNSW may wish to consider reviewing its *Internal Complaints Handling Procedure* to ensure that it aligns with the practice as implemented (which is considered appropriate). Specific areas for consideration include:
 - More specific guidance in respect of obtaining feedback from complainants regarding their satisfaction with the extent to which their complaint was resolved; and
 - The frequency at which internal audits of the complaint handling process are to be undertaken.

6. State Water Operating Licence

Section 7 – Performance Monitoring

6.1 Summary of Findings

Clause 7.2.1 – Full Compliance

This clause requires WaterNSW to comply with the reporting obligations set out in the Licence and in the *Reporting Manual*.

WaterNSW demonstrated that it had complied with its reporting obligations set out in the Licence and in the *Reporting Manual*. More specifically it had prepared and submitted the requisite reports to IPART in accordance with the specified timelines and, where required, it had made the reports publicly available via its website.

Detailed assessment in respect to this sub-clause is presented in **Table A.5.1** (refer **Appendix A**).

Clause 7.2.2 – Full Compliance

This clause requires WaterNSW to maintain sufficient record systems that enable it to report accurately in accordance with the Licence and the *Reporting Manual*.

WaterNSW was able to demonstrate that it has sufficient record systems to enable it to measure accurately its performance against the performance indicators specified in the *Reporting Manual*. It was, however, noted that two of the four indicators had not been correctly calculated and reported.

Whilst two of the indicators have been incorrectly calculated, WaterNSW remains technically compliant in that it has maintained sufficient record systems to enable it to report accurately against these indicators.

Detailed assessment in respect to this sub-clause is presented in **Table A.5.2** (refer **Appendix A**).

6.2 Recommendations

No recommendations are made in respect of this section of the *State Water Operating Licence*.

6.3 Opportunities for Improvement

The following opportunity for improvement has been identified in respect of this section of the *State Water Operating Licence*:

- [Clause 7.2.2] Although it has been assessed that WaterNSW has maintained sufficient record systems to enable it to report accurately in accordance with this Licence and the *Reporting Manual*, it has not correctly calculated its performance against all of the performance indicators specified in the *Reporting Manual*. It is suggested that WaterNSW take action (implement more robust systems and/or training) to ensure that its performance against these indicators is correctly calculated.

7. State Water Operating Licence

Previous Audit Recommendations

7.1 Summary of Findings

Recommendation 2013/14-1 – Partially Addressed

This recommendation required WaterNSW, with regards to the LWU register, to:

- prepare a documented procedure to maintain the register – this has been addressed. There is a process in place to maintain the currency of the register. The process has been put into Tickit to automate it. This fulfils the intent of having a documented procedure.
- contact and confirm details for LWUs who have yet to confirm contact details for the register – this has not been fully addressed. Whilst WaterNSW has contacted the LWUs, via email, to confirm relevant contact details, the process for confirming contact details needs to be strengthened.

Detailed assessment in respect to this recommendation is presented in **Table A.6.1** (refer **Appendix A**).

Recommendation 2013/14-2 – Addressed

This recommendation required WaterNSW to update the water quality information request procedure to describe how fees or charges are to be paid.

The information request procedure has been updated and now includes how fees or charges are to be paid.

Detailed assessment in respect to this recommendation is presented in **Table A.6.2** (refer **Appendix A**).

Recommendation 2013/14-3 – Addressed

This recommendation required WaterNSW to undertake the actions identified by it to increase awareness of its Complaints Handling Procedure and continually monitor implementation of the procedure. These actions included:

- re-appoint the Education Officer as a dedicated resource for complaints management;
- discuss outcomes of ticket audit from last year's complaints with CIOs at their next meeting;
- plan specific training for other Business Units; and
- undertake more detailed and complete audits and checks of complaints during 2014/15 with reporting monthly to Manager of Customer Operations.

This recommendation is deemed to have been fully addressed. Whilst the re-appointment of an Education Officer remains outstanding, the organisational changes brought about by the formation of WaterNSW has resulted in the intended outcomes being otherwise achieved.

Detailed assessment in respect to this recommendation is presented in **Table A.6.3** (refer **Appendix A**).

7.2 Recommendations

There are no further recommendations arising in respect of these previous recommendations.

7.3 Opportunities for Improvement

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

8. Sydney Catchment Authority Operating Licence

Section 2 – Water Quality

8.1 Summary of Findings

Clause 2.1.1 – High Compliance

This clause requires WaterNSW to maintain a Management System that is consistent with the Australian Drinking Water Guidelines (ADWG) or the ADWG as amended or added to by NSW Health.

The auditors found that WaterNSW maintains a Water Quality Management Framework (WQMF) that is consistent with the ADWG and that there are adequate systems in place to manage raw water quality and risk across the drinking water supply chain. For the recreational areas (picnic sites), there is an overall Drinking Water Quality Management Plan (DWQMP) and site specific Quality Assurance Plans (QAPs) which are consistent with the ADWG and the NSW Health QAP template respectively.

The auditors noted that overall, the WQMF and supporting documents contain the required information for the implementation of the ADWG. However, the WQMF fails to provide a sufficiently cohesive quality management system that outlines a systematic approach to water quality management. The intent of the framework is to provide a structured and systematic approach to managing water quality; hence, the structure and approach should be sufficiently and clearly documented in the WQMF. Certain sub-components of the elements or associated processes need to be better referenced, further developed or strengthened.

Further work is also required to verify the adequacy of some preventative measures. For example, the appropriateness of CCP critical limits has not been adequately demonstrated and further work is required to justify them.

NSW Health did not specify any changes to the framework, but provided guidance on the QAPs for picnic area supply.

Detailed assessment in respect to this sub-clause is presented in **Table B.1.1** (refer **Appendix B**).

Clause 2.1.2 – Full Compliance

This clause requires WaterNSW to fully implement the Water Quality Management System and carry out all relevant activities in accordance with the System, including to the satisfaction of NSW Health.

The auditors found that although there were some deficiencies in the documentation, the items that were documented were implemented. In particular, the catchment management aspect was managed exceptionally well. In addition, NSW Health was satisfied that the incidents reported did not pose a risk to public health.

Detailed assessment in respect to this sub-clause is presented in **Table B.1.2** (refer **Appendix B**).

8.2 Recommendations

The following recommendations are made in respect of this section of the *Sydney Catchment Authority Operating Licence*:

- [Clause 2.1.1] WQMF:
 - Update the flow charts to ensure that they are current. Whilst a review prior to the risk assessment is acceptable, this update should be implemented in the short term as inadequacies are known and the next risk assessment is not due for 4 years.
 - Validate the critical limits in the CCP validation tables and consult with stakeholders regarding the appropriateness of the CCP limits (critical and target) for raw water and drinking water sites. This encompasses the outstanding elements from previous audit recommendations (2013/14-1, 2012/13-2 and 2012/13-3) associated with CCPs (refer **Section 12.1**).
 - The WQMF in its current format is a descriptive document that could better explain the “how”, “when” and “by whom” tasks are undertaken. When this document is revised to also encompass the activities of the former State Water, it must reference all the required supporting documents and/or processes and make the transition from a report to a manual/plan. Alternative solutions, such as use of an internet site, would also be acceptable.
 - The improvement plan must be reviewed and updated to address identified needs/gaps for full implementation of the Water Quality Management System and to guide continual improvement. Any issues identified in the risk assessment, review or audit of performance must be incorporated into the Improvement Plan, implemented and subsequently reviewed for effectiveness. The process to track the progress of improvement actions must be described in the WQMF.
- [Clause 2.1.1] Picnic Area QAPs:
 - The CCP limits need to be reviewed (as identified under WQMF bullet point 2 above).
 - Undertake investigations using the WSAA health based targets approach or a Quantitative Microbiological Risk Assessment (QMRA) study (or outcomes from such studies already undertaken) to inform the treatment required (ie. need for filtration process or otherwise), especially since the *NSW Private Water Supply Guidelines (2015)* states that surface waters may require filtration.

8.3 Opportunities for Improvement

The following opportunities for improvement have been identified in respect of this section of the *Sydney Catchment Authority Operating Licence*:

- [Clause 2.1.1] WQMF:
 - Element 1*
 - The water quality policy should be re-branded and re-signed as a WaterNSW document. It should also be revisited to ensure that all potable schemes now managed by WaterNSW are adequately captured, for example, the Fish River Water Supply Scheme (formerly managed by State Water).
 - The legal and other requirements register (CD 2013 26) and the process to review and maintain it should be referenced or included in the WQMF.

Element 2

- The process for periodic review of the schematics (eg. prior to risk assessment review or upon significant change to infrastructure or operations) should be stated in the WQMF.
- The risk review procedure *Risk Review: Catchment to Tap - Drinking Water Quality and Quantity Sydney Water and Sydney Catchment Authority* should be referenced in the WQMF, as it describes the approach and methodology for risk review.

Element 3

- The CCP procedures should be included in the list of preventive measures.

Element 4

- The corrective or response actions undertaken when Enterococci limits are exceeded for recreational water bodies managed should also be included in the raw water quality incident response plan.

Element 9

- As identified as an opportunity for improvement in the 2013-14 Operational Audit Report, the 'Design of equipment' component should be included in the WQMF for completeness.

Element 11

- A process for internal audits on the operational aspects of the WQMF (eg. CCP implementation, record keeping, incident follow up) should be developed and included in the internal audit plan, with reference in the WQMF.

Element 12

- The process for the review of the effectiveness of the management system, including water quality performance, changes in legislative or formal requirements, and outcomes of incident and emergency management and audits should be included in the WQMF.
- [Clause 2.1.1] Picnic Area QAPs:
 - The risk from disinfection by-products should be quantified through baseline or investigative monitoring of trihalomethanes (THMs) and the risk level revised as necessary.
 - Ensure that the free chlorine CCP limits in the CCP procedure and schematic are consistent for all the respective QAPs.
 - Revise the Fitzroy Falls QAP to ensure that it is more specific to the site operations, that is, include carted water as a source and preventive measures to manage risks from receipt of out-of-specification carted water.

- [Clause 2.1.2]

Element 7

- A water quality section can be included in the corporate induction form to ensure that contractors, where relevant, also understand their responsibilities in terms of water quality protection (this was also identified as an opportunity for improvement in the 2013/14 Operational Audit Report).

9. Sydney Catchment Authority Operating Licence

Section 3 – Water Supply Sufficiency

9.1 Summary of Findings

Clause 3.1.1 – Full Compliance

This clause requires WaterNSW to ensure that the Catchment Infrastructure is operated and managed consistent with the Design Criteria.

WaterNSW demonstrated that it had operated and managed the Catchment Infrastructure consistent with the Design Criteria during the audit period. Furthermore, it demonstrated that it implements a set of Operating Rules to guide its approach.

These Operating Rules have been developed using WaterNSW's WATHNET water balance modelling software in conjunction with a framework (series of documents) that guides decision making in respect of system configuration. A series of tools (System Nomograph and Master Schedule) are used to guide short term configuration arrangements, whilst WATHNET is used to assess longer term system performance.

Detailed assessment in respect to this sub-clause is presented in **Table B.2.1** (refer **Appendix B**).

9.2 Recommendations

No recommendations are made in respect of this section of the *Sydney Catchment Authority Operating Licence*.

9.3 Opportunities for Improvement

No opportunities for improvement have been identified in respect of this section of the *Sydney Catchment Authority Operating Licence*.

10. Sydney Catchment Authority Operating Licence

Section 4 – Catchment

10.1 Summary of Findings

Clause 4.1.1 – Full Compliance

This clause requires WaterNSW to manage and protect the Catchment Area consistent with its objectives and functions under the Act.

WaterNSW demonstrated that it undertakes activities to manage and protect the catchment area consistent with its relevant objectives and functions under the Act. WaterNSW has adequate catchment management strategies/plans in place which are implemented to protect water quality, the environment and public health, including the key components of policy; joint development of land use controls; criteria for development applications; responsibility of agencies; water quality risks and the planning of management strategies; monitoring program to identify pollution sources; inspections to monitor catchment conditions and land use changes; community awareness to support the catchment management; and an emergency response plan.

Detailed assessment in respect to this sub-clause is presented in **Table B.3.1** (refer **Appendix B**).

10.2 Recommendations

No recommendations are made in respect of this section of the *Sydney Catchment Authority Operating Licence*.

10.3 Opportunities for Improvement

The following opportunities for improvement have been identified in respect of this section of the *Sydney Catchment Authority Operating Licence*:

- [Clause 4.1.1] Document the Macroinvertebrate Monitoring Program so that it is in a similar format to the Water Monitoring Program and includes, for example, sub-catchments, sites and samples collected; testing frequency; indicators used; reference to the AUSRIVAS Manual for methods; result interpretation; reporting; and review.
- [Clause 4.1.1] The opportunity for improvement identified in respect of policy (under sub-clause 2.1.1 of the *Operating Licence*) is also applicable to this sub-clause (refer **Section 8.3**).

11. Sydney Catchment Authority Operating Licence

Section 8 – Performance Monitoring

11.1 Summary of Findings

Clause 8.2.1 – Full Compliance

This clause requires WaterNSW to comply with its reporting obligations set out in the *Reporting Manual*, including reporting to IPART, NSW Health, the Minister and the Catchment Auditor; and making reports and other information publicly available.

The auditors found that the reporting obligations set out in the *Reporting Manual* have been followed. As required, the water quality monitoring, catchment and environmental reports (standalone or incorporated into the overall annual report, as applicable) are made publically available through the WaterNSW website.

Furthermore, the statement of compliance letter from WaterNSW to IPART states that there was no non-compliance during the audit period. The letter from NSW Health in respect of WaterNSW's performance against the *Operating Licence* for the audit period states that for “*Sydney catchments, WaterNSW provides water quality reports to NSW Health and notifies incidents in accordance with agreed protocols*”.

Detailed assessment in respect to this sub-clause is presented in **Table B.4.1** (refer **Appendix B**).

Clause 8.2.2 – Full Compliance

This clause requires WaterNSW to maintain sufficient record systems that enable it to report accurately in accordance with sub-clause 8.2.1. The auditors were also tasked with checking the reporting accuracy of the IPART water quality indicators H1 and H2.

WaterNSW has adequate record systems in place, for example, TRIM and the Water Quality Database, to enable it to report accurately as per the *Reporting Manual*. The accuracy of reported indicators was verified through data calculation check of *Cryptosporidium* and *Giardia* for a random site selected from the Annual Water Quality Monitoring Report.

Detailed assessment in respect to this sub-clause is presented in **Table B.4.2** (refer **Appendix B**).

11.2 Recommendations

No recommendations are made in respect of this section of the *Sydney Catchment Authority Operating Licence*.

11.3 Opportunities for Improvement

The following opportunity for improvement has been identified in respect of this section of the *Sydney Catchment Authority Operating Licence*.

- [Clause 8.2.2] Develop a documented procedure which includes:
 - a definition of which data (routine or all combined) and sites to use for reporting;
 - details and methods for the statistical analysis required;
 - details and methods for the required calculations (eg. “R” software template, including location of this file); and
 - details and methods for the quality checks required to verify calculations.

12. Sydney Catchment Authority Operating Licence

Previous Audit Recommendations

12.1 Summary of Findings

Recommendation 2013/14-1 – Partially Addressed

This recommendation required WaterNSW to clearly document the following:

- which CCPs are monitored (eg. through documenting the relevant instrument numbers which collect CCP data) – this has been addressed. The CCPs have been documented, including the instrument numbers and location.
- CCP critical limits, with justification of these limits – this has not been addressed. Justification for only the target values have been provided in process validation tables.
- activities undertaken to manage CCPs – this has been addressed. The CCPs include the management or corrective actions to be undertaken to manage CCPs.

Recommendation 2012/13-1 – Addressed

This recommendation required WaterNSW to further develop the Water Quality Management System to:

- further address preventative measures and CCPs – this has been addressed. Preventive measures and CCPs are addressed and included in the WQMF and QAPs.
- revise emergency information and formalise the emergency information revision process – this has been addressed. The emergency information and revision process have been revised and formalised in the WQMF. It is also included in the Raw Water Quality Incident Response Plan (RWQIRP).
- clearly define event based monitoring – this has been addressed. Event based monitoring is defined in the Water Monitoring Program and in the WQMF.
- develop a specific drinking water quality policy – this has been addressed. WaterNSW mainly manages raw water quality and only a few recreational sites for potable water. The water quality policy captures the commitment for potable supplies hence is considered sufficient to address the intent of this recommendation.

Recommendation 2012/13-2 – Partially Addressed

This recommendation required WaterNSW to:

- formally identify and implement appropriate preventive measures for raw water supplied, particularly those of high importance and any designated as CCPs – this has not been fully addressed. Preventive measures, including CCPs, have been identified in the WQMF. Critical limits for the CCPs have been set based on the Supply Agreements; however, some of the supply agreements have different quality requirements based on flow rate. The appropriateness of CCP limits (targets and critical) should be further investigated in consultation with the relevant stakeholder, documented and implemented; this is included as an audit recommendation in **Section 8.2**.
- develop explicit, validated process control tables for each CCP – this is considered addressed. Procedures and validation tables are present for the CCPs.

- ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs) – this has been addressed. Monitoring of identified CCPs is undertaken continuously online for turbidity and, with fast turnaround times, for cyanotoxin (microcystin). The rationale for CCP selection is included in the WQMF.

Recommendation 2012/13-3 – Partially Addressed

This recommendation required WaterNSW to:

- formally identify and implement appropriate preventive measures for drinking water supplied to its recreational areas (picnic areas), including those designated as CCPs – this has not been fully addressed. Preventive measures, including CCPs, have been identified in the QAPs; however, the appropriateness of CCP limits (targets and critical) should be further investigated in consultation with the respective stakeholders; this is included as an audit recommendation in **Section 8.2**.
- develop explicit, validated process control tables for each CCP – this is considered addressed. Procedures and validation tables are present for the CCPs.
- ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs) – this has been addressed. Monitoring of identified CCP is undertaken continuously online for chlorination and selective abstraction (turbidity), which are also tested through daily grab samples.

Detailed assessment in respect to the above recommendations is presented in **Table B.5.1**, **Table B.5.2**, **Table B.5.3** and **Table B.5.4** respectively (refer **Appendix B**).

12.2 Recommendations

There are no further recommendations arising in respect of these previous recommendations.

12.3 Opportunities for Improvement

The following opportunity for improvement has been identified as a result of the review of action taken in response to the previous audit recommendations:

- [Recommendation 2012/13-2] Include in Appendix 4 of the WQMF an explanation on why only microcystin (PTP cell numbers and toxin concentration) is used as the CCP indicator. This could be added in the validation table.

Appendix A Detailed Audit Findings State Water Operating Licence

Detailed audit findings in respect of the *State Water Operating Licence* are presented in this Appendix.

A.1 Section 2 – Water Quality

Table A.1.1 Bulk Water supplied to Local Water Utilities for Drinking Water purposes (Sub-clause 2.1.1)

Sub-clause	Requirement	Compliance Grade
2.1.1	<p>State Water must maintain a register of all Local Water Utilities:</p> <p>a) for which State Water maintains a Water Allocation Account; and</p> <p>b) to which State Water delivers water that will be used for the purposes of Drinking Water (Local Water Utility Customers).</p> <p>The register must include contact details for each Local Water Utility Customer, and the Valley and approximate location from which each Local Water Utility Customer extracts water.</p>	<div><div></div><div></div></div> <p>High Compliance</p>
<hr/>		
Risk	Target for Full Compliance	
Absence of information to enable WaterNSW to contact a Local Water Utility (LWU) in a timely manner in the instance of a water quality emergency poses a high risk to the water quality management activities of LWUs.	Evidence that the register has been established and is maintained and that contact details and extraction locations are kept up to date through appropriate follow up with LWUs, where necessary.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">Local Councils letters – (dated 20 April 2015).LWU Contact Details excel spreadsheet.LWU register Tickit screenshot.Example – LWU response.Staff interview 1 October 2015.		
<hr/>		
Summary of reasons for grade		
High compliance has been awarded for this sub-clause. WaterNSW maintains a register of all Local Water Utilities (LWUs), including the contact details and the extraction location. However, the administrative process of maintaining the register needs to be strengthened.		
<hr/>		
Discussion and notes		
The register ¹² identifies the source, holder name, license category, contact details, extraction section and licence status. The holder name “Jerilderie Aquatic Club Incorporated” does not have the contact details listed in the respective row of the register. WaterNSW has, however, advised the auditors ¹³ that the Club is owned by Jerilderie Shire Council, contact details for which are included in the register.		

¹² DOC 13/29697 LWU Contact Details excel spreadsheet.

¹³ WaterNSW comments on the Revised Draft Audit Report (Version 2.0 dated 4 December 2015).

There is a process in place to maintain the currency of the register, ie. letter is sent to councils to confirm or change contact details. Copies of letters sent to Narrandera Shire Council, Riverine Water County Council and Parkes Shire Council (dated 20 April 2015) were sighted by the auditors.¹⁴

The task of sending letters out has been automated through use of the “Tickit” system, the issue tracking tool that was used by State Water and will be used by WaterNSW going forward. A screenshot was sighted by auditors.¹⁵

The 2013/14 Operational Audit Report mentioned was that there was no follow up process if a LWU did not respond to the letter.¹⁶ The letter was updated to include a request for all LWUs to respond and confirm that the details are correct. Responses from Forbes Shire Council, Hay Shire Council and Balranald Shire Council confirming/changing details were sighted by the auditors.¹⁷ However, this still does not cover those LWUs that do not respond; there is no subsequent follow-up.

WaterNSW advised that all councils have a main number and in an emergency this number could always be called to advise LWU of a potential incident. Although not ideal, this would ensure that the LWU is advised.

It was discussed that the Tickit item could be amended to send the letter and ensure that the item is only closed after 100 percent response; this would include a follow-up call to get the information from those that do not respond. In order to ensure that details are updated in a timely manner a ‘date of confirmation’ column could be put in the register to show when the contact details were last updated or confirmed.

It was noted that the register is only used to notify LWUs of incidents. Changes in the flow regime have the potential to impact on the operations of LWU, although these changes are regulated through DPI Water Works Approval and most customers are significantly downstream of the dams. Notification to third-parties of changes in flow is through a voluntary system called the Early Warning Network (EWN) and anyone (including LWUs) can register through the website to receive the alert.

In terms of water quality there is very little monitoring undertaken, as WaterNSW’s responsibilities under the *State Water Operating Licence* are primarily related to water security. Algae is monitored and LWUs are notified of issues through the Regional Algae Coordinating Committees.

The intent of this sub-clause is to ensure that the WaterNSW has a contact list for emergencies. With the roll out of Drinking Water Management Systems in regional NSW, it would be beneficial to work with the LWUs in this process to help deliver a catchment to tap management approach to drinking water quality. WaterNSW has advised that it will include relevant rural operations in the WQMF (eg. the Fish River Water Supply Scheme and recreational facilities providing drinking water).

Recommendations

No new recommendation is made in respect of this sub-clause. The previous audit recommendation 2013/14-1 must be fully addressed in order to achieve full compliance for this sub-clause.

Opportunities for improvement

The following opportunities for improvement have been identified in respect of this sub-clause:

- Amend compliance and closure in Tickit to be based on 100% feedback from LWUs.
- Include a ‘date of confirmation’ column in the register to show when the contact details for a particular LWU was last updated or confirmed.

¹⁴ DOC 15/106312 Local Water Utility letters.

¹⁵ D2015 105966 Thurs 1 Oct 15 – LWU Compliance action.

¹⁶ Cardno, *Operational Audit of State Water Corporation*, November 2014, Appendix B, page B.1.

¹⁷ D2015 106490 Example LWU letter response.

Table A.1.2 Bulk Water supplied to Local Water Utilities for Drinking Water purposes (Sub-clause 2.1.3)

Sub-clause	Requirement	Compliance Grade
2.1.3	State Water's LWU Information Request Procedure under clause 2.1.2 above must: <ul style="list-style-type: none"> a) describe how a Local Water Utility is to request information; b) describe how State Water will respond to the request in a timely manner; and c) define any fees or charges that will be charged by State Water to recover reasonable costs incurred for responding to an information request, how these will be calculated, and how they are to be paid. 	<div style="background-color: green; width: 100px; height: 20px; margin-bottom: 5px;"></div> Full Compliance
Risk Without an adequate water quality information communication procedure, there is a high risk that an LWU may not be able to access water quality information important for the management of its risks.		Target for Full Compliance Evidence of a documented procedure that sets out how information requests are made, how these requests are responded to, the basis of fees for these requests, and how these fees are to be paid.
Evidence sighted <ul style="list-style-type: none"> ▪ Local Water Utility water quality data request procedure. ▪ http://www.statewater.com.au/Customer%20service/Billing%20and%20accounts. ▪ Staff interview 1 October 2015. 		
Summary of reasons for grade Full compliance has been awarded for this sub-clause. The information request procedure describes how a LWU will request information, describes how WaterNSW will respond (and timeframe), and defines fees that will be charged, basis of charging and mode of payment.		
Discussion and notes The information request procedure ¹⁸ describes how a LWU will request for information, describes how WaterNSW will respond (and timeframe), and defines fees that will be charged, basis of charging and mode of payment. The water quality data that can be requested is mentioned in the procedure (refer also to discussion in Table A.4.5). The procedure has not been updated on the website as the State Water website is no longer being updated. The WaterNSW website is currently being developed and the new procedure will be included on that website. There were no requests for water quality information during the audit period. WaterNSW provided a number of reasons, including the following: <ul style="list-style-type: none"> ▪ Most LWUs are a significant distance from the dam from which it is supplied and water quality in the dam has little or no relevance to quality at the point of abstraction. ▪ WaterNSW undertakes minimal water quality monitoring that is relevant to water treatment. 		

¹⁸ D2015 107215 Local Water Utility water quality data request pro (issue date 30/05/2015).

-
- Most LWUs undertake their own raw water monitoring.

There is some monitoring downstream of the storages, which is required under the Works Approval and is mostly in relation to cold water pollution. Those dams with multiple offtakes usually take the warmest water to meet release requirements. The exception is an algae bloom, where deeper, cooler water may be selected to prevent the spread of algae.

The exception to the rule is Oberon Dam where a suite of water quality monitoring is undertaken, as WaterNSW treats the water to drinking water quality and supplies it to the Oberon Council LWU. In addition, raw water is also piped to a number of raw water customers. However, these customers are for the Fish River Water Supply Scheme and there are separate processes under clauses 5.3 and 5.4 of the *Operating Licence* for the provision of information relevant to these.

Recommendations


There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

A.2 Section 3 – Water Quantity

Table A.2.1 Delivery of water to Customers (Sub-clause 3.1.1)

Sub-clause	Requirement	Compliance Grade
3.1.1	State Water must take all reasonable steps to process all Water Orders promptly and efficiently. [Note: Where a Customer places an incomplete or incorrect Water Order, State Water could fulfil this obligation by notifying that Customer promptly and efficiently of the error, and how to rectify it.]	 Full Compliance

Risk	Target for Full Compliance
Failure to process Water Orders promptly and efficiently presents a high operational risk and a high risk in respect of customer relations.	Evidence that WaterNSW has processes and procedures in place to ensure that Water Orders are processed promptly and efficiently.

Evidence sighted

- WaterNSW, *Water Ordering Procedure* (Reference: CD2015/312), 29 November 2012.
- “Ordering Water” webpage at: <http://www.watarnsw.com.au/customer-service/ordering#stay> accessed on 4 November 2015.
- “Water Accounting System (iWAS)” webpage at: <http://www.watarnsw.com.au/customer-service/iwas> accessed on 4 November 2015.
- WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015.
- WaterNSW, *All Water Orders 2014-15* (reference: DOC15 22471), undated.
- MSExcels Spreadsheet: 3.1.1 DOC1522529 - Clause 3.1.1 - IPART Complying orders processing times.
- MSExcels Spreadsheet: 3.1.1 DOC1519397 - Clause 3.1.1 - IPART Non-complying orders 2014_15.

Summary of reasons for grade

WaterNSW demonstrated that it has in place, and implements, a *Water Ordering Procedure* which provides a reasonable basis for ensuring that Water Orders are processed promptly and efficiently. Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.

Discussion and notes

As identified in its *Water Ordering Procedure*,¹⁹ WaterNSW has established a range of options for customers to place water orders; these include:

- Direct orders, whereby customers place orders on-line (using the iWAS system); and
- Requested orders, whereby customers place order requests via email, fax and phone; requested orders are captured via the Customer Helpdesk Ticketing System before being entered into the Water Accounting System (WAS) by a Customer Information Officer (CIO).

The *Water Ordering Procedure* establishes protocols for the timely opening of orders received, recording the orders into the Ticketing System (which assigns the order a unique reference number and so allows the processing of the order to be tracked) and entering the orders into the WAS. A Water Order is considered to be processed when it is entered into WAS. Only complying orders are entered; protocols

¹⁹ WaterNSW, *Water Ordering Procedure* (Reference: CD2015/312), 29 November 2012.

for dealing with non-complying orders are included in the procedure.

To be complying, water orders must include details of the access licence holders name, access licence number, works approval licence number, extraction site, pumping dates (the order must not start within the lead days), current meter reading (to ensure that the account has enough water to cover the water order) and name, signature and contact details. Requirements for complying water orders are clearly set out on the WaterNSW website.²⁰

The iWAS system for on-line ordering includes in-built checks to ensure that the details required for a water order to be compliant are correctly provided. Orders placed through the iWAS system are processed rapidly. Details about iWAS and how customers can access iWAS are available on the WaterNSW web site.²¹

The *Water Ordering Procedure*²² includes clear guidelines to assist Customer Information Officers (CIOs) to check the Ticketing System regularly, to process any unassigned water order requests as they are received, and to check these orders for compliance before completing the processing of the water order by entering the order details into WAS. The procedure clearly states that water orders take priority over other types of request, and identifies daily cut-off times for receipt of order requests that apply in each of the North, Central and South (Operational) Areas.

The *Water Ordering Procedure* also includes instructions to assist CIOs to deal with Non-Complying Orders. These instructions direct CIOs to attempt to contact the customer, to assist the customer to provide any missing or incorrect information, and to process the water order if the information provided is sufficient for the order to be complying. The process used by WaterNSW to deal with non-complying orders is also described on its website.²³

WaterNSW reported²⁴ that 59% of 2014/15 customer water orders were entered through iWAS. As mentioned above, these were automatically checked for compliance (all were complying orders) and processed rapidly.

The 2014/15 Water Orders reconciliation²⁵ shows that 5,322 customer interactions were processed through the Customer Helpdesk, including 5,092 water orders. Of these 5,092 water orders, 3,527 were complying and approved; 1,278 were non-complying and approved; and 287 were non-complying and not approved. Other customer interactions managed through the Customer Helpdesk were related to meter reading (165), customer enquiries (64) and customer feedback (1).

Processing times for the 3,527 complying water orders processed through the Customer Helpdesk²⁶ is shown in Table A.2.1A below.²⁷ The above data shows that 95% of complying water orders are processed by the Helpdesk within 4 hours and 97% of complying water orders are processed within 8 hours, that is within one working day, of receipt. The remaining 3% of orders (processing time greater than 8 hours) represent transactions where extended customer interactions were required.

²⁰ "Ordering Water" webpage at: <http://www.watarnsw.com.au/customer-service/ordering#stay> accessed on 4 November 2015.

²¹ "Water Accounting System (iWAS)" webpage at: <http://www.watarnsw.com.au/customer-service/iwas> accessed on 4 November 2015.

²² WaterNSW, *Water Ordering Procedure* (Reference: CD2015/312), 29 November 2012, page 2.

²³ "Ordering Water" webpage at: <http://www.watarnsw.com.au/customer-service/ordering#stay> accessed on 4 November 2015.

²⁴ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 2.

²⁵ WaterNSW, *All Water Orders 2014-15* (reference: DOC15 22471), undated.

²⁶ Derived from MSEXcel Spreadsheet: 3.1.1 DOC1522529 - Clause 3.1.1 - IPART Complying orders_processing times.

²⁷ Figures reported by WaterNSW and presented in this table could not be confirmed by the auditors due to a large number of hidden rows in the source spreadsheet (MSEXcel Spreadsheet: 3.1.1 DOC1522529 - Clause 3.1.1 - IPART Complying orders_processing times.)

The register of Non-complying Orders²⁸ shows that there were 34 orders for which the processing time (elapsed time) was greater than 8 hours. Of the non-complying orders received, only three were not contacted within one working day of submitting that order.

Table A.2.1A Water Order Processing Times – 2014/15

Processed Time	Number of Orders	Cumulative Percentage
< 1 Hour	2773	79%
1-2 Hours	350	89%
2-3 Hours	154	93%
3-4 Hours	64	95%
4-8 Hours	86	97%
> 8 hours	100	100%
Total	3527	

The above analysis indicates that WaterNSW have taken all reasonable steps to process all water orders promptly and efficiently. Furthermore, where a Customer places a non-complying water order, WaterNSW (pursuant to its *Water Ordering Procedure*) makes a concerted attempt to notify the Customer promptly and efficiently of the error, and how to rectify it.

Recommendations


There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

²⁸ MSeExcel Spreadsheet: *3.1.1 DOC1519397 - Clause 3.1.1 - IPART Non-complying orders 2014_15*.

Table A.2.2 Delivery of water to Customers (Sub-clause 3.1.2)

Sub-clause	Requirement	Compliance Grade
3.1.2	State Water must take all reasonable steps to manage Water Orders so as to ensure the timely Delivery of water to its Customers.	 Full Compliance

Risk

Failure to ensure the timely Delivery of water presents a high operational risk and a high risk in respect of customer relations.

Target for Full Compliance

Evidence that WaterNSW has processes and procedures in place to manage Water Orders so as to ensure the timely Delivery of water.

Evidence sighted

- WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015.
- MSExcel Spreadsheet: *3.1.2 DOC14 19063 Performance Indicator Report 2014 – 2015*.

Summary of reasons for grade

WaterNSW demonstrated that, through the implementation of its *Water Ordering Procedure* and use of its Computer Aided Improved River Operations (CAIRO) management tool, it has taken reasonable steps to ensure the timely Delivery of water to its Customers. Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.

Discussion and notes

WaterNSW advised that:²⁹

“WaterNSW has an approved water ordering procedure.

WaterNSW has a dedicated Water Operations unit which utilises real-time stream gauging data, updated meteorological data, and operates complex system models to ensure timely delivery of customers’ orders.

Rescheduling of complying water orders are captured in the Performance Indicator Report.”

Details of the *Water Ordering Procedure* are discussed in **Table A.2.1**. Having processed a Water Order (ie. entered the order into the Water Accounting System (WAS)), it must then implement processes and procedures to ensure the timely delivery of the water ordered by customers.

Orders from WAS are entered into the Computer Aided Improved River Operations (CAIRO) computer package. CAIRO is essentially a water accounting spreadsheet which tracks flows (blocks of water) in defined river reaches between flow gauging stations with fixed estimation of travel times and empirical estimates of losses and gains based on experience. After the orders to be delivered from a particular storage are aggregated, CAIRO has the capacity to calculate the quantity of water that needs to be released from the storage to ensure that the orders are satisfied, taking account of water losses along the course of the river due to seepage and evaporation and gains from tributary inflows. A demonstration of CAIRO was presented during the audit interviews.

During the audit interview, WaterNSW staff were questioned about the effectiveness of the CAIRO system. WaterNSW staff explained that, in spite of the simplifications that are inherent in CAIRO, they had no experience of significant errors through the use of CAIRO.³⁰

A more sophisticated system, Computer Aided River Management (CARM) has been developed and is

²⁹ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 2.

³⁰ Personal comment during audit interviews on 30 September 2015.

currently being trialled in the Murrumbidgee river basin (where it is being used in parallel with CAIRO). CARM is based on hydraulic flow models with real time flow and rainfall telemetry measurement, allowing greater optimisation of dam releases and unregulated flows to meet water use demands at the right time, and of the right quantity and duration. Since it is based on improved, continuously measured data, CARM has the capability to more accurately account for all important flow processes.

WaterNSW is continuing to validate the CARM model. Although the resources involved in the implementation of the required measurement and communication technology presents a significant barrier to implementation, WaterNSW is developing plans to deliver CARM projects in other valleys.

Taking account of the demonstrated performance record of the CAIRO system and the efforts of WaterNSW to develop and improve the CARM system, the auditors formed the conclusion that WaterNSW had taken all reasonable steps to manage Water Orders to ensure the timely Delivery of water to customers.

This assessment is supported by performance data³¹ which indicates that, based on an absence of Customer Complaints, all orders were delivered within +/- one day of the scheduled (ordered) day of delivery.

Recommendations


There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

³¹ MSEXcel Spreadsheet: *3.1.2 DOC14 19063 Performance Indicator Report 2014 – 2015*.

Table A.2.3 Delivery of water to Customers (Sub-clause 3.1.3)

Sub-clause	Requirement	Compliance Grade
3.1.3	State Water must maintain a Water Allocation Account for each access licence issued under the <i>Water Management Act 2000</i> (NSW) and each licence issued under the <i>Water Act 1912</i> (NSW) held by a Customer.	 Full Compliance
Risk		
Failure to maintain Water Allocation Account presents a high risk that available water may be over allocated.		Target for Full Compliance Evidence that WaterNSW has maintained a Water Allocation Account for each licence held by a Customer.
Evidence sighted		
<ul style="list-style-type: none"> WaterNSW, <i>State Water Detailed Audit Questionnaire 2014-15</i>, 11 September 2015. NSW Office of Water, <i>Available Water Determination Order for the NSW Border Rivers Regulated River Water Source 2015</i>, signed 4 June 2015 (WaterNSW Reference: DOC15 2022496). WaterNSW, <i>Report to the IPART under the Operating Licence 2013-2018 for State Water</i>, 1 September 2015. Water Account Statement for a water user on the Border Rivers Regulated River Water Source, 1 July 2014 to 30 Jun 2015 (Reference: DOC15 22498). MSExcel Spreadsheet: <i>3.1.3 DOC15 22500 - Clause 3.1.3 - 4th Quarter Regulated Billing 2014-15 Final</i>. State Water, <i>Meter Reading Procedure</i> (Reference: CD2015/294), 7 November 2012. 		
Summary of reasons for grade		
WaterNSW demonstrated that it maintains and effectively manages a Water Allocation Account for each access licence issued under the <i>Water Management Act 2000</i> (NSW) and each licence issued under the <i>Water Act 1912</i> (NSW) held by customers. Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.		
Discussion and notes		
<p>The regulator and policy maker for NSW water resource management is DPI Water (the former NSW Office of Water). DPI Water is responsible for the development of Water Sharing Plans (WSPs), which define the rules for sharing the water resources of each regulated river valley between consumptive users and the environment. As part of these activities, DPI Water issues Annual Available Water Determinations (AWDs), which define the quantity of water which is available to be shared between water users in accordance with the WSPs.³² If the annual determination is less than 100 percent, DPI Water will review water availability on a regular basis and, when possible, announce revised water allocations. An example of a signed AWD was provided by WaterNSW.³³</p> <p>DPI Water also operates the Water Licensing System (WLS) which includes the details of each licence holder and a complete record of each customer's licence details. This information is maintained by</p>		

³² Further information about water allocations, determinations and other orders is available on the DPI Water website at <http://www.water.nsw.gov.au/water-management/water-availability/water-allocations>. Information about the NSW Water Register is also available at the DPI Water web site at <http://www.water.nsw.gov.au/water-licensing/registers>.

³³ NSW Office of Water, *Available Water Determination Order for the NSW Border Rivers Regulated River Water Source 2015*, signed 4 June 2015 (WaterNSW Reference: DOC15 2022496).

DPI Water licensing staff and is accessed directly by the WaterNSW Water Accounting System (WAS).

WaterNSW maintains a Water Allocation Account for each licence held by a customer (Access Licence) under both the *Water Management Act 2000* (NSW) and the *Water Act 1912* (NSW). WaterNSW uses a number of processes to monitor and update these water allocation accounts. Credits are increases in a customer's Water Allocation Account. These arise from a newly declared AWDs or the purchase of water from another user (trade in).³⁴ There are also valley specific rules that govern how much water can be credited to customer accounts.

Debits are decreases in a customer's Water Allocation Account. These arise from water orders, usage and trade outs. There are Account rules that govern how much water is available for use. Pursuant to the relevant legislation, penalties can be applied for taking water in excess of that available in the Water Allocation Account.³⁵

There are also general and valley specific rules that govern carryover, usage, account, available water, and dealing.

An example of a water licence holder's account, showing AWD entries was provided as evidence by WaterNSW.³⁶ This account included AWD credits, interim meter readings, and debits for water orders, a trade out and a penalty for over-pumping.

WaterNSW demonstrated on-line use of the Water Accounting System; transactions for Licence No: 90AL812315 (WAL No: 16602) on the Border Rivers Regulated River Source (General Security A) were sighted.

WaterNSW services many customers with multiple Water Access Licences. A separate Water Allocation Account is maintained for each access licence issued. Evidence was provided concerning two customers who own Access Licences in different water sources.

As discussed in **Table A.2.1**, WaterNSW has developed systems and processes for accepting and entering customer Water Orders into its WAS. Customers place orders directly by using iWAS or they may request orders using fax, email or phone to the customer helpdesk where Customer Information Officers (CIOs) enter the orders into WAS.

As also discussed in **Table A.2.1**, iWAS has built in cross-checks that will not allow a non-valid order to be placed. The CIOs that process requested water orders (email, fax or phone) operate according to a defined procedure that includes specific checks that ensure only valid water orders are processed. This includes a check to ensure that the water account for the licence will not be overdrawn.

WaterNSW uses a number of processes and performance monitoring checks to ensure the accuracy and reliability of the water allocation accounting system. The principal check is the End of Quarter Billing Reconciliation process. WaterNSW provided details for the Fourth Quarter 2014/15³⁷ which showed a total of 333,026.9ML of water billed. The billing reconciliation process checks the total water billed from the billing module against the total water usage as reported by WAS. This needs to match before customer billing can proceed. In fact, the Billing Reconciliation for Fourth Quarter 2014/15 shows a discrepancy of 113.3ML which is traced to usage against two cancelled licences in the Murray Valley (these illegal diversions would be followed up as described below). Once both data sets are reconciled, the billing quarter in WAS is locked so that no further changes are possible.

A further check on the integrity of the water allocation accounting system is provided through the

³⁴ Trades have been reported to IPART in: WaterNSW, *Report to the IPART under the Operating Licence 2013-2018 for State Water*, 1 September 2015.

³⁵ DPI Water, *Fact Sheet Series – Compliance with NSW Water Management Laws; Regulated activities, offences and penalties*, November 2015.

³⁶ Water Account Statement for a water user on the Border Rivers Regulated River Water Source, 1 July 2014 to 30 Jun 2015 (Reference: DOC15 22498).

³⁷ MSExcel Spreadsheet: 3.1.3 DOC15 22500 - Clause 3.1.3 - 4th Quarter Regulated Billing 2014-15 Final.

monitoring of usage through on-going meter reads which validate previous reads. The WaterNSW *Meter Reading Procedure*³⁸ shows that meters are read at least annually. Meters for accounts with regular transactions are read more frequently, at least quarterly. The WAS will not allow entry of a negative usage at a meter reading. If usage exceeds the balance in the Water Allocation Account, then WAS will create a negative account balance, which is flagged in subsequent reports.

Finally, any shortcoming in the water allocation accounting system will likely be identified through customer feedback or complaints after Customers review billing or iWAS statements. WaterNSW reports to IPART on complaints received during the year, including water accounting complaints.

WaterNSW Compliance Officers monitor water accounts, in particular identifying, reporting and managing negative account balances. Negative accounts are reported to Customer Service Committees on a monthly basis and to DPI Water each quarter. Letters are also sent to customers to manage legal aspects of water accounting.

The above analysis indicates that WaterNSW maintains and effectively manages a Water Allocation Account for each licence held by a Customer.

Recommendations


There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

³⁸ State Water, *Meter Reading Procedure* (Reference: CD2015/294), 7 November 2012.

Table A.2.4 Delivery of water to Customers (Sub-clause 3.1.4)

Sub-clause	Requirement	Compliance Grade
3.1.4	State Water must take all reasonable steps to conserve water and minimise water losses that result from undertaking its operations under this Licence.	 Full Compliance
Risk		
Failure to conserve water and minimise losses presents a high risk of water shortage; with resultant operational and environmental impacts.		Target for Full Compliance Evidence that WaterNSW has taken reasonable steps to conserve water and minimise water losses that result from undertaking its operations.
Evidence sighted		
<ul style="list-style-type: none"> WaterNSW, <i>State Water Detailed Audit Questionnaire 2014-15</i>, 11 September 2015. <i>Drought Management Strategy Namoi Valley (Reference: DOC15 2267)</i>, June 2015. 		
Summary of reasons for grade		
WaterNSW demonstrated that, through the effective management of its water delivery and water accounting functions and the implementation of drought management plans (when necessary), it has taken reasonable steps to conserve water and minimise water losses that result from undertaking its operations. Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.		
Discussion and notes		
WaterNSW advised that: ³⁹		
<i>“WaterNSW has implemented drought management strategies across the following valleys, Border, Namoi, Gwydir, Lower Lachlan, Belubula, Macquarie and Lower Darling. These strategies involved block releases, grouping water orders, suspending deliveries to certain river sections and the construction of block banks to enable continued access for permanent planting with the need to have continuous flows.”</i>		
As an example, the <i>Drought Management Strategy Namoi Valley</i> ⁴⁰ shows a number of implementation scenarios based on actual system inflows.		
In general, water conservation is achieved through the management of scheduled releases and avoidance of over-releases from dams. The operation of CAIRO (refer discussion in Table A.2.2) is the main instrument used by WaterNSW to achieve this objective.		
WaterNSW also attempts to minimise evaporation losses by retaining water in deeper, upstream storages where possible.		
The diligent management of Water Allocation Accounts across all river basins (refer Table A.2.3), together with schemes to improve customer metering arrangements, ⁴¹ have a definite water conservation effect through better management of water losses from unauthorised extraction and inaccurate metering.		
Recommendations		
There are no recommendations in respect of this sub-clause.		

³⁹ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 4.


⁴⁰ *Drought Management Strategy Namoi Valley (Reference: DOC15 2267)*, June 2015.

⁴¹ “NSW Metering Scheme” webpage at: <http://www.waternsw.com.au/projects/metering>.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

Table A.2.5 Advance notification of changes to flow release patterns (Sub-clause 3.2.1)

Sub-clause	Requirement	Compliance Grade
3.2.1	State Water 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.	 Full Compliance

Risk	Target for Full Compliance
Inability to provide advance notification of significant changes to flow release patterns presents a high risk of unexpected impact on the downstream environment (including stakeholders' assets and/or interests).	Evidence that WaterNSW has an effective system in place to provide advance notification of any significant changes to flow release patterns.

Evidence sighted

- WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015.
- "Early Warning Network" webpage at: <http://www.watarnsw.com.au/about/EWN>.
- *Customer Newsletter; January 2015*, available at: http://www.watarnsw.com.au/_data/assets/pdf_file/0020/67115/January-2015-CN.pdf.
- Document: 3.2.1 DOC15 22644 - Clause 3.2.1 - IPART Audit questionnaire evidence - 3.2.1 - EWN Group Members, undated.
- Document: 3.2.1 DOC15 22645 - Clause 3.2.1 - IPART Audit questionnaire evidence - 3.2.1 - EWN Group Statistics, undated.
- WaterNSW, *EWN – Fish River – Supply Change Notification Instructions (Reference: CD2015 295[v1])*, undated.
- State Water, *Early Warning Network – Guideline – Hume Dam Notifications (Reference: CD2015 337)*, undated.
- MSEXcel Spreadsheet: 3.2.1 DOC12 40883 *Early Warning Network - EWN - Notification Levels*, undated.

Summary of reasons for grade

WaterNSW demonstrated that it is maintaining 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. Interested parties can register via the WaterNSW website, and are able to select specific notifications to suit their individual needs.

Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.

Discussion and notes

WaterNSW maintains an automated Early Warning Network (EWN) notification system to improve notification of dam and supply activities to the public. The WaterNSW website⁴² indicates that there are four categories of notifications: Dam safety notifications, Flood notifications, High regulated releases and

⁴² "Early Warning Network" webpage at: <http://www.watarnsw.com.au/about/EWN>.

Fish River Supply Interruptions.

WaterNSW has promoted the EWN through its website and Customer Newsletter.⁴³ Interested parties can register on-line and may elect to receive EWN notifications through SMS to a mobile phone, a message to a landline, or an email. The WaterNSW help desk can also register interested parties and/or direct interested parties to the registration page.

WaterNSW has provided subscription details⁴⁴ for the EWN. Starting from a subscriber base of about 775 subscribers in September 2014, registrations grew incrementally to about 875 before a sharp increase of about 140 subscribers registered in late February/early March 2015. By the end of August 2015, the number of subscribers had risen to over 1050.

WaterNSW has also provided details of which notifications were requested by subscribers.⁴⁵ This report shows that registrations are quite evenly spread across the various WaterNSW dams. Both the Group Registration Report and the Group Statistics Report show details of registrations and unsubscribes. Some volatility in net registrations is to be expected as subscribers identify those notifications that provide most value to them. However, the overall trend in net registrations is positive, indicating that WaterNSW is providing a service of value to its customers and stakeholders.

Trigger levels for High regulated release notifications are defined for individual valleys and are based on historical notifications to downstream land holders and agreed flood levels. For example, while a high regulated release in the Peel is triggered at flows greater than 500ML/day, a high regulated flow is not triggered in the Namoi Valley until a flow of 5000ML/day is reached. The notification is undertaken by NSW Water's Water Operations group after determining the release requirements for the specific day.⁴⁶

WaterNSW provided some examples of EWN notification instructions:

- Notifications Instructions for Supply Changes in the Fish River system:⁴⁷

These instructions cover notifications about supply interruptions and boil water alerts. They detail approvals and authorisations for release of EWN messages; groups for this service, defined by the section of the pipeline that is of interest to the customer; and pro-forma texts for notification messages.

- Early Warning Network – Guideline – Hume Dam Notifications:⁴⁸

These instructions include directions about issuing notifications, approvals, escalation and alternates, and pro-forma texts for notification messages. They cover high flow advices and notifications about floods and dam safety.

WaterNSW has defined dam safety thresholds⁴⁹ for Blowering, Brogo, Burrendong, Burrinjuck, Carcoar, Chaffey, Copeton, Glenbawn, Glennies Creek, Keepit, Lostock, Oberon, Pindari, Rydal, Split Rock, Toonumbar, Windamere and Wyangala. Flood and High Flow thresholds have been established for Blowering, Brogo, Burrendong, Burrinjuck, Carcoar, Chaffey, Copeton, Glenbawn, Glennies Creek, Hume, Keepit, Lostock, Menindee, Oberon, Pindari, Rydal, Split Rock, Toonumbar, Windamere and Wyangala.

It is of interest to note that dam safety thresholds in the EWN notification levels spreadsheet provided as

⁴³ *Customer Newsletter; January 2015*, available at:

http://www.waternsw.com.au/_data/assets/pdf_file/0020/67115/January-2015-CN.pdf.

⁴⁴ Document: 3.2.1 DOC15 22644 - Clause 3.2.1 - IPART Audit questionnaire evidence - 3.2.1 - EWN Group Members, undated.

⁴⁵ Document: 3.2.1 DOC15 22645 - Clause 3.2.1 - IPART Audit questionnaire evidence - 3.2.1 - EWN Group Statistics, undated.

⁴⁶ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 4.

⁴⁷ WaterNSW, *EWN – Fish River – Supply Change Notification Instructions* (Reference: CD2015 295 [v1]), undated.

⁴⁸ State Water, *Early Warning Network – Guideline – Hume Dam Notifications* (Reference: CD2015 337), undated.

⁴⁹ MSExcel Spreadsheet: 3.2.1 DOC12 40883 *Early Warning Network - EWN - Notification Levels*, undated.

evidence do not include thresholds for Hume Dam. However, the WaterNSW website includes this information⁵⁰ and the WaterNSW guideline for Hume Dam notifications,⁵¹ which includes dam safety, was provided as evidence.

During the interviews, the auditors questioned the participation of Local Water Utilities in the EWN; the auditors were aware of problems experienced in the operation of water treatment plants when high flows, typically with increased turbidity, arrived without warning. WaterNSW advised⁵² that it had written to all Local Water Utilities advising them of the availability of the information provided via the EWN.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.


⁵⁰ “Hume Dam” webpage at: <http://www.waternsw.com.au/about/EWN/hume-dam>.

⁵¹ State Water, *Early Warning Network – Guideline – Hume Dam Notifications* (Reference; CD2015 337), undated.

⁵² Personal comment during audit interviews on 30 September 2015.

A.3 Section 4 – Assets

Table A.3.1 Asset Management System (Sub-clause 4.1.4)

Sub-clause	Requirement	Compliance Grade
4.1.4	<p>Until the Asset Management System has been developed in accordance with clause 4.1.1 and certified in accordance with clause 4.1.2 (if applicable), State Water must:</p> <ul style="list-style-type: none"> a) maintain programs to manage risks to its assets and to maintain the appropriate levels of service of those assets; and b) ensure that all its activities are carried out in accordance with those programs. 	 Full Compliance

Risk	Target for Full Compliance
Failure to manage risk to the assets presents a high risk of reduced levels of service and ultimately asset failure. In the case of dam failure, potential consequences are significant.	Evidence that WaterNSW maintains and implements programs to manage risks to its assets and maintain appropriate levels of service.

Evidence sighted

- WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015.
- WaterNSW, *Asset Management Policy (Reference: CD2011 3[V4])*, approved by the Board February 2015.
- WaterNSW, *Risk Management Framework (Reference: CD2011 3[V4])*, February 2015.
- State Water, *Asset Management Framework (Reference: DOC13 19964)*, June 2013.
- BBTech Consulting/Cobbitty Consulting, *State water Corporation 2012/13 Operational Audit; Final Report*, 20 November 2013.
- State Water, *Total Asset Management Plan (Reference: DOC13 31846)*, June 2013.
- State Water, *Asset Management Plan; Fish River Water Supply – 2013/14*, March 2013.
- State Water, *Asset Management Plan; Glenbawn Dam – 2015/16 (Reference: DOC14 7233)*, June 2014.
- MSExcel Spreadsheet: *4.1.4 DOC15 22536 Brogo Seepage Visual Brogo -Sample Record*, week ending 13 June 2015.
- MSExcel Spreadsheet: *4.1.4 DOC11 22028 Dam Safety Surveillance Training Register, undated*.
- State Water, *Piezometer and Uplift Pressure Flushing Manual*, June 2014.
- State Water, *Dam Safety Surveillance Manual; A Guide to Dam Safety Surveillance Duties at State Water Storages (Reference: DOC13 21810) (Revision 3.1)*, May 2013.
- WaterNSW, *Oberon Dam; Intermediate Surveillance Report*, March 2015.
- WaterNSW, *Oberon Dam; 5-Yearly Comprehensive Surveillance Inspection Report*, December 2011.
- WaterNSW, *Lstock Dam; Comprehensive Surveillance Inspection Report*, May 2014.
- WaterNSW, *Lstock Dam; Intermediate Surveillance Report*, June 2015.
- State Water, *Glennies Creek Dam; Comprehensive Surveillance Inspection Report (Reference: DOC14 37081)*, May 2014.

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- WaterNSW, *Lstock Dam, Surveillance Survey Report*, April 2015.
 - State Water, *Maintenance Audit of Fish River Water Supply*, 7th-10th May 2012.
 - Document: 4.1.4 DOC15 532 *Maintenance Audits - Audit Program - 2015 – 2016*.
 - State Water, *Maintenance Audit of Brogo Dam*, 2nd and 3rd December 2014 (Reference: DOC15 1881).
 - Beca, *HAZOP Report – Fish River Supply Scheme – Operational Risk Assessment*, 12 September 2011.
 - WaterNSW, *Lstock Dam; Dam Safety Emergency Plan*, August 2015 (Interim).
 - WaterNSW, *Portfolio Risk Assessment (Rural) Update 2012-14, Summary Report* (Reference: DOC15/6298), March 2015.
 - WaterNSW, *Risk Review – Assets* (paper submitted to the Board Committee on IPAD), 26 February 2015
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Summary of reasons for grade

WaterNSW demonstrated that it continues to maintain and implement programs to manage risks to its rural (former State Water) assets and to maintain the appropriate levels of service of those assets. Operating under a well-established framework, these programs involve extensive activity associated with the management of its dam assets in accordance with NSW Dam Safety Committee and ANCOLD guidelines, as well as condition monitoring, maintenance and ongoing renewal/replacement/upgrade (as appropriate) of individual assets.

Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.

Discussion and notes

Framework for Asset Risk Management:

WaterNSW advised⁵³ that it has a number of documents which provide a framework for the management of risks to WaterNSW assets, including:

- WaterNSW Asset Management Policy;
- WaterNSW Risk Management Framework;
- State Water Asset Management Framework; and
- State Water Total Asset Management Plan.

The *Asset Management Policy*⁵⁴ demonstrates a commitment to meet the primary objective of WaterNSW, as defined by the *Water NSW Act 2014*; identifies the primary actions to be implemented in order to fulfil these objectives; and nominates accountability. The nominated actions address appropriate asset management principles including, for example: recognition that assets exist to deliver value (service) to customers and other stakeholders; alignment of asset management objectives with organisational objectives; risk based asset management planning; adoption of a whole-of-life management approach; and continual improvement. It is also noted that development and maintenance of an Asset Management System consistent with ISO 55001 (a requirement under sub-clause 4.1.1 of the *Operating Licence*) is included as one of the actions.

Responsibility to implement the policy lies with Managers and deviations from the policy can only be approved by the Chief Executive Officer. The Strategic Engineering group is responsible for providing

⁵³ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 5.

⁵⁴ WaterNSW, *Asset Management Policy* (Reference: CD2011 3[V4]), approved by the Board February 2015.

strategies, procedures, tools and guidance to support Asset Managers in implementing the Policy.

The *Asset Management Policy* requires that asset management planning processes are consistent with the corporate *Risk Management Framework*.⁵⁵ The *Risk Management Framework* provides a framework for the management of risk consistent with principles and guidelines presented in International Standard ISO 31000:2009 *Risk Management*. It also notes the requirement to meet other risk management guidelines, including the ANCOLD *Guidelines for Risk Assessment of Dams 2003*.

The guidance presented in the *Risk Management Framework* addresses risk identification, risk analysis, risk evaluation, risk treatment, monitoring and review, and governance. From an asset management perspective, there is clear guidance for use in assessing the consequences of physical asset failure.

The *Asset Management Framework*^{56,57} sets out the manner in which the organisation's corporate objectives are realised through the management of its assets. It addresses the primary phases of the asset lifecycle, outlining five "process groups", namely Strategy, Drivers, Planning, Implementation and Performance.

Previous review⁵⁸ of the *Total Asset Management Plan*⁵⁹ (it has not been updated since) revealed that it appropriately addresses the four primary phases of the asset lifecycle, ie. Strategy and Planning, Creation, Operations and Maintenance, and Disposal and Renewal. The concept of risk management is clearly embedded; for example, the Portfolio Risk Assessment is the primary input to the management of WaterNSW's dam assets (its predominant asset type).

Asset Management Programs:

Overview:

WaterNSW further advised⁶⁰ that it implements a number of programs to address risk across the organisation, including:

- Asset Management Plans for "Valleys" and "Dams";
- Dam Safety Inspections;
- Dam Safety Surveillance/Monitoring;
- Dam Safety Training for Site Staff;
- Maintenance Audits;
- Scheduled Maintenance Tasks on Assets;
- Dam Safety Emergency Plans;
- Operations and Maintenance Manuals; and
- Portfolio Risk Analysis for Prescribed Dams.

Sample documentation related to these programs was provided as evidence or made available for inspection during the audit interviews. Discussion of these programs/documentation is focussed principally (but not solely) on assets that form part of the Fish River Water Scheme, which was inspected as part of the audit.

⁵⁵ WaterNSW, *Risk Management Framework* (Reference: CD2011 3[V4]), February 2015.

⁵⁶ State Water, *Asset Management Framework* (Reference: DOC13 19964), June 2013.

⁵⁷ This document was previously reviewed by the auditors as part of the 2012/13 Operational Audit of State Water (refer: BBTech Consulting/Cobbitty Consulting, *State Water Corporation 2012/13 Operational Audit; Final Report*, 20 November 2013, page A-4).

⁵⁸ This document was previously reviewed by the auditors as part of the 2012/13 Operational Audit of State Water (refer: BBTech Consulting/Cobbitty Consulting, *State Water Corporation 2012/13 Operational Audit; Final Report*, 20 November 2013, page A-9).

⁵⁹ State Water, *Total Asset Management Plan* (Reference: DOC13 31846), June 2013.

⁶⁰ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 5.

Asset Management Plans:

Review of the *Fish River Water Supply Asset Management Plan*⁶¹ revealed that, consistent with other sample Asset Management Plans:⁶²

“*This Plan covers:*

- *alignment with the Corporate plans and objectives;*
- *identification of applicable business drivers;*
- *identification of level of services and customer expectations including future demands;*
- *assessment, scoping and decision on options for life cycle works:*
 - *opportunities and options to address gaps;*
 - *maintenance works;*
 - *renewals, replacements and rehabilitation work;*
 - *capital works;*
 - *support system requirements*
- *allocation of responsibilities to internal units;*
- *budgets, forecasts and plan approvals;*
- *performance management.”*

The *Fish River Water Supply Asset Management Plan* addressed aspects required for the effective management of the assets that comprise the scheme, including:

- Introduction – asset management objectives; scope of AMP; system overview.
- Level of Service – legislative and regulatory requirements; strategic and corporate goals with respect to levels of service; customer research and expectations; levels of service KPIs.
- Demand – current and future demand; influences on demand; demand management strategies.
- Demand impact on infrastructure assets.
- Description of the assets.
- Gap Analysis and Options Analysis – opportunities and gap analysis; options to address levels of service gaps; options to address regulatory gaps; supporting requirements; review.
- Resources – financial; information; human.
- Evaluation.

The Asset Management Plan addresses all components of the Fish River system, including: Oberon Dam; Duckmaloi Weir; Rydal Dam; Oberon Pumping Station; Duckmaloi Treatment Plant; Fish River Scheme – Stage 1 Pipeline Assets; Fish River Scheme – Stage 2 Pipeline Assets; and Fish River Scheme – Stage 3 Pipeline Assets.

Dam Safety Inspections/Training:

The *Brogo Dam; Visual Inspection and Storage Report*,⁶³ presented a record of inspections undertaken during the week ending 13 June 2015. This revealed that the dam crest, upstream face, downstream face, intake tower, tunnel, outlet works and spillway had been inspected and seepage levels recorded.

The *Oberon Dam Routine Surveillance Inspection Sheet* for the week ending 28 September 2015 (outside of audit period) was sighted; the report was annotated to indicate that it had been examined by the Surveillance Group.

The *Dam Safety Surveillance Training Register*⁶⁴ records personnel who have undertaken training on dam

⁶¹ State Water, *Asset Management Plan; Fish River Water Supply – 2013/14*, March 2013.

⁶² Extract taken from: State Water, *Asset Management Plan; Glenbawn Dam – 2015/16 (Reference: DOC14 7233)*, June 2014.

⁶³ MSExcel Spreadsheet: 4.1.4 DOC15 22536 *Brogo Seepage Visual Brogo -Sample Record*, week ending 13 June 2015.

safety surveillance inspections. This training is tailored to specific sites.

Guidance in respect of inspection and monitoring activities to be undertaken at WaterNSW dams is provided in the *Dam Safety Surveillance Manual*.⁶⁵ The manual includes guidance in respect of visual inspections, seepage monitoring, and piezometer and uplift pressure monitoring. The *Piezometer and Uplift Pressure Flushing Manual*,⁶⁶ sighted during the audit interviews, was an example of more specific procedural documentation related to surveillance inspections.

Dam Safety Surveillance/Monitoring:

Dam safety surveillance is undertaken in accordance with guidance published by the Australian National Committee on Large Dams (ANCOLD), subject to any additional requirements of the NSW Dam Safety Committee (the NSW regulatory authority in respect of “Prescribed” dams).

A copy of the *2015/16 Dam Surveillance Inspection Program*⁶⁷ (as at August 2015) showed the scheduled timing of both intermediate (annual) and comprehensive (5-yearly) dam safety reviews over the period 2014/15 and 2015/16. The status of reporting on completed inspections was also annotated; this showed that the majority had been completed within the audit period.

Review of reports for the most recent intermediate and comprehensive surveillance inspections at Oberon Dam revealed that they address the relevant items consistent with the guidance provided by Dams Safety Committee Form D15 *Requirements for Surveillance Reports*, as follows:

- *Oberon Dam; Intermediate Surveillance Report* (March 2015)⁶⁸ – included sections addressing: General; Record of Inspection; Review of Surveillance Data and Procedures; Operation, Maintenance and Emergency Management; Recommendations and Progress to Date (including status assessment of outstanding prior recommendations; a further six recommendations were also made); Signatories to the Report; and Appendices (A – Dam Data Sheet; B – Photographs; C – Drawings and Instrumentation Plots).
- *Oberon Dam; 5-Yearly Comprehensive Surveillance Inspection Report* (December 2011)⁶⁹ – including sections addressing: Executive Summary; Conclusions and Recommendations; General Information; Record of Inspection; Review of Surveillance Data and Procedures; Operation, Maintenance and Emergency Management; Mining Activities; Review of Dam Status; Signatories to the Report.

The following surveillance inspection reports, which again confirmed adequacy of scope, were also sighted:

- *Lstock Dam; Comprehensive Surveillance Inspection Report* (May 2014);⁷⁰
- *Lstock Dam; Intermediate Surveillance Report* (June 2015);⁷¹
- *Glennies Creek Dam; Comprehensive Surveillance Inspection Report* (May 2014);⁷² and
- *Hume Dam; Intermediate Surveillance Report* (November 2014).⁷³

WaterNSW also undertakes annual surveys of its dams in order to detect any excessive movement. Survey

⁶⁴ MSeExcel Spreadsheet: 4.1.4 DOC11 22028 *Dam Safety Surveillance Training Register*, undated.

⁶⁵ State Water, *Dam Safety Surveillance Manual; A Guide to Dam Safety Surveillance Duties at State Water Storages* (Reference: DOC13 21810) (Revision 3.1), May 2013.

⁶⁶ State Water, *Piezometer and Uplift Pressure Flushing Manual*, June 2014.

⁶⁷ MSeExcel Spreadsheet: 4.1.4 DOC15 10053 *WaterNSW - Dam Safety Surveillance Inspection Program FY15-FY16*.

⁶⁸ WaterNSW, *Oberon Dam; Intermediate Surveillance Report*, March 2015.

⁶⁹ WaterNSW, *Oberon Dam; 5-Yearly Comprehensive Surveillance Inspection Report*, December 2011.

⁷⁰ WaterNSW, *Lstock Dam; Comprehensive Surveillance Inspection Report*, May 2014.

⁷¹ WaterNSW, *Lstock Dam; Intermediate Surveillance Report*, June 2015.

⁷² State Water, *Glennies Creek Dam; Comprehensive Surveillance Inspection Report* (Reference: DOC14 37081), May 2014.

⁷³ WaterNSW, *Hume Dam; Intermediate Surveillance Report* (Reference: DOC15 7659), November 2014.

monitoring points were observed during the site inspection at Oberon Dam. A copy of the *Lostock Dam; Surveillance Survey Report*,⁷⁴ which presents the result of a surveillance survey undertaken in April 2015 concluded that: “*The results of the April 2015 survey indicate that the dam is stable*”.

Maintenance Audits:

WaterNSW implements a program of maintenance audits to assess the condition of its assets. The report *Maintenance Audit of Fish River Water Supply, 7th-10th May 2012*⁷⁵ presents detailed records of inspections that included Oberon Dam, Rydal Dam, Duckmaloi Weir, Duckmaloi Water Treatment Plant and the overland (buried) pipeline. Progress in addressing previously suggested actions was assessed and a total of 127 additional suggested actions, including repainting and removal of redundant assets, were identified.

The *2015/2016 Proposed Program of Biennial Maintenance Audits of Major Dams and Storages by Maintenance Standards & Review Sections*,⁷⁶ shows that the next maintenance audit of Fish River Scheme is due in November 2015.

The report *Maintenance Audit of Brogo Dam, 2nd and 3rd December 2014*⁷⁷ revealed that previously suggested actions had been largely completed. An additional fifteen new actions related to corrosion protection, oil leaks, crane cables, electrical safety and labelling were identified.

Whilst not specifically related to maintenance, WaterNSW has also undertaken operational risk assessments as part of its overall process of managing its asset related risk. It provided a copy of the report *HAZOP Report – Fish River Supply Scheme – Operational Risk Assessment* (September 2011)⁷⁸ for review during the interviews. A brief review revealed that it documents the outcomes of an assessment undertaken in accordance with AS IEC 61882-2003 *Hazard and Operability Studies (HAZOP studies) - Application Guide*.

Scheduled Maintenance:

WaterNSW advised that:⁷⁹

“The Computerised Maintenance Management System includes prescribed maintenance schedules for assets, with ‘close out’ of maintenance tasks reviewed periodically. Maintenance audits at critical sites are used to verify maintenance tasks have been completed appropriately and to identify where new maintenance tasks are required. The dam safety inspections include verification that scheduled surveillance has been undertaken.”

WaterNSW further advised that it plans to move to a single Computerised Maintenance Management System (CMMS) which captures all former State Water and Sydney Catchment Authority Assets; State Water used “SmartAsset” software, whilst the SCA used “MAXIMO”.

CMMS was reviewed to confirm maintenance requirements and/or actions in respect of a sample of items/activities principally related to the Fish River Water Supply Scheme, as follows:

- Oberon Dam:
 - Surveillance inspection – daily inspection required;
 - Surveillance survey – managed outside of CMMS; and
 - Outlet Works Pipework and Valves – corrective job undertaken on 12 August 2010.
- Oberon Chlorination Plant:
 - Gas monitor – 6 monthly detector checks undertaken on 1 March 2015 and 30 June 2015; and
 - Gas cylinder check – 3 monthly checks undertaken on 31 August 2014, 1 December 2014, 1 March 2015 and 30 June 2015.

⁷⁴ WaterNSW, *Lostock Dam, Surveillance Survey Report*, April 2015.

⁷⁵ State Water, *Maintenance Audit of Fish River Water Supply, 7th-10th May 2012*.

⁷⁶ Document: 4.1.4 DOC15 532 *Maintenance Audits - Audit Program - 2015 – 2016*.

⁷⁷ State Water, *Maintenance Audit of Brogo Dam, 2nd and 3rd December 2014* (Reference: DOC15 1881).

⁷⁸ Beca, *HAZOP Report – Fish River Supply Scheme – Operational Risk Assessment*, 12 September 2011.

⁷⁹ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 5.

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- Mount Piper Pumping Station:
 - Monthly inspection – inspections undertaken on 30 March 2015, 30 April 2015 and 2 June 2015; costs had been captured, comments recorded and the tasks closed.
 - Burrendong Dam:
 - Hollow Jet Valve No.1 – 6 monthly inspections undertaken on 9 September 2014 and 16 April 2015.

Dam Emergency Plans:

A copy of the *Lostock Dam; Dam Safety Emergency Plan*⁸⁰ was provided for review at the interviews. This document included sections addressing: Action Flowchart; Preliminaries; Emergency Roles and Responsibilities; Emergency Evaluation; Emergency Response; Communication and Notification; Drawings, Maps and Plans; Remedial and Construction Works; Site Information and Resources; and Forms.

A brief review reveals that the document appears to be consistent with the guidance provided by Dams Safety Committee Guidance Sheet DSC2A *Dam Safety Management System (SMS)* and the ANCOLD *Guidelines on Dam Safety Management*, August 2003.

Operations and Maintenance Manuals:

Whilst a copy of an Operation and Maintenance Manual was made available at the interviews, this was not reviewed.

However, during the site inspection to the *Duckmaloi Water Treatment Plant, the Fish River Water Supply Scheme; Incident Management Plan*⁸¹ was briefly reviewed. The plan included the expected elements and had been based on a risk assessment (HACCP/HAZOP) on the treatment system.

Portfolio Risk Analysis for Prescribed Dams:

As reported in the 2012/13 Operational Audit Report,⁸² a Portfolio Risk Assessment (Consequence Assessment) of eighteen (18) of the former State Water's major dams had been completed in accordance with the organisation's dam safety obligations in 2012/13. During 2014/15, WaterNSW completed an update of the Portfolio Risk Assessment in respect of its rural (former State Water) dams.⁸³

The Portfolio Risk Assessment Update involved three main components, including Dam break hydraulic modelling and flood inundation mapping; Consequence Assessment (referenced above); and Risk Analysis and Portfolio Risk Assessment report preparation. It was aimed at meeting the requirement of Dam Safety Committee Guidance Sheet DSC2D *Demonstration of Safety for Dams*. The processes employed, which included hazard and failure mode analysis, detailed risk assessment and peer review, were detailed and comprehensive.⁸⁴

The Portfolio Risk Assessment is an important tool in the management of WaterNSW's asset portfolio, which is largely comprised of dam assets. In addition to providing a robust understanding of the risks to be managed, it continues to inform the composition of the Dam Safety Upgrade Program, the principal risk mitigation measure.

Site Inspection:

As part of the audit, a site inspection of the Fish River Water Supply Scheme was undertaken. Assets inspected included Oberon Dam (downstream side), the outlet chlorination plant, the Oberon Pumping

⁸⁰ WaterNSW, *Lostock Dam; Dam Safety Emergency Plan*, August 2015 (Interim).

⁸¹ State Water, *Duckmaloi Water Treatment Plant, the Fish River Water Supply Scheme; Incident Management Plan (V1.3)*, November 2014.

⁸² BBTech Consulting/Cobbitty Consulting, *State Water Corporation 2012/13 Operational Audit; Final Report*, 20 November 2013, page A-7.

⁸³ WaterNSW, *Portfolio Risk Assessment (Rural) Update 2012-14, Summary Report (Reference: DOC15/6298)*, March 2015.

⁸⁴ WaterNSW, *Portfolio Risk Assessment (Rural) Update 2012-14, Summary Report (Reference: DOC15/6298)*, March 2015, pages 3 and 4.

Station and the Duckmaloi Water Treatment Plant.

Assets were found to be generally in good condition. Installations appeared to comply with relevant standards and industry good practice. Calibration of some instruments was recorded on the instrument/display unit. For example:

- Flow meter calibration at the Oberon Pumping Station had been undertaken on 10 June 2015, with the next calibration due in May 2016.
- Air pressure vessel (ID 328-U-1074) at the Duckmaloi Water Treatment Plant had been inspected to AS 3788 *Pressure equipment – In-service inspection* on 10 November 2014; the next inspection is due in November 2016.

The following observations were, however, also made at the Duckmaloi Water Treatment Plant:

- Reference standards for use in pH calibration were in open beakers; this is not considered ideal.
- The on-line residual chlorine analyser was not operating at the time of inspection as it had run out of reagent.

During the inspections, it was noted that, whilst some asset labelling was in place, there was an absence of asset number labelling. Such labelling would enable direct correlation between assets in the field and their records in the CMMS and/or asset register. WaterNSW may wish to consider this as an opportunity for improvement.

Asset Risk Governance:

WaterNSW advised that:⁸⁵

“Governance for asset related risks is the responsibility of the Infrastructure Planning and Development (IPAD) board subcommittee of WaterNSW. Periodic reporting has been established for Asset Related risks and their management. Also the IPAD subcommittee is informed of any new and emerging risks.”

A copy of the *Risk Review – Assets* paper⁸⁶ submitted to the Board Committee on IPAD meeting on 26 February 2015 listed WaterNSW’s identified Extreme or High inherent asset risks. The risks listed were as would be expected.

The current and target residual risk levels were identified in each case; the target levels of residual risk were considered reasonable.

Summary:

WaterNSW demonstrated that it continues to maintain and implement programs to manage risks to its rural (former State Water) assets and to maintain the appropriate levels of service of those assets.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement


It is suggested that WaterNSW may wish to consider the use of more extensive field labelling of its assets, specifically at installations such as pumping stations, treatment plants and chlorination facilities. Such labelling should ideally include asset numbers to enable direct correlation between assets in the field and their records in the CMMS and/or asset register.

⁸⁵ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 5.

⁸⁶ WaterNSW, *Risk Review – Assets* (paper submitted to the Board Committee on IPAD), 26 February 2015.

A.4 Section 5 – Customers

Table A.4.1 Fish River Customer Council (Sub-clause 5.3.1)

Sub-clause	Requirement	Compliance Grade
5.3.1	State Water must regularly consult with a Fish River Customer Council to enable Fish River Water Scheme Customer involvement in issues relevant to the performance of State Water in its obligations to Fish River Water Scheme Customers under this Licence and any Fish River Customer Contract.	 Full Compliance

Risk	Target for Full Compliance
Failure to consult with the Fish River Customer Council poses a moderate risk. In the absence of Customer input, WaterNSW may not be aware of Customer perceptions of issues relevant to its performance.	Evidence to demonstrate that WaterNSW has regularly consulted with a Fish River Customer Council regarding issues relevant to the performance of WaterNSW in its obligations to Fish River Water Scheme Customers.

Evidence sighted

- State Water, *Fish River Water Supply; Customer Council; Minutes of Meeting 1 – 2014/15* (reference: DOC15 22391), meeting held 9 September 2014.
- State Water, *Fish River Water Supply; Customer Council; Minutes of Meeting 2 – 2014/15* (reference: DOC15 22392), meeting held 9 December 2014.
- WaterNSW, *Fish River Water Supply; Customer Council; Minutes of Meeting 4 – 2014/15* (reference: DOC15 22383), meeting held 9 June 2015.
- State Water, *Fish River Water Supply; Customer Council; Business Papers – Ordinary Meeting; Meeting 3-2014/15* (reference: DOC15 22387).
- WaterNSW, *Asset Management Report to Fish River Water Supply Customer Council (Agenda Item No 6)*, 10 March 2015.
- State Water, *Customer Service Committees; Terms of Reference and Operating Guidelines* (Reference: DOC11/7748[V2]), 1 April 2005 (last revised November 2013). Accessed via: <http://www.watnsw.com.au/customer-service/feedback/committees> on 2 November 2015.

Summary of reasons for grade

WaterNSW demonstrated that it has regularly consulted with the Fish River Customer Council to enable Fish River Water Scheme Customer involvement in issues relevant to the performance of State Water in its obligations to Fish River Water Scheme Customers. This assessment was confirmed by consultation with representative members of the Customer Council.

Accordingly, is assessed that WaterNSW has fully complied with this obligation.

Discussion and notes

WaterNSW demonstrated that the Fish River Customer Council had met four (4) times during the audit period (2014/15 financial year). The minutes of Meetings ¹⁸⁷ (9 September 2014), Meeting ²⁸⁸

¹⁸⁷ State Water, *Fish River Water Supply; Customer Council; Minutes of Meeting 1 – 2014/15* (reference: DOC15 22391), meeting held 9 September 2014.

²⁸⁸ State Water, *Fish River Water Supply; Customer Council; Minutes of Meeting 2 – 2014/15* (reference: DOC15 22392), meeting held 9 December 2014.

(9 December 2014) and Meeting 4⁸⁹ (9 June 2015) were provided as evidence; the minutes of Meeting 4 included record of a motion to adopt the minutes of Meeting 3 held on 10 March 2015.

WaterNSW advised that it consults with the Fish River Customer Council in respect of issues including major capital upgrade work, pricing determinations and planned shutdowns. Review of the minutes provided revealed that these and other appropriate topics were addressed. The agenda for the meetings, which has been standardised, typically included:

- Adoption of the Previous Meeting Minutes;
- Business Arising;
- Operations Report;
- Drought Planning;
- Finance Report;
- Asset Report;
- WH&S Report;
- Environmental Report;
- Customer Report; and
- General Business.

The following documents were provided as further evidence of the matters discussed (refer **Table A.4.3** for further discussion):

- Business Papers for the Meeting 3 held on 10 March 2015;⁹⁰ and
- Asset Management Report presented to the Meeting 3 held on 10 March 2015.⁹¹

The auditors requested a copy of a charter or terms of reference for the Fish River Customer Council in anticipation that such document would define the scope of the Customer Council's activities; such document had not, however, been provided at the time of reporting. It is noted that *Terms of Reference and Operating Guidelines*⁹² for the valley based Customer Service Committees is published on the WaterNSW website, however, this specifically excludes application to the Fish River Customer Council indicating that separate operating guidelines apply. Whilst not a specific requirement of the Licence, the auditors suggest that it would be appropriate for WaterNSW to publish terms of reference (or operating guidelines) for the Fish River Customer Council on its website.

In addition to review of the evidence provided by WaterNSW, the auditors consulted with representatives of two Fish River Customer Council member organisations, Energy Australia and Lithgow City Council.⁹³ The representatives that were contacted felt that the consultation processes were most appropriate and “went beyond the conduct of the meetings”, and that WaterNSW freely and comprehensively responded to all the information needs that were raised via the Customer Council process.

Recommendations

There are no recommendations in respect of this sub-clause.

⁸⁹ WaterNSW, *Fish River Water Supply; Customer Council; Minutes of Meeting 4– 2014/15* (reference: DOC15 22383), meeting held 9 June 2015.

⁹⁰ State Water, *Fish River Water Supply; Customer Council; Business Papers – Ordinary Meeting; Meeting 3-2014/15* (reference: DOC15 22387).

⁹¹ WaterNSW, *Asset Management Report to Fish River Water Supply Customer Council (Agenda Item No 6)*, 10 March 2015.

⁹² State Water, *Customer Service Committees; Terms of Reference and Operating Guidelines* (Reference: DOC11/7748[V2]), 1 April 2005 (last revised November 2013). Accessed via: <http://www.waternsw.com.au/customer-service/feedback/committees> on 2 November 2015.

⁹³ Telephone discussions with selected Customer Council members on 4 November 2015.

Opportunities for improvement

It is suggested that WaterNSW may wish to consider publishing terms of reference (or operating guidelines) for the Fish River Customer Council on its website.

Table A.4.2 Fish River Customer Council (Sub-clause 5.3.2)

Sub-clause	Requirement	Compliance Grade
5.3.2	<p>State Water must invite at least 1 representative from each of the entities identified in paragraphs (a) to (d) below to be a member of the Fish River Customer Council:</p> <p>a) Lithgow City Council;</p> <p>b) Oberon Council;</p> <p>c) Delta Electricity, a statutory State owned corporation constituted under the <i>Energy Services Corporations Act 1995</i> (NSW); and</p> <p>d) Sydney Catchment Authority, a statutory corporation constituted under the <i>Sydney Water Catchment Management Act 1998</i> (NSW).</p> <p>(Fish River Customer Council).</p>	<div></div> <p>Full Compliance</p>
<hr/>		
Risk	Target for Full Compliance	
Failure to invite representatives of the nominated organisations poses a moderate risk. WaterNSW needs to consult across its customer base to ensure that issues relevant to its performance are fully captured.	Evidence that WaterNSW has invited at least one representative from each of the nominated entities to be a member of the Fish River Customer Council.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">WaterNSW, <i>State Water Detailed Audit Questionnaire 2014-15</i>, 11 September 2015, page 6.MSOutlook invitation to Customer Council Meeting (Document: 5.3.2 DOC15 23098 <i>Fish River Customer Council meeting – February 2015</i>).State Water, <i>Fish River Water Supply; Customer Council; Minutes of Meeting 1 – 2014/15</i> (reference: DOC15 22391), meeting held 9 September 2014.State Water, <i>Fish River Water Supply; Customer Council; Minutes of Meeting 2 – 2014/15</i> (reference: DOC15 22392), meeting held 9 December 2014.WaterNSW, <i>Fish River Water Supply; Customer Council; Minutes of Meeting 4 – 2014/15</i> (reference: DOC15 22383), meeting held 9 June 2015.		
<hr/>		
Summary of reasons for grade		
WaterNSW demonstrated that it has invited at least one representative of the nominated organisations (Lithgow City Council, Oberon Council, Energy Australia (previously Delta Electricity) and the Sydney Catchment Authority) to be members of the Fish River Customer Council. Accordingly, it is assessed that WaterNSW has fully complied with this obligation.		
<hr/>		
Discussion and notes		
WaterNSW advised ⁹⁴ that the following representatives are invited to attend as members of the Fish River Customer Council:		
<ul style="list-style-type: none">Lithgow City Council Iain Stewart, Rhys Brownlow, Maddison Bailey;		

⁹⁴ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 6.

-
- Oberon Council Alan Cairney, Chris Schumacher, Sam Golam;
 - Energy Australia (previously Delta Electricity)
 Peter Gray, Peter Griffiths; and
 - WaterNSW (SCA) Peter Littlejohns, David Thomlinson, Graham Attenborough,
 Brian Simmons.

It is noted, however, that a 'standalone' document listing membership of the Council was not provided.

Evidence that representatives of the nominated organisations had been invited to meetings of the Customer Council was provided as follows:

- an MSOutlook invitation to Customer Council Meeting to be held at Wallerawang Office on Tuesday, 10 March 2015;⁹⁵
- copies of minutes of Customer Council Meeting 1⁹⁶ (9 September 2014), Meeting 2⁹⁷ (9 December 2014) and Meeting 4⁹⁸ (9 June 2015), which recorded those in attendance.

Review of these documents indicates that representatives of the nominated organisations had been invited to, and had attended, meetings of the Customer Council held during the audit period.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

⁹⁵ MSOutlook invitation to Customer Council Meeting (Document: 5.3.2 DOC15 23098 *Fish River Customer Council meeting – February 2015*).

⁹⁶ State Water, *Fish River Water Supply; Customer Council; Minutes of Meeting 1– 2014/15 (reference: DOC15 22391)*, meeting held 9 September 2014.

⁹⁷ State Water, *Fish River Water Supply; Customer Council; Minutes of Meeting 2– 2014/15 (reference: DOC15 22392)*, meeting held 9 December 2014.

⁹⁸ WaterNSW, *Fish River Water Supply; Customer Council; Minutes of Meeting 4– 2014/15 (reference: DOC15 22383)*, meeting held 9 June 2015.

Table A.4.3 Fish River Customer Council (Sub-clause 5.3.3)

Sub-clause	Requirement	Compliance Grade
5.3.3	State Water must provide the Fish River Customer Council with adequate information within its possession or under its control so as to enable the Fish River Customer Council to discharge the tasks assigned to it, other than information or documents over which State Water or another person claims confidentiality or privilege and subject to any limitations on disclosure of the information at law.	<div></div> Full Compliance
Risk	Target for Full Compliance	
Failure to provide adequate information poses a moderate risk. In the absence of adequate information, the Customer Council would be unable to provide effective input in respect of the issues discussed.	Evidence that WaterNSW had provided adequate information so as to enable the Customer Council to discharge the tasks assigned to it.	
Evidence sighted		
<ul style="list-style-type: none">State Water, Customer Service Committees; <i>Terms of Reference and Operating Guidelines</i> (Reference: DOC11/7748[V2]), 1 April 2005 (last revised November 2013). Accessed via: http://www.watnsw.com.au/customer-service/feedback/committees on 2 November 2015.State Water, <i>Fish River Water Supply; Customer Council; Minutes of Meeting 1 – 2014/15</i> (reference: DOC15 22391), meeting held 9 September 2014.State Water, <i>Fish River Water Supply; Customer Council; Minutes of Meeting 2 – 2014/15</i> (reference: DOC15 22392), meeting held 9 December 2014.WaterNSW, <i>Fish River Water Supply; Customer Council; Minutes of Meeting 4 – 2014/15</i> (reference: DOC15 22383), meeting held 9 June 2015.State Water, <i>Fish River Water Supply; Customer Council; Business Papers – Ordinary Meeting; Meeting 3-2014/15</i> (reference: DOC15 22387).WaterNSW, <i>Asset Management Report to Fish River Water Supply Customer Council</i> (Agenda Item No 6), 10 March 2015.State Water, <i>Provision of Confidential Information Policy</i> (Reference: CD2015/228), 28 June 2012.		
Summary of reasons for grade		
<p>WaterNSW demonstrated that it provides the Fish River Customer Council with adequate information within its possession or under its control so as to enable the Customer Council to discharge the tasks assigned to it. This assessment was confirmed by consultation with representative members of the Customer Council.</p> <p>WaterNSW also demonstrated that it has a procedure in place that provides guidance in respect of information that cannot be provided to Community Consultative Committees and Customer Service Committees due to confidentiality or privilege.</p> <p>Accordingly, it is assessed that WaterNSW has fully complied with this obligation.</p>		

Discussion and notes

In the absence of a charter or terms of reference for the Fish River Customer Council (refer discussion in **Table A.4.1**), there is no clear definition of the tasks assigned to it. Notwithstanding, WaterNSW advised⁹⁹ that whilst the Fish River Customer Council was originally an operational forum, it has acknowledged that it is a customer service committee. Consequently, WaterNSW considers that it would be better grouped with other customer consultation groups, having a charter (terms of reference and procedures) similar to those specified in the *Terms of Reference and Operating Guidelines*¹⁰⁰ for the valley based Customer Service Committees.

WaterNSW advised that it consults with the Fish River Customer Council in respect of issues including major capital upgrade work, pricing determinations and planned shutdowns. The minutes of meetings (Meeting 1¹⁰¹ (9 September 2014), Meeting 2¹⁰² (9 December 2014) and Meeting 4¹⁰³ (9 June 2015)) identify information provided.

The following documents were provided as further evidence of the matters discussed:

- Business Papers for the Meeting 3 held on 10 March 2015;¹⁰⁴ and
- Asset Management Report presented to the Meeting 3 held on 10 March 2015.¹⁰⁵

The Business Papers comprised of information consistent with the standard meeting agenda, as follows:

- Action sheet – indicating the progress in respect of matters arising from previous meetings;
- Operations report – including information in respect of: Headworks Rainfall and Runoff; Climate Outlook; Storage Level in Oberon Dam; Water Consumption; Water Balances; Water Quality; and Outages;
- Drought Planning – including information in respect of: Prognosis on Storage Behaviour; Extraction from Duckmaloi Weir; and Flows at Duckmaloi Weir;
- Finance/Financial Performance – separate report provided;
- Asset Management – separate report provided;
- Work, Health and Safety (nil to report for the meeting provided); and
- Environmental Report (nil to report for the meeting provided).

The Customer Report is provided by Customers at the meeting, and General Business is raised and discussed as required.

The Asset Management Report included information in respect of capital projects including:

- Oberon Dam – Chlorinator Upgrade;
- Rydal Dam – Safety Upgrade;

⁹⁹ Personal comment during audit interviews on 30 September 2015.

¹⁰⁰ State Water, Customer Service Committees; *Terms of Reference and Operating Guidelines* (Reference: DOC11/7748[V2]), 1 April 2005 (last revised November 2013). Accessed via: <http://www.waternsw.com.au/customer-service/feedback/committees> on 2 November 2015.

¹⁰¹ State Water, *Fish River Water Supply; Customer Council; Minutes of Meeting 1– 2014/15* (reference: DOC15 22391), meeting held 9 September 2014.

¹⁰² State Water, *Fish River Water Supply; Customer Council; Minutes of Meeting 2– 2014/15* (reference: DOC15 22392), meeting held 9 December 2014.

¹⁰³ WaterNSW, *Fish River Water Supply; Customer Council; Minutes of Meeting 4– 2014/15* (reference: DOC15 22383), meeting held 9 June 2015.

¹⁰⁴ State Water, *Fish River Water Supply; Customer Council; Business Papers – Ordinary Meeting; Meeting 3-2014/15* (reference: DOC15 22387).

¹⁰⁵ WaterNSW, *Asset Management Report to Fish River Water Supply Customer Council* (Agenda Item No 6), 10 March 2015.

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- Duckmaloi Water Treatment Plant – Chlorinator Upgrade and Replacement of Chlorine Analysers;
 - Pipeline – Oberon the Duckmaloi Replace Concrete Pipe and Pipeline Valve Replacement;
 - iSMART – FRWS iSMART Integration; FRSS 3&4 Telemetry and iSMART Program;
 - FRWS Security Upgrade – Electronic Security Upgrade and Oberon Dam Electric Gates Installation.

In addition to review of the evidence provided by WaterNSW, the auditors consulted with representatives of two Fish River Customer Council member organisations, Energy Australia and Lithgow City Council.¹⁰⁶ As previously noted (refer **Table A.4.1**) the representatives that were contacted felt that the consultation processes was most appropriate and went beyond the conduct of the meetings, and that WaterNSW freely and comprehensively responded to all the information needs that were raised via the Customer Council process.

In respect of information that may be subject to confidentiality or privilege, WaterNSW provided a copy of its *Provision of Confidential Information Policy*¹⁰⁷ which provides guidance in respect of information that cannot be provided to Community Consultative Committees and Customer Service Committees. Whilst the Fish River Customer Council is not specifically nominated, the provisions of this procedure can reasonably be taken as being applicable.

WaterNSW advised¹⁰⁸ that confidentiality is rarely an issue, since Council members understand confidentiality requirements. On very rare occasions, confidential information has been provided verbally to the meeting but not minuted.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement


The opportunity for improvement identified in respect of sub-clause 5.3.1 (refer **Table A.4.1**) is again applicable. It is suggested that WaterNSW may wish to consider publishing terms of reference (or operating guidelines) for the Fish River Customer Council on its website.

¹⁰⁶ Telephone discussions with selected Customer Council members on 4 November 2015.

¹⁰⁷ State Water, *Provision of Confidential Information Policy* (Reference: CD2015/228), 28 June 2012.

¹⁰⁸ Personal comment during audit interviews on 30 September 2015.

Table A.4.4 Fish River Customer Contracts (Sub-clause 5.4.1)

Sub-clause	Requirement	Compliance Grade
5.4.1	State Water must enter into and maintain an agreement with each of its Fish River Water Scheme Customers during the term of this Licence, for the water supply arrangements for the Fish River Water Supply Scheme.	 High Compliance

Risk

Failure to have an effective agreement in place between WaterNSW and its customers presents a high risk. It is important that customers fully understand the terms under which water is supplied, including (but not limited to) the quality of the water supplied and the purposes for which it is suitable for use.

Target for Full Compliance

Evidence that WaterNSW has entered into and maintained an agreement with each of its Fish River Scheme Customers.

Evidence sighted

- MSEXcel spreadsheet: *5.4.1 DOC15 23057 Minor Consumer Master File 2015-2016*.
- WaterNSW, *Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Drinking Water* (Reference: DOC15/22397) [Standard Form], undated.
- WaterNSW, *Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Raw Water* (Reference: DOC15/22402) [Standard Form], undated.
- Document: *5.4.1 DOC15 23058 Copies of Consumer contracts – FRWS*.
- MSEXcel Spreadsheet: *D2015 106313 Minor Consumer Master File contracts received 2015-2016*.
- Delta Electricity and State Water Corporation, *Agreement Concerning the Supply of Water from the Fish River Water Supply Scheme*, 29 November 2008.
- Sydney Catchment Authority and State Water Corporation, *Agreement for the Supply of Water from the Fish River Water Supply*, 31 December 2007.

Summary of reasons for grade

WaterNSW demonstrated that it has agreements in place with the majority of its Fish River Water Scheme Customers; however, on the basis of the evidence provided, it appears that agreements may not be in place with a small number of minor consumers. Accordingly, it is assessed that WaterNSW has demonstrated high compliance with this obligation.

Discussion and notes

WaterNSW advised¹⁰⁹ that it maintains a list that includes all minor customers and the four major customers serviced by the Fish River Water Scheme. It further noted that a significant portion of minor customer contracts were entered into in 2012, and that major customer contracts have not been renewed since 2011/12.

WaterNSW provided a Minor Consumer Master File 2015-2016 (Minor Customer List),¹¹⁰ a copy of the generic agreements for the supply of both Drinking Water¹¹¹ and Raw Water,¹¹² and sample copies of signed Minor Consumer Agreements for Drinking Water and Raw Water¹¹³ supply as evidence.

¹⁰⁹ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 6.

¹¹⁰ MSEXcel spreadsheet: *5.4.1 DOC15 23057 Minor Consumer Master File 2015-2016*.

Contracts provide name, contact details, property details, and “purpose of supply”. It is noted that:

- Raw Water supply contracts note that water supplied is untreated and not suitable for drinking and have “purpose of supply” options of stock, domestic non-drinking and other (to be specified); and
- Drinking Water supply contracts have “purpose of supply” options of domestic drinking, domestic household (non-drinking), stock and other (to be specified).

It is noted that the signed agreement forms do not include either the property number or consumer number (shown on the Consumer Master File), which may be advantageous for traceability purposes.

It was also noted that the data provided in the Minor Customer Master File does not include a sequential licence number or details that would permit the comprehensiveness of the list to be established, a point that was acknowledged by WaterNSW. WaterNSW advised¹¹⁴ that the list of customers has been generated by and cross-checked against the billing list and subsequently provided a separate spreadsheet¹¹⁵ highlighting customer contract finalisation. On the basis of this information, it appears that whilst agreements are in place with the majority of minor consumers, a small number remain outstanding (ie. are not highlighted in the spreadsheet).

WaterNSW provided copies of the agreements with each of its four major customers; namely Delta Electricity (now Energy Australia),¹¹⁶ the Sydney Catchment Authority,¹¹⁷ Lithgow City Council¹¹⁸ and Oberon Council.¹¹⁹ It further advised¹²⁰ that, whilst agreements are in place, they require updating.

Notwithstanding the need for some update, it was demonstrated that agreements have been entered into and maintained with the major customers.

Recommendations

It is recommended that WaterNSW ensure that it has entered into (and maintained) an agreement with each of its Fish River Water Scheme Customers, including all minor consumers.

Opportunities for improvement

It is suggested that the small customer agreement sheet be amended to include property and/or consumer number (as identified in the Minor Consumer Master File).

The small customer contracts still include some references to State Water (as opposed to WaterNSW); it is suggested that these be updated as the opportunity arises.

¹¹¹ WaterNSW, *Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Drinking Water* (Reference: DOC15/22397) [Standard Form], undated

¹¹² WaterNSW, *Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Raw Water* (Reference: DOC15/22402) [Standard Form], undated.

¹¹³ Document: 5.4.1 DOC15 23058 *Copies of Consumer contracts – FRWS*.

¹¹⁴ Personal comment during audit interviews on 30 September 2015.

¹¹⁵ MSEXcel Spreadsheet: D2015 106313 *Minor Consumer Master File contracts received 2015-2016*.

¹¹⁶ Delta Electricity and State Water Corporation, *Agreement Concerning the Supply of Water from the Fish River Water Supply Scheme*, 29 November 2008.


¹¹⁷ Sydney Catchment Authority and State Water Corporation, *Agreement for the Supply of Water from the Fish River Water Supply*, 31 December 2007.

¹¹⁸ Lithgow Council and State Water Corporation, *Agreement Concerning the Supply of Water from the Fish River Water Supply Scheme*, 25 November 2007.

¹¹⁹ Oberon Council and State Water Corporation, *Oberon Council; Water Supply Arrangements*, 2008.

¹²⁰ Personal comment during audit interviews on 30 September 2015.

Table A.4.5 Fish River Customer Contracts (Sub-clause 5.4.2)

Sub-clause	Requirement	Compliance Grade
5.4.2	The terms of the agreements must, as a minimum, include provisions on: <ul style="list-style-type: none"> a) the standard of the quality of water to be supplied by State Water; b) the continuity of water to be supplied by State Water (that is, provisions relating to interruption, disconnection and reconnection to supply); c) the metering arrangements; d) the costs to be paid by Fish River Water Scheme Customers for the supply of water and other services to them; and e) any other terms agreed between State Water and its Fish River Water Scheme Customers. 	 Full Compliance

Risk	Target for Full Compliance
Failure to adequately address the nominated items in the agreements presents a high risk. It is important that customers fully understand the terms under which water is supplied.	Evidence that the agreements include provisions on the nominated items.

Evidence sighted

- WaterNSW, *Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Drinking Water* (Reference: DOC15/22397) [Standard Form], undated.
- WaterNSW, *Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Raw Water* (Reference: DOC15/22402) [Standard Form], undated.
- Sydney Catchment Authority and State Water Corporation, *Agreement for the Supply of Water from the Fish River Water Supply*, 31 December 2007.
- Delta Electricity and State Water Corporation, *Agreement Concerning the Supply of Water from the Fish River Water Supply Scheme*, 29 November 2008.
- State Water, *Fish River Water Supply Scheme Monitoring Schedule* (Reference: D2105/106947), August 2012.

Summary of reasons for grade

WaterNSW demonstrated that the terms of the agreements with its Fish River Water Scheme Customers (including both minor consumers and major customers) include provisions on the nominated items. Accordingly, it is assessed that WaterNSW has fully complied with this obligation.

Discussion and notes

WaterNSW provided copies of generic agreements for the supply of both Drinking Water¹²¹ and Raw Water¹²² to minor consumers. These agreements included provisions in respect of the nominated items as follows:

¹²¹ WaterNSW, *Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Drinking Water* (Reference: DOC15/22397) [Standard Form], undated

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- Water quality – it is stated that Raw Water Supply has not been treated except for disinfection; Drinking Water Supply is specified as complying with the current Australian Drinking Water Guidelines (clause 9). This is further discussed below;
 - Continuity of Supply – supply may be subject to restriction (clause 11), may be interrupted at any time (clause 12) and may be disconnected (clause 19);
 - Metering – WaterNSW is to supply metering equipment, which is paid for by customer (clause 5);
 - Costs to Customers – charges for water (clause 14), variation of charges (clause 15) and payment provisions (clause 16 and 17) are included; and
 - Other Terms – include provisions in respect of customer responsibility (clause 6), entry for inspection (clause 7), use of water and requirement to not waste water (clauses 8 and 13) and third party indemnity for WaterNSW (clause 10).

Review of the agreement with the Sydney Catchment Authority¹²³ reveals that it includes provisions in respect of the nominated items as follows:

- Water quality – clauses 8 and 9;
- Continuity of Supply – clauses 10 and 26;
- Metering – clause 12;
- Costs to Customer – clause 15; and
- Other Terms – include, but are not limited to, provisions in respect of annual and daily quantities (clause 7), drought management (clause 13), carry-over water allocation (clause 17) and trading of water (clause 18).

Similar provisions are included in the agreement with Delta Energy (now Energy Australia).¹²⁴

In response to a query as to how WaterNSW manages its compliance with the terms of the agreements (eg. how it ensures that the quality of water supplied meets the agreed standard), it advised that water quality test results are automatically uploaded to its water quality database, which was demonstrated during the audit interviews. WaterNSW advised¹²⁵ that, under a testing program approved by NSW Health, it samples at seven (7) points (weekly for microbiological testing, 6-monthly for chemical testing and 5-yearly for pesticide testing); samples are tested at a NATA accredited laboratory and results reported to both WaterNSW and NSW Health. An automatic text notification is transmitted to both WaterNSW and NSW Health in the event of an exceedance. A copy of the *Fish River Water Supply Scheme Monitoring Schedule*¹²⁶ was provided for review.

WaterNSW also provided a copy of its *Water Quality Information Request Procedure*¹²⁷ (referenced in **Table A.1.2**) which enables customers to request information regarding the quality of water supplied from its storages. It is noted that the water quality data identified for provision in the form is Algal Data, Temperature, Dissolved Oxygen, pH, and Conductivity.

Recommendations

There are no recommendations in respect of this sub-clause.

¹²² WaterNSW, *Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Raw Water* (Reference: DOC15/22402) [Standard Form], undated.

¹²³ Sydney Catchment Authority and State Water Corporation, *Agreement for the Supply of Water from the Fish River Water Supply*, 31 December 2007.

¹²⁴ Delta Electricity and State Water Corporation, *Agreement Concerning the Supply of Water from the Fish River Water Supply Scheme*, 29 November 2008.

¹²⁵ Personal comment during audit interviews on 30 September 2015.

¹²⁶ State Water, *Fish River Water Supply Scheme Monitoring Schedule* (Reference: D2105/106947), August 2012.

¹²⁷ State Water, *Water Quality Information Request Procedure* (Reference: DOC13/29728), 30 September 2013.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

Table A.4.6 Code of practice on payment difficulties (Sub-clause 5.5.2)

Sub-clause	Requirement	Compliance Grade
5.5.2	State Water must set out details of the Code in the Customer Service Charter.	<div></div> <div>Full Compliance</div>
Risk		Target for Full Compliance
Non-compliance with the requirements of this clause poses low (if any) operational risk; however, it poses a moderate risk in respect of customer relations and the financial management of WaterNSW's business.		Evidence that details of the Debt Management Code of Practice are set out in the Customer Service Charter.
Evidence sighted		
<ul style="list-style-type: none">▪ <i>Debt Management Code of Practice</i> (Reference: DOC14/27736), undated. Also available at: http://www.statewater.com.au/Customer%20service/debt-management-code-of-practice or: http://www.watarnsw.com.au/customer-service/my-account#stay.▪ <i>Customer Service Charter</i>, available at: http://www.statewater.com.au/Customer%20service/Customer%20service%20charter/customer-service-charter-document or: http://www.watarnsw.com.au/customer-service/charter#stay.▪ WaterNSW, <i>State Water Detailed Audit Questionnaire 2014-15</i>, 11 September 2015.		
Summary of reasons for grade		
WaterNSW demonstrated that it has set out details of the <i>Debt Management Code of Practice</i> (which addresses the requirements of clause 5.5.1 of Licence) in the <i>Customer Service Charter</i> . Accordingly, it is assessed that WaterNSW is fully compliant with this obligation.		
Discussion and notes		
The <i>Debt Management Code of Practice</i> ¹²⁸ addresses the requirements of clause 5.5.1 of Licence (Code of Practice on Payment Difficulties).		
The <i>Customer Service Charter</i> includes statements that: ¹²⁹		
<p>“By doing this, you can expect ... Options for how, where and when you pay us and a willingness to negotiate payment terms if you are experiencing difficulties”.</p> <p>and:</p> <p>“To help us to do this, we need you to ... Contact us if you have difficulty paying your invoice”.</p>		
Whilst the <i>Customer Service Charter</i> does not specifically mention the <i>Debt Management Code of Practice</i> , it provides sufficient reference to the fact that assistance is available to Customers having payment difficulties.		
WaterNSW advised that: ¹³⁰		

¹²⁸ *Debt Management Code of Practice* (Reference: DOC14/27736), undated. Also available at: <http://www.statewater.com.au/Customer%20service/debt-management-code-of-practice> or: <http://www.watarnsw.com.au/customer-service/my-account#stay>.

¹²⁹ *Customer Service Charter*, available at: <http://www.statewater.com.au/Customer%20service/Customer%20service%20charter/customer-service-charter-document> or: <http://www.watarnsw.com.au/customer-service/charter#stay>.

¹³⁰ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 7.

“The Charter asks customers to let us know if they are experiencing payment difficulties. We sensitively walk them through the code and payment plan options during a time of considerable stress for our customers.

Customers have access to the Code of Practice on Payment difficulties, with 89 customers using the code to create payment plans.”

The number of customers using the code to create payment plans indicates that they are aware of this facility.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

Table A.4.7 Code of practice on payment difficulties (Sub-clause 5.5.3)

Sub-clause	Requirement	Compliance Grade
5.5.3	State Water must provide information on the Code free of charge: a) to Customers, at least once annually with their Bills; b) on its website for downloading by any person; and c) to the public on request.	<div></div> Full Compliance
Risk	Target for Full Compliance	
Non-compliance with the requirements of this clause poses low (if any) operational risk; however, it poses a moderate risk in respect of customer relations and the financial management of WaterNSW's business.		Evidence that WaterNSW has provided information on the Debt Management Code of Practice in accordance with the nominated requirements.
Evidence sighted		
<div><div></div><div>Customer Newsletter; January 2015 available at: http://www.watarnsw.com.au/_data/assets/pdf_file/0020/67115/January-2015-CN.pdf.</div><div></div><div>Debt Management Code of Practice available at: http://www.statewater.com.au/Customer%20service/debt-management-code-of-practice or: http://www.watarnsw.com.au/customer-service/my-account#stay.</div></div>		
Summary of reasons for grade		
WaterNSW demonstrated that information on the Debt Management Code of Practice (which addresses the requirements of clause 5.5.1 of Licence), or the Code itself, is available in accordance with the nominated requirements. Accordingly, it is assessed that WaterNSW is fully compliant with this obligation.		
Discussion and notes		
<p>The Customer Newsletter; January 2015,¹³¹ which WaterNSW advised was included in customer bills, is available on web site. This newsletter included details of assistance available to Customers having payment difficulties.</p> <p>WaterNSW advised that the requirement for inclusion of the Customer Newsletter is captured in its “Tickit” system (the WaterNSW risk/compliance/incident management system). It demonstrated that Action 952 relates to the provision of information related to the Debt Management Code of Practice in the January billing round (with a quarterly reminder), further noting that the required activity is subject to an escalation process if not actioned.</p> <p>The Debt Management Code of Practice¹³² is available for downloading from both the State Water website (which remains active at the time of reporting) and the WaterNSW website. It is noted that, whilst the WaterNSW website does not specifically identify the Debt Management Code of Practice (the relevant information is available under the header “Having difficulty paying your bill?”), it provides additional information regarding eligibility for deferred payment plans longer than 3 months.</p> <p>Upon arrival at the Dubbo office, the auditors requested a copy of Code of Practice on Payment</p>		

¹³¹ *Customer Newsletter; January 2015* available at:

http://www.watarnsw.com.au/_data/assets/pdf_file/0020/67115/January-2015-CN.pdf.

¹³² *Debt Management Code of Practice* available at: <http://www.statewater.com.au/Customer%20service/debt-management-code-of-practice> or: <http://www.watarnsw.com.au/customer-service/my-account#stay>.

Difficulties/Debt Management Code of Practice. Whilst the information was not available at hand, the receptionist undertook to follow up the request.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

Table A.4.8 Internal Complaints Handling Procedure (Sub-clause 5.6.2)

Sub-clause	Requirement	Compliance Grade
5.6.2	State Water must ensure that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the procedure.	<div></div> Full Compliance
Risk	Target for Full Compliance	
Non-compliance with the requirements of this clause poses moderate operational risk in that WaterNSW may not otherwise become aware of operational problems; it also poses a high risk in respect of WaterNSW’s customer relations.	Evidence that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the procedure.	
Evidence sighted		
<ul style="list-style-type: none">State Water, <i>Complaints Handling Procedure</i> (Reference: DOC11/23232), undated.WaterNSW, <i>Report to the IPART under the Operating Licence 2013-2018 for State Water</i>, 1 September 2015.WaterNSW, Complaint Ticket 132350 (Reference: DOC15 22249).CRM Complaint Ticket Audit – 1 June 2015 (Reference: DOC15 13323).WaterNSW Complaint Ticket 134509 (Reference: DOC15 22403).CRM Complaint Ticket Audit – 10 June 2015 (Reference: DOC15 14317).WaterNSW, Complaint Ticket 138726 (Reference: DOC15 22405).CRM Complaint Ticket Audit -17 June 2015 (Reference: DOC15 15128).<i>Complaint Ticket Audit outcomes</i> (Reference: DOC15 22509), undated.Customer Complaint Feedback Surveys (6No) (Reference: DOC15 21178).		
Summary of reasons for grade		
<p>WaterNSW demonstrated, by review of a number of sample cases, that it implements its <i>Internal Complaints Handling Procedure</i> and that relevant activities are carried out generally in accordance with the Procedure. Whilst some minor procedural deficiencies were identified, these have been/are being addressed through internal improvement processes and, for the purposes of this assessment, it is considered that the intent of the Procedure is being fully implemented.</p> <p>Accordingly, it is assessed that WaterNSW is fully compliant with this obligation.</p>		
Discussion and notes		
<p>WaterNSW provided a copy of its <i>Complaints Handling Procedure</i>.¹³³ Review of the procedure revealed that it includes definition of complaint, details of the procedure to be followed in handling a complaint (including escalation), reporting requirements and audit requirements.</p> <p>WaterNSW also advised¹³⁴ that “a new integrated WaterNSW Customer Complaint and Compliments procedure is currently being considered by the Executive”.</p>		

¹³³ State Water, *Complaints Handling Procedure* (Reference: DOC11/23232), undated.

¹³⁴ WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 7.

WaterNSW reported¹³⁵ that it had received a total of 55 complaints during the audit year. Of these, 47 complaints related to its own operations whilst the remaining 8 complaints related to NSW Office of Water (now DPI Water) billing issues.

WaterNSW demonstrated that the procedure is implemented through three examples of how complaints were managed during the year, as follows:

- Example 1 (Complaint Ticket 132350):¹³⁶ This complaint relates to a complaint about work of contractors at Wyangala Dam. The complaint ticket shows the detailed actions taken to explore and escalate this complaint. This is summarised in the Customer Request Auditing Sheet.¹³⁷
- Example 2 (Complaint Ticket 134509):¹³⁸ This complaint expressed negative feedback about the state of facilities at a dam and the adjoining picnic area. The complaint ticket shows that there was insufficient follow-up with the complainant to determine satisfaction. This is summarised in the Customer Request Auditing Sheet.¹³⁹
- Example 3 (Complaint Ticket 138726):¹⁴⁰ This complaint was about the behaviour of the driver of a WaterNSW vehicle. Follow-up indicated that the complainant felt that the matter was handled well. It is summarised in the Customer Request Auditing Sheet.¹⁴¹

WaterNSW conducted an audit of ten (10) complaint tickets¹⁴² and six (6) customer complaint feedback surveys.¹⁴³ The results show that, although technical timelines were met and effort was made to fully explore the complaints, in some cases the existing system was not accurately capturing customer satisfaction with the complaint resolution process. The key findings from the audit process were as follows:¹⁴⁴

- “1. More work is needed in capturing customer satisfaction. There remains a preference to close a complaint ticket with the resolution being simply to send a response without receiving a response back from the customer.
2. The escalation process is working well.
3. An observation is that customers are more satisfied with outcomes and their experience, if frontline customer service employees maintain the ongoing communication with the customer rather than the Business Unit representative.”

Given the timing of the audit process (June 2015), action taken in response to these findings was not evident within the audit period.

The examples provided and the analysis of the complaints demonstrate that WaterNSW is taking action to ensure that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the procedure. There are, however, some respects in which the procedure is not always followed; these include:

- “Following up Customers for feedback on the satisfaction to which their complaint was resolved.”¹⁴⁵ – as noted above, the results of the internal audit revealed that Customers are not always followed up for feedback. WaterNSW has, however, initiated action to address this issue; the effectiveness of this

¹³⁵ WaterNSW, *Report to the IPART under the Operating Licence 2013-2018 for State Water*, 1 September 2015, page 9.

¹³⁶ WaterNSW, Complaint Ticket 132350 (Reference: DOC15 22249).

¹³⁷ CRM Complaint Ticket Audit – 1 June 2015 (Reference: DOC15 13323).

¹³⁸ WaterNSW Complaint Ticket 134509 (Reference: DOC15 22403).

¹³⁹ CRM Complaint Ticket Audit – 10 June 2015 (Reference: DOC15 14317).

¹⁴⁰ WaterNSW, Complaint Ticket 138726 (Reference: DOC15 22405).

¹⁴¹ CRM Complaint Ticket Audit -17 June 2015 (Reference: DOC15 15128).

¹⁴² *Complaint Ticket Audit outcomes* (Reference: DOC15 22509), undated.

¹⁴³ Customer Complaint Feedback Surveys (6No) (Reference: DOC15 21178).

¹⁴⁴ *Complaint Ticket Audit outcomes* (Reference: DOC15 22509), undated.

¹⁴⁵ State Water, *Complaints Handling Procedure* (Reference: DOC11/23232), undated, page 3.

action could be assessed as part of a future Operational Audit.

- “Conduct an [internal] audit on compliance with the complaint procedure and complainant satisfaction with the procedure and outcome” on a monthly frequency¹⁴⁶ – on the basis of evidence provided, it does not appear that audits are conducted monthly. It is understood, however, that reports summarising complaint status (Report Type 1) are prepared weekly and it is apparent that performance in respect of complaint management is regularly discussed at Customer Information Officer (CIO) team meetings (refer discussion in **Table A.6.3**).

WaterNSW demonstrated that these minor procedural deficiencies have been/are being addressed through internal improvement processes and, for the purposes of this assessment, it is considered that the intent of the Procedure is being fully implemented. WaterNSW may, however, wish to review its procedure to ensure that it aligns with its practice as implemented.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

WaterNSW may wish to consider reviewing its *Internal Complaints Handling Procedure* to ensure that it aligns with the practice as implemented (which is considered appropriate). Specific areas for consideration include:

- More specific guidance in respect of obtaining feedback from complainants regarding their satisfaction with the extent to which their complaint was resolved; and
 - The frequency at which internal audits of the complaint handling process are to be undertaken.
-

¹⁴⁶ State Water, *Complaints Handling Procedure* (Reference: DOC11/23232), undated, page 9.

Table A.4.9 Internal Complaints Handling Procedure (Sub-clause 5.6.3)

Sub-clause	Requirement	Compliance Grade
5.6.3	<p>State Water must provide information on the Internal Complaints Handling Procedure which explains how to make a Complaint and how the Internal Complaints Handling Procedure works free of charge:</p> <p>a) to Customers, at least once annually with their Bills;</p> <p>b) on its website for downloading by any person; and</p> <p>c) to the public on request.</p>	<div></div> <p>Full Compliance</p>
Risk		Target for Full Compliance
Non-compliance with the requirements of this clause poses moderate operational risk in that WaterNSW may not otherwise become aware of operational problems; it also poses a high risk in respect of WaterNSW’s customer relations.		Evidence that WaterNSW has provided information on the Internal Complaints Handling Procedure in accordance with the nominated requirements.
Evidence sighted		
<ul style="list-style-type: none">Customer Newsletter; January 2015 available at: http://www.watarnsw.com.au/_data/assets/pdf_file/0020/67115/January-2015-CN.pdfFeedback and Complaints Handling Policy available at: http://www.watarnsw.com.au/customer-service/feedback/feedback-and-complaints-handling-policy.		
Summary of reasons for grade		
WaterNSW demonstrated that information on the Internal Complaints Handling Procedure (its <i>Feedback and Complaints Handling Policy</i>) is available in accordance with the nominated requirements. Accordingly, it is assessed that WaterNSW is fully compliant with this obligation.		
Discussion and notes		
<p>The <i>Customer Newsletter; January 2015</i>,¹⁴⁷ which WaterNSW advised was included in customer bills, is available on the WaterNSW website. This newsletter included details of the principles used by WaterNSW in resolving complaints, provides options about who to contact at WaterNSW and sets out the basics of the complaints handling procedure. It also informs customers about how to escalate any complaint to EWON (the Energy and Water Ombudsman, NSW).</p> <p>WaterNSW advised that the requirement for inclusion of the <i>Customer Newsletter</i> is captured in its “Tickit” system (the WaterNSW risk/compliance/incident management system). It demonstrated that Action 955 relates to the provision of information related to its internal complaints handling procedure in the January billing round (with a quarterly reminder), further noting that the required activity is subject to an escalation process if not actioned.</p> <p>Information on the internal complaints handling procedure (<i>Feedback and Complaints Handling Policy</i>), which explains how to make a complaint and how the complaints handling procedure works, is available on the WaterNSW website.¹⁴⁸</p>		

¹⁴⁷ *Customer Newsletter; January 2015* available at:

http://www.watarnsw.com.au/_data/assets/pdf_file/0020/67115/January-2015-CN.pdf.

¹⁴⁸ *Feedback and Complaints Handling Policy* available at: <http://www.watarnsw.com.au/customer-service/feedback/feedback-and-complaints-handling-policy>.

Upon arrival at the Dubbo office, the auditors requested a copy of WaterNSW's internal complaints handling procedure. Whilst the information was not available at hand, the receptionist undertook to follow up the request.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

A.5 Section 7 – Performance Monitoring

Table A.5.1 Reporting (Sub-clause 7.2.1)

Sub-clause	Requirement	Compliance Grade
7.2.1	<p>State Water must comply with its reporting obligations set out in this Licence and in the Reporting Manual, which include:</p> <p>a) reporting to IPART in accordance with the Reporting Manual and this Licence, and</p> <p>b) making reports and other information publicly available,</p> <p>in the manner set out in the Reporting Manual.</p>	<div></div> <p>Full Compliance</p>
Risk	Target for Full Compliance	
<p>This requirement represents a low operational risk. Failure to report has no direct impact on operational performance, although compliant reporting enables independent monitoring and promotes public confidence.</p>	<p>Evidence that WaterNSW has prepared, submitted and published the requisite reports in accordance with the requirements set out in the <i>Reporting Manual</i>.</p>	
Evidence sighted		
<ul style="list-style-type: none">IPART, <i>State Water Corporation Reporting Manual; Water – Reporting Manual</i>, July 2013.State Water, <i>Report to the IPART under the Operating Licence 2013-2018 for State Water</i>, 1 September 2014.Email from IPART to State Water dated 1 September 2014 (acknowledging submission of 1 September report and Statement of Compliance).State Water, <i>Statement of Compliance for 2013/14; Submitted by State Water Corporation</i>, dated 29 August 2014.Water Balance Reports for Fish River (7.2.1 DOC14 37355 FRWS WB 13-14); Lachlan, Macquarie and Hunter (7.2.1 DOC14 37356 Lachlan, Macquarie and Hunter WB Report 13-14); Gwydir, Border, Peel and Namoi (7.2.1 DOC14 24967 13-14 Final Water Balance North-Gwydir, Border, Peel and Namoi); Murray Lower Darling (7.2.1 DOC14 37357 Murray WB 13-14); Paterson (7.2.1 DOC14 37362 Paterson Water Balance 13-14); Richmond (7.2.1 DOC14 37359 Richmond Water Balance 13-14); and Murrumbidgee (7.2.1 DOC14 37358 Murrumbidgee River Water Balance 13-14).Email from State Water to IPART dated 1 December 2014 (advising that Water Balance Reports had been made available on the State Water website).Letter from WaterNSW to IPART (Reference: D2015/35977) dated 30 March 2015 (advising of status of action being undertaken in response to recommendations arising from the 2013/14 Operational Audit and significant changes).Email from IPART to WaterNSW dated 31 March 2015 acknowledging receipt of letter advising of status in addressing audit recommendation and significant changes).		

Summary of reasons for grade

WaterNSW demonstrated that it had complied with its reporting obligations set out in the Licence and in the *Reporting Manual*. More specifically it had prepared and submitted the requisite reports to IPART in accordance with the specified timelines and, where required, it had made the reports publicly available via its website.

Accordingly, it was assessed that WaterNSW has fully complied with this obligation.

Discussion and notes

The State Water Corporation *Reporting Manual*¹⁴⁹ nominates the reporting regime with which WaterNSW must comply under the provisions of the State Water *Operating Licence*. Compliance with these reporting requirements is as follows:

- **1 September Report** – WaterNSW must report to IPART by 1 September each year on compliance and performance during the previous financial year in respect of its asset management programs, customer management, environmental management programs and performance indicators.

WaterNSW provided a copy of the *1 September report to IPART*¹⁵⁰ for the 2013/14 financial year, review of which reveals that it addressed the necessary requirements. It also provided evidence¹⁵¹ that the report was submitted to IPART by 1 September 2014. Review of the State Water website¹⁵² revealed that the report is publicly available.

- **Statement of Compliance** – WaterNSW must provide a statement of compliance to IPART by 1 September each year on its compliance with the obligations of its Operating Licence during the previous financial year.

WaterNSW provided a copy of the Statement of Compliance for the 2013/14 financial year.¹⁵³ It also provided evidence¹⁵⁴ that the report was submitted to IPART by 1 September 2014.

- **Water Balances** – WaterNSW must complete water balance reports for each financial year and make them available by 1 December following the end of the financial year.

WaterNSW provided copies of Water Balance Reports for each catchment (Fish River, Macquarie, Namoi, Murray Lower Darling, Paterson, Lachlan, Richmond, Murrumbidgee, Peel, Hunter, Gwydir, Bega and Brogo Rivers and Border Rivers)¹⁵⁵ for the 2013/14 financial year. It also provided evidence¹⁵⁶ that it had advised IPART of the availability of the reports on its website by 1 December 2014.

Review of the WaterNSW website¹⁵⁷ confirmed that all reports were publicly available. Furthermore, review confirmed that the reports had been prepared consistently for each Valley, as required.

¹⁴⁹ IPART, *State Water Corporation Reporting Manual; Water – Reporting Manual*, July 2013.

¹⁵⁰ State Water, *Report to the IPART under the Operating Licence 2013-2018 for State Water*, 1 September 2014.

¹⁵¹ Email from IPART to State Water dated 1 September 2014 (acknowledging submission of 1 September report and Statement of Compliance).

¹⁵² Accessed via: <http://www.statewater.com.au/About%20us/Publications/Corporate%20Publications> on 1 November 2015.

¹⁵³ State Water, *Statement of Compliance for 2013/14; Submitted by State Water Corporation*, dated 29 August 2014.

¹⁵⁴ Email from IPART to State Water dated 1 September 2014 (acknowledging submission of 1 September report and Statement of Compliance).

¹⁵⁵ Water Balance Reports for Fish River (7.2.1 DOC14 37355 FRWS WB 13-14); Lachlan, Macquarie and Hunter (7.2.1 DOC14 37356 Lachlan, Macquarie and Hunter WB Report 13-14); Gwydir, Border, Peel and Namoi (7.2.1 DOC14 24967 13-14 Final Water Balance North-Gwydir, Border, Peel and Namoi); Murray Lower Darling (7.2.1 DOC14 37357 Murray WB 13-14); Paterson (7.2.1 DOC14 37362 Paterson Water Balance 13-14); Richmond (7.2.1 DOC14 37359 Richmond Water Balance 13-14); and Murrumbidgee (7.2.1 DOC14 37358 Murrumbidgee River Water Balance 13-14).

¹⁵⁶ Email from State Water to IPART dated 1 December 2014 (advising that Water Balance Reports had been made available on the State Water website).

¹⁵⁷ Accessed via: <http://www.waternsw.com.au/customer-service/news/balance> on 1 November 2015.

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- **Status of Audit Recommendations** – WaterNSW must report to IPART annually on the status of any audit recommendations identified in the most recent Operational Audit and outlined in IPART's audit report to the Minister.

WaterNSW provided a copy of a letter submitted to IPART¹⁵⁸ in which it reported on the status of action being undertaken in response to recommendations arising from the 2013/14 Operational Audit. Receipt of this report was acknowledged by IPART.¹⁵⁹

- **Significant Changes** – WaterNSW must report to IPART by 31 March each year on any significant changes (in respect of identified items) that have been made since 31 March the previous year.

WaterNSW provided a copy of a letter submitted to IPART¹⁶⁰ in which it advised of significant changes including/in respect of the following:

- the merger of State Water and the SCA to form WaterNSW;
- development of a consolidated WaterNSW environmental management system; and
- development of a consolidated WaterNSW asset management system.

Receipt of this report was acknowledged by IPART.¹⁶¹

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.


¹⁵⁸ Letter from WaterNSW to IPART (Reference: D2015/35977) dated 30 March 2015 (advising of status of action being undertaken in response to recommendations arising from the 2013/14 Operational Audit and significant changes).

¹⁵⁹ Email from IPART to WaterNSW dated 31 March 2015 acknowledging receipt of letter advising of status in addressing audit recommendation and significant changes).

¹⁶⁰ Letter from WaterNSW to IPART (Reference: D2015/35977) dated 30 March 2015 (advising of status of action being undertaken in response to recommendations arising from the 2013/14 Operational Audit and significant changes).

¹⁶¹ Email from IPART to WaterNSW dated 31 March 2015 acknowledging receipt of letter advising of status in addressing audit recommendation and significant changes).

Table A.5.2 Reporting (Sub-clause 7.2.2)

Sub-clause	Requirement	Compliance Grade
7.2.2	State Water must maintain sufficient record systems that enable it to report accurately in accordance with this Licence and the Reporting Manual (including its performance against the performance indicators specified in the Reporting Manual).	 Full Compliance

Risk	Target for Full Compliance
Non-compliance with this clause poses a moderate level of risk in respect of WaterNSW's operational performance. The ability to accurately measure performance against specified indicators is a key tool in assessing the effectiveness of a utility's operations.	Evidence that WaterNSW maintains sufficient records to enable it to measure accurately and report its performance against the specified indicators, consistent with IPART's interpretation.

Evidence sighted

- IPART, *State Water Corporation Reporting Manual; Water – Reporting Manual*, July 2013.
- WaterNSW, *Report to the IPART under the Operating Licence 2013-2018 for State Water*, 1 September 2015.
- State Water, *Tickit On Demand; State Water User Manual; Form Users (Reference: DOC13 38244)*, undated
- State Water, *Tickit On Demand; State Water User Manual; Action and Risk Assessment Owners (Reference: DOC13 38245)*, undated.
- State Water, *Tickit On Demand; State Water User Manual; Action, Risk and Incident Users (Reference: DOC13 38247)*, undated.
- WaterNSW, *IPART Customer Operations Reporting Procedure (WNSW Rural) (Reference: CD2015/101)*, undated (Review date: 12 August 2018).
- MSEXcel spreadsheet: *No. 1 DOC15 19397 - IPART Non-complying orders 2014_15*.
- MSEXcel spreadsheet: *No. 2 DOC15 20463 IPART report_Raw orders*.
- Document: *No. 2 DOC15 18204 Customer Complaints received 2014.15*.
- Document: *No. 3 DOC15 18976 KPI_Re-scheduled orders*.
- MSEXcel spreadsheet: *No. 4 DOC15 19399 - IPART trade targets 2014_ 2015 audit report*.

Summary of reasons for grade

WaterNSW was able to demonstrate that it has sufficient record systems to enable it to measure accurately its performance against the performance indicators specified in the *Reporting Manual*. It was, however, noted that two of the four indicators had not been correctly calculated and reported.

Whilst two of the indicators have been incorrectly calculated, WaterNSW remains technically compliant in that it has maintained sufficient record systems to enable it to report accurately against these indicators. Accordingly, it has been assessed as being fully compliant with this obligation.

Discussion and notes

WaterNSW reported its 2014/15 performance against the indicators specified in the *Reporting Manual*¹⁶² in its *1 September report to IPART*.¹⁶³ WaterNSW uses its incident management, risk and audit system, Tickit,

¹⁶² IPART, *State Water Corporation Reporting Manual; Water – Reporting Manual*, July 2013, section 7.1.1 and appendix A.

to manage its performance records; where required, data is also extracted from its Water Accounting System (WAS). Copies of *Tickit On Demand User Manuals*¹⁶⁴ for various functions were provided as evidence of system functionality.

WaterNSW provided a copy of the *IPART Customer Operations Reporting Procedure*¹⁶⁵ which:

“... describes the process and establishes responsibility for the collection, checking, validation and the reporting of data for all IPART performance indicators as described in the Operating Licence and for the PIER report.¹⁶⁶ It also establishes a process for the maintenance and integrity of this data.”

Review of the procedure confirms that it does document the reporting requirements (indicator definition, data source, responsibility and to whom/where the indicators are reported) as well the detailed process for extracting data and calculating the indicators. A process map is also included.

The adequacy of record systems maintained to enable accurate reporting, and the accuracy of calculation, of the reported is reported as follows:

IPART Indicator No. 1 – Percentage of customers, who after placing a non-complying water order, are contacted within 1 working day to rectify that order:

WaterNSW reported¹⁶⁷ that 98.9% of customers who had placed a non-conforming order had been contacted within 1 working day of placing the order. The total number of non-complying orders (287No) and the number of customers not contacted until greater than 1 day after placing a non-conforming order (3No) were determined from reports extracted from the Tickit system. Extracted data reports were shown in an MSExcel spreadsheet.¹⁶⁸

The indicator was correctly calculated in accordance with the procedure. It is noted that the system generated report for the number of customers not contacted until greater than 1 day after placing a non-conforming order is manually checked before the indicator is calculated to ensure the accuracy of the data.

IPART Indicator No. 2 – Percentage of complying water orders delivered outside of +/- 1 day of the scheduled day of delivery, as measured by Complaints:

WaterNSW reported¹⁶⁹ that 100% of complying orders had been delivered outside +/- 1 day of the scheduled day of delivery. The total number of complying orders was 101,885 (extracted from the WAS) and there were nil (0) customer complaints for water delivered outside +/- 1 day of the scheduled day of delivery (based on data extracted from the Tickit system). An MSExcel file¹⁷⁰ provided a summary of the total number of water orders, whilst a screen extract¹⁷¹ listing customer complaints for 2014/15 confirmed that there had been no complaints for delivery delivered outside +/- 1 day of the scheduled day.

Whilst the data inputs to this indicator were demonstrated to be correct, the indicator was incorrectly calculated. As defined in the *IPART Customer Operations Reporting Procedure*:¹⁷²

“The KPI is the number of complaints recorded in the Tickit System for the specific category divided by the final figure

¹⁶³ WaterNSW, *Report to the IPART under the Operating Licence 2013-2018 for State Water*, 1 September 2015, page 14.

¹⁶⁴ State Water, *Tickit On Demand; State Water User Manuals: Form Users* (Reference: DOC13 38244), undated; *Action and Risk Assessment Owners* (Reference: DOC13 38245), undated; and *Action, Risk and Incident Users* (Reference: DOC13 38247), undated.

¹⁶⁵ WaterNSW, *IPART Customer Operations Reporting Procedure (WNSW Rural)* (Reference: CD2015/101), undated (Review date: 12 August 2018).

¹⁶⁶ The *Performance Indicators Exceptions Report* (PIER), which includes the IPART performance indicators as well as some additional water delivery and compliance KPI's, is presented at meetings of the Customer Service Committees.

¹⁶⁷ WaterNSW, *Report to the IPART under the Operating Licence 2013-2018 for State Water*, 1 September 2015, page 14.

¹⁶⁸ MSExcel spreadsheet: No. 1 DOC15 19397 - *IPART Non-complying orders 2014_15*.

¹⁶⁹ WaterNSW, *Report to the IPART under the Operating Licence 2013-2018 for State Water*, 1 September 2015, page 14.

¹⁷⁰ MSExcel spreadsheet: No. 2 DOC15 20463 *IPART report_Raw orders*.

¹⁷¹ Document: No. 2 DOC15 18204 *Customer Complaints received 2014.15*.

¹⁷² WaterNSW, *IPART Customer Operations Reporting Procedure (WNSW Rural)* (Reference: CD2015/101), undated (Review date: 12 August 2018), page 2.

for complying water orders at the end of the year.”

Accordingly, the indicator should have been calculated as: $0/101,885 = 0\%$.

IPART Indicator No. 3 – *Percentage of complying Water Orders rescheduled in consultation with an affected Customer, within 1 working day of an expected water shortage or delivery delay:*

WaterNSW reported¹⁷³ that 53.8% of complying Water Orders rescheduled in consultation with an affected Customer, had been rescheduled within 1 working day of an expected water shortage or delivery delay. Both the total number of complying Water Orders rescheduled (13No) and the number of complying water orders not rescheduled within 1 working day of an expected water shortage or delivery delay (7No) were determined from reports extracted from the Tickit system. A screen extract¹⁷⁴ showing rescheduled orders, including those identified as “Rescheduled order – State Water initiated” and “Within ± 1 day of identified shortfall” or “Greater than ± 1 day of identified shortfall” was provided as supporting evidence.

Review of the extract provided revealed that of the thirteen (13) orders rescheduled by State Water, six (6) had been rescheduled within 1 day of the identified shortfall. Accordingly, the indicator should have been calculated as: $6/13 = 46.2\%$.

IPART Indicator No. 4 – *Percentage of complying intra-valley transfers processed within five working days of State Water’s receipt of a correct application and fee:*

WaterNSW reported¹⁷⁵ that 99.4% of complying intra-valley transfers had been processed within five working days of receipt. A detailed MSEXcel spreadsheet,¹⁷⁶ which captured data extracted from the WAS, confirmed the data inputs (total number of transfers (3,968No) and transfers processed within five working days (3,945No)) and the calculation.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

Although it has been assessed that WaterNSW has maintained sufficient record systems to enable it to report accurately in accordance with this Licence and the *Reporting Manual*, it has not correctly calculated its performance against all of the performance indicators specified in the *Reporting Manual*. It is suggested that WaterNSW take action (implement more robust systems and/or training) to ensure that its performance against these indicators is correctly calculated.

¹⁷³ WaterNSW, *Report to the IPART under the Operating Licence 2013-2018 for State Water*, 1 September 2015, page 14.

¹⁷⁴ Document: No. 3 DOC15 18976 KPI_Re-scheduled orders.

¹⁷⁵ WaterNSW, *Report to the IPART under the Operating Licence 2013-2018 for State Water*, 1 September 2015, page 14.

¹⁷⁶ MSEXcel spreadsheet: No. 4 DOC15 19399 - IPART trade targets 2014_2015 audit report.

A.6 Recommendations/Outstanding items from previous audits

Table A.6.1 Recommendation 2013/14-1 (Water Quality – Sub-clause 2.1.1)

Reference	Requirement	Compliance Grade
2013/14-1	<p><i>Water quality (maintain register of LWUs) – clause 2.1.1:</i></p> <p>With regards to the Local Water Utility (LWU) register, State Water should:</p> <ul style="list-style-type: none">– prepare a documented procedure to maintain the register.– contact and confirm details for LWUs who have yet to confirm contact details for the register.	<div><div></div><div></div></div> Partially Addressed
Risk	Target for Full Compliance	
Absence of information to enable WaterNSW to contact a Local Water Utility (LWU) in a timely manner in the instance of a water quality emergency poses a high risk to the water quality management activities of LWUs.	Evidence that the register has been established and is maintained and that contact details and extraction locations are kept up to date through appropriate follow up with councils, where necessary.	
Evidence sighted		
<ul style="list-style-type: none">▪ Local Councils letters – (dated 20 April 2015).▪ LWU Contact Details excel spreadsheet.▪ LWU register Tickit screenshot.▪ Example – LWU response.▪ Staff interview 1 October 2015.		
Summary of reasons for grade		
This recommendation has been partially addressed. There is a process in place to maintain the currency of the register; this has been automated using the “Tickit” system. This fulfils the intent of having a documented procedure; however, the process for confirming contact details for the register with the LWUs needs to be strengthened.		
Discussion and notes		
There is a process in place to maintain the currency of the register, ie. a letter is sent to councils to confirm or change contact details. Copies of a sample of letters sent to councils (dated 20 April 2015) were sighted by the auditors. ¹⁷⁷		
The task of sending letters out has been automated through use of the “Tickit” system, the issue tracking tool that was used by State Water and will be used by WaterNSW going forward. A screenshot was sighted by auditors. ¹⁷⁸		
The 2013/14 Operational Audit Report mentioned was that there was no follow up process if a LWU did not respond to the letter. ¹⁷⁹ The letter was updated to include a request for the LWU to respond and		

¹⁷⁷ DOC 15/106312 Local councils letters.

¹⁷⁸ D2015 105966 Thurs 1 Oct 15 – LWU Compliance action.

¹⁷⁹ Cardno, *Operational Audit of State Water Corporation*, November 2014, Appendix B, page B.1.

confirm that the details are correct. A few examples of responses from councils confirming/changing details were provided.¹⁸⁰ However, this still does not cover those LWUs that do not respond; there is no subsequent follow-up.

It was discussed that the Tickit item could be amended to send the letter and ensure that the item is closed after 100 percent response, which would use a follow-up call to get the information from those that do not respond. In order to ensure that details are updated in a timely manner a 'date of confirmation' column could be put in the register to show when the contact details were last updated or confirmed.

Recommendations

There are no further recommendations arising in respect of this previous recommendation.

Opportunities for improvement

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


¹⁸⁰ D2015 106490 Example LWU letter response.

Table A.6.2 Recommendation 2013/14-2 (Water Quality – Sub-clause 2.1.3)

Reference	Requirement	Compliance Grade
2013/14-2	<p><i>Water quality (ensure LWU information request procedure describes how State Water will respond to information requests and define fees or chargers)</i> – clause 2.1.3:</p> <p>State Water should update the water quality information request procedure to describe how fees or charges are to be paid.</p>	<div></div> <p>Addressed</p>
Risk		Target for Full Compliance
Without an adequate water quality information communication procedure, there is a high risk that an LWU may not be able to access water quality information important for the management of its risks.		Evidence of a documented procedure that describes how fees or charges for information requests are to be paid.
Evidence sighted		
<ul style="list-style-type: none">Local Water Utility water quality data request procedure.http://www.statewater.com.au/Customer%20service/Billing%20and%20accountsStaff interview 1 October 2015.		
Summary of reasons for grade		
This recommendation has been addressed. The information request procedure has been updated to include how fees or charges are to be paid.		
Discussion and notes		
The information request procedure ¹⁸¹ describes how a LWU will request for information, describes how WaterNSW will respond (and timeframe), and defines fees that will be charged, basis of charging and mode of payment. The water quality data that can be requested is mentioned in the procedure (refer also to discussion in Table A.4.5).		
Recommendations		
There are no further recommendations arising in respect of this previous recommendation.		
Opportunities for improvement		
No opportunities for improvement have been identified in respect of this previous recommendation.		

¹⁸¹ D2015 107215 Local Water Utility water quality data request procedure (issue date 30/05/2015).

Table A.6.3 Recommendation 2013/14-3 (Customers – Sub-clause 5.6.2)

Reference	Requirement	Compliance Grade
2013/14-3	<i>Customers (fully implement complaints handling procedure) – clause 5.6.2:</i> State Water should take steps to increase awareness of its internal Complaints Handling Procedure and continue to monitor implementation of the procedure.	 Addressed

Risk

Non-compliance with the requirements of this clause poses moderate operational risk in that WaterNSW may not otherwise become aware of operational problems; it also poses a high risk in respect of WaterNSW's customer relations.

Target for Full Compliance

Evidence that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the procedure.

Evidence sighted

- WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015.
- State Water, *Customer Operations – CIO Team Meeting: Minutes and Actions (Reference: DOC14/34653)*, 20 October 2014.
- *Complaint Ticket Audit outcomes (Reference: DOC15 22509)*, undated.
- Customer Complaint Feedback Surveys (6No) (Reference: DOC15 21178).

Summary of reasons for grade

This recommendation is deemed to have been fully addressed. Whilst the re-appointment of an Education Officer remains outstanding, the organisational changes brought about by the formation of WaterNSW has resulted in the intended outcomes being otherwise achieved.

Discussion and notes

The 2013/14 Audit Report recommended that:

“State Water undertake the actions identified by it to increase awareness of its Complaints Handling Procedure and continually monitor implementation of the procedure. These actions include:

- *Re-appoint the Education Officer as a dedicated resource for complaints management*
- *Discuss outcomes of ticket audit from last year's complaints with CIOs at their next meeting*
- *Plan specific training for other Business Units*
- *Undertake more detailed and complete audits and checks of complaints during 2014/15 with reporting monthly to Manager of Customer Operations.”*

WaterNSW advised¹⁸² as follows in respect of these actions:

- Re-appoint the Education Officer as a dedicated resource for complaints management:

“The appointment of this position was put on hold due to the current merger and re-structure”.

It was apparent during the audit interviews that the re-structure process is still in progress. However, WaterNSW provided evidence that the complaint management function was, in general, operating efficiently and in accordance with the Internal Complaints Handling Procedure (refer **Table A.4.8**).

¹⁸² WaterNSW, *State Water Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 12.

Full details had been entered into the Tickit system; audits of the complaint management system had been conducted and the learnings from these audits had been circulated to relevant staff to achieve continuous improvement.

- Discuss outcomes of ticket audit from last year's complaints with CIOs at their next meeting:
"Audit outcomes were included on the agenda and discussed at the CIO weekly meeting on 28/10/14 and 20/1/15. Ways to improve the handling of complaints were discussed including what constitutes a complaint, how to better record complaints and how to determine customer satisfaction."

WaterNSW provided a copy of the Customer Information Officer meeting held on 28 October 2014,¹⁸³ review of which confirmed that the audit outcomes were discussed. Ways to improve the handling of complaints were discussed, including what constitutes a complaint, how to better record complaints and how to determine customer satisfaction.

- Plan specific training for other Business Units:
"Complaints awareness training was completed for all water delivery staff. There is no further training planned until the merging of business procedures for WaterNSW is complete."

Whilst WaterNSW advised that training had been completed, no evidence was provided to confirm this.

- Undertake more detailed and complete audits and checks of complaints during 2014/15 with reporting monthly to Manager of Customer Operations."

"Audits undertaken and regular reports provided."

WaterNSW provided evidence that it had conducted an audit of ten (10) complaint tickets^{184,185} and six (6) customer complaint feedback surveys.¹⁸⁶

The principal outstanding item is the re-appointment of an Education Officer; which the auditors acknowledge may need to be re-assessed as part of the ongoing organisational restructure. Subsequent advice from WaterNSW indicates that the functions previously undertaken by the Education Officer will now be undertaken by the Retail Systems and Reporting team.¹⁸⁷

Recommendations

There are no further recommendations arising in respect of this previous recommendation.

Opportunities for improvement

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

¹⁸³ State Water, *Customer Operations – CIO Team Meeting; Minutes and Actions* (Reference: DOC14/34653), 20 October 2014.

¹⁸⁴ *Complaint Ticket Audit outcomes* (Reference: DOC15 22509), undated.

¹⁸⁵ In addition to the summary report, a sample of audit records was also provided as evidence.

¹⁸⁶ Customer Complaint Feedback Surveys (6No) (Reference: DOC15 21178).

¹⁸⁷ WaterNSW, *Comments on Auditor Draft Reports*, 23 November 2015.

Appendix B Detailed Audit Findings Sydney Catchment Authority Operating Licence

Detailed audit findings in respect of the *Sydney Catchment Authority Operating Licence* are presented in this Appendix..

B.1 Section 2 – Water Quality

Table B.1.1 Water Quality Management System (Sub-clause 2.1.1)

Sub-clause	Requirement	Compliance Grade
2.1.1	<p>SCA must maintain a Management System that is consistent with:</p> <p>a) the Australian Drinking Water Guidelines; or</p> <p>b) if NSW Health specifies any amendment or addition to the Australian Drinking Water Guidelines that applies to SCA, the Australian Drinking Water Guidelines as amended or added to by NSW Health,</p> <p>(Water Quality Management System).</p> <p><i>[Note: It is generally expected that SCA will develop a system consistent with the Australian Drinking Water Guidelines, including the Water Quality Framework. However, where NSW Health considers it appropriate, the application of those Guidelines may be amended or added to, to take account of SCA's circumstances and/or Drinking Water quality policy and practices within New South Wales.</i></p> <p><i>SCA must also manage the Raw Water Supply System in light of its knowledge of the Drinking Water Supply System. That is, SCA must have adequate systems and processes in place to manage Raw Water quality, taking into account the implementation of planning and risk management across the Drinking Water Supply System.]</i></p>	<div><div></div><div></div></div> <p>High Compliance</p>
Risk	Target for Full Compliance	
Without a comprehensive and effectively implemented water quality management system, there is a high risk that WaterNSW may not be able to effectively manage risks to water quality and protect public health.	Evidence that a Management System is established, maintained and kept up to date, and that it is consistent with the ADWG, as specified by NSW Health.	
Evidence sighted		
<ul style="list-style-type: none">Water quality policy.Water Quality Management Framework (2012-2017).Water Quality Teams for Catchment to Tap (C2T) Water Quality Risk assessment.Water Quality Team – Water Quality Management System (WQMS).Avon Picnic Area Water Supply Quality Assurance Plan (QAP).Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan (QAP).Cordeaux Picnic Area Water Supply Quality Assurance Plan (QAP).Cataract Picnic Area Water Supply Quality Assurance Plan (QAP).Drinking Water Quality Management Plan for Picnic Areas.Interface Between Sydney Water & WaterNSW - Prospect Dam – June 2015.		

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- Catchment to Tap Risk Assessment (C2T) Report final – 2014.
 - Annual Cyanobacteria Risk Forecasting 2014-15 Science Briefing Paper Final.
 - Annual Cyanobacteria Risk Forecast 2015-16.
 - Current Recommended Practices for Interagency Communication List (CRP) (as at 8 May 2015).
 - Water Monitoring Program 2015-2020.
 - Raw Water Quality Incident Response Plan - UNDER REVIEW.
 - FINAL APPROVED Communications protocols and guidelines_17March2015.
 - Water Quality Database - Service Level Agreement.
 - Executive Meeting - 8 August 2014 - Item 4e - 2014 Annual ADWG - Water Quality Scorecard Management Review 2014.
 - Five-year Water Quality Improvement Plan 2012-2017.
 - Letter from NSW Health commenting on WaterNSW's performance during the audit period.
 - Staff interview 28 September 2015.
-

Summary of reasons for grade

High compliance has been awarded for this sub-clause. WaterNSW maintains a management system that is consistent with the ADWG and there are adequate systems in place to manage raw water quality and risk across the drinking water supply chain. In general, the WQMF and supporting documents contain the required information for the implementation of the ADWG. However, it fails to provide a sufficiently cohesive quality management system that provides a systematic approach to water quality management, although some of the specific components are implemented very well.

Certain sub-components of the elements or associated processes need to be better referenced, further developed or strengthened as discussed below (element by element breakdown). The intent of the framework is to provide a structured and systematic approach to managing water quality. Accordingly, the structure and approach should be sufficiently and clearly documented in the framework.

For the recreational areas (picnic sites), there is an overall Drinking Water Quality Management Plan (DWQMP) and site specific Quality Assurance Plans (QAPs) which are consistent with the ADWG and the NSW Health QAP template respectively. However, further work is required to verify the adequacy of some preventive measures, for example, the critical control points (CCPs).

NSW Health did not specify any changes to the framework, but provided guidance on the QAPs for picnic area supply.

Discussion and notes

WaterNSW has a Water Quality Management Framework 2012-2017 (WQMF) that is consistent with the 12 elements of the ADWG for managing raw water quality. WaterNSW also has an overall DWQMP¹⁸⁸ and site specific QAPs that are consistent with the NSW Health QAP template.

Detailed element by element discussions are as follows:

- Element 1 – Commitment to Water Quality Management

- 1.1. *Water quality policy*

There is a water quality policy.¹⁸⁹ The content of the policy is adequate and also captures the potable supply at the picnic area sites. The policy, however, needs to be re-branded and re-

¹⁸⁸ CD2014/61 DWQMP for Picnic Areas.

¹⁸⁹ CD2014/5[v2] Water quality policy.

signed as a WaterNSW document. It should also be re-visited to ensure that all potable schemes now managed by WaterNSW are adequately captured, for example, Fish River Scheme (formerly managed by State Water).

- *1.2. Regulatory and formal requirements*

Regulatory and formal instruments are explained and listed in the WQMF.¹⁹⁰ There is no reference, however, to the legal and other requirements register (CD 2013 26)¹⁹¹ and the process to review and maintain the register. A reference to the register and review process should be included in the WQMF.

- *1.3. Engaging stakeholders*

Stakeholder engagement is described and a list is present in the WQMF.¹⁹²

- **Element 2 – Assessment of the Water Supply System**

- *2.1. Water supply system analysis*

Risk team: the WQMF¹⁹³ mentions that representatives from the SCA (should be now replaced with WaterNSW throughout the framework), Sydney Water, Wingecarribee Shire, Shoalhaven City Councils and NSW Health identified and assessed the risks. A review of the Catchment to Tap Risk Assessment (C2T)¹⁹⁴ was undertaken in 2014 (facilitated by Dr Dan Deere). The steering group members and workshop participants list¹⁹⁵ (risk team) was provided to the auditors. The water quality team¹⁹⁶ for process amalgamation of the water quality management system was also provided.

Flow diagram: Figure 2.1 and Figure 2.2 in the WQMF includes flow diagrams for the catchment and supply networks. These have not been updated yet as conceptual flow diagrams (suggested during the 2013-14 operational audit). The QAPs¹⁹⁷ for picnic areas include flow diagrams for the potable schemes operated, which have been updated and are current. There is an updated boundary map for the Prospect system.¹⁹⁸ The flow diagrams were verified during the C2T 2014 risk review. The process for periodic review of the schematics (eg. prior to risk assessment review or upon significant change to infrastructure or operations) should be stated in the WQMF.

System characteristics: documented in the WQMF and respective QAPs. The land-use in the catchment is not defined in detail to support risk assessment. However, it is acknowledged that the composition of the risk team ensures that catchment based risks are adequately identified.

- *2.2. Assessment of water quality data*

Statistical analysis of data is undertaken annually and is in the Annual Water Quality Monitoring Report.¹⁹⁹ As part of this report, trend analysis is undertaken every 2 years; a report was not required in this reporting period. There is a comprehensive Water Monitoring Program²⁰⁰ in place to monitor water quality and assess data.

¹⁹⁰ Page 4 and Appendix 6 – WQMF.

¹⁹¹ CD2013 26 Legal and Other Requirements Register.

¹⁹² Pages 4, 23 and 24 and Appendix 6.

¹⁹³ Page 7 WQMF.

¹⁹⁴ D2015/75664 Catchment to Customer Risk Register_150316_summary_WaterNSW.

¹⁹⁵ D2015/77445 Water Quality Teams for C2T Water Quality Risk assessment.

¹⁹⁶ D2015/74510 Water Quality Team – WQMS.

¹⁹⁷ CD2014/57[v2] Avon Picnic Area Water Supply Quality Assurance Plan; CD2014/58[v2] Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan; CD2014/59[v2] Cordeaux Picnic Area Water Supply Quality Assurance Plan; CD2014/60[v2] Cataract Picnic Area Water Supply Quality Assurance Plan.

¹⁹⁸ PL2015/00095 Interface Between Sydney Water & WaterNSW - Prospect Dam - June 2015.

¹⁹⁹ D2015/13811 SCA Annual Water Quality Monitoring Report 2013-14 – Appendices.

²⁰⁰ CD2011/179[v4] Water Monitoring Program 2015-2020.

o 2.3. *Hazard identification and risk assessment*

Risk assessment approach and methodology: this is explained in general in the WQMF,²⁰¹ including corporate risk management, C2T risk assessment and the Pollution Source Assessment Tool (PSAT).

The C2T process includes hazards in the ADWG and assessment of hazardous events which occur in the catchments, storages and raw water delivery systems. This has been done for each water supply system in conjunction with Sydney Water and councils to provide a catchment to tap coverage of water quality risks. The consequence and likelihood matrix for the C2T risk assessment is present in the C2T review report.²⁰²

Hazard and hazard sources: these are present in the risk registers provided,²⁰³ which are a summary exported from the risk management software “KnowRisk”. A summary of main hazards and hazardous sources is presented in the WQMF.²⁰⁴ During the last risk assessment, Natural Organic Matter (NOM) was identified as a potential hazard, due to the potential for trihalomethanes (THM) formation.

Hazards and sources are identified in the QAPs for picnic areas (medium and high risks). The risk from disinfection by-products should be quantified through monitoring of THMs. Free chlorine Critical Control Point (CCP) limits in the CCP procedure and schematic should be consistent for all the respective QAPs. The Fitzroy Falls QAP should be revised to ensure that it is more specific to the site operations. For example, carted water should be included as a source and checking receipt of “out of specification” carted water should be included as a preventive measure to manage risks.

Risk level: the risks are assessed as inherent (without controls) and residual (with controls), which is consistent with the ADWG (2011). The risks were reviewed in 2014, and published as the C2T 2014 Review Report.²⁰⁵ An annual cyanobacteria risk forecast²⁰⁶ is undertaken for the reservoirs, and includes control and residual risks. The source assessment for Lake Burragorang (Warragamba catchment) shows the catchment assessment (Tier 2) and treatment required at the Prospect WFP. It shows that treatment is adequate based on the catchment assessment.

Uncertainty: this is not explicitly recorded in the risk register, however, it has been considered. Areas of uncertainty have been mentioned in the C2T 2014 Review Report.²⁰⁷

Significant risks: Priority pollutants (significant hazards) are identified in the WQMF and these are assessed in detail using the PSAT. The PSAT is a detailed GIS model that uses a number of layers to assess the risk of each priority pollutant by drainage unit. The PSAT 2016 findings²⁰⁸ were provided.

Review: the frequency for the C2T risk review is stated in Element 12 of the WQMF, and also in the C2T 2014 Review Report,²⁰⁹ as every 5 years. The risk review procedure *Risk Review: Catchment to Tap - Drinking Water Quality and Quantity Sydney Water and Sydney Catchment Authority*²¹⁰ should be referenced in the WQMF, as it describes the approach and methodology for risk

²⁰¹ Pages 7-8 WQMF.

²⁰² Appendix A D2015/35804 C2T Report final – 2014.

²⁰³ D2015/75664 Catchment to Customer Risk Register_150316_summary_WaterNSW and D2015/24667 Copy of 140617_C2T risk register Bowral, Kangaroo Valley and Goulburn June 2014.

²⁰⁴ Appendix 2 and Appendix 3B – WQMF.

²⁰⁵ D2015/35804 C2T Report final – 2014.

²⁰⁶ D2014/97225 Annual Cyanobacteria Risk Forecasting 2014-15 Science Briefing Paper Final; D2015/93307 Annual Cyanobacteria Risk Forecast 2015-16.

²⁰⁷ Page 5 D2015/35804 C2T Report final – 2014.

²⁰⁸ D2015/86785 Key Findings Report for Pollution Source Assessment Tool 2012-2016.

²⁰⁹ Page 8 D2015/35804 C2T Report final – 2014.

²¹⁰ D2015/106495 Risk Review: Catchment to Tap - Drinking Water Quality and Quantity Sydney Water and Sydney Catchment Authority.

review.

- Element 3 – Preventive Measures for Drinking Water Quality Management

- 3.1. *Preventive measures and multiple barriers*

Preventive measures and multiple barriers are explained in the WQMF.²¹¹ Preventive measures are in the C2T risk assessment register as existing controls. Control or preventive measures for picnic areas are listed in the respective QAPs. There is no clear link between the significant hazards mentioned in Appendix 2 of the WQMF, the preventive measures mentioned in the table in Appendix 4 (grouped by barriers) and the detailed list of preventive measures in Appendix 5. However, the preventive measures are included in the risk registers for each significant hazardous event. WaterNSW advised that it is in the process of preparing a detailed treatment plan for the nominated hazardous events and this will document current/proposed controls. The CCP procedures, which have been developed, should also be included in the list of preventive measures. Apart from selective abstraction, the only other control is catchment management. This is discussed in detail in the audit of sub-clause 4.1.1 (refer **Table B.3.1**).

- 3.2. *Critical control points*

The rationale for CCP selection, CCPs and procedures are presented in the WQMF.²¹² Critical limits for the CCPs have been set to be consistent with the Supply Agreements. However, some of the supply agreements have different quality requirements based on flow rate. For example, the critical limit for CCP2 Upper Canal Diversion for Broughton's Pass is currently stated as less than 40NTU. However, Broughton's Pass supplies water to the Macarthur Water Filtration Plant (WFP), the turbidity limits for which are based on water demand per day. If the demand is between 185 and 265ML/day, then a turbidity of no greater than 10NTU is required as per the agreement.²¹³ This would mean that the critical limit for this particular demand range may be more appropriate at less than 10NTU. WaterNSW explained that for Macarthur WFP it uses the 80-125ML/day rate, which has been the nominal demand by the system since the plant was commissioned. At this flow rate, the maximum turbidity is 50NTU; however, if the flow rate is increased the turbidity maximum could be reduced to 10NTU. It would be useful if the critical limits were discussed with Sydney Water, as these CCPs are designed to protect WFP processes.

For picnic area QAPs, the CCP critical limits do not appear to be compatible with drinking water standards. One critical limit is set at less than 20NTU, however, the ADWG (2011) and the *NSW Private Water Supplies guidelines (2015)* state that the target for effective disinfection is less than 1NTU. As the only treatment in the picnic areas is disinfection (chlorination), the appropriateness of this limit should be investigated.

The *C.t* values for the picnic sites were shown as being greater than 15mg.min/L²¹⁴ (except Cataract which requires collection of usage data for calculation; this has not been included in the QAP Improvement Plan).

- Element 4 – Operational Procedures and Process Control

- 4.1. *Operational procedures*

It is documented in the WQMF²¹⁵ that Operation and Maintenance (O&M) manuals have been developed for each major part of the raw water supply infrastructure. The process for review of procedures is also shown.

- 4.2. *Operational monitoring*

There is a water quality monitoring program²¹⁶ and the WQMF makes reference to this. The

²¹¹ WQMF, pages 10-13 and Appendix 5.

²¹² WQMF, Appendix 4.

²¹³ D2013 101721 Sydney Water Executed Raw Water Supply Agreement.

²¹⁴ D2015 69645 Picnic areas water quality report 5 June 2015.

²¹⁵ WQMF, page 14.

operational monitoring program is comprehensive and includes the parameter, location, frequency and the water quality criteria. This program appears to address the potential hazards and hazardous events identified in the risk assessment.

- *4.3. Corrective actions*

The corrective actions for CCPs are defined in the respective procedures. The Water Quality Database flags exceedances and sends an email to relevant staff who initiate notification and response as per the *Raw Water Quality Incident Response Plan (RWQIRP)*,²¹⁷ which includes the picnic areas. The corrective actions or response actions undertaken when Enterococci limits are exceeded for recreational water bodies is not included in the RWQIRP; these actions should be included.

- *4.4. Equipment maintenance*

The inspection and calibration of equipment is explained in the WQMF.²¹⁸ The picnic area QAPs also have inspection and calibration schedules. Instruments and equipment are being either replaced or upgraded as per the hydrometric renewals program.

- *4.5 Materials and chemicals*

Materials and chemicals are mentioned in the WQMF.²¹⁹ The treatment chemicals (liquid sodium hypochlorite and calcium hypochlorite tablets) are purchased from chemical suppliers. Any proposal for in-lake chemical treatment is subjected to exhaustive risk assessment and consultation with NSW Health. A procedure for purchasing chlorine has been developed and is referenced in the WQMF,²²⁰ although there is no formal chemical suppliers register. Internal email enquiry on suppliers was provided²²¹ from which the suppliers were identified.

- Element 5 – Verification of Water Quality

- *5.1. Monitoring*

There is a water quality monitoring program,²²² which details the parameters, locations and frequencies for testing. The monitoring program is comprehensive and meets the requirements of the schemes and picnic sites.

- *5.2. Customer satisfaction*

There is a customer complaints and compliments handling procedure and a process to close out complaints and determine customer satisfaction. Complaints/compliments are managed through TRIM. The Operational Relationship Framework establishes how WaterNSW engages with Sydney Water as well as the Wingecarribee and Shoalhaven Councils. This includes regular meetings where issues regarding water quality are resolved. Raw Water Supply protocols provide for resolving issues before they manifest into complaints. Although not included under Element 5, discussion on customer complaints and responses is mentioned in the WQMF²²³ under Element 8.

²¹⁶ CD2011/179[v4] Water Monitoring Program 2015-2020.

²¹⁷ CD2004/183[v3] Raw Water Quality Incident Response Plan - UNDER REVIEW.

²¹⁸ Page 15 WQMF.

²¹⁹ Page 16 WQMF.

²²⁰ Page 16 WQMF.

²²¹ D2013/80183 WS Operations SE - Chlorination Facilities - Chemical Suppliers.

²²² CD2011/179[v4] Water Monitoring Program 2015-2020.

²²³ Page 23 WQMF.

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- *5.3 Short-term evaluation of results*

Water quality analysts review and interpret water quality data and use it to propose or make operational change decisions. A water data review and reporting procedure is in place.²²⁴ Monthly reports are prepared for each storage and picnic area.
 - *5.4. Corrective actions*

These are undertaken as per the *Raw Water Quality Incident Response Plan (RWQIRP)*,²²⁵ which includes picnic areas. The auditors note that the document provided is an ‘under review’ document.
 - **Element 6 – Management of Incidents and Emergencies**
 - *6.1. Communication protocols*

These are explained in the RWQIRP and referenced in the WQMF. The contacts list is present in the RWQIRP.²²⁶ The RWQIRP refers to TRIM document D2013/94543 for the up-to-date contact list at any time. This list is kept up-to-date as required by relevant staff and reviewed in detail every two years. Regular Joint Operational Group (JOG) and Strategic Liaison Group (SLG) meetings also ensure that contact details remain current.
 - *6.2. Incident and emergency response protocol (IERP)*

The RWQIRP includes the incident and emergency response protocols to follow, including notifications. There is a link from the CCP procedures to the incident response protocols, where it states that a breach of the critical limit will be declared as an incident and managed by the Primary Incident Notification Officer (PINO). Incidents during the audit period were summarised as a list (with date, result and detection level) in a excel spreadsheet²²⁷ and provided to the auditors. Staff training is undertaken on the IERP. Under the respective memoranda of understanding between NSW Health, WaterNSW and Sydney Water, the three agencies jointly undertake a rolling annual program of incident scenarios and exercises to test agency responses to a range of water quality and other hazards. These exercises are conducted as live scenarios or desktop reviews.
 - **Element 7 – Employee Awareness and Training**
 - *7.1. Employee awareness*

Corporate induction and orientation programs include information in relation to the Business Management and Quality Management systems (including the Water Quality Management System) and the Environmental Management System. It was mentioned during the interviews (28 September 2015) that contractors are also made aware of their responsibilities in relation to water quality management.
 - *7.2. Employee training*

Training and learning needs are identified through FOCUS (HR management system) plan discussions with each staff member every six months. Staff are encouraged to attend training sessions, workshops and conferences and participate in working groups to maintain or enhance their experience. WaterNSW maintains an attendance record for all workshops and conferences.²²⁸
 - **Element 8 – Community Involvement and Awareness**
 - *8.1. Community consultation*
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²²⁴ CD2012/130[v3] Water Quality Data Review and Reporting Procedure.

²²⁵ CD2004/183[v3] Raw Water Quality Incident Response Plan - UNDER REVIEW.

²²⁶ Appendix B CD2004/183[v3] Raw Water Quality Incident Response Plan - UNDER REVIEW.

²²⁷ D2015/96815 Water Quality Detections 2014-2015.

²²⁸ D2015/94338 Training Report 1 July 2014 - 30 June 2015.

There is a comprehensive schools education program. The Warragamba Dam Visitor Centre provides an opportunity for visitors to engage with staff directly and to learn about the drinking water storages and catchments. The website features information on operation of the water supply system, drinking water catchments, water quality and quantity, and projects. An ongoing Local Government Reference (LGR) Group is used as a platform to ensure that Councils within catchment areas are informed and involved in infrastructure and water protection activities by WaterNSW in their local government areas; the effectiveness of this Group is being evaluated. There are further details on community consultation and involvement in the Healthy Catchments Strategy 2012-2016.

o *8.2. Communication*

Communication activities are explained in the WQMF.²²⁹ There are also public communications guidelines and protocols for interagency communication, including direction regarding when to contact, key messages and mode of contact,²³⁰ which are documented in the Emergency Communications Manual (staff interview). A list of current recommended practices (CRPs) was provided.²³¹

■ Element 9 – Research and Development

o *9.1. Investigative studies and research monitoring*

The Science Strategic Plan outlines research priorities. Strategic science needs are driven by the Corporate Sustainability Strategy, the Metropolitan Water Plan, water quality risk assessments (C2T and PSAT) and business needs. Research is also discussed with stakeholders during JOG and SLG meetings under the “Emerging Issues” agenda item.

o *9.2. Validation of processes*

The effectiveness of controls are reviewed as part of periodic review of C2T risk assessment and following incidents. Validation tables for CCPs are included in the WQMF and the respective QAPs. However, the validation tables should be reviewed to ensure the critical limits established are appropriate and that justification is provided, as per the previous audit recommendation 2013/14-1 (which has not yet been fully addressed). The validation for the limits is based on literature research and does not appear to have been appropriately applied in some instances.

o *9.3. Design of equipment*

This is not covered explicitly in the WQMF. However, WaterNSW provided information through the audit questionnaire response. WaterNSW assesses asset investment plans through its Asset Strategy. The business case development process for new water monitoring equipment includes assessment for suitability and technology. Staff members attend various water industry seminars and conferences during the year to keep abreast of latest water quality management technology. Staff members also participate in WSAA Technology Approval Group. As also identified in the 2012/13 Operational Audit Report as an opportunity for improvement, the ‘Design of equipment’ component should be included in the WQMF for completeness.

■ Element 10 – Documentation and Reporting

o *10.1. Management of documentation and records*

WaterNSW operates a computerised document control system. All staff members undertake records management training and training records are maintained.

All water sampling data is sent to the database automatically from the contracting laboratory on a daily basis, via a file transfer process. Water quality information is entered, stored and

²²⁹ Page 23 WQMF.

²³⁰ D2015/94637 FINAL APPROVED Communications protocols and guidelines_17March2015.

²³¹ D2015/59348 CRP list (as at 8 May 2015).

maintained in the data storage systems.

The Daily Returns System captures information on daily extractions, environmental flows and other releases, including changes entered by water supply operators. HYDSTRA stores long term hydrometric information such as meteorological parameters, water levels, stream flows and basic water quality data from on-line sensors. All data in HYDSTRA is quality coded to provide users with an indication of data reliability and accuracy.

TRIM software is used for version control. The WQMF, QAPs and operational procedures are kept in TRIM, which can be accessed by staff. A service level agreement has been developed among internal custodians to improve reliability/integrity of water data.²³²

o *10.2. Reporting*

Reports are required under various regulatory instruments by stakeholders, for example:

- IPART - Annual Water Quality Monitoring Report, Annual Catchment Activities Report, Annual report on Water Quality Management System, Annual report on National Water Initiative indicators (public health);
- National Water Initiative (Water Act 2007) - Provision of data to Bureau of Meteorology, National Water Accounts;
- DPI Water - Monthly Compliance Report, Annual Water Quantity Report, Annual Environment Report, Event notifications;
- NSW Health - Exceedances for health related water quality characteristics, Catchment risk factors when treated water turbidity targets are exceeded, Copies of monthly reports to customers, Event notifications; and
- Customers - Monthly reports, Raw water quality at supply points, Anticipated variations to supply quality, Exception event reports for water quality.

A Compliance Management System (through TRIM) is maintained and collates information to support internal and external reporting requirements, including the reporting requirements of the *Operating Licence 2012 -2017*.

■ Element 11 – Evaluation and Audit

o *11.1. Long-term evaluation of data*

Annual statistical evaluation is undertaken and noted in the Water Quality Monitoring Report.²³³ Trend analysis is undertaken every two years.

o *11.2. Audit*

WaterNSW is audited annually against the *Operating Licence* and its *Water Management Licence* for water quality deliverables. The outcomes of the Operational Audit are published.

Every three years an independent audit of the Sydney drinking water catchment is undertaken and the outcomes published.

The WaterNSW three year internal audit plan²³⁴ was sighted by the auditors. It was noted that the plan currently does not include internal audits for the WQMF implementation. Internal audits are important for maintaining a functional water quality management system and identifying areas of improvement. A process for internal audits on the operational aspects of the WQMF (eg. CCP implementation, record keeping, incident follow up) should be developed and included in the internal audit plan, with reference in the WQMF.

²³² D2015/61372 Water Quality Database - Service Level Agreement.

²³³ D2015/13811 SCA Annual Water Quality Monitoring Report 2013-14 – Appendices.

²³⁴ D2015/106992 Internal audit calendar.

■ **Element 12 – Review and Continuous Improvement**

○ *12.1. Review by senior executives*

There is a review process; quarterly executive management committee review and annual executive review meetings are conducted to discuss progress, water quality performance and changes to business. This process should be documented in the WQMF. The review should assess the effectiveness of the management system, including water quality performance, changes in legislative or formal requirements, and outcomes of incident and emergency management and audits.

○ *12.2. Improvement plan*

There is a 5-year water quality improvement plan²³⁵ for the WQMF. Progress is monitored through annual executive review meetings. During the audit interviews, it was also mentioned that actions are tracked through TRIM. The former SCA uses TRIM while the former State Water uses Tickit to track progress; Tickit will be used going forward. However, many of the actions in the Improvement Plan are activities which are already being undertaken by WaterNSW through the implementation of the WQMF and do not represent improvements; for example, development of reports, maintenance of water quality databases, continued use of TRIM, etc.

An improvement plan is developed to address identified needs/gaps for full implementation of the water quality management system and to guide continual improvement. The improvement plan should be reviewed and updated in line with its intent. Any issues identified in the risk assessment, review or audit of performance should be incorporated into the Improvement Plan, implemented and subsequently reviewed for effectiveness. The process to track the progress of improvement actions should be described in the WQMF.

Recommendations

The following recommendations are made in respect of this sub-clause:

WQMF:

- Update the flow charts to ensure that they are current. Whilst a review prior to the risk assessment is acceptable, this update should be implemented in the short term as inadequacies are known and the next risk assessment is not due for 4 years.
- Validate the critical limits in the CCP validation tables and consult with stakeholders regarding the appropriateness of the CCP limits, critical and target, for raw water and drinking water sites. This encompasses the outstanding elements from previous audit recommendations (2013/14-1, 2012/13-2 and 2012/13-3) associated with CCPs. The WQMF in its current format is a descriptive document that could better explain the “how”, “when” and “by whom” tasks are undertaken. When this document is revised to also encompass the activities of the former State Water, it must reference all the required supporting documents and/or processes and make the transition from a report to a manual/plan. Note that alternative solutions, such as use of an internet site, would also be acceptable.
- The improvement plan must be reviewed and updated to address identified needs/gaps for full implementation of the Water Quality Management System and to guide continual improvement. Any issues identified in the risk assessment, review or audit of performance must be incorporated into the Improvement Plan, implemented and subsequently reviewed for effectiveness. The process to track the progress of improvement actions must be described in the WQMF.

Picnic Area QAPs:

- The CCP limits need to be reviewed (as identified under WQMF bullet point 2 above).

²³⁵ D2014/61291 Five-year Water Quality Improvement Plan 2012-2017.

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- Undertake investigations using the WSAA health based targets approach or a Quantitative Microbiological Risk Assessment (QMRA) study (or outcomes from such studies already undertaken) to inform the treatment required (ie. need for filtration process or otherwise), especially since the *NSW Private Water Supplies Guidelines (2015)* states that surface waters may require filtration.
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Opportunities for improvement

The following opportunities for improvement have been identified in respect of this sub-clause:

WQMF:

Element 1

- The water quality policy should be re-branded and re-signed as a WaterNSW document. It should also be revisited to ensure that all potable schemes now managed by WaterNSW are adequately captured, for example, the Fish River Water Supply Scheme (formerly managed by State Water).
- The legal and other requirements register (CD2013/26) and the process to review and maintain it should be referenced or included in the WQMF.

Element 2

- The process for periodic review of the schematics (eg. prior to risk assessment review or upon significant change to infrastructure or operations) should be stated in the WQMF.
- The risk review procedure *Risk Review: Catchment to Tap - Drinking Water Quality and Quantity Sydney Water and Sydney Catchment Authority*²³⁶ should be referenced in the WQMF, as it describes the approach and methodology for risk review.

Element 3

- The CCP procedures should be included in the list of preventive measures.

Element 4

- The corrective or response actions undertaken when Enterococci limits are exceeded for recreational water bodies managed should be included in the raw water quality incident response plan.

Element 9

- As identified as an opportunity for improvement in the 2013-14 Operational Audit Report, the 'Design of equipment' component should be included in the WQMF for completeness.

Element 11

- A process for internal audits on the operational aspects of the WQMF (eg. CCP implementation, record keeping, incident follow up) should be developed and included in the internal audit plan, with reference in the WQMF.

Element 12

- The process for reviewing the effectiveness of the management system, including water quality performance, changes in legislative or formal requirements, and outcomes of incident and emergency management and audits should be included in the WQMF.

Picnic Areas QAPs

- The risk from disinfection by-products should be quantified through baseline or investigative monitoring of trihalomethanes (THMs) and the risk level revised as necessary.
 - Ensure that the free chlorine CCP limits in the CCP procedure and schematic are consistent for all
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²³⁶ D2015/106495 Risk Review: Catchment to Tap - Drinking Water Quality and Quantity Sydney Water and Sydney Catchment Authority.

the respective QAPs.

- Revise the Fitzroy Falls QAP to ensure that it is more specific to the site operations, that is, include carted water as a source and preventive measures to manage risks from receipt of out-of-specification carted water.
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Table B.1.2 Water Quality Management System (Sub-clause 2.1.2)

Sub-clause	Requirement	Compliance Grade
2.1.2	SCA must ensure that the Water Quality Management System is fully implemented and that all relevant activities are carried out in accordance with the System, including to the satisfaction of NSW Health.	<div></div> Full Compliance
<hr/>		
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 System, including to the satisfaction of NSW Health.	
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Evidence sighted		
<ul style="list-style-type: none">Water quality policy.Water Quality Management Framework (2012-2017).Minutes and Action items SCA-SWC Strategic Operational Interface 20 March 2015.Minutes and Action items SCA-SWC Strategic Operational Interface 12 December 2014.Minutes – 6/3/2015 – WNSW/WSC/SCC/GMS 4 Monthly Strategic Operations Group Meeting.SCA/WSC Interface Meeting Minutes 3 December 2014.SCA/WSC Interface Meeting Minutes 28 August 2014.SCA SCC 4 monthly meeting Minutes Nov 2014.SCA SCC 4 monthly meeting Minutes Jun 2014.DPI Water Licence Working Group Meeting Minutes.Avon Picnic Area Water Supply Quality Assurance Plan.Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan.Cordeaux Picnic Area Water Supply Quality Assurance Plan.Cataract Picnic Area Water Supply Quality Assurance Plan.Interface Between Sydney Water & WaterNSW – Prospect Dam – June 2015.Catchment to Tap Risk Assessment (C2T) Report final – 2014.NorBE User Guide for Councils.NorBE User Guide for Consultants.NorBE Tool Upgrade Submission – Consultation and Training Program for Councils & Consultants.NorBE Tool project review and closure report.Draft Raingarden CRP.Current Recommended Practices (CRP) List (as at 8 May 2015).Water Monitoring Program 2015-2020.		

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- Raw Water Quality Incident Response Plan – UNDER REVIEW.
 - Scanned image SWC Monthly report – May 2015.
 - Lake Burragorang water quality reports.
 - Water Quality Detections 2014-2015.
 - Exercise Pipe Buster- Participants Handbook – November 2014.
 - Sydney Catchment exercise.
 - Warragamba Pipeline Exercise.
 - Special Ideas – Exercise Pipe Buster.
 - Training Report 1 July 2014 – 30 June 2015.
 - School statistics reports and analysis FY 2014-2015.
 - SCA Annual Catchment Management Report 2013-14.
 - FINAL APPROVED Communications protocols and guidelines_17March2015.
 - Item 2.1 & 2.2 SLG minutes March 2015 and action list – draft minutes.
 - Sewage Treatment Plant Evaluation Study – Final Report.
 - Campaign Monitoring for Protozoan Pathogens Report.
 - An Investigation into True Colour in SCA Reservoirs – Phase 2.
 - Investigation of True Colour – Burragorang – Statistical Analysis – Appendix 1 to main report.
 - Developing a Natural Organic Matter (NOM) research plan.
 - Water Quality Database – Service Level Agreement.
 - SCA Annual Water Quality Monitoring Report 2013-14.
 - SCA Annual Water Quality Monitoring Report 2013-14 – Appendices.
 - Executive Meeting – 8 August 2014 – Item 4e – 2014 Annual ADWG – Water Quality Scorecard Management Review 2014.
 - Five-year Water Quality Improvement Plan 2012-2017.
 - Letter from NSW Health commenting on WaterNSW's performance during the audit period.

Staff interview 28 September 2015.

Summary of reasons for grade

Although there were some deficiencies in the documentation, it was noted that the items that were documented were implemented. In particular, the catchment management aspect was managed exceptionally well.

NSW Health was satisfied that the incidents reported did not pose a risk to public health.²³⁷

Discussion and notes

Implementation was sampled across the 12 Elements through relevant examples as discussed below.

- Water Quality Policy – the policy was displayed in the WaterNSW Penrith office (auditor observation).²³⁸

²³⁷ Letter from NSW Health, request for comments during audit period.

²³⁸ CD2014/5[v2] Water quality policy.

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- Stakeholder engagement – meeting minutes²³⁹ with individual customers (Sydney Water; Wingecarribee and Shoalhaven Councils); strategic operations group; and DPI Water were provided as evidence.
 - Flow diagram – the flow diagrams for the catchment and supply networks in the WQMF have not been updated. Quality assurance plans²⁴⁰ for picnic areas include flow diagrams for the potable schemes operated; these were updated following the 2013/14 Operational Audit.
 - Assessment of water quality data – statistical analysis of data was undertaken and presented in the Appendix of the Annual Water Quality Monitoring Report.²⁴¹
 - Risk assessment currency – evidence was presented that the C2T risk assessment was reviewed²⁴² in 2014, and that the risk register is current. The next review will be undertaken in 5 years.
 - Preventive measures – examples of implementation work in the catchments were provided. WaterNSW provided the Neutral or Beneficial Effect (NorBE) tool to local councils who are required to assess all proposed development in the drinking water catchment using this tool. An upgraded NorBE tool was released for use by councils and consultants, with comprehensive training.²⁴³ WaterNSW has recently developed the draft Current Recommended Practice (CRP) for the design, construction, operation and maintenance of small bioretention systems, including rain gardens.²⁴⁴ WaterNSW provided concurrence advice to councils for 188 Development Approvals (Das) in 2014/15.²⁴⁵
 - Implementation of the Healthy Catchment Program (HCP) – some of the work undertaken under the HCP has included upgrade of sewerage treatment plants, and work on dairy farms and with graziers in the catchment. Examples of projects approved under the Rural Landscape Program (Erosion Control, Sustainable Grazing and Riparian Protection) were provided to the auditors.²⁴⁶

WaterNSW also provides funding to assist selected catchment councils to implement catchment improvement projects. The audit team made a field visit to the Leura Falls Creek catchment to see the improvement projects being implemented by Blue Mountains City Council as part of the HCP. The objective of the Blue Mountains City Council project is to reduce the transport of nutrients and sediment into Leura Falls Creek through the installation of storm water management infrastructure. The various stormwater management structures include detention ponds, stabilisation works and bioinfiltration measures. Baseline monitoring started in June 2014, with sites monitored upstream and downstream of treatment structures. Works design included consideration of long-term maintenance needs, opportunities to construct components in-house and forming partnerships with stakeholders and communities. Monitoring includes both water quality and biological indicators to enable

²³⁹ D2015/43049 Minutes and Action items SCA-SWC Strategic Operational Interface 20 March 2015; D2015/7624 Minutes and Action items SCA-SWC Strategic Operational Interface 12 December 2014; D2015/43833 Minutes - 6/3/2015 - WNSW/WSC/SCC/GMS 4 Monthly Strategic Operations Group Meeting; D2014/119873 SCA/WSC Interface Meeting Minutes 3 December 2014; D2014/87725 SCA/WSC Interface Meeting Minutes 28 August 2014; D2014/113054 SCA SCC 4 monthly meeting Minutes Nov 2014; D2014/59602 SCA SCC 4 monthly meeting Minutes Jun 2014; D2015/96765 DPI Water Licence Working Group Meeting Minutes.

²⁴⁰ CD2014/57[v2] Avon Picnic Area Water Supply Quality Assurance Plan; CD2014/58[v2] Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan; CD2014/59[v2] Cordeaux Picnic Area Water Supply Quality Assurance Plan; CD2014/60[v2] Cataract Picnic Area Water Supply Quality Assurance Plan.

²⁴¹ D2015/13811 SCA Annual Water Quality Monitoring Report 2013-14 – Appendices.

²⁴² D2015/35804 C2T Report_final -2014 – Appendix A.

²⁴³ D2014/47432 NorBE User Guide for Councils; D2014/47435 NorBE User Guide for Consultants; D2014/48156 NorBE Tool Upgrade Submission – Consultation and Training Program for Councils & Consultants; D2015/50957 NorBE Tool project review and closure report.

²⁴⁴ D2015/45145 Draft Raingarden CRP.

²⁴⁵ D2014/62496 Concurrence and Referral Report July 2014-June 2015.

²⁴⁶ D2015 68720 SE LLS email Amended project proposals (Lidbetter, Watson, Borzi, White and Jessep).

assessment of overall catchment health. WaterNSW monitors the project progress to ensure that it remains on track; the half yearly summary report was provided.²⁴⁷

- CCPs – the auditors were advised that there was no exceedance of the CCP critical limits. The turbidity trend for Warragamba Dam²⁴⁸ for the audit period was provided to the auditors; no evidence of CCP critical limit exceedance was observed. The auditors were not provided with evidence on the CCP turbidity set points in SCADA, which will trigger alarms for alert and critical limit breaches.
 - Operational procedures – operational procedures are stored in TRIM. The intranet page which had the procedures listed (grouped) was shown to the auditors during the interview. An example of the Standard Operating Procedure (SOP) for pre-chlorination at Broughton's Pass²⁴⁹ was provided to the auditors.
 - Catchment management – the actions that WaterNSW takes to reduce the risks to water quality and improve catchment health are outlined in the Healthy Catchments Strategy (HCS).²⁵⁰ The Pollution Source Assessment Tool (PSAT), which is used to inform the HCS, is used to understand the location of high risk pollution sources in the catchment and prioritise catchment actions to protect water quality. Catchment priorities are regularly re-assessed in light of new development and new information, to ensure actions are effective. The PSAT 2016 findings²⁵¹ were provided. WaterNSW prepares an annual Healthy Catchments Program (HCP)²⁵² that identifies the actions it will take in the financial year to reduce risks to water quality in line with HCS. The HCS has set indicators and targets for planned activities and outcomes under each initiative. The Annual Report²⁵³ for the audit period was sighted. WaterNSW also plays a significant role in catchment management through land use planning and Development Control Plans (DCPs). Examples of advice on planning proposal and DCPs provided to councils were provided.²⁵⁴ WaterNSW has developed and provided the neutral or beneficial effect (NorBE) tool for use by councils who are required to assess all proposed development in the drinking water catchment using this tool for the local environmental plans (LEPs). An upgraded NorBE tool was released for use by councils and consultants, with comprehensive training.²⁵⁵ WaterNSW provided concurrence advice to councils for 188 Development Approvals (DAs) in 2014/15.²⁵⁶
 - Operational monitoring – the WQMF makes reference to the water monitoring program. The water quality monitoring program²⁵⁷ was provided. The monitoring program is comprehensive and includes parameters tested, location, frequency and the water quality criteria. During the audit, the database was viewed and entries for *Cryptosporidium* and *Giardia* were observed, demonstrating that the
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²⁴⁷ D2014/59631 Half yearly summary report.

²⁴⁸ D2015/105716 Warragamba turbidity trends.

²⁴⁹ CD2005/32[v2] Broughtons Pass – Operation of Chlorine Plant.

²⁵⁰ D2013/33378 Healthy Catchments Strategy 2012 – 2016.

²⁵¹ D2015/86785 Key Findings Report for Pollution Source Assessment Tool 2012-2016.

²⁵² D2015/7489 Healthy Catchments Program 2014 -2015.

²⁵³ D2015/13802 SCA Annual Catchment Management Report 2013-14.

²⁵⁴ Wingecarribee – D2015/60258, D2015/48869, D2015/26024; Goulburn-Mulwaree – D2015/55442, D2015/55440; Wollondilly – D2015/48905, D2015/69496; Blue Mountains – D2015/44822; Wollongong - D2015/69867; Palerang – D2015/49835, D2015/48006; Campbelltown – D2015/55446; Oberon - D2015/53365; Shoalhaven - D2015/24689.

²⁵⁵ D2014/47432 NorBE User Guide for Councils; D2014/47435 NorBE User Guide for Consultants; D2014/48156 NorBE Tool Upgrade Submission – Consultation and Training Program for Councils & Consultants; D2015/50957 NorBE Tool project review and closure report.

²⁵⁶ D2014/62496 Concurrence and Referral Report July 2014-June 2015.

²⁵⁷ CD2011/179[v4] Water Monitoring Program 2015-2020.

monitoring is being undertaken.

- Corrective actions – the Water Quality Database flags any exceedances and sends an email to relevant staff who initiate notification and response as per the raw water quality incident response plan;²⁵⁸ this includes picnic areas. An example of an email notification was provided.²⁵⁹
 - Equipment calibration – this activity is embedded in Field Services contracts. Relevant contract clauses on calibration were provided to the auditors through an email from the Acting Contracts Manager.²⁶⁰
 - Chemicals – chlorine chemical is used. Whilst there is reference in the WQMF²⁶¹ to a procedure for procuring chlorine, the procedure was not provided to the auditors for sighting.
 - Complaints – a list of complaints, feedback and compliments received during 2014/15 and a TRIM screenshot were provided to the auditors.²⁶² An example of how a complaint is entered and closed in TRIM was also provided.²⁶³ These complaints/compliments were from the general public. In terms of managing customer complaints as per the ADWG requirement, WaterNSW engages with its customers (Sydney Water; and Wingecarribee and Shoalhaven Councils) through regular meetings where issues regarding water quality are resolved.
 - Short-term evaluation of results – monthly reports are prepared for each storage and picnic area. An example of monthly report sent to Sydney Water for May 2015 was provided.²⁶⁴ Examples of monthly reports prepared for Lake Burragorang were also sighted.²⁶⁵
 - Incident and emergency response protocols – the WQMF makes reference to the RWQIRP. The RWQIRP, which includes the protocols to follow including notifications, was provided for review. The auditors note that the document provided was marked as ‘under review’. An example of an incident record for 2 March 2015²⁶⁶ was sighted, where *Cryptosporidium* was detected in the sample tested. A summary of incidents with date, result and detection level was also provided in an excel spreadsheet.²⁶⁷ NSW Health was satisfied that the incidents reported did not pose a risk to public health.²⁶⁸
 - Contacts list – it is mentioned in the RWQIRP that reference should be made to TRIM document D2013/94543,²⁶⁹ a copy of which was provided to the auditors, for the current contact list at any time. The list is kept up-to-date as required by relevant staff and reviewed in detail every two years. Regular JOG and SLG meetings also ensure that contact details remain current. Evidence on when the list was last modified (12 May 2015) was provided.²⁷⁰ Since the date of creation of the list (September 2013), it has been revised seven (7) times, which indicates that revisions are undertaken as required.
 - Staff training on Incident and Emergence Response – examples of the preparatory work for an exercise “Pipe Buster 2014” were provided.²⁷¹
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²⁵⁸ CD2004/183[v3] Raw Water Quality Incident Response Plan - UNDER REVIEW.

²⁵⁹ D2015/96277 WaterNSW Exception Status.

²⁶⁰ D2015/106307 Instrument Calibration.

²⁶¹ Page 16 WQMF.

²⁶² D2015 106339 List of complaints 14-15.

²⁶³ D2015/106346 Example of a complaint in TRIM.

²⁶⁴ D2015/72920 Scanned image SWC Monthly report - May 2015.

²⁶⁵ Lake Burragorang water quality reports 15 May 2015, 26 May 2015, 7 April 2015, 9 June 2015 and 24 June 2015.

²⁶⁶ D2015/96274 C & G Notification to NSW Health and SWC.

²⁶⁷ D2015/96815 Water Quality Detections 2014-2015.

²⁶⁸ Letter from NSW Health, request for comments during audit period.

²⁶⁹ D2013/94543 RWQIRP - Appendix B Key Contact Directory.

²⁷⁰ D2015/105791 Screenshot of RWQIRP – Appendix B Key Contact Directory with last modified date.

²⁷¹ D2015/98966 Exercise Pipebuster- Participants Handbook - November 2014; D2015/98951 Sydney Catchment exercise ; D2015/98950 Warragamba Pipeline Exercise; D2015/98949 FW: question: Warragamba Pipeline Exercise; D2015/98946 Special Ideas - Exercise Pipe Buster; D2015/98943 exercise.

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- Staff awareness – corporate induction and orientation programs include information in relation to the Business Management and Quality Management Systems (including the Water Quality Management System) and the Environmental Management System. The Business Management System induction presentation, which includes the WQMF, was provided to the auditors.²⁷² Senior staff were made aware of the WQMS through a meeting held on 1 April 2015.²⁷³
 - Contractor awareness – the induction procedure²⁷⁴ includes new employees and contractors. Examples of filled-in induction forms were provided to the auditors.²⁷⁵ However, it was noted by the auditors that the corporate induction process was mostly for work health and safety. As also stated in the 2013/14 Operational Audit Report opportunity for improvement, a water quality section can be included in the corporate induction form to ensure that contractors, where relevant, also understand their responsibilities in terms of water quality protection.
 - Training records – WaterNSW maintains an attendance record for all workshops and conferences.²⁷⁶ The register was provided for review.
 - Community consultation – a total of 6,941 students from 116 schools participated in syllabus linked lessons and hands on activities, engaging students in water quality and quantity learning and supporting broader water education delivery by teachers.²⁷⁷ There are further details on community consultation and involvement in the Healthy Catchments Strategy 2012-2016, and the annual catchment management report 2013-14²⁷⁸ reported on this.
 - Research and Development – some of the recent research work undertaken was provided for review, including: sewage treatment plant evaluation study (December 2014), campaign pathogen monitoring program (January 2015), sources and causes of true colour in raw water (December 2014), and developing a NOM research plan (which arose from a risk review in 2014) (June 2015).²⁷⁹
 - Validation of processes – the effectiveness of controls was reviewed as part of the 2014 C2T risk assessment review.²⁸⁰ Controls are reviewed in the course of periodic C2T risk assessment reviews and following incidents. There was no major water quality incident²⁸¹ during 2014/15 to require revalidation of process controls.
 - Management of documentation – WaterNSW operates a computerised document control system. The documents pertinent to the water quality management system are kept in TRIM and easily accessible through the intranet. The intranet page was demonstrated during the site visit. Water quality information is entered and stored in the Water Quality Database (also seen during the site visit).
 - Reporting – a Compliance Management System (through TRIM) is maintained and collates information to support internal and external reporting requirements, including the reporting requirements of the *Operating Licence 2012-2017*. Tickit will be used to manage compliance going forward. Examples of reports have been provided including the annual catchment management report 2013-14²⁸² and annual water quality monitoring report 2013-14.²⁸³
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²⁷² D2014/11231 BMS Induction Presentation.

²⁷³ D2015/47932 WaterNSW WQMS meeting notes 1 April 2015.

²⁷⁴ D2011 410[v1] Induction Procedure.

²⁷⁵ D2015 88312 Induction Form – 3 June 2015; D2015 70538 Induction Form 18 June 2015.

²⁷⁶ D2015/94338 Training Report 1 July 2014 - 30 June 2015.

²⁷⁷ D2014/95609 School statistics reports and analysis FY 2014-2015.

²⁷⁸ D2015/13802 SCA Annual Catchment Management Report 2013-14.

²⁷⁹ D2014/123012 Sewage Treatment Plant Evaluation Study - Final Report; D2015/25996 Campaign Monitoring for Protozoan Pathogens Report; D2014/114594 An Investigation into True Colour in SCA Reservoirs - Phase 2; D2015/64883 Investigation of True Colour - Burratorang - Statistical Analysis - Appendix 1 to main report; D2015/82172 Developing a NOM research plan.

²⁸⁰ D2015/35804 C2T Report final -2014.

²⁸¹ D2015/96815 Water Quality Detections 2014-2015.

²⁸² D2015/13802 SCA Annual Catchment Management Report 2013-14.

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- Long-term evaluation – an annual statistical evaluation is undertaken and noted in the Water Quality Monitoring Report.²⁸⁴ Trend analysis is undertaken every two years, and was not scheduled for this audit period.
 - Audit – there are systems to record audit findings and track compliance against actions implemented as a result of audit recommendations. An example of how TRIM is used to capture and implement audit recommendations was provided to the auditors (screenshot).²⁸⁵
 - Review – a meeting was held to review progress on the implementation of the WQMF against the water quality scorecard (meeting minutes were provided).²⁸⁶ The meeting also discussed the water quality performance and changes to business. The meetings did not discuss the effectiveness of the WQMF per se, which is the intent of the review meetings.
 - Improvement plan – status was reviewed against the water quality scorecard.²⁸⁷ The due date for implementing an improvement action and when it was closed is not consolidated in the Improvement Plan itself. TRIM in general is used to assign and close some actions. The progress of the Improvement Plan for the QAPs has not been monitored.
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Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

The following opportunity for improvement has been identified in respect of this sub-clause:

Element 7

A water quality section can be included in the corporate induction form to ensure that contractors, where relevant, also understand their responsibilities in terms of water quality protection (this was also identified as an opportunity for improvement in the 2013/14 Operational Audit Report).

²⁸³ D2015/13809 SCA Annual Water Quality Monitoring Report 2013-14; D2015/13811 SCA Annual Water Quality Monitoring Report 2013-14 – Appendices.

²⁸⁴ D2015/13811 SCA Annual Water Quality Monitoring Report 2013-14 – Appendices.


²⁸⁵ D2015/106465 Example of TRIM capture of audit recommendation.

²⁸⁶ D2014 68635 SCA Leadership team meeting minutes 8 Aug 2014; D2014 73189 Health, Science Water Quality Management Committee 26 Sept 2014; D2014 84267 SCA Leadership Team Meeting minutes 8 Sept 2014; D2014/54810 Executive Meeting – 8 August 2014 – Item 4e – 2014 Annual ADWG – Water Quality Scorecard Management Review 2014.

²⁸⁷ D2014/54810 Executive Meeting – 8 August 2014 – Item 4e – 2014 Annual ADWG – Water Quality Scorecard Management Review 2014.

B.2 Section 3 – Water Supply Sufficiency

Table B.2.1 Catchment Infrastructure management (Sub-clause 3.1.1)

Sub-clause	Requirement	Compliance Grade
3.1.1	SCA must ensure that the Catchment Infrastructure is operated and managed consistent with the Design Criteria.	 Full Compliance

Risk

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.

Target for Full Compliance

Demonstration that the Catchment Infrastructure was operated and managed consistent with the Design Criteria during the audit period.

Evidence sighted

- NSW Office of Water, *Sydney Catchment Authority; Water Licences and Approvals Package*, May 2012.
- WaterNSW, *2015 Metro Area Major Outages (Document No: D2015 44339)*, printed 24 September 2015.
- Sydney Water Corporation and Sydney Catchment Authority, *Bulk Water Supply Protocols (Document No: WTS221, Rev 07)*, December 2006.
- WaterNSW, *Flood Prediction Procedure (Document No: CD2007/17)*, undated.
- Sydney Catchment Authority and State Water Corporation, *Agreement for the Supply of Water from the Fish River Water Supply (Document No: CD2007/2)*, 31 December 2007.
- SCA, *Warragamba Dam Operations Manual; Part 7 – Flood Operations (Version 4.0) (Document No: CD2013/77)*, December 2012.
- Sydney Catchment Authority and Eraring Energy, *Agreement for Operations and Maintenance of the Kangaroo-Fitzroy Project of the Shoalhaven Scheme (Document No: D2013/89849)*, 1 August 2013.
- WaterNSW, *System Nomograph June 2015 (Document No: D2015/75957)* (Excel spreadsheet).

Summary of reasons for grade

WaterNSW demonstrated that it had operated and managed the Catchment Infrastructure consistent with the Design Criteria during the audit period. Furthermore, it demonstrated that it implements a set of Operating Rules to guide its approach.

These Operating Rules have been developed using WaterNSW's WATHNET water balance modelling software in conjunction with a framework (series of documents) that guides decision making in respect of system configuration. A series of tools (System Nomograph and Master Schedule) are used to guide short term configuration arrangements, whilst WATHNET is used to assess longer term system performance.

WaterNSW is assessed as having demonstrated full compliance with this obligation.

Discussion and notes

The Design Criteria as at the Commencement Date of the current *Operating Licence* are defined therein,²⁸⁸ as follows:

- *Security level of service - SCA's storages do not approach emptiness (defined as 5% of water in the storage) more often*

²⁸⁸ *Sydney Catchment Authority Operating Licence 2012-2017*, clause 12.1, page 16.

than 0.001% of the time (that is, restrictions are not too severe).

- *Robustness level of service – restrictions occur no more often than once in every 10 years on average (that is, restrictions are not too frequent).*
- *Reliability level of service – restrictions last no longer than 3% of the time on average (that is, restrictions are not for excessively long periods).*

Information provided by WaterNSW²⁸⁹ indicates that there has been no change to the Design Criteria since the Commencement Date.

WaterNSW generally operates in accordance with a set of Operating Rules, which have been developed using the WATHNET model. These Operating Rules can be summarised as:

- maintain equal supply security across all zones;
- maintain environmental flows; and
- avoid spills.

Alternative operating regimes may be adopted to achieve a specific objective (eg. to manage water quality or implement asset management works), however, operational arrangements only ever vary from the operating rules on a short term basis. WaterNSW provided a copy of a program²⁹⁰ showing planned major outages for asset management works to be undertaken in the metropolitan area during 2015.

WaterNSW identified (and provided copies of) a number of documents which are used to form a framework within which decisions in respect of system operational configuration are made. These documents include:

- *Water Licences and Approvals Package*²⁹¹ – this document provides a consolidated summary of the Water Access Licences (WALs) and Combined Water Supply Works and Water Use Approvals (CAs) held by the SCA. These WALs and CAs:
 - *“define SCA’s water access rights and obligations including the releases for environmental and other purposes in accordance with the provisions of the Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011 (GMWSP)*
 - *define the monitoring and reporting requirements of SCA to enable assessment of environmental flows on river health”.*

The document also includes an *Operating Protocol for Implementation of Sydney Catchment Authority’s water access licences and work & use approvals issued under the Water Management Act 2000*.

- *SCA/SWC Bulk Water Supply Protocols*²⁹² – this document sets out protocols, developed to assist in the day to day operations, in respect of the following:
 - the standard to which bulk raw water should be supplied to SWC;
 - requirements relating to the continuity of supply;
 - requirements for measurement of flow and invoicing;
 - provision of services and information transfer;
 - future planning;
 - monitoring of water quality;
 - drought response;

²⁸⁹ WaterNSW, *SCA Detailed Audit Questionnaire 2014-15*, 11 September 2015, page 3.

²⁹⁰ WaterNSW, *2015 Metro Area Major Outages (Document No: D2015 44339)*, printed 24 September 2015.

²⁹¹ NSW Office of Water, *Sydney Catchment Authority; Water Licences and Approvals Package*, May 2012.

²⁹² Sydney Water Corporation and Sydney Catchment Authority, *Bulk Water Supply Protocols (Document No: WT5221, Rev 07)*, December 2006.

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- incident management;
 - planned work program and other work.

Continuity of supply, future planning and drought response are issues particularly relevant to the Design Criteria and their implementation.

- *Flood Prediction Procedure*²⁹³ – this document outlines the flood prediction process followed by the Rainfall and Inflow Team. This team provides advice to key stakeholders on current and forecast rainfall, river flows and storage levels, which is then used to make informed decisions around water supply operations and other matters.
- *Agreement for the Supply of Water from the Fish River Water Supply*²⁹⁴ – this document sets out arrangements for supply of water from the Fish River Water Supply scheme to the SCA, including (but not limited to) provisions in respect of annual and daily quantity constraints, flow management and drought management.
- *Warragamba Dam Operations Manual; Part 7 – Flood Operations*²⁹⁵ – this document outlines operational protocols and procedures for operation of the crest gates at Warragamba Dam.
- *Agreement for Operations and Maintenance of the Kangaroo-Fitzroy Project of the Shoalhaven Scheme*²⁹⁶ – this document outlines the protocols that apply in respect of the extraction of water from the Shoalhaven Scheme.

WaterNSW implements the Operating Rules using:

- a System Nomograph (Excel spreadsheet)²⁹⁷ – this is the principal tool used for operational management of the system. It includes a chart for each water supply dam, showing capacity (%) and volume available for the full range of water levels for each dam from full to empty; constraints on various supply modes are also shown.
- a Master Schedule (Excel spreadsheet) – this tool is used to model the system over the short term (12 months). Used in conjunction with the previously mentioned *Metro Area Major Outage Program* and other relevant inputs, it allows the impact of various source selection options on storage balances to be assessed, thereby providing planning to ensure that supply security is optimised across all storages and the likelihood of spills is minimised.
- the WATHNET model – this model, which simulates system operation and yield over 2,000 one hundred year scenario sequences, is used to assess true long term system performance against the Design Criteria.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

²⁹³ WaterNSW, *Flood Prediction Procedure* (Document No: CD2007/17), undated.

²⁹⁴ Sydney Catchment Authority and State Water Corporation, *Agreement for the Supply of Water from the Fish River Water Supply* (Document No: CD2007/2), 31 December 2007.


²⁹⁵ SCA, *Warragamba Dam Operations Manual; Part 7 – Flood Operations (Version 4.0)* (Document No: CD2013/77), December 2012.

²⁹⁶ Sydney Catchment Authority and Eraring Energy, *Agreement for Operations and Maintenance of the Kangaroo-Fitzroy Project of the Shoalhaven Scheme* (Document No: D2013/89849), 1 August 2013.

²⁹⁷ WaterNSW, *System Nomograph June 2015* (Document No: D2015/75957 (Excel spreadsheet)).

B.3 Section 4 – Catchment

Table B.3.1 Catchment management (Sub-clause 4.1.1)

Sub-clause	Requirement	Compliance Grade
4.1.1	SCA must manage and protect the Catchment Area consistent with its objectives and functions under the Act.	 Full Compliance

Risk

Failure to manage catchment areas effectively removes the first water quality protection barrier and therefore represents a high risk to water quality, public health and the environment.

Target for Full Compliance

Evidence that WaterNSW has managed and protected catchment areas consistent with its objectives and functions under the Act.

Evidence sighted

- Water Quality Policy.
- Water monitoring Program.
- SCA Annual Water Quality Monitoring Report 2013-14.
- Healthy Catchments Strategy 2012 – 2016.
- Healthy Catchments Program 2014 -2015.
- Key Findings Report for Pollution Source Assessment Tool 2012-2016.
- Annual Catchment Management Report 2013-14.
- Advice to councils on planning proposal and Development Control Plans – Wingecarribee, Goulburn-Mulwaree, Wollondilly, Blue Mountains, Wollongong, Palerang, Campbelltown, Oberon, Shoalhaven.
- Neutral or Beneficial Effect Tool (NorBE) User Guide for Councils.
- NorBE User Guide for Consultants.
- NorBE Tool Upgrade Submission – Consultation and Training Program for Councils & Consultants.
- NorBE Tool project review and closure report.
- Concurrence and Referral Report July 2014-June 2015.
- Half yearly summary report.
- Sewage Treatment Plant Evaluation Study - Final Report.
- 2014 Macroinvertebrate Monitoring Program Annual Report.
- Inspection spreadsheets 30 June to 31 December 2014 and 1 January 2015 to 30 June 2015.
- Compliance Surveillance Tasking and Patrol Report - Warragamba / Metropolitan Special Areas – 27 to 28 September 2014 - Bailey - Crambrook – Knowles.
- Tasking and Surveillance Report - 18 -19 October 2014 - Metropolitan - Muldoon – Heaslip.
- Tasking Surveillance Report - Ashton - Chalker - Capararo - 29 - 30 November 2014.

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- Tasking Surveillance Report - Adams - Davie - 20 -21 December 2014.
 - Compliance Surveillance Tasking and Patrol Report - Newport - McRae - 21 March 2015.
 - Compliance Surveillance Tasking and Patrol Report - Simson - Crambrook 30 to 31 May 2015.
 - Raw Water Quality Incident Response Plan - UNDER REVIEW.
 - School statistics reports and analysis FY 2014-2015.
 - Staff interview 2 October 2015.
 - Field visit Leura Falls Catchment 29 September 2015.
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Summary of reasons for grade

Full compliance has been awarded for this sub-clause. WaterNSW has demonstrated that it undertakes activities to manage and protect the catchment area consistent with its relevant objectives and functions under the Act. WaterNSW has adequate catchment management strategies/plans in place which are implemented to protect water quality, the environment and public health.

Discussion and notes

The auditors focussed on the objectives and functions under the Act relevant to catchment management and protection. These included:

Objective: to ensure that the catchment areas and the catchment infrastructure works are managed and protected so as to promote water quality, the protection of public health and public safety, and the protection of the environment.

General function: protecting the quality and quantity of water in catchment areas.

Specific functions: to manage and protect the catchment areas and the catchment infrastructure works vested in or under the control of the SCA; to protect and enhance the quality of water controlled by the SCA; and to undertake research on catchments generally, and in particular on the health of the SCA's catchment areas.

In order to fulfil the objectives and functions mentioned above, WaterNSW requires effective catchment management strategies and/or plans, which should include the following (ADWG 2011):

- Policy

There is a water quality policy,²⁹⁸ which is consistent with WaterNSW objectives and functions under the Act. As already mentioned in respect of sub-clause 2.1.1, the policy needs to be re-branded and re-signed as a WaterNSW document.
 - Joint development of land use controls

There are variety of land uses and stream impacts throughout the entire catchment. Special Areas, in which access and allowable land uses are restricted, protect the land surrounding dams and some sub-catchments. Land in sub-catchments not within Special Areas experience grazing and agricultural pressures, domestic and urban encroachment and recreational uses. WaterNSW plays a significant role in land use planning and development control plans (DCPs).

At the strategic level, WaterNSW works with and provides advice to Councils in the catchment during land use planning stage. Examples of advice on planning proposal and DCPs provided to Councils were provided for review.²⁹⁹ WaterNSW also provides advice to State Government on
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²⁹⁸ CD2014/5[v2] Water quality policy

²⁹⁹ Wingecarribee – D2015/60258, D2015/48869, D2015/26024; Goulburn-Mulwaree – D2015/55442, D2015/55440; Wollondilly – D2015/48905, D2015/69496; Blue Mountains – D2015/44822; Wollongong - D2015/69867; Palerang – D2015/49835, D2015/48006; Campbelltown – D2015/55446; Oberon - D2015/53365; Shoalhaven - D2015/24689

significant development and infrastructure planning that could have an impact in the catchment, for example, mining proposals. It plays a role in influencing relevant stakeholders on policy around key areas such as mining and CSG.

At the local level, WaterNSW has developed and provided the Neutral or Beneficial Effect (NorBE) tool for use by Councils who are required to assess all proposed development in the drinking water catchment using this tool for the local environmental plans (LEPs). Development requiring consent in the Sydney drinking water catchments must have a NorBE on water quality in accordance with the requirements of the Sydney Drinking Water Catchment State Environmental Planning Policy (SEPP). Some activities under the Planning Act (for example, roads, pipes, pest control) are not required to have NorBE, but assessment is required to ensure no significant impact.

WaterNSW keeps a list of current recommended practices (CRPs) and standards to be used by Councils, developers, consultants and the general public to design and prepare proposals for development in the drinking water catchment. The CRPs and standards provide best practice solutions to manage the water quality impact of a range of land uses, developments and activities including rural subdivisions, agriculture, industrial developments, and stormwater and wastewater management. A list of CRPs was provided.³⁰⁰

- Criteria for development applications

Development applications are assessed by local Councils using the NorBE tool, which has been developed by WaterNSW. An upgraded NorBE tool was released for use by Councils and consultants, with comprehensive training.³⁰¹ WaterNSW also provided concurrence advice to Councils for 188 Development Approvals (DAs) in 2014/15.³⁰² Examples of correspondence in respect of individual DAs assessed was provided.³⁰³ WaterNSW uses the procedures stated in the Environmental Assessment Manual³⁰⁴ to assess DAs.

- Responsibility of agencies

The catchment management roles of the various relevant agencies are articulated in respective Acts, MoUs with regulators/stakeholders and the Special Areas Strategic Plan of Management (SASPoM).³⁰⁵ The SASPoM provides the strategic framework for shared planning and delivery of land management activities within the Special Areas by WaterNSW and the National Parks and Wildlife Services (NPWS).

- Water quality risks and the planning of management strategies

The actions that WaterNSW takes to reduce the risks to water quality and improve catchment health are outlined in the Healthy Catchments Strategy (HCS).³⁰⁶ This strategy sets the priorities for a period of several years, and outlines the work and activities required grouped under initiatives. The initiatives are developed through facilitated brainstorming/discussion sessions with input from stakeholders, and are reviewed every 4 years.

The PSAT tool informs the HCS by providing an understanding of where the high risk pollution sources are in the catchment and allowing the prioritisation of catchment actions to protect water quality (a PSAT presentation was given to the auditors during the audit interviews on

³⁰⁰ D2015/59348 CRP list (as at 8 May 2015).

³⁰¹ D2014/47432 NorBE User Guide for Councils; D2014/47435 NorBE User Guide for Consultants; D2014/48156 NorBE Tool Upgrade Submission – Consultation and Training Program for Councils & Consultants; D2015/50957 NorBE Tool project review and closure report.

³⁰² D2014/62496 Concurrence and Referral Report July 2014-June 2015.

³⁰³ D2015 107218 DAR 14330 Wollondilly Shir_001; D2015 107219 DAR15036 Upper Lachlan 7_001; D2015 107220 DAR 15034 Goulburn Mul_001.

³⁰⁴ CD2012 16[v2] Environmental Assessment Manual – SCA.

³⁰⁵ D2015/105382 Special Areas Strategic Plan of Management 2015.

³⁰⁶ D2013/33378 Healthy Catchments Strategy 2012 – 2016.

2 October 2015). Catchment priorities are regularly re-assessed in light of new development and new information, to ensure actions are effective. The PSAT 2016 findings³⁰⁷ were provided.

WaterNSW annually prepares a Healthy Catchments Program (HCP)³⁰⁸ that identifies the actions it will take during the financial year to reduce risks to water quality in line with the HCS. The progress is reported through the Annual Catchment Management Report. The HCS has set indicators and targets for planned activities and outcomes under each initiative. The annual report³⁰⁹ for the audit period was sighted by the auditors. Some of the work undertaken under the HCP has included upgrade of sewerage treatment plants, and work on dairy farms and with graziers in the catchment. Examples of projects approved under the Rural Landscape Program (Erosion Control, Sustainable Grazing and Riparian Protection) were provided to the auditors.³¹⁰

WaterNSW also provides funding to assist selected catchment Councils to implement catchment improvement projects, for example:

- Blue Mountains City Council – stormwater management;
- Wingecarribee Council – Bowral inflow/infiltration;
- Goulburn Mulwaree Council – Bradley St Pumping Station Upgrade; and
- Palerang Council – West Braidwood Sewer Extension.

The projects deliver on the HCS/HCP and demonstrates some of the activities WaterNSW is undertaking on catchment management and protection. WaterNSW took the audit team for a field visit to Leura Falls Creek catchment to inspect the improvement project being implemented by Blue Mountains City Council. The objective of the Blue Mountains City Council project is to reduce the transport of nutrients and sediment into Leura Falls Creek through the installation of stormwater management infrastructure. The various stormwater management structures include detention ponds, stabilisation works and bio-infiltration measures. Baseline monitoring started in June 2014 with sites monitored upstream and downstream of treatment structures. The design of these works takes into consideration the long-term maintenance needs, opportunities to construct components in-house and forming partnerships with stakeholders and communities. Indicators monitored include water quality and biological (for overall catchment health).

WaterNSW holds advisory meetings with Councils who, in turn, provide quarterly project monitoring and evaluation reports. The project to demonstrate environmental or water quality outcomes is still in its infancy, however, it is recognised that the interventions are a ‘no regrets’ approach to catchment management and improving water quality. WaterNSW monitors the project progress to ensure it is on track; the half yearly summary report³¹¹ was provided to the auditors for review.

■ Monitoring program to identify pollution sources

WaterNSW implements a comprehensive Water Monitoring Program.³¹² The water quality and catchment health indicators are included in the *Operating Licence* and tested through the program. The results are reported in the Annual Water Quality Monitoring Report.³¹³ Monitoring is also undertaken at project scale; for example, monitoring was undertaken to find out if UV treatment at sewerage treatment plants in the catchment was effective in reducing the risk level.³¹⁴

³⁰⁷ D2015/86785 Key Findings Report for Pollution Source Assessment Tool 2012-2016.

³⁰⁸ D2015/7489 Healthy Catchments Program 2014 -2015.

³⁰⁹ D2015/13802 SCA Annual Catchment Management Report 2013-14.

³¹⁰ D2015 68720 SE LLS email Amended project proposals (Lidbetter, Watson, Borzi, White and Jessep).

³¹¹ D2014/59631 Half yearly summary report.

³¹² CD2011/179[v4] Water monitoring Program.

³¹³ D2015/13809 SCA Annual Water Quality Monitoring Report 2013-14; D2015/13811 SCA Annual Water Quality Monitoring Report 2013-14 – Appendices.

³¹⁴ D2014/123012 Sewage Treatment Plant Evaluation Study - Final Report.

For catchment health, the Macroinvertebrate Monitoring Program (MMP) is undertaken. The 2014 MMP annual report was provided³¹⁵ as well as the AUSRIVAS Sampling and Processing Manual³¹⁶ used by WaterNSW. Furthermore, PSAT is used to understand where the high risk pollution sources are in the catchment.

- Inspections to monitor catchment conditions and land use changes

WaterNSW undertakes targeted inspections and Special Areas surveillance/enforcement. For the audit period, WaterNSW conducted 395.5 hours of targeted inspections at 39 sites.³¹⁷ It also conducted 1937 hours of Special Area surveillance. Examples of compliance surveillance tasking and patrol reports were provided to the auditors.³¹⁸ PSAT is also used to inspect catchment quality through available information from various sources, spatial data, modelling and on the ground knowledge.

- Community awareness to support the catchment management

Targeted work is undertaken with particular land user types, for example, graziers and dairy farmers. WaterNSW also works with Councils to promote awareness on catchment management.

On a broader scale, WaterNSW raises community awareness on catchment management and protection through a number of initiatives. There is a comprehensive school education program. A total of 6,941 students from 116 schools participated in syllabus linked lessons and hands on activities, engaging students in water quality and quantity learning and supporting broader water education delivery by teachers.³¹⁹ The Warragamba Dam Visitor Centre provides an opportunity for visitors to engage with staff directly and to learn about the drinking water storages and catchments.

The WaterNSW website features information about the operation of the water supply system, drinking water catchments, water quality and quantity, and WaterNSW projects. An ongoing Local Government Reference (LGR) Group is used as a platform to ensure that catchment Councils are informed and involved in infrastructure and water protection activities being undertaken by WaterNSW in their local government areas. The annual catchment management report 2013/14³²⁰ includes further work undertaken on community consultation and involvement.

- Emergency response plan

At the corporate level, WaterNSW Corporate Incident Management system is used in response to incidents and emergencies. For responding to water quality incidents, WaterNSW uses its Raw Water Quality Incident Response,³²¹ which includes the protocols to follow, notifications, contact details and response actions. Staff training is undertaken on the incident and emergency response protocols.

Recommendations

There are no recommendations in respect of this sub-clause.

³¹⁵ 2014 Macroinvertebrate Monitoring Program Annual Report.

³¹⁶ RM2015/508 NSW AUSRIVAS Sampling and Processing Manual 2004.

³¹⁷ D2014/63090 - 30 June to 31 December 2014 – SCA; D2015/33519 – WaterNSW 1 January 2015 to 30 June 2015.

³¹⁸ D2014/95135 Compliance Surveillance Tasking and Patrol Report - Warragamba / Metropolitan Special Areas - 27 to 28 September 2014 - Bailey - Crambrook – Knowles; D2014/103984 Tasking and Surveillance Report - 18 -19 October 2014 - Metropolitan - Muldoon – Heaslip; D2014/118981 Tasking Surveillance Report - Ashton - Chalker - Capararo - 29 - 30 November 2014; D2014/125693 Tasking Surveillance Report - Adams - Davie - 20 -21 December 2014; D2015/42585 Compliance Surveillance Tasking and Patrol Report - Newport - McRae - 21 March 2015; D2015/54034 Compliance Surveillance Tasking and Patrol Report - Simson - Crambrook 30 to 31 May 2015.

³¹⁹ D2014/95609 School statistics reports and analysis FY 2014-2015.

³²⁰ D2015/13802 SCA Annual Catchment Management Report 2013-14.

³²¹ Appendix B CD2004/183[v3] Raw Water Quality Incident Response Plan - UNDER REVIEW.


Opportunities for improvement

The opportunity for improvement in respect of policy (under sub-clause 2.1.1 of the *Operating Licence*) (refer **Table B.1.1**) is also applicable to this sub-clause.

In addition, it is suggested that WaterNSW documents the Macroinvertebrate Monitoring Program in a similar format to the Water Quality Monitoring Program and includes, for example, sub-catchments, sites and samples collected; testing frequency; indicators used; reference to the AUSRIVAS Manual for methods; result interpretation; reporting; and review.

B.4 Section 8 – Performance Monitoring

Table B.4.1 Reporting (Sub-clause 8.2.1)

Sub-clause	Requirement	Compliance Grade
8.2.1	SCA must comply with its reporting obligations set out in the Reporting Manual, which include: <ul style="list-style-type: none"> a) reporting to IPART, NSW Health, the Minister, and the Catchment Auditor; and b) making reports and other information publicly available, in the manner set out in the Reporting Manual.	 Full Compliance

Risk	Target for Full Compliance
This requirement represents a low operational risk. Failure to report has no direct impact on operational performance, although compliant reporting enables independent monitoring and promotes public confidence.	Evidence that WaterNSW has prepared, submitted and published the requisite reports in accordance with the requirements set out in the <i>Reporting Manual</i> .

Evidence sighted

- Environmental Management Report.
- Water Quality Management System Report.
- Statement of Compliance, D2015/21726 Statement of Compliance 1 September 2015.
- SCA Annual Report 2013 – 2014 (National Water Initiative Indicators included).
- Annual Water Quality Monitoring Report, and D2015/13811 – Appendices.
- WaterNSW website.
- NSW Health letter on performance of WaterNSW against the operating licence for the audit period.
- Staff interview 2 October 2015.

Summary of reasons for grade

The reporting obligations set out in the *Reporting Manual* have been followed. Where required, the reports have been made publicly available free of charge through WaterNSW's website.

The statement of compliance letter from WaterNSW to IPART states that there was no non-compliance during the audit period. The letter from NSW Health in respect of WaterNSW's performance against the *Operating Licence* for the audit period states that for "Sydney catchments, WaterNSW provides water quality reports to NSW Health and notifies incidents in accordance with agreed protocols."

Accordingly, full compliance has been awarded.

Discussion and notes

The auditors confirmed that WaterNSW had provided IPART with the following reports by the due dates:

-
- 1 September 2014:
 - Environmental Management Report;³²²
 - Water Quality Management System Report;³²³ and
 - Statement of Compliance.³²⁴
 - 31 October 2014:
 - National Water Initiative Indicators.³²⁵
 - 30 November 2014:
 - Annual Water Quality Monitoring Report;³²⁶ and
 - Annual Catchment Management Report.³²⁷
 - 31 March 2015:
 - Report on Audit Recommendations.³²⁸

As required, the water quality monitoring, catchment and environmental reports (standalone or incorporated into overall annual report, as applicable) are made publically available through the WaterNSW website.³²⁹

The audit of the drinking water catchment was not required during the audit period; hence reporting requirements to the Catchment Auditor have not been considered.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

No opportunities for improvement have been identified in respect of this sub-clause.

³²² D2014/75928 - Environmental Management Report.

³²³ D2014/34331[v2] - Water Quality Management System Report.

³²⁴ D2014/79810 - Statement of Compliance, D2015/21726 Statement of Compliance 1 September 2015.

³²⁵ D2014/109653 - SCA Annual Report 2013 – 2014 (National Water Initiative Indicators included).


³²⁶ D2015/13809 - Annual Water Quality Monitoring Report, and D2015/13811 – Appendices.

³²⁷ D2015/13802 - Annual Catchment Management Report.

³²⁸ D2015/91863 Statement of Compliance 1 September 2015.

³²⁹ http://www.waternsw.com.au/about/pubs/general?search_page=54712_submit_button=View¤t_result_page=1&results_per_page=10&submitted_search_category=&mode=results.

Table B.4.2 Reporting (Sub-clause 8.2.2)

Sub-clause	Requirement	Compliance Grade
8.2.2	SCA must maintain sufficient record systems that enable it to report accurately in accordance with clause 8.2.1.	 Full Compliance

Risk	Target for Full Compliance
Non-compliance with this clause poses a moderate level of risk in respect of WaterNSW's operational performance. The ability to accurately measure performance against specified indicators is a key tool in assessing the effectiveness of a utility's operations.	Evidence that WaterNSW maintains sufficient records to enable it to measure accurately and report its performance against the specified indicators, consistent with IPART's interpretation.

Evidence sighted <ul style="list-style-type: none"> Controlled document procedure. Electronic approval procedure. Staff interview 2 October 2015. Water quality database – sighted on 2 October 2015. Water Quality Management Framework 2012-2017.

Summary of reasons for grade <p>WaterNSW has adequate record systems in place, for example, TRIM and the Water Quality Database, to enable it to report accurately as per the <i>Reporting Manual</i>. The accuracy of reported indicators was verified through data calculation check of <i>Cryptosporidium</i> and <i>Giardia</i> for a random site selected from the Annual Water Quality Monitoring Report.</p> <p>Accordingly, full compliance has been awarded for this sub-clause.</p>
--

Discussion and notes <p>TRIM is used as the records management system to ensure that records of all activities and decisions are created, managed and retained or disposed of appropriately, and in accordance with relevant legislation. There is a team of records management staff to ensure the system is well managed. These staff undergo regular relevant training.</p> <p>TRIM is used to maintain and collate information to support internal and external reporting requirements, including the reporting requirements of the <i>Operating Licence</i>.</p> <p>All water sampling data is sent to the Water Quality Database automatically via a file transfer process (FTP). The Water Quality Database was seen on-site. The Daily Returns System captures information on daily extractions, environmental flows and other releases, including changes entered by water supply operators. HYDSTRA stores long term hydrometric information such as meteorological parameters, water levels, stream flows and basic water quality data from on-line sensors. All data in HYDSTRA is quality coded to provide users with an indication of data reliability and accuracy.³³⁰</p>

³³⁰ Page 26 WQMF.

TRIM is used for version control. Review and approval of documents created is undertaken using standard procedures.³³¹

Relevant operational staff work on compiling data for annual reports, with the final checks undertaken by the respective managers.

In 2011, the then SCA commissioned an audit on the end to end process of acquiring and storing water monitoring information. The audit confirmed that data supplied by laboratories is processed, loaded and retrieved correctly by the Water Quality Database and associated systems.³³² The audit was limited to physical and chemical data provided by one of the laboratory service providers. It would be useful to commission another such audit to also cover pathogen data and re-verify accuracy of data capture.

IPART Indicator No. SCA H1 – Water Quality – Water quality in catchment waterways in the Catchment Area measured against the applicable water quality objectives specified in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000:

Data is exported from the Water Quality Database into an excel spreadsheet by the analyst working on compiling the results tables for the water quality monitoring Annual Report. The analyst undertakes the statistical analysis using the statistical software package “R”. The calculated results for the tables and figures are then exported to Excel and formatted for the Annual Report. The explanation on the data analysis process, some “R” files and exported .csv file from the “R” software were provided to the auditors.³³³ The overall check is done by a Manager.

The data for routine analysis undertaken is extracted and reported, event-based or investigative monitoring results are not analysed for the Annual Report. An example of an Annual Report for 2013-14 was sighted by the auditors.³³⁴

There is no documented procedure on which data/sites to use for reporting (routine or all combined), statistical analysis to undertake, means to undertake the analysis, and quality check on analysis/calculations.

IPART Indicator No. SCA H2 – Water Quality – Occurrence of Cryptosporidium and Giardia cysts or oocysts in catchment waterways:

The same process is used for data analysis as described above for H1. There is no documented procedure as stated earlier.

The calculation for a randomly sampled site, E203, was undertaken by the auditors to verify the results reported in the Annual Report 2013-14. This was done from the excel file³³⁵ into which data was extracted from the Water Quality Database. Data is analysed for only the routine analysis undertaken by WaterNSW.

It was noted by the auditors that *Cryptosporidium* and *Giardia* were also likely to be present in the non-routine (event or investigative) samples tested by WaterNSW.³³⁶ However, for the purposes of this audit IPART confirmed that it was appropriate for WaterNSW to be reporting only routine samples in the calculation of IPART Indicator SCA H2.³³⁷

Full Compliance has been assessed in respect of this sub-clause as the auditors were satisfied that WaterNSW maintains sufficient records to enable it to accurately measure and report its performance against the IPART indicators H1 and H2, consistent with IPART’s interpretation.

³³¹ CD2010/135[v4] Controlled document procedure; CD2011/294[v2] Electronic approval procedure.

³³² Page 26 WQMF.

³³³ D2-14/78317: Appendix Tables – Cryptosporidium and Giardia – AWQMR 2013-2014.

³³⁴ D2015/13809 - Annual Water Quality Monitoring Report, and D2015/13811 – Appendices.

³³⁵ D2015 104828 Friday 2 Oct Evidence - Export from WQ Database of Crypto and Giardia.xlsx.

³³⁶ D2015 104828 Friday 2 Oct Evidence - Export from WQ Database of Crypto and Giardia.xlsx.

³³⁷ E-mail correspondence between Viridis and IPART, dated 26 and 27 October 2015.

Recommendations

There are no recommendations in respect of this sub-clause.

Opportunities for improvement

The following opportunity for improvement was identified in respect of this sub-clause:

It is suggested that WaterNSW develop a documented procedure which includes:

- A definition of which data (routine or all combined) and sites to use for reporting;
 - Details and methods for the statistical analysis required;
 - Details and methods for the required calculations (eg. “R” software template, including location of this file); and
 - Details and methods for the quality checks required to verify calculations.
-

B.5 Recommendations/Outstanding items from previous audits

Table B.5.1 Recommendation 2013/14-1 (Water Quality – Sub-clauses 2.1.1 & 2.1.2)

Reference	Requirement	Compliance Grade
2013/14-1	<p><i>Clauses 2.1.1 & 2.1.2:</i></p> <p>SCA should clearly document the following:</p> <ul style="list-style-type: none">– which Critical Control Points (CCPs) are monitored by the SCA (eg through documenting the relevant instrument numbers which collect CCP data);– CCP critical limits, with justification of these limits;– activities undertaken by SCA to manage CCPs.	<div><div></div><div></div></div> <p>Partially Addressed</p>
<hr/>		
Risk	Target for Full Compliance	
There is a high risk to consumers if out-of-specification raw water is made available to the Water Filtration Plants through CCPs that are inadequately documented and implemented.	Evidence that WaterNSW has clearly documented which CCPs are monitored; CCP critical limits with justification of them documented in the validation tables; and activities it undertakes to ensure that the CCPs are adequately managed.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">▪ Water Quality Management Framework 2012-2017.▪ Avon Picnic Area Water Supply Quality Assurance Plan.▪ Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan.▪ Cordeaux Picnic Area Water Supply Quality Assurance Plan.▪ Cataract Picnic Area Water Supply Quality Assurance Plan.▪ Staff interview 28 September 2015.		
<hr/>		
Summary of reasons for grade		
This recommendation is largely addressed. The CCPs, including the management actions, are documented. Whilst the validation tables include justifications for the target values, justifications for the critical limits are not provided.		
<hr/>		
Discussion and notes		
The WQMF ³³⁸ includes documentation of the CCPs monitored (including instrument numbers), CCP limits with justification for the targets selected and corrective actions to manage CCPs. However, the validation tables do not include a justification for the critical limits.		
The respective QAPs ³³⁹ for the picnic areas include the CCP procedure for the picnic areas.		

³³⁸ Appendix 4 CD2013/56[v3] - Water Quality Management Framework 2012-2017.

³³⁹ CD2014/57[v2] Avon Picnic Area Water Supply Quality Assurance Plan; CD2014/58[v2] Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan; CD2014/59[v2] Cordeaux Picnic Area Water Supply Quality Assurance Plan; CD2014/60[v2] Cataract Picnic Area Water Supply Quality Assurance Plan.

Recommendations

There are no further recommendations arising in respect of this previous recommendation.

Opportunities for improvement

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

Table B.5.2 Recommendation 2012/13-1 (Water Quality – Sub-clause 2.1.1)

Reference	Requirement	Compliance Grade
2012/13-1	<p><i>Clause 2.1.1:</i></p> <p>SCA should further develop the Water Quality Management System to:</p> <ul style="list-style-type: none"> – further address preventative measures and Critical Control Points (CCPs); – revise emergency information and formalise the emergency information revision process; – clearly define event based monitoring; – develop a specific drinking water quality policy. 	<div style="background-color: green; width: 100px; height: 20px;"></div> <p>Addressed</p>
Risk		Target for Full Compliance
There is a high risk if WaterNSW does not have an effective Management System to manage water quality risks and protect public health.		Evidence that the Water Quality Management System has been developed to effectively address the matters listed in the requirement.
Evidence sighted		
<ul style="list-style-type: none"> ▪ Water Quality Management Framework 2012-2017. ▪ Raw Water Quality Incident Response Plan - UNDER REVIEW. ▪ Water Monitoring Program 2015-2020. ▪ Water Quality Policy. ▪ Staff interview 28 September 2015. 		
Summary of reasons for grade		
<p>This recommendation is considered to be addressed. Preventive measures and CCPs in large have been addressed and included in the WQMF. The emergency information and revision process has been revised and is documented as part of the RWQIRP. Event based monitoring has been defined. The water quality policy is considered sufficient as it now also captures the potables supplies.</p>		
Discussion and notes		
<p>Preventive measures and CCPs have been included in the WQMF.³⁴⁰</p> <p>The emergency information and revision process has been revised and formalised in the WQMF.³⁴¹ It is also included in the RWQIRP,³⁴² although the auditors note that the document provided is noted as being ‘under review’.</p> <p>Event based monitoring is defined in the Water Monitoring Program³⁴³ and in the WQMF.³⁴⁴</p> <p>A specific drinking water quality policy has not been developed. WaterNSW mainly manages raw water quality and only a few recreational sites for potable water. The Water Quality Policy³⁴⁵ captures the</p>		

³⁴⁰ Appendix 4 and Appendix 5 - CD2013/56[v3] - Water Quality Management Framework 2012-2017

³⁴¹ Pages 19-20 Appendix 4 CD2013/56[v3] - Water Quality Management Framework 2012-2017.

³⁴² CD2004/183[v3] Raw Water Quality Incident Response Plan - UNDER REVIEW.

³⁴³ CD2011/179[v4] Water Monitoring Program 2015-2020.

³⁴⁴ Pages 14-15 Appendix 4 CD2013/56[v3] - Water Quality Management Framework 2012-2017.

³⁴⁵ CD2014/5[v2] Water Quality Policy

commitment for potable supplies and is therefore considered sufficient to address the intent of this recommendation.

Recommendations

There are no further recommendations arising in respect of this previous recommendation.

Opportunities for improvement

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

Table B.5.3 Recommendation 2012/13-2 (Water Quality – Sub-clause 2.1.2)

Reference	Requirement	Compliance Grade
2012/13-2	<p>Clause 2.1.2:</p> <p>The SCA should:</p> <ul style="list-style-type: none">– formally identify and implement appropriate preventive measures for raw water supplied, particularly those of high importance and any designated as CCPs;– develop explicit, validated process control tables for each CCP;– ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs).	<div><div></div><div></div></div> <p>Partially Addressed</p>
<hr/>		
Risk	Target for Full Compliance	
Failure to supply water within specification to the Water Filtration Plants presents a high risk to public health, as the treatment process could be overwhelmed leading to process failures.	Evidence that WaterNSW has formally identified and implemented appropriate preventive measures for raw water supplied, particularly CCPs; developed explicit, validated process control tables for each CCP; and ensured that the appropriate (ideally continuous) frequency of operational monitoring is undertaken for the identified target criteria	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">▪ Water Quality Management Framework 2012-2017.▪ Staff interview 28 September 2015.		
<hr/>		
Summary of reasons for grade		
<p>This recommendation is considered to be partially addressed. Preventive measures, including CCPs, have been identified in the WQMF, however, the appropriateness of CCP limits (targets and critical) should be further investigated in consultation with the respective stakeholders and is included as an audit recommendation in Table B.1.1.</p> <p>Procedures and validation tables for the CCPs have been developed. The monitoring frequency for the identified CCPs are appropriate; online for turbidity and with fast turnaround times for cyanotoxins.</p>		
<hr/>		
Discussion and notes		
<p>Preventive measures, including CCPs, have been identified in the WQMF.³⁴⁶ Critical limits for the CCPs have been set based on the Supply Agreements; however, some of the supply agreements have different quality requirements based on flow rate. The appropriateness of CCP limits (targets and critical) should be further investigated in consultation with the relevant stakeholder, documented and implemented. A recommendation in respect of this issue has been made in Table B.1.1.</p> <p>The implementation of CCPs could not be assessed as no CCP exceedences were recorded during the</p>		

³⁴⁶ Appendix 4 and Appendix 5 - CD2013/56[v3] - Water Quality Management Framework 2012-2017

audit period.

Procedures and validation tables for the CCPs have been established.³⁴⁷ The justification for the CCP critical limit is not included the validation tables.

Monitoring of identified CCPs is undertaken continuously online for turbidity and, with fast turnaround times, for cyanotoxin (microcystin).³⁴⁸ The rationale for CCP selection is included in the WQMF.

Recommendations

There are no further recommendations arising in respect of this previous recommendation.

Opportunities for improvement

It is suggested that WaterNSW include in Appendix 4 of the WQMF an explanation on why only microcystin (PTP cell numbers and toxin concentration) is used as the CCP indicator. This could be added in the validation table.

³⁴⁷ Appendix 4 CD2013/56[v3] - Water Quality Management Framework 2012-2017.

³⁴⁸ Appendix 4 - CD2013/56[v3] - Water Quality Management Framework 2012-2017.

Table B.5.4 Recommendation 2012/13-3 (Water Quality – Sub-clause 2.1.2)

Reference	Requirement	Compliance Grade
2012/13-3	<p>Clause 2.1.2:</p> <p>The SCA should:</p> <ul style="list-style-type: none">formally identify and implement appropriate preventive measures for drinking water supplied to its recreational areas (picnic areas), including those designated as CCPs;develop explicit, validated process control tables for each CCP;ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs).	<div><div></div><div></div></div> <p>Partially Addressed</p>
<hr/>		
Risk	Target for Full Compliance	
There is a high risk to consumers' health, particularly in picnic areas, if they are supplied with out-of-specification drinking water.	Evidence that preventive measures for drinking water supplied at picnic areas have been formally identified and implemented; that explicit, validated process control tables have been developed for each CCP; and that monitoring of the identified target criteria is carried out at an appropriate frequency.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">Avon Picnic Area Water Supply Quality Assurance Plan.Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan.Cordeaux Picnic Area Water Supply Quality Assurance Plan.Cataract Picnic Area Water Supply Quality Assurance Plan.Staff interview 28 September 2015.		
<hr/>		
Summary of reasons for grade		
<p>This recommendation is considered to be partially addressed. Preventive measures, including CCPs, have been identified in the QAPs; however, the appropriateness of CCP limits (targets and critical) should be further investigated in consultation with the respective stakeholders and is included as an audit recommendation in Table B.1.1.</p> <p>Procedures and validation tables for the CCPs have been developed. The monitoring frequencies for target criteria for chlorine residual and turbidity are appropriate.</p>		
<hr/>		
Discussion and notes		
<p>Preventive measures, including CCPs, have been identified in the respective QAPs.³⁴⁹ The CCP limits do not appear to be compatible with drinking water standards. There is a critical limit of >20NTU, however, the ADWG (2011) and the <i>NSW Private Water Supplies Guidelines (2015)</i> state that the target for effective</p>		

³⁴⁹ CD2014/57[v2] Avon Picnic Area Water Supply Quality Assurance Plan; CD2014/58[v2] Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan; CD2014/59[v2] Cordeaux Picnic Area Water Supply Quality Assurance Plan; CD2014/60[v2] Cataract Picnic Area Water Supply Quality Assurance Plan.

disinfection is <1 NTU. As the only treatment in the picnic areas is disinfection (chlorination), the appropriateness of this limit should be investigated in consultation with the relevant stakeholder (NSW Health). A recommendation in respect of issue has been made in **Table B.1.1**.

Procedures and validation tables for the CCPs have been developed; however, the justification for the CCP critical limit is not included the validation tables.

Monitoring of identified CCPs is undertaken continuously online for chlorination and selective abstraction (turbidity), which are also tested through daily grab samples.³⁵⁰

Recommendations

There are no further recommendations arising in respect of this previous recommendation.

Opportunities for improvement

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

³⁵⁰ Respective QAPs.

D | WaterNSW's statements of compliance

The Chief Executive Officer
Independent Pricing and Regulatory Tribunal of NSW
PO Box K35
Haymarket Post Shop NSW 1240

Ref: DOC2015/21726

Statement of Compliance 1 September 2015
For Financial Year 2014 – 15
Submitted by WaterNSW (State Water Corporation)

WaterNSW reports as follows:

1. This statement documents compliance during 2014-15 with all obligations to which WaterNSW is subject by virtue of its State Water Corporation operating licence.
2. This report has been prepared by WaterNSW with all due care and skill to the best of our knowledge of conditions to which it is subject under the *Water NSW Act 2014*.
3. Schedule A provides information on all obligations with which WaterNSW did not comply during 2014-15.
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 and the Chairman of the Board of WaterNSW.


Signed: _____

David Harris

Chief Executive Officer


Signed: _____

Terry Charlton

Chairman WaterNSW Board

Schedule A: Non-Compliances for WaterNSW (State Water Corporation)

List of requirements breached	Description of non-compliance
Nil	Nil

Mr Hugo Harmstorf
The Chief Executive Officer
Independent Pricing and Regulatory Tribunal of NSW
PO Box K35
Haymarket Post Shop NSW 1240

Ref: D2015/91863

Statement of Compliance 1 September 2015
For Financial Year 2014 – 15
Submitted by WaterNSW (Sydney Catchment Authority)

WaterNSW reports as follows:

1. This statement documents compliance during 2014-15 with all obligations to which WaterNSW is subject by virtue of its Sydney Catchment Authority operating licence.
2. This report has been prepared by WaterNSW with all due care and skill to the best of our knowledge of conditions to which it is subject under the *Water NSW Act 2014*.
3. Schedule A provides information on all obligations with which WaterNSW did not comply during 2014-15.
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 and the Chairman of the Board of WaterNSW.


Signed: _____

David Harris

Chief Executive Officer


Signed: _____

Terry Charlton

Chairman WaterNSW Board

Schedule A: Non-Compliances for WaterNSW (Sydney Catchment Authority)

List of requirements breached	Description of non-compliance
<p>Clause 5.1.1 By 30 June 2015, SCA must develop a Management System that is consistent with:</p> <ul style="list-style-type: none"> 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, (Asset Management System) 	<p>Imposed non-compliance Due to the merger of SCA and State Water, WaterNSW has indicated in its 30 March 2015 letter that an AMS consistent with ISO55001 will be in place by June 2016, and certified by December 2016.</p>
<p>Clause 5.1.3 Until the Asset Management System has been developed in accordance with condition 5.1.1, SCA must take steps towards developing a Management System that will meet the requirements of condition 5.1.1 by 30 June 2015.</p>	<p>Imposed non-compliance Due to the merger of SCA and State Water, WaterNSW has indicated in its 30 March 2015 letter that an AMS consistent with ISO55001 will be in place by June 2016, and certified by December 2016.</p>
<p>Clause 7.1.1 By 30 June 2015, SCA must develop a Management System which is consistent with the Australian Standard AS/NZ ISO14001:2004: Environmental management systems – Requirements with guidance for use (Environmental Management System).</p>	<p>Imposed non-compliance Due to the merger of SCA and State Water, WaterNSW has indicated in its 30 March 2015 letter that an EMS consistent with IOS14001 will be in place by June 2016, and certified by December 2016.</p>