

WaterNSW Operational Audit 2015-16

Report to the Minister

Water — Compliance Report
December 2016

© Independent Pricing and Regulatory Tribunal of New South Wales 2016

This work is copyright. The *Copyright Act 1968* permits fair dealing for study, research, news reporting, criticism and review. Selected passages, tables or diagrams may be reproduced for such purposes provided acknowledgement of the source is included.

ISBN 978-1-76049-040-9 CP93

The Tribunal members for this review are:

Dr Peter J Boxall AO, Chair

Ms Catherine Jones

Mr Ed Willett

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

Brian Gardoll (02) 9113 7778

Jessica Hanna (02) 9113 7715

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

Contents

Executive summary	4
Our recommendations	5
Progress with previous recommendations	7
Overview of audit findings	7
Annual statements of compliance	10
1 Introduction and scope	11
1.1 Purpose and structure of this report	13
1.2 Audit scope	13
1.3 The audit process	15
2 Summary of audit findings and recommendations	18
2.1 WaterNSW's compliance with its State Water licence	18
2.2 WaterNSW's compliance with its SCA licence	37
2.3 WaterNSW's statements of compliance	56
3 Progress on previous audit recommendations	58
Appendices	63
A Compliance grades	65
B 2015-16 Audit Scope	67
C Operational audit report 2015-16 - WaterNSW	69
D Letter to IPART – management systems	71
E WaterNSW's statements of compliance	73

Executive summary

The Independent Pricing and Regulatory Tribunal of New South Wales (IPART) has completed the 2015-16 audit of Water NSW's (WaterNSW) compliance with the requirements of its two Operating Licences. These licences were in operation during the 2015-16 audit period: the 2013-2018 State Water Corporation (State Water) Operating Licence and the 2012-2017 Sydney Catchment Authority (SCA) Operating Licence (the licences).¹ The 2015-16 audit covers the period from 1 July 2015 to 30 June 2016.

Under these licences, WaterNSW provides bulk raw water to its customers throughout NSW. Under the State Water licence, WaterNSW releases bulk raw water into the State's rivers and channels. Customers extract water from these rivers and channels by means of customers' water access licences granted under the *Water Management Act 2000* (NSW). These customers do not include those in the Sydney Catchment Area.² WaterNSW supplies bulk raw water to its customers in the Sydney Catchment Area, under its SCA licence. These customers do not need to extract this water to access it. WaterNSW has already extracted it from the State's water rights under its water access licence (previously granted to SCA). Sydney Water is WaterNSW's largest customer in the Sydney Catchment Area.

We engaged specialist auditors from engineering consulting firms, Cobbitty Consulting Pty Ltd (Cobbitty Consulting) in partnership with Viridis Consultants Pty Ltd (Viridis), to undertake the 2015-16 operational audit. We have prepared this report to summarise the audit findings for the Minister for Lands and Water (the Minister).

The 2015-16 audit findings demonstrate that WaterNSW has a high level of compliance with both its licences as described below.

¹ These licences were amended on 1 July 2016 and reissued as Water NSW licences. As this occurred outside the audit period, we have not audited against these licences. Instead, we have audited against the State Water and SCA licences that were in force during the audit period.

² The Sydney catchment area means the declared catchment area referred to in clause 17 of Schedule 2 of the Water NSW Act.

Our recommendations

The final auditor's report (Appendix C) details the audit findings and recommendations for achieving Full Compliance with the licences, where it has not already. The auditor also submitted a letter to us on 21 November 2016 (Appendix D). The letter provides an assessment of WaterNSW's progress in developing and implementing an Asset Management System (AMS) and Environmental Management System (EMS) that meets its requirements under the 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 assigned Full Compliance for all licence clauses audited and consequently did not make any new recommendations this year.

WaterNSW's compliance with the SCA licence

We endorse the auditor's findings on WaterNSW's compliance with its SCA licence. The auditor assigned Full Compliance for many of the audited clauses. Exceptions to this included where the auditor assigned a High Compliance for development of a Water Quality Management System (WQMS) (clause 2.1.1). The auditor also assigned four non-compliances in relation to Water NSW's AMS and EMS. Recommendations relating to these non-compliances are discussed below.

High Compliance – Water Quality Management System

The auditor considered that WaterNSW had developed a WQMS that generally met the requirements of the Australian Drinking Water Guidelines (ADWG), as required by clause 2.1.1 of the SCA operating licence, with the exception of review processes (Element 12 of ADWG). We make two new recommendations this year for WaterNSW to improve its WQMS review processes, in line with the requirements of the ADWG (recommendations 2015-16-01 and 2015-16-02). Our recommendations are based on one recommendation made by the auditor. We have separated the auditor's recommendation into two to distinguish the different dates of completion.

Our recommendations are outlined below:

- 1 WaterNSW should improve its processes for reviewing its Water Quality Management System (WQMS), as set out in the Australian Drinking Water Guidelines (ADWG). WaterNSW could achieve this by implementing the following:
 - WaterNSW should undertake, at a minimum, annual reviews of the WQMS to check that it accurately reflects WaterNSW's current operations and

operational environment, including any changes that may occur to these and any outcomes/lessons learnt.

(The first review should be completed by 30 June 2017.)

- WaterNSW should document its review processes in the WQMS specifying the processes to be undertaken and the review frequencies. 40

(This should be completed by 30 June 2017.)

- 2 WaterNSW should undertake, at a minimum, two yearly comprehensive reviews of the WQMS to check that it is fully consistent with each element of the ADWG.

(The first review [the Water Quality Management System Review Project] should be completed by 30 June 2018.)

Subject to the Minister's endorsement of our recommendations, we will request WaterNSW to provide us with a report on its progress in implementing these recommendations by 31 March 2017.

The auditor also considered that the WQMS did not provide a cohesive and systematic approach to managing risks to the water quality supplied. WaterNSW's Water Quality Management Framework (WQMF) which is the principal component of the WQMS, did not consistently reference all supporting documents and associated processes. We have not made any new recommendations in relation to this audit finding because a recommendation from last year's audit (recommendation 2014-15-01)³ is ongoing. We will continue to monitor and report on WaterNSW's progress against this ongoing recommendation in future audits.

NSW Health identified two asset management incidents that had water quality impacts.⁴ However, the auditor considered that these incidents had no impact on WaterNSW's compliance with clause 2.1 of the SCA licence. The auditor considered that WaterNSW's response to these incidents was appropriate and to the satisfaction of NSW Health.

Non-compliances – Management systems

We have made two recommendations to address the four non-compliances assigned to WaterNSW in this year's audit. The non-compliances were related to WaterNSW's development and implementation of its AMS (clauses 5.1.1 and 5.1.2) and EMS (clauses 7.1.1 and 7.1.2). The auditor did not make any recommendations in relation to these non-compliances because they considered that WaterNSW is already in the process of rectifying them. While we acknowledge the auditor's position, we consider that it is necessary to make

³ IPART, *WaterNSW Operational Audit 2014/15, Report to the Minister – Compliance Report*, March 2016.

⁴ Letter to IPART, Dr Ben Scalley, Director Environmental Health Branch, NSW Health, undated.

recommendations for WaterNSW to address the non-compliances so that we may track progress and completion in future audits.

Our recommendations are outlined below:

- 3 WaterNSW should finalise its development and certification of the Asset Management System and fully implement it by or before 31 December 2016.
- 4 WaterNSW should finalise its development and certification of the Environmental Management system and fully implement it by or before 31 December 2016.

The non-compliances occurred as a result of the merger of the previous State Water and SCA on 1 January 2015. The merger delayed development and implementation of an AMS and EMS by 1 July 2015, as required by the SCA licence. After the merger, it was no longer meaningful for WaterNSW to continue to develop and implement systems that only covered WaterNSW's functions under the SCA licence. As such, in 2015, WaterNSW proposed a revised program for the development and implementation of systems that covered its functions under both of its licences. The non-compliances were also reported in the 2014-15 audit.

We note that the asset management incidents discussed above did not impact on WaterNSW's compliance with clause 5.1 of the SCA licence as they did not inhibit WaterNSW's capacity to develop and implement an AMS.

Progress with previous recommendations

We note that WaterNSW has completed five out of six outstanding recommendations from previous operating audits. As discussed above, one recommendation is ongoing. We recommend that WaterNSW complete this recommendation to improve its compliance with clause 2.1.1 of the SCA licence. We will continue to monitor and report on progress against the ongoing recommendation in future audits.

Overview of audit findings

WaterNSW compliance with the State Water licence

The 2015-16 audit found that WaterNSW achieved Full Compliance with all 22 of the State Water licence clauses audited. These related to:

- water quality (clauses 2.1.1, 2.1.2, and 2.1.3)
- water quantity (clauses 3.1.1, 3.1.2, 3.1.4, 3.2.1, and 3.3.1)
- assets (clause 4.1.4, 4.2.1, and 4.2.2)

- customers (clauses 5.1.1, 5.1.2, 5.1.3, 5.2.1, 5.2.2, 5.2.3, 5.3.2, 5.4.1, 5.5.1, and 5.6.3), and
- environmental management (clause 6.1.4).

This is the third audit in the 5-year term of the licence. We have included an explanation of the compliance grades in Appendix A. The audit of the State Water licence identified no non-compliance matters. WaterNSW's compliance with its State Water licence is summarised in Table 1 below.

Table 1 WaterNSW's compliance in 2015-16, the third year of its 2013-2018 State Water licence

Licence part	Number of audited clauses	Compliance grade assigned				
		Full	High	Adeq	NC	NR
Part 1 – Licence and licence authorisation	-	-	-	-	-	-
Part 2 – Water quality	3	3	-	-	-	-
Part 3 – Water quantity	5	5	-	-	-	-
Part 4 – Assets	3	3	-	-	-	-
Part 5 – Customers	10	10	-	-	-	-
Part 6 – Environmental management	1	1	-	-	-	-
Part 7 – Performance monitoring	-	-	-	-	-	-
Part 8 – End of term review	-	-	-	-	-	-
Part 9 – Notices	-	-	-	-	-	-
Total	22	22	0	0	0	0

Note: Full = Full Compliance; High = High Compliance; Adeq = Adequate Compliance; NC = non-compliance; NR = No Requirement

Source: Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

WaterNSW compliance with the SCA licence

In 2015-16, WaterNSW also demonstrated a high level of compliance with its SCA licence. WaterNSW achieved Full Compliance with 11 of the 18 clauses audited, and was assigned High Compliance for one clause. The audit identified four non-compliance matters. Two clauses were deemed 'No Requirement'. Information presented by WaterNSW during the audit demonstrated that the requirements of these clauses were not triggered during the audit period.

In summary, the audit found that WaterNSW was assigned:

▼ **Full Compliance** for requirements relating to:

- water quality (clause 2.1.2)
- water supply sufficiency (clauses 3.1.1, 3.1.2, 3.3.1, 3.3.2, and 3.3.3)

- catchment (clause 4.1.1),
 - customers (clauses 6.2.1, and 6.2.2),
 - environment (clause 7.1.4), and
 - Memorandum of Understanding (clause 9.1.1)
- ▼ **High Compliance** for the requirement relating to the water quality management system (clause 2.1.1).
- ▼ **Non-compliance** for requirements relating to:
- the asset management system (clauses 5.1.1, and 5.1.2), and
 - the environmental management system (clauses 7.1.1, and 7.1.2).
- ▼ **No Requirement** for requirements relating to:
- water supply sufficiency (clauses 3.2.1, and 3.2.3).

This is the fourth audit in the 5-year term of the licence. WaterNSW's compliance with its SCA licence is summarised in Table 2 below.

Table 2 WaterNSW's compliance in 2015-16, the fourth year of its 2012-2017 SCA licence

Licence part	Number of audited clauses	Compliance grade assigned				
		Full	High	Adeq	NC	NR
Part 1 – Licence details	-	-	-	-	-	-
Part 2 – Water quality	2	1	1	-	-	-
Part 3 – Water supply sufficiency	7	5	-	-	-	2
Part 4 – Catchment	1	1	-	-	-	-
Part 5 – Assets	2	-	-	-	2	-
Part 6 – Customers	2	2	-	-	-	-
Part 7 – Environment	3	1	-	-	2	-
Part 8 – Performance monitoring	-	-	-	-	-	-
Part 9 – Memoranda of understanding	1	1	-	-	-	-
Part 10 – End of Term Review	-	-	-	-	-	-
Part 11 - Notices	-	-	-	-	-	-
Total	18	11	1	0	4^a	2

^a WaterNSW Statement of Compliance with its SCA licence, 1 September 2016. Three out of the four of the clauses were self-reported and then also audited to check on progress for closing out these matters and achieving compliance with the licence obligations.

^b **Note:** Full = Full Compliance; High = High Compliance; Adequate = Adeq Compliance ; NC = Non-Compliant; NR = No Requirement.

Source: Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Annual statements of compliance

In preparing this report we have also reviewed WaterNSW's annual statements of compliance with its licences (Appendix E). These are exception based reports that have been certified by the Chief Executive Officer and the Chair of the Board of WaterNSW. The statements list the licence breaches that occurred in the 2015-16 audit period that WaterNSW is aware of. Further, any remedial action taken, or in the process of being taken, is also reported.

This year, WaterNSW reported no breaches of its State Water licence. However, it reported four breaches of its SCA licence against clauses 5.1.1, 5.1.2, 5.1.3⁵ and 7.1.1. These breaches were in relation to the delay in developing and implementing an AMS and developing an EMS that met the requirements of the SCA licence, by 1 July 2015. We have made two recommendations to address these breaches, as explained previously. We note that WaterNSW did not report a breach of clause 7.1.2 of the licence, which considered implementation of the EMS by 1 July 2015. We expect that this was done in error. The auditor assessed and assigned a non-compliance against this clause.

The non-compliances with the SCA licence have not impacted on WaterNSW's compliance with the State Water licence.

⁵ We did not audit WaterNSW's progress against clause 5.1.3 in the audit scope. This was a self-reporting requirement only.

1 Introduction and scope

Water NSW (WaterNSW) is a State Owned Corporation, fully owned by the NSW State Government. It was formed on 1 January 2015 by bringing together two previous entities, State Water Corporation (State Water) and the Sydney Catchment Authority (SCA). During the 2015-16 audit period, WaterNSW was operating in accordance with the provisions of the State Water and SCA licences (the licences).

WaterNSW provides bulk raw water to customers throughout NSW under authority of its licences. Under its State Water licence, it releases water into the State's rivers or channels in response to water orders made by customers. Water in these rivers and channels is considered the State's water rights. Customers can extract the water that they have ordered, under authority of water access licences granted under the *Water Management Act 2000* (NSW). These customers do not include those in the Sydney Catchment Area.⁶ WaterNSW supplies water directly to its customers in the Sydney Catchment Area, under its SCA licence. These customers do not need to extract the water from the State's rivers as WaterNSW has already extracted it under its own water access licence.

Under its licences, WaterNSW also has a number of other functions, as listed under the *Water NSW Act 2014* (Water NSW Act). We have explained these below:

1. The *Sydney catchment functions*:
 - a) to supply water to the Sydney Water Corporation
 - b) to supply water to water supply authorities and to local councils or county councils prescribed by regulations made for the purposes of section 7(1)(c)
 - c) to supply water to licensed network operators or licensed retail suppliers within the meaning of the *Water Industry Competition Act 2006*
 - d) to supply water to other persons and bodies, but under terms and conditions that prevent the person or body concerned from supplying the water for consumption by others within the State unless the person or body is authorised to do so by or under an Act

⁶ The Sydney catchment area means the declared catchment area referred to in clause 17 of Schedule 2 of the Water NSW Act.

- e) to construct maintain and operated water management works (including providing or constructing systems or services for supplying water) for the Sydney catchment area
 - f) to protect and enhance the quality and quantity of water in the Sydney catchment area
 - g) to manage and protect the Sydney catchment area and water management works vested in or under the control of Water NSW that are used within or for the purposes of that area
 - h) to undertake research on catchments generally, and in particular on the Sydney catchment area
 - i) to undertake and educative role within the community concerning the Sydney catchment area, and
 - j) to exercise any other function conferred or imposed by the operating licence in connection with the Sydney catchment area.
2. The *non-Sydney catchment functions*:
- a) to capture and store water and to release water:
 - i) to persons entitled to take the water, including release to regional towns, and
 - ii) for any other lawful purpose, including the release of environmental water,
 - b) to construct, maintain and operate water management works (including providing or constructing systems or services for supplying water),
 - c) to undertake flood mitigation and management in its area of operations (other than the Sydney catchment area), and
 - d) to exercise any other function conferred or imposed by the operating licence.

WaterNSW's responsibilities and objectives are prescribed by the Water NSW Act, the *State Owned Corporations Act 1989* (NSW), and any licence(s) issued to WaterNSW under section 11 of the Water NSW Act. Currently, WaterNSW has not yet been issued with such a licence and so continues to operate under the State Water and SCA licences. A new licence, to be granted under section 11 of the Water NSW Act, is the subject of a current review and is expected to commence on 1 July 2017.

We have completed the 2015-16 annual operational audit of WaterNSW's compliance with obligations outlined in its licences. We do this by reviewing evidence including working documents, records and reports, attending audit interviews with utility 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 auditor's report and submit our findings to the Minister for Lands and Water (the Minister).

We have applied a risk-based approach to the WaterNSW 2015-16 audit. Further information on risk-based auditing is included below in section 1.3. The audited clauses are listed in section 1.2 (the audit scope).

We assessed compliance by inviting input from the public and stakeholders which informed part of the audit scope (Appendix B) and by reviewing annual statements of compliance with its licences prepared by WaterNSW (Appendix E). These statements of compliance are exception-based reports which list any licence breaches that occurred during the year, as self-reported by the utility. These statements also include what remedial action has been taken, or is being taken, to resolve any reported breaches.

1.1 Purpose and structure of this report

The purpose of this report is to inform the Minister of WaterNSW's compliance against its audited licence obligations for the audit period and to make 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.
- ▼ Appendix D provides a letter from the auditor on the status of WaterNSW's management systems (dated 21 November 2016).
- ▼ Appendix E provides WaterNSW's annual statements of compliance with its licences (State Water and SCA licences).

1.2 Audit scope

This audit covers the period from 1 July 2015 to 30 June 2016.

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

- ▼ Water quality (Part 2) – requirements relating to maintain a register of Local Water Utilities (LWUs), and develop an information request procedure to provide bulk information to the utilities, when requested, to inform their drinking water quality assurance programs.

- ▼ Water quantity (Part 3) – requirements 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 this part of the licence, WaterNSW must also prepare water balance reports for each of the Valleys in which it operates.
- ▼ Assets (Part 4) – requirements maintain programs to manage risks to its assets, and ensure its activities are carried out in accordance with these programs, until an Asset Management System (AMS) is developed. Under this part of the licence, WaterNSW must read each of its customers’ meters and carry out other metering or water monitoring related functions in accordance with any agreements in place with the Minister or DPI Water.
- ▼ Customers (Part 5) – requirements to consult with its valley-based customers and Fish River Scheme customers and their respective customer service committees (CSCs) and councils, provide information to the CSCs, establish and maintain a Customer Service Charter, enter into agreements with Fish River Water Scheme customers, and maintain a code of practice on payment difficulties and an internal complaints handling procedure.
- ▼ Environment (Part 6) – requirements to develop an environmental management system (EMS) and have it certified by 30 June 2018. Until this EMS is developed and certified, WaterNSW must maintain programs to manage risks to the environment from carrying out its activities, and ensure that all of its activities are carried out in accordance with those programs.

No clauses from parts 1 (licence and licence authorisation), 7 (performance monitoring), 8 (end of term review), 9 (notices) or 10 (definitions and interpretations) were audited this year, following the risk-based approach used in the auditing program.

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

- ▼ Water quality (Part 2) – requirements to maintain and fully implement a Water Quality Management System (WQMS) that is consistent with the Australian Drinking Water Guidelines (ADWG), and any amendments to the Guidelines made by NSW Health. All of WaterNSW’s relevant activities must be carried out in accordance with the WQMS and to the satisfaction of NSW Health.
- ▼ Water supply sufficiency (Part 3) – requirements to operate and manage the catchment infrastructure consistent with the Design Criteria and make the Design Criteria public. WaterNSW must retain an independent expert to review its Water Supply System Yield model, consult with other stakeholders during this review and report on the findings of this review.
- ▼ Catchment (Part 4) – requirements to manage and protect the declared Sydney catchment area consistent with the objectives and functions under the Water NSW Act.

- ▼ Assets (Part 5) – requirements to develop an AMS by 30 June 2015, and implement the System 1 July 2016.
- ▼ Customers (Part 6) – requirements to maintain an internal complaints handling procedure and make this procedure available to its customers, or any member of the public, to access free of charge.
- ▼ Environment (Part 7) – requirements to develop and implement an EMS. Until the EMS has been developed and implemented, WaterNSW must maintain programs to manage the risks to the environment that could result from WaterNSW’s activities.
- ▼ Memoranda of understanding (Part 9) – requirements to manage maintain Memoranda of Understanding (MoU) with NSW Health and the EPA.

No clauses from parts 1 (licence details), 8 (performance monitoring), 10 (end of term review), 11 (notices) or 12 (definitions and interpretations) were audited this year, following the risk-based approach used in the auditing program.

We consulted with the NSW Ministry of Health (NSW Health),⁷ the NSW Environment Protection Authority (EPA),⁸ and sought public submissions in determining the scope of the audit. The audit scope is provided in Appendix B.

This year, NSW Health identified two asset management incidents in the Sydney Catchment Area which had water quality impacts (specifically at Warragamba Dam and the Nepean filtration plant). Review of these incidents and WaterNSW’s response to them was included in the audit scope (ie, in the review of the SCA operating licence clauses 2.1.1, 2.1.2 and 5.1.1) and is described in more detail in section 3.2 of this report.⁹ The EPA made no comments¹⁰.

We sought submissions from the public on matters related to the licence prior to the audit interviews. We advertised for public submissions in the Sydney Morning Herald, Daily Telegraph, Newcastle Herald on 6 July 2016 and The Land on 7 July 2016. We received no public submissions.

1.3 The audit process

The audit is the main regulatory instrument that we use to assess compliance with the licence. 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 requirements of the licence at least once

⁷ Letter to NSW Health, Dr Kerry Chant, Chief Health Officer, IPART, 19 July 2016.

⁸ Letter to EPA, Ms Giselle Howard, Director Metropolitan Branch, IPART, 19 July 2016.

⁹ Letter to IPART, Dr Ben Scalley, Director Environmental Health Branch, NSW Health, undated.

¹⁰ Email to IPART, Ms Sarah Thomson, Unit Head Metropolitan Infrastructure, EPA, 18 August 2016.

during the 5-year term of the licence. Further, WaterNSW provides annual statements of compliance with its licences (Appendix E) to report any non-compliances during the audit period with any of the licence clauses. These are exception based reports.

Adopting a risk based approach has improved the effectiveness of the auditing process, without increasing risks to the community. The approach allows audit resources to be targeted to 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 Consultants), to assist with the 2015-16 audit of WaterNSW. The auditor was required to undertake the following tasks:

1. Receive stakeholder submissions and comments for inclusion in the audit scope.
2. Prepare an information request (questionnaire), setting out all information and evidence requirements, at least two weeks prior to the commencement of audit interviews.
3. Review evidence and reports 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 that WaterNSW achieved against each of the identified obligations of the licence (as per our risk-based audit scope), provide supporting evidence for this assessment and reporting on the level of 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 licence and undertake an assessment of any underlying trends in performance arising from these indicators.
9. Provide drafts of the auditor's report to us and address 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 *ISO 19011:2011 Guidelines for auditing management systems*. This guideline sets 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. Where appropriate, the auditor also sought guidance from *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.

The auditor also carried out the audit according to our *Audit Guideline for Public Water Utilities May 2016*.¹¹ Under this guideline, auditor can make recommendations or suggest opportunities for improvement. Where we support an auditor's recommendation and it is endorsed by the Minister, we will follow up the matter to ensure that it is addressed. 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 the utility to consider the pricing implications of continued improvement and value for money, before the utility implements further improvements. As a consequence, we do not follow up the auditor's suggested opportunities for improvement.

We held a project start up meeting with the auditor on 1 August 2016 to agree on the project milestones, audit timing, and outline our expectations. We also held an audit inception meeting with WaterNSW and the auditor on the first day of the audit interviews, on 19 September 2016. At this meeting, expectations and protocols for the conduct of the audit were agreed. All parties adhered to the agreed protocols throughout the audit.

The licence audit interviews were conducted from 19 September to 23 September 2016 at WaterNSW's offices in Penrith and in the Sydney CBD. On 20-21 September 2016, the auditor also undertook site visits to the following locations:

- ▼ a privately owned and operated farm in Brayton, as part of the Rural Landscape Program,
- ▼ Bradley Street Sewer Pump Station, as part of the Priority Pollutants Program, and
- ▼ Burrinjuck Dam.

WaterNSW's compliance with the audited requirements of the licences was assessed according to the compliance grades outlined in Appendix A.

¹¹ Available on our website (www.ipart.nsw.gov.au).

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 licence. The 2015-16 audit is the third audit of the State Water Corporation (State Water) licence and the fourth audit of the Sydney Catchment Authority (SCA) licence.

Each section includes a table providing a comparison of WaterNSW's (WaterNSW) 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
- ▼ **NR** = No requirement.

These audit grades are explained in Appendix A.

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 its State Water licence

Water quality

WaterNSW achieved Full Compliance with all of the three audited water quality clauses in its State Water licence.

Part 2 of the State Water licence outlines WaterNSW's obligation to maintain a register of Local Water Utilities (LWUs), and develop an information request procedure to provide water quality information on bulk raw water delivered to the utilities, when requested, to inform their drinking water quality assurance programs.

Under the risk-based auditing framework, we consider that this part of the licence poses a low to moderate risk with respect to the likelihood and consequence of non-compliance occurring.

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

Clause	Requirement	Compliance grading				
		2013-14 ^a	2014-15 ^b	2015-16 ^c	2016-17	2017-18
2	Water Quality					
2.1.1	Maintenance of a Local Water Utility register	High	High	Full	-	-
2.1.2	Local Water Utility information request procedure	Full	-	Full	-	-
2.1.3	Requirements of the Local Water Utility information request procedure	High	Full	Full	-	-

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

^b IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^c Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 2.1.1: Maintenance of a Local Water Utility register

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to maintain a register of all LWUs that it maintains a water allocation account for, and to whom it delivers water for the purposes of providing drinking water. Consequently, the auditor identified no recommendations to improve compliance. However, the auditor identified one opportunity for improvement.¹² As explained in section 1.3 of this report, WaterNSW can decide whether to implement opportunities for improvement.

The auditor considered that the register contained the LWUs' contact details and it also identifies each LWU's water source, details of the relevant work approval that the LWU uses to extract water released by WaterNSW including approval holder name, associated water access licence details, and extraction location. The register is reviewed annually.

The auditor found that WaterNSW drafted a procedure to update the register, during the audit period. This is an outcome of our recommendation from the 2013-14 audit.¹³ The update procedure ensures that the register remains up-to-date. The review procedure ensures that all relevant customers are included in the register and that each LWU is contacted to confirm their contact details. WaterNSW finalised this procedure by 30 September 2016, in accordance with our previous recommendation to the Minister. (This is outside the scope of the

¹² We note that the auditor has not identified this opportunity for improvement under their assessment of clause 2.1.1 of the State Water operating licence. Instead, they have identified it on page 45 of their report (Appendix C), which discusses WaterNSW's progress with completing a previous recommendation from the 2013-14 State Water audit (recommendation 2013-14-01). As this recommendation was made to improve compliance with clause 2.1.1 of the State Water licence, we consider that it is appropriate to discuss it here.

¹³ Recommendations 2013-14-01.

2015-16 audit but it demonstrates that WaterNSW made sufficient progress during the audit period to be able to achieve this date.)

We note that WaterNSW improved its compliance from the 2014-15 audit where it was assigned a High Compliance grade to this clause because at the time, WaterNSW did not have an adequate process for maintaining the register and keeping it up-to-date.

The auditor identified one opportunity for improvement for WaterNSW to record the date on which all formal documents (eg, procedures) are finalised and/or approved within the document. Further details of the opportunities for improvement are available in the auditor's report in Appendix C.

Clause 2.1.2: Local Water Utility information request procedure

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to develop and implement a procedure for providing information when requested by any LWU to inform that utility's Drinking Water quality assurance program. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor considered that WaterNSW's LWU (internal) information request procedure described how a LWU can request information. It also described how WaterNSW will respond to information requests and the timeframes for response. Further, the procedure identified the water quality data that can be requested by LWUs. WaterNSW did not have an opportunity to implement the procedure during the audit period as it did not receive any requests for information from LWUs. Since the procedure was in place throughout the audit period, and WaterNSW was prepared to implement the procedure if necessary, we consider that WaterNSW fully met the requirements of this licence clause.

The auditor noted that the LWU Information Request Procedure was being reviewed at the time of audit.

Clause 2.1.3: Requirements of the Local Water Utility information request procedure

The auditor found that WaterNSW achieved Full Compliance with the requirement for its LWU Information Request Procedure to:

- ▼ describe how a LWU is to request information
- ▼ describe how WaterNSW will respond to the request in a timely manner, and
- ▼ define any fees or charges that will be charged by WaterNSW to recover reasonable costs incurred for responding to an information request, including how these will be calculated.

Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor noted that WaterNSW's LWU information request procedure did not explicitly state how LWUs are to pay any fees or charges, as required by the licence. However, it explains how the fees or charges are to be calculated and directed the WaterNSW officer to discuss these costs with LWUs directly. It can be reasonably expected that during that conversation, the WaterNSW officer would explain the available methods of payment of the cost. We consider that it may be appropriate for WaterNSW to update its LWU information request procedure to more clearly direct its officers to discuss with customers how any fees or charges are to be paid. However, this does not materially impact on WaterNSW's compliance with this clause.

WaterNSW's compliance with this clause improved from the 2013-14 audit where it was assigned a High Compliance. The auditor at the time considered that the water quality information request procedure did not address how customers are to pay fees or charges.¹⁴ WaterNSW demonstrated it had subsequently addressed this issue in the 2014-15 audit, directing its officer to discuss costs with the customers directly, and has maintained its Full Compliance with this clause.

Water quantity

WaterNSW achieved Full Compliance with all of the five audited water quantity clauses in its State Water operating licence.

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 this part of the licence, WaterNSW must also prepare water balance reports for each of the Valleys in which it operates.

Under the risk-based auditing framework, we consider that this part of the licence poses a moderate to high risk with respect to the likelihood and consequence of a non-compliance occurring.

¹⁴ IPART, *State Water Corporation Operational Audit 2013/14*, Report to the Minister, December 2014 (Recommendation 2013-14-02)

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

3	Clause Requirement	Compliance grading				
		2013-14 ^a	2014-15 ^b	2015-16 ^c	2016-17	2017-18
3.1.1	Processing water orders	Full	Full	Full	-	-
3.1.2	Managing water orders and water delivery	Full	Full	Full	-	-
3.1.4	Conserving water and minimising water losses	Full	Full	Full	-	-
3.2.1	Maintaining an advance notification system	High	Full	Full	-	-
3.3.1	Preparing water balance reports	Full	-	Full	-	-

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

^b IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^c Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 3.1.1: Processing water orders

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to take all reasonable steps to process all water orders promptly and efficiently. WaterNSW provided evidence that the majority (97%) of water orders that it received were processed within eight hours. Consequently, the auditor identified no new recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor considered that WaterNSW implemented effective systems for processing water orders and managing incomplete or incorrect water orders (non-compliant water orders). To be compliant, water orders must include a number of details such as the access licence holder's name, access licence number, works approval licence number, and extraction site.

The auditor found that customers could place orders online directly into WaterNSW's Water Account System (WAS),¹⁵ which processed these orders automatically and effectively. The online system had in-built checks to ensure that orders were compliant before they were submitted. WaterNSW had also clearly set out on its website the requirements for orders to be compliant.

Customers could also place orders via WaterNSW's customer helpdesk. The auditor noted that WaterNSW had a clearly defined procedure (the water ordering procedure) for its officers to manage these orders. The procedure established protocols for the timely processing of water orders in WAS. For non-compliant orders, the water ordering procedure instructed the WaterNSW

¹⁵ WaterNSW's online platform for the WAS is called iWAS.

officers to contact and assist the customer to correct the order so that it may be entered into and processed in WAS. WaterNSW made the procedure it used for managing non-complying orders available on its website.

Clause 3.1.2: Managing water orders and water delivery

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to take all reasonable steps to manage Water Orders so as to ensure the timely delivery of water to its customers. Consequently, the auditor identified no new recommendations to improve compliance. However, the auditor identified one opportunity for improvement.

The auditor considered that WaterNSW demonstrated this through the implementation of its Water Ordering Procedure, as described above, and use of its Computer Aided Improvements to River Operations (CAIRO) management tool, which is a water accounting spreadsheet that tracks water flows. CAIRO calculates the quantity of water that needs to be released to customers from a WaterNSW storage asset to satisfy the water orders. CAIRO's calculations take into account water losses across the delivery system (eg, due to seepage and evaporation) and travel times to arrive at the customer's extraction location. The auditor noted that WaterNSW experienced no significant errors with managing water delivery during the audit period, through the use of CAIRO.

The auditor found that water orders processed in WAS were entered into CAIRO. WaterNSW reported that almost all (99.99%) of complying Water Orders received were delivered within +/- one day of the scheduled delivery day. WaterNSW has estimated this based on complaints received from customers.¹⁶

WaterNSW also showed that during the audit period, it took steps towards improving its water order and release management capability. This further showed that WaterNSW took all reasonable steps to manage water orders to enable timely delivery of water to customers. WaterNSW has been trialling a new Computer Aided River Management (CARM) system in the Murrumbidgee river basin for managing water releases. WaterNSW reported that CARM has the capability to more accurately account for all important flow processes than CAIRO as it uses real time flow and rainfall telemetry measurements. As part of this trial, WaterNSW has been using CARM in parallel with CAIRO which will allow WaterNSW to compare both systems' effectiveness. We understand that if the trial is successful, CARM will be rolled out to other NSW valleys for managing water releases.

The auditor identified one opportunity for improvement for WaterNSW to review its data management processes to ensure consistency between its internal system records and formally reported performance statistics. The auditor found that the number of complaints that were received, in relation to delayed water

¹⁶ WaterNSW, *Report to IPART under the Operating Licence 2013-2018 for non-Sydney catchment functions*, 1 September 2016, section 7.1.1.2.

deliveries, was reported differently between WaterNSW's various records. Further details of the opportunities for improvement are available in the auditor's report in Appendix C.

Clause 3.1.4: Conserving water and minimising water losses

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to take all reasonable steps to conserve water and minimise water losses that resulted from undertaking activities under the State Water licence. Consequently, the auditor identified no new recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor found that WaterNSW implemented different measures for minimising water losses in the different valleys. As discussed above, water orders are processed using tools such as CAIRO and CARMS to calculate and monitor the quantity of water to be released to customers.

The auditor identified examples of measures used by WaterNSW to conserve water and minimise losses, including:

- ▼ block releases in the Northern valleys where individual customer orders are grouped and released together, and
- ▼ alternative water ordering protocols to discourage over-ordering and, consequently, over-releasing from dams.

WaterNSW implemented water order debiting measures in the Macquarie Cudgegong Valley, in consultation with the Macquarie Cudgegong Valley Customer Service Committee (CSC).¹⁷ This arrangement reduced losses from the system resulting from customers ordering water but not extracting the full amount ordered, typically during rainfall periods. This is considered a loss to the system because the water is no longer available for other customers to extract. Customers were still able to cancel water orders if done within the timeframes specified by WaterNSW. This could still allow WaterNSW time to adjust the water releases, if necessary.¹⁸

WaterNSW also implemented a water ordering trial in the Lachlan Valley during the audit period, imposing water ordering and extraction rules on customers.¹⁹ In principle, the trial operated similarly to the water order debiting measures implemented in the Macquarie Cudgegong Valley and aimed to reduce water

¹⁷ Under clause 5.1 of the State Water licence, WaterNSW must regularly consult with its valley-based CSCs to enable customer involvement in issues relevant to the performance of WaterNSW's obligations to customers or the Customer Service Charter, under the licence.

¹⁸ WaterNSW, *Water ordering debiting Macquarie Cudgegong Valley*, Fact Sheet.

¹⁹ WaterNSW, *Tier 1 – Water Ordering as grouped under the 2015-16 water order trial, Lachlan Valley Regulated Customers*, Fact Sheet.

losses due to over-ordering. The trial was first implemented in February 2014, and was extended due to its success.²⁰

Clause 3.2.1: Maintaining an advance notification system

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to maintain an effective system to provide advance notification of any significant changes to flow release patterns from its water management works. This advance notification is to customers and other stakeholders that have registered to be notified of such changes. Consequently, the auditor identified no new recommendations to improve compliance. However, the auditor identified one opportunity for improvement.

The auditor considered WaterNSW maintained an automated Early Warning Network (EWN) during the audit period which it promoted on its website. Interested stakeholders were able to register online and select specific notifications that suited their individual needs (eg, dam safety notifications, flood notifications, high regulated releases, and Fish River Supply interruptions). Stakeholders could receive EWN notifications through SMS, recorded messages to a landline telephone, or email. The WaterNSW helpdesk was also able to register interested stakeholders. WaterNSW provided data which demonstrated that the number of registered users for this service increased incrementally throughout the audit period.

The auditor noted that WaterNSW maintained internal instructions for individual dams/valleys that covered, for example, details of approvals and authorisations for release of EWN messages, groups registered for the service and pro-forma texts for notification messages.

WaterNSW's operations in relation to licence clause 3.2.1 of the State Water licence improved since the 2013-14 audit period when it was assigned a High Compliance grade in this area. WaterNSW has maintained its compliance with this clause in the 2014-15 and 2015-16 audits. However, the auditor identified one opportunity for improvement of the current Hume Dam EWN guideline to include contact details for officers within the guideline generically instead of naming specific individuals. Further details of the opportunities for improvement are available in the auditor's report in Appendix C.

Clause 3.3.1: Preparing water balance reports

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to prepare water balance reports for each of the Valleys in which it operates, in accordance with the Reporting Manual. Consequently, the auditor identified no new recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

²⁰ Email to WaterNSW, Mr Bruce Cooper, Deputy Commissioner Water Resource Assessment & Management, DPI Water, 28 July 2015.

The auditor considered that the reports included all of the information required by the Reporting Manual (eg, an annual account of water delivery, including sources and distribution of water, breakdown of the distribution of water by each major category of water users, etc.). Further, the reports were available on WaterNSW's website for public access.

The auditor did not specifically audit if WaterNSW maintained copies of the water balance reports at its offices for access or collection by any person, within the audit period, as required by the Reporting Manual. We consider that this requirement is difficult to audit. Any interested person can obtain the reports directly from WaterNSW's website.

Assets

WaterNSW achieved Full Compliance with all of the three audited asset clauses in its State Water licence.

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 Asset Management System (AMS) is developed. Under this part of the licence, WaterNSW must read each of its customers' meters and carry out other metering or water monitoring related functions in accordance with any agreements in place with the Minister or DPI Water.

Under the risk-based auditing framework, we consider that this part of the licence poses a moderate to high risk with respect to the likelihood and consequence of non-compliance occurring.

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 ^c	2016-17	2017-18
4.1.4 Implementing programs to manage risks to assets	Full	Full	Full	-	-
4.2.1 Reading customer meters.	Full	-	Full	-	-
4.2.2 Reading non-WaterNSW meters on behalf of DPI Water or the Minister	Full	-	Full	-	-

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

^b IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^c Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 4.1.4: Implementing programs to manage risks to assets

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to maintain programs to manage risks to its assets until an AMS has been developed in accordance with clause 4.1.1 of the State Water licence, and certified in accordance with clause 4.1.2. Further, WaterNSW maintained the appropriate levels of service of those assets and ensured that all its activities are carried out in accordance with its asset management programs. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor considered that during the audit period, WaterNSW maintained asset management programs, operating under a well-established framework for managing risks to WaterNSW's assets. These programs have been established for asset condition monitoring and reporting, maintenance, ongoing renewal/replacement/upgrade (as appropriate) of individual assets and management of dam assets. The auditor sampled examples of WaterNSW's asset risk management, implementation of asset management practices, and metering programs²¹ during the audit period demonstrating assets were well managed.

The auditor considered that WaterNSW undertook maintenance work in accordance with maintenance scheduled from WaterNSW's Computerised Maintenance Management System (CMMS). During the audit period, WaterNSW undertook maintenance audits. The aim of these audits was to review and report on asset condition and capability and WaterNSW's work management practices. It also recommended training of personnel to appropriately manage WaterNSW's assets. WaterNSW recorded recommended

²¹ We note that we did not review WaterNSW's compliance of its metering activities with the *Water Management Act 2000* (NSW). Instead the metering programs were reviewed as an example of asset management programs that WaterNSW manages under its operating licence.

actions in its CMMS. Evidence demonstrated that WaterNSW had implemented recommendations from maintenance audits previously undertaken.

The auditor considered that WaterNSW implemented asset management practices well at Burrinjuck Dam. Evidence demonstrated that WaterNSW trained staff working at the dam in accordance with extensive programs and maintained training records. The auditor also considered that WaterNSW managed its metering programs effectively. Further details on WaterNSW's asset management programs, as reviewed during the audit, are included in the auditor's report in Appendix C.

The auditor noted that during the audit period, WaterNSW had developed a robust AMS consistent with the requirements of *ISO 55001 Asset management – Management systems – Requirements*. Once the AMS is implemented, we expect that WaterNSW will manage its assets in accordance with the system.

Clause 4.2.1: Reading customer meters

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to read its customers' meters throughout the audit period. Consequently, the auditor identified no recommendations to improve compliance. However, the auditor identified one opportunity for improvement. We note that the licence requirement is for WaterNSW to read *all* of its customer meters, however, it is not feasible to achieve this in every audit period.

The auditor considered that WaterNSW implemented a meter reading procedure which required a frequency of four reads per meter per year. WaterNSW demonstrated that it undertook, on average, 4.2 reads per meter during the audit period, thereby complying with its meter reading procedure. As evidence, WaterNSW provided lists of all of the customer meters on regulated rivers, and the meter readings undertaken for these within the audit period.

The auditor identified one opportunity for improvement to update its meter reading procedure to include meter readings captured by the SCADA system.²² Currently the meter readings reported do not include data captured by SCADA. However, information obtained from SCADA also constituted meter readings. Further details of the opportunities for improvement are available in the auditor's report in Appendix C.

Clause 4.2.2: Reading non-WaterNSW meters on behalf of DPI Water or the Minister

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to read metering equipment (if applicable) and determine water extraction for groundwater and unregulated river licence holders, where

²² Supervisory control and data acquisition system: the SCADA system is an automated system that WaterNSW uses, in this context, to record telemetric meter reading data.

provided for in any agreement between WaterNSW and the Minister or DPI Water. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

WaterNSW demonstrated that it provided groundwater meter reading services during the audit period under a Service Level Agreement with DPI Water. WaterNSW also provided unregulated river meter reading services in the Barwon Darling system. The auditor considered that WaterNSW undertook these metering services in accordance with its Meter Reading Procedure.

Customers

WaterNSW achieved Full Compliance for all of the ten audited customer clauses in its State Water operating licence.

Part 5 of the State Water licence outlines WaterNSW's obligation to consult with its valley-based customers and Fish River Water Supply Scheme (FRWSS) customers and their respective customer service committees (CSCs) and councils, provide information to the CSCs, establish and maintain a Customer Service Charter, enter into agreements with Fish River Water Scheme customers, and maintain a code of practice on payment difficulties and an internal complaints handling procedure.

Under the risk-based auditing framework, we consider that this part of the licence poses a low to moderate to high risk with respect to the likelihood and consequence of non-compliance occurring.

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

Clause 5	Requirement Customers	Compliance grading				
		2013-14 ^a	2014-15 ^b	2015-16 ^c	2016-17	2017-18
5.1.1	Consulting with valley-based customer service committees	-	-	Full	-	-
5.1.2	Inviting members of the customer service committees	-	-	Full	-	-
5.1.3	Providing the customer service committees with information	-	-	Full	-	-
5.2.1	Maintaining a Customer Service Charter	-	-	Full	-	-
5.2.2	Inclusions in the Customer Service Charter	-	-	Full	-	-
5.2.3	Making the Customer Service Charter available free of charge	-	-	Full	-	-
5.3.2	Inviting members of the Fish River Customer Council	-	Full	Full	-	-
5.4.1	Maintaining agreements with Fish River Water Supply Scheme Customers	-	High	Full	-	-
5.5.1	Implementing a code of practice for payment difficulties	Full	-	Full	-	-
5.6.1	Maintaining an internal Complaints Handling Procedure	Full	-	Full	-	-

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

^b IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^c Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 5.1.1: Consulting with valley-based customer service committees

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to regularly consult with valley-based CSCs. This was to enable customer involvement in issues relevant to the performance of WaterNSW's obligations to customers under the State Water licence or the customer service charter referred to in clause 5.1 of the licence. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

WaterNSW demonstrated that it had established eight valley-based CSCs which operated in accordance with a Terms of Reference which WaterNSW has made available on its website. WaterNSW presented meeting agendas, business papers and minutes of the meetings held to demonstrate that it held regular meetings. During the meetings, WaterNSW discussed with the other members of the CSCs, items such as water delivery, customer service, WaterNSW's projects, finance, people, DPI Water agenda items and updates from the environmental water agency. These issues are relevant to WaterNSW's performance to its customers and as outlined in its customer service charter.

Alternative water order debiting measures in the Macquarie Cudgegong Valley is an example of an initiative that resulted from WaterNSW's ongoing consultation with CSCs on relevant issues. However, we note that this consultation occurred outside of the 2015-16 audit period.

Clause 5.1.2: Inviting members of the customer service committees

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to invite at least one representative from the groups or bodies identified in this clause of the licence to be a member of each valley-based CSC. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either. We note that WaterNSW does not send out invitations every audit period and this is not required by the licence.

The auditor sighted evidence of the current membership of each CSC which included representatives from each group required by the licence. The only exception to this was where the Commonwealth Environmental Water Holder had elected not to be represented in the Coastal Valleys CSC.²³

The auditor considered that the Terms of Reference which govern the operation of the CSCs explain the arrangements for the nomination of members to the CSCs and their term of office. Membership is typically renewed every four years, corresponding to the term of office. The auditor noted that renewal was due to commence in early 2016 but was deferred with the agreement of the CSCs in case the transfer of functions from DPI Water to WaterNSW impacted on WaterNSW's scope of services and customer profile. This deferral was communicated to customers in the April 2016 customer newsletter.

Clause 5.1.3: Providing the customer service committees with information

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to provide the valley-based CSCs with adequate information within its possession or under its control to enable the CSC to discharge the tasks assigned to it. The exception to this requirement is information or documents over which WaterNSW or another person claims confidentiality or legal professional privilege and subject to any limitations on disclosure of the information at law. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor considered that the tasks assigned to the CSCs were defined in the CSC Terms of Reference (mentioned above). WaterNSW's CSC Procedure sets out in detail the process of compiling and issuing information to the CSCs, together with the agenda for a CSC meeting, prior to each meeting. WaterNSW

²³ The Commonwealth Environmental Water Holder's interests are largely focussed on the Murray-Darling catchment and the Coastal Valleys is not in this catchment.

demonstrated the types of information provided to CSCs including the meeting agendas and business papers with information related to items on the agenda. The CSC Terms of Reference included restrictions in respect of the provision of information from a confidentiality perspective.

Clause 5.2.1: Maintaining a Customer Service Charter

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to establish and maintain a Customer Service Charter, in consultation with the CSCs. This licence clause does not apply to the FRWSS customers. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor considered that WaterNSW had maintained a Customer Service Charter for the audit period. Further, WaterNSW had consulted the CSCs in relation to any required changes to the Customer Service Charter. This is evidence that the Customer Service Charter is maintained. The auditor noted that WaterNSW last consulted the CSCs in June 2015, which is outside this audit period. However, the licence does not specify the frequency of consultation required. As such, we consider that WaterNSW adequately met the requirements of this licence condition.

Clause 5.2.2: Inclusions in the Customer Service Charter

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to set out the mutual responsibilities and obligations of WaterNSW and its customers (excluding FRWSS Customers), in the Customer Service Charter, consistently with the State Water licence, the Water NSW Act, the *Water Management Act 2000* (NSW), the *Water Act 1912* (NSW) and any other applicable law. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor considered that the Customer Service Charter identified:

- ▼ WaterNSW's service objectives in respect of water ordering and delivery
- ▼ customer contact information and communication
- ▼ what the customers could expect in relation to each service objective
- ▼ WaterNSW's expectations of customers in order to achieve service delivery in accordance with the objectives, and
- ▼ the regulatory instruments that defined its obligations, as set out in the licence.

Clause 5.2.3: Making the Customer Service Charter available free of charge

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to make the Customer Service Charter available free of charge on its website for downloading by any person. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor did not specifically audit if WaterNSW maintained copies of the Customer Service Charter at its offices within the audit period, to make available to the public on request. We consider that this requirement is difficult to audit. Any interested person can obtain the reports directly from WaterNSW's website.

Clause 5.3.2: Inviting members of the Fish River Customer Council

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to invite at least one representative from Lithgow City Council, Oberon Council and Energy Australia (previously Delta Electricity), as identified in this licence clause, to be a member of the Fish River Customer Council. We note that the licence requirement to include SCA as a member of this customer council has become redundant since the abolition of the previous SCA by the Water NSW Act.²⁴ Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

We note that the licence does not require WaterNSW to send out invitations for membership of the council, or renewal of that membership, at any particular frequency. During the audit period, WaterNSW did not specifically invite new members of the council as it did for the valley-based CSCs. Instead, the auditor found that WaterNSW generally invited the organisations required by the licence to participate in meetings. These meetings were to discuss issues relevant to WaterNSW's performance in relation to its obligations to FRWSS Customers. WaterNSW demonstrated that representatives from each of these organisations participated in the meetings of September 2015 and June 2016 within this audit period. We consider that this meets the intent of this licence requirement.

Clause 5.4.1: Maintaining agreements with Fish River Water Supply Scheme Customers

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to enter into and maintain an agreement with each of its FRWSS Customers for their water supply arrangements. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

²⁴ Water NSW Act, Schedule 2, Division 3.

The auditor considered that WaterNSW had entered into formal agreements with most of its FRWSS customers including all the major ones (ie, Energy Australia, Lithgow City Council and Oberon Council). However, WaterNSW was unable to enter into signed and formal agreements with a small number of its minor customers. The auditor found the same during last year's audit (2014-15). This year, the auditor concluded that WaterNSW had taken all reasonable actions within its control to enter into these agreements. WaterNSW issued contracts to these customers twice and subsequently wrote to the customers offering rebates upon entering into formal contracts. As these attempts did not result in the desired outcome, during the audit period, WaterNSW directly approached all outstanding customers to encourage them into formal agreements.

Despite not entering into formal agreements, the outstanding customers were still using water and paying their bills. As such, agreements are deemed to have been in place with these customers during the audit period. Further, WaterNSW explained that it had made plans to issue final notices to these customers. It also intended to advertise in local newspapers to remind customers of their legal obligations to notify WaterNSW of sales of their properties.

The auditor considered that WaterNSW had improved its performance with this clause since last year's audit because it has exercised its best endeavours to enter into and maintain agreements with the outstanding minor customers. This is consistent with our recommendation from the 2014-15 audit.

Clause 5.5.1: Implementing a code of practice for payment difficulties

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to develop, maintain and fully implement a code of practice (the Code) relating to customers having payment difficulties throughout the audit period. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor considered that the Code provided for deferred payment or payment by instalment over up to three months for customers who are required to pay bills and who are experiencing payment difficulties as required by the licence. WaterNSW's Code was found to be easily accessible on its website. The website also included additional information explaining eligibility for deferred payment plans longer than three months, and how to apply for these plans. The Code noted that customers would have to provide some proof of hardship to be eligible for longer payment plans.

The auditor found that the Code also identified the circumstances under which WaterNSW may suspend access licences, as a result of non-payment of water charges, and provided an overview of the process that will be followed prior to suspension. This is as required by the licence.

The auditor noted that WaterNSW maintained an internal Water Debtor Management Procedure which outlined the sequences of actions that WaterNSW officers must undertake when customers do not pay invoices. This included a number of actions ranging from issuing reminder and overdue notices to the customer to suspension and sale of the customer's Water Access licence. WaterNSW also maintained a Debt Management Compliance Procedure which outlined the internal procedure that WaterNSW officer must follow in suspending a Water Access Licence.

Clause 5.6.1: Maintaining an internal Complaints Handling Procedure

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to 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 organisations* (ISO 10002:2004, MOD) (Internal Complaints Handling Procedure), throughout the audit period. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor considered that WaterNSW provided information on how to make complaints or provide feedback on its website. WaterNSW also included information in respect of customer service and complaints in its October 2015 newsletter.

At the time of audit, WaterNSW's Internal Complaints Handling Procedure was under review, demonstrating that the procedure was being maintained. We note that as part of this review, WaterNSW has been considering how to amend its process to more clearly distinguish between customer complaints and feedback (which can include positive feedback), which is important for its reporting. WaterNSW intends to include a clarification of the definition of a 'complaint' to follow the AS ISO 10002:2014.

We note that WaterNSW previously had a different internal Complaints and Compliments Handling Procedure under its SCA operating licence. In January 2016 (ie, halfway through the audit period), the Internal Complaints Handling Procedure that was developed for the previous State Water was rolled out across the organisation to cover its merged functions. This procedure then replaced the previous SCA's procedure. This is explained further below in the report, when discussing WaterNSW's compliance with clause 6.2.1 of the SCA operating licence.

As part of the review of the Internal Complaints Handling Procedure, beneficial aspects of the previous SCA's Complaints and Compliments Handling Procedure were being merged into the State Water Complaints Handling Procedure.

Environmental management

WaterNSW achieved Full Compliance with the one audited environmental management clause in its State Water operating licence.

Part 6 of the State Water licence outlines WaterNSW's obligation to develop an environmental management system (EMS) and have it certified by 30 June 2018. Until this EMS is developed and certified, WaterNSW must maintain programs to manage risks to the environment from carrying out its activities, and ensure that all of its activities are carried out in accordance with those programs.

Under the risk-based auditing framework we consider that this part of the licence poses a moderate risk with respect to the likelihood and consequence of non-compliance occurring.

Table 2.5 Summary of compliance with Part 6 of the State Water licence – Environmental management

Clause	Requirement	Compliance grading				
		2013-14 ^a	2014-15 ^b	2015-16 ^c	2016-17	2017-18
6	Environmental management					
6.1.4	Implementing programs to manage risks to the environment	Full	-	Full	-	-

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

^b IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^c Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 6.1.4 Implementing programs to manage risks to the environment

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to maintain programs to manage risks to the environment from carrying out its activities and ensure that all its activities are carried out in accordance with those programs. These programs are to be maintained until the Environmental Management System is developed and certified in accordance with clauses 6.1.1 and 6.1.2 of the State Water licence. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

Previously, WaterNSW maintained Environmental Management Plans (EMP) and conducted its activities in accordance with EMPs. The auditor found that during the 2015/16 audit period, the EMPs were superseded by the WaterNSW Environmental Management system (EMS). As such, new business objectives, targets and supporting programs were adopted and implemented in December 2015. These objective and targets addressed environmental risks, legal obligations and achieving environmental improvements.

To support the new objectives and targets, WaterNSW maintained seven programs, and five of these applied to WaterNSW's activities under its State Water operating licence. These included:

- ▼ project delivery system which contained provisions to trigger environmental consultation and input at all stages
- ▼ variable offtake management plans to support health of aquatic habitats where multilevel offtakes existed at dams
- ▼ coldwater pollution reduction program to support health of aquatic habitats multilevel offtakes existed at dams
- ▼ asset management system which integrated environmental controls and obligations into asset management and environmental impacts were undertaken for WaterNSW's activities, and
- ▼ contaminated site management strategy to support protection of the environment from contaminated sites.

2.2 WaterNSW's compliance with its SCA licence

Water quality

WaterNSW achieved Full Compliance with one of the audited water quality clauses and the auditor assigned High Compliance for the other audited water quality clause in its SCA operating licence.

Part 2 of the SCA licence outlines WaterNSW's obligation to maintain and fully implement a Water Quality Management System (WQMS) that is consistent with the Australian Drinking Water Guidelines (ADWG), and any amendments to the Guidelines made by NSW Health. All of WaterNSW's relevant activities must be carried out in accordance 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 the likelihood and consequence of non-compliance occurring.

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 ^d	2016-17
2	Water quality					
2.1.1	Maintaining a Water Quality Management System	High	High	High	High	-
2.1.2	Implementing the Water Quality Management System	High	High	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 IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^d Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 2.1.1: Maintaining a Water Quality Management System

The auditor concluded that WaterNSW achieved High Compliance with the requirement to maintain a WQMS that is consistent with the ADWG, and any amendments to it made by NSW Health within the audit period. One recommendation from last year's audit remains ongoing for WaterNSW to maintain a cohesive approach to managing risks to the quality of water supplied in the Sydney Catchment Area. The auditor identified one new recommendation this year for WaterNSW to improve its processes for review of the WQMS. We have explained these two recommendations and the associated audit findings in more detail below.

These two recommendations are intended to assist WaterNSW to improve its compliance with this clause. Further, the auditor identified 13 opportunities for improvement.

A cohesive approach to managing water quality risks

The auditor found that WaterNSW maintained an overarching Water Quality Management Framework (WQMF) that generally met the requirements of the ADWG. The WQMF references a number of supporting documents or associated processes. We consider that the WQMF and the associated documents together meet the requirement of this licence for WaterNSW to maintain a WQMS, with the WQMF being the principal component.

During the audit period, WaterNSW used the WQMF to manage water quality risks for most of the raw water that WaterNSW supplied in the Sydney Catchment Area. For recreational areas, WaterNSW maintained separate site specific Quality Assurance Plans (QAPs). WaterNSW's QAPs were reviewed by NSW Health as they are regulated under the *Public Health Act 2010*. While the

picnic area QAPs are not individually managed under the operating licence, the auditor noted that the WQMF referenced the QAPs for completeness.

The auditor considered that the WQMF was generally consistent with the ADWG. However, the auditor considered that some of the WQMF's associated processes and documents needed to be strengthened for it to be fully consistent with the ADWG (the auditor has provided details of their assessment of the WQMF against each element of the ADWG in the auditor's report, Appendix C). Further, the WQMF did not consistently reference all of the associated processes and sub-components. Consequently, the auditor considered that WaterNSW's WQMF did not provide a cohesive and systematic approach to risk management.

The auditor did not make any new recommendations in relation to this finding this year. They considered that a recommendation from the 2014-15 audit to develop and maintain a WQMS that documents a consistent approach to managing risks, consistent with the ADWG, was still ongoing. We previously recommended that WaterNSW must complete this recommendation by 30 September 2016, which was after the audit had commenced. The auditor considered that at the time of audit, WaterNSW had not made sufficient progress to complete the recommendation by the required date. As such, the auditor considered that the recommendation was still ongoing.

We consider that if WaterNSW consistently references the associated processes and documents within the WQMF, and strengthens some of these processes and documents, WaterNSW will be able to address this recommendation. The auditor has identified a number of opportunities for improvement in relation to strengthening the WQMF in the auditor's report (Appendix C). While WaterNSW is not obliged to implement these identified opportunities, considering them will also assist WaterNSW to improve its approach to managing water quality risks.

Review of the Water Quality Management Framework

The auditor considered that WaterNSW needed to strengthen its process for reviewing the WQMF.²⁵ The auditor considered that WaterNSW should undertake annual reviews (at minimum) to check that its WQMF is, and remains, consistent with the ADWG. Further, the reviews should check that the WQMF is appropriate to manage the risks to water quality supplied in the Sydney Catchment Area.

To achieve this, the auditor considered that WaterNSW should review that its WQMF accurately reflects WaterNSW's operations and operational environment, including any changes that may occur. The auditor found that currently, WaterNSW tended to focus its reviews to certain aspects of the WQMF. For example, WaterNSW reviews the WQMF to check that it accurately reflects WaterNSW's water quality management practices and performance. The auditor

²⁵ Element 12 of the ADWG sets out appropriate reviews of Water Quality Management Systems.

considered that the reviews should be further reaching to meet the intent of the ADWG (eg, it should check that the WQMF reflects WaterNSW operational processes or legislative requirements, and any changes to these). The WQMF should also be reviewed to ensure that outcomes/lessons learnt during operation of its functions are reflected in the WQMF (eg, lessons learnt through audits or incident and emergency management). Ideally, this type of review is a dynamic process implemented on an ongoing basis as changes may occur or lessons are learnt.

The auditor also considered that WaterNSW should undertake comprehensive reviews of each element of the WQMF every 2 years. We understand this to be akin to a periodic “first principles” review, with WaterNSW checking that each element of its WQMF continues to meet the requirements of a WQMS as set out in the ADWG. The auditor noted that WaterNSW had developed a strategy to undertake a *Water Quality Management System Review Project* which we understand will be a comprehensive review of the WQMS. However, this should not be a one-off process.

Further, the auditor considered that WaterNSW should specify additional review processes to be undertaken, within the WQMF.

We make one recommendation in relation to reviewing the WQMS, under clause 2.1.1 of the SCA operating licence, based on the auditor’s recommendation.

Recommendation

- 1 WaterNSW should improve its processes for reviewing its Water Quality Management System (WQMS), as set out in the Australian Drinking Water Guidelines (ADWG). WaterNSW could achieve this by implementing the following:
 - WaterNSW should undertake, at a minimum, annual reviews of the WQMS to check that it accurately reflects WaterNSW’s current operations and operational environment, including any changes that may occur to these and any outcomes/lessons learnt.
(The first review should be completed by 30 June 2017.)
 - WaterNSW should document its review processes in the WQMS specifying the processes to be undertaken and the review frequencies.
(This should be completed by 30 June 2017.)
- 2 WaterNSW should undertake, at a minimum, two yearly comprehensive reviews of the WQMS to check that it is fully consistent with each element of the ADWG.
(The first review [the Water Quality Management System Review Project] should be completed by 30 June 2018.)

Specific details of the opportunities of improvement that the auditor has identified in relation to this clause are available in the auditor's report in Appendix C.

We consider that while WaterNSW's compliance grade has not changed since the 2014-15 audit, WaterNSW has incrementally improved on its performance by completing three of the four recommendations previously made relating to this clause. The outstanding recommendation was related to maintaining a consistent and coordinated approach to water quality risk management, as previously discussed. Details of these recommendations are included in Chapter 3 of this report.

Clause 2.1.2: Implementing the Water Quality Management System

The auditor concluded that although there were some deficiencies in the documentation and review processes of the WQMS required by clause 2.1.1, WaterNSW achieved Full Compliance the requirement to ensure that the WQMS is fully implemented. Further, WaterNSW ensured that all relevant activities are carried out in accordance with the System, including to the satisfaction of NSW Health. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor noted that WaterNSW undertook the following activities to implement the WQMS:

- ▼ development of a water quality policy
- ▼ assessment of water quality data
- ▼ stakeholder engagement including community consultation
- ▼ implementation of preventive measures
- ▼ catchment management with a view towards water quality protection
- ▼ entering of Critical Control Point limits into its SCADA system for monitoring
- ▼ storage of operational procedures in its document control systems (ARK/TRIM) and on the WaterNSW intranet
- ▼ development of operational monitoring programs
- ▼ implementation of corrective actions
- ▼ equipment calibration
- ▼ procedures for procuring chemicals
- ▼ short term evaluation of water quality results
- ▼ implementation of incident and emergency protocols;
- ▼ training staff on incident and emergency responses
- ▼ development of staff and contractor awareness on the WQMS

- ▼ research and development
- ▼ internal reviews and audits, and
- ▼ implementation of ongoing improvement plans.

NSW Health identified two separate asset management incidents²⁶ which are described in more detail below, under Part 5 of the SCA operating licence. These incidents had water quality impacts with Prospect Water Filtration Plant and the Nepean Water Filtration Plant having to be shut down temporarily due to high turbidity levels in the incoming raw water.

The auditor considered that WaterNSW's response to these incidents was appropriate and to the satisfaction of NSW Health. Therefore the auditor considered that WaterNSW was fully compliant with this clause. Specifically, WaterNSW regularly communicated with Sydney Water and NSW Health (ie, the relevant stakeholders) during the incidents to minimise any downstream impacts on public health. Further, WaterNSW undertook separate incident debriefs for the incidents to understand lessons learnt. While NSW Health reported that WaterNSW did not communicate with them effectively before or during the incident in accordance with their Memorandum of Understanding (MoU), NSW Health acknowledged that WaterNSW communicated the outcomes of the incidents effectively afterwards, during a meeting and in the incident debriefs.²⁷ As discussed above, the auditor considered that WaterNSW should strengthen its review processes to check that the WQMF incorporates any outcomes/lessons learnt from such incidents to minimise risk of future recurrence.

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 full implementation.²⁸ The WQMF was subsequently developed further to enable full implementation.

Water supply sufficiency

WaterNSW achieved Full Compliance with the five audited water supply sufficiency clauses of its SCA operating licence.

Part 3 of the SCA licence outlines WaterNSW's obligations to operate and manage the catchment infrastructure consistent with the Design Criteria and make the Design Criteria public. WaterNSW must retain an independent expert to review its Water Supply System Yield model, consult with other stakeholders during this review and report on the findings of this review.

²⁶ Letter to IPART, Dr Ben Scalley, Director Environmental Health Branch, NSW Health, undated.

²⁷ Ibid.

²⁸ IPART, *Sydney Catchment Authority Operational Audit 2013/14 - Report to the Minister – Compliance Report*, December 2014.

Under the risk-based auditing framework, we consider that this part of the licence poses a moderate-high risk with respect to both the likelihood and consequence of non-compliance. We note that we included clauses 3.2.1 and 3.2.3 of the SCA operating licence within the audit scope of this audit. However information presented by WaterNSW demonstrated that the requirements of these clauses were not triggered during the audit period.

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 ^d	2016-17
3	Water supply sufficiency					
3.1.1	Operating and managing catchment infrastructure	Full	Full	Full	Full	-
3.1.2	Making the Design Criteria available to the public	Full	-	-	Full	-
3.3.1	Retaining an independent expert to review the model	NR	NR	NR	Full	-
3.3.2	Consulting with stakeholders during the independent review	NR	NR	NR	Full	-
3.3.3	Reporting on the independent review	NR	NR	NR	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 IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^d Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 3.1.1: Operating and managing catchment infrastructure

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to ensure that the Catchment Infrastructure is operated and managed consistent with the Design Criteria. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either. The Design Criteria relates to levels of service for water security (availability of water in WaterNSW's storages), and robustness and reliability of water (frequency and duration of water restrictions), as defined in the SCA operating licence.²⁹

The auditor noted that WaterNSW developed Operating Rules for 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. That is, the Operating Rules aim to keep all storages in balance whilst taking account of the likelihood of spills.

²⁹ Definition of "Design Criteria", 2012-2017 SCA operating licence.

WaterNSW implemented the Operating Rules using a number of tools, including the WATHNET model.

The Operating Rules were developed using water balance modelling software (specifically, the WATHNET model) in conjunction with a framework that guides decision making in respect of system operational 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.

The auditor noted that WaterNSW implemented a set of Operating Rules using a number of tools, including the WATHNET model.

Clause 3.1.2: Making the Design Criteria available to the public

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to make the Design Criteria available to the public on its website, as required by the Reporting Manual. Consequently, the auditor identified no recommendations to improve compliance. However, the auditor identified one opportunity for improvement.

The auditor noted that while information related to the Design Criteria is available on WaterNSW's website, it is contained within other documents such as the operating licence. The auditor identified an opportunity for improvement for WaterNSW to make the Design Criteria more readily accessible in a "standalone" document on its website, as explained in the auditor's report in Appendix C.

The auditor did not specifically audit if WaterNSW maintained copies of the Design Criteria at its offices for access or collection by any person, within the audit period as required by the Reporting Manual. We consider that this requirement is difficult to audit. Any interested person can access the Design Criteria directly from WaterNSW's website.

Clause 3.3.1: Retaining an independent expert to review the model

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to retain an independent expert, by 30 June 2016, to review WaterNSW's model and procedure for calculating the Water Supply System Yield. The review was completed within the audit period. The review tested and

endorsed the robustness of the model, key assumptions used in the model, and the process for calculating the Water Supply System Yield. The review confirmed that there was no imperative to re-calculate the Water Supply System Yield based on the findings of the test conducted. Consequently, the auditor identified no recommendations to improve compliance. However, the auditor identified one opportunity for improvement.

The auditor found that the independent expert review report did not explicitly discuss review of the appropriate frequency for yield calculations and appropriateness of the yield recalculation trigger events identified in clause 3.2.1 of the SCA licence. However, the auditor considered that this had been effectively reviewed during the independent expert review process which also included the peer review workshop discussed previously. The independent expert review report indicated that during the workshop, the ongoing use of the model to assess planning options and to inform management decisions was discussed. We consider that it can be reasonably inferred that as part of this discussion, it was discussed whether the yield calculation frequency and the triggers for recalculation were still appropriate to inform these decisions. Further, during the workshop it was acknowledged that the operating rules and planning assumptions that underpinned the model were to be updated whenever the Metropolitan Water Plan is revised. This is consistent with the 2010 independent review of the model which found that the triggers identified in the SCA licence were appropriate but recommended that the yield should be re-calculated/reviewed whenever the Metropolitan Water Plan is revised, irrespective of the other triggers.

The opportunity for improvement identified by the auditor is for WaterNSW to ensure that the independent expert review report more explicitly explains the review of the frequency for yield calculations and appropriateness of the yield recalculation trigger events.

Clause 3.3.2: Consulting with stakeholders during the independent review

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to consult with Sydney Water, stakeholders and regulators as agreed with IPART, and any other persons reasonably expected to have an interest in the review of the model, during the independent expert's review. This included DPI Water and IPART, in addition to the peer review panel and the consultant independent experts. Consequently the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor noted that WaterNSW also invited the Office of Environment and Heritage to participate but they were unable to attend.

Clause 3.3.3: Reporting on the independent review

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to report the findings of the independent expert's review and WaterNSW's response to those findings, in accordance with the Reporting Manual. WaterNSW made this information available on its website under "Publications". Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor did not specifically audit if WaterNSW maintained copies of this information at its offices for access or collection by any person, within the audit period as required by the Reporting Manual. We consider that this requirement is difficult to audit. Any interested person can obtain the reports directly from WaterNSW's website.

Catchment

WaterNSW achieved Full Compliance with the audited catchment clause of its SCA operating licence.

Part 4 of the SCA licence outlines WaterNSW's obligations to manage and protect the declared Sydney catchment area consistent with the objectives and functions under the Water NSW 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. As such, we re-audited clause 4.1.1 despite WaterNSW having achieved Full Compliance in previous audits. Further, the 2015-16 audit will inform the ongoing WaterNSW operating licence review.

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

Clause Requirement		Compliance grading				
4	Catchment	2012-13 ^a	2013-14 ^b	2014-15 ^c	2015-16 ^d	2016-17
4.1.1	Managing and protecting the Sydney Catchment Area	Full	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 IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^d Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 4.1.1: Managing and protecting the Sydney Catchment Area

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to manage and protect the Sydney Catchment Area consistent with its objectives and functions under the Water NSW Act. Consequently the auditor identified no recommendations to improve compliance. However, the auditor identified three opportunities for improvement.

The auditor considered that WaterNSW had adequate catchment management strategies/plans to target both diffuse and point sources of pollution. These strategies were implemented to protect water quality, the environment and public health and safety. These strategies included:

- ▼ a water quality policy demonstrating the commitment to effective catchment management (which impacts on the quality of raw water supplied to customers in the Sydney catchment area)
- ▼ development of land use controls with other stakeholders to manage water quality in the catchments
- ▼ development of criteria for assessing development applications within the Sydney catchment area
- ▼ definition of the roles of relevant regulators involved in managing the Sydney catchment area
- ▼ determination of appropriate actions to manage the risks to water quality and improve catchment health
- ▼ implementation of a monitoring program to identify pollution sources to the catchments
- ▼ inspections to monitor catchment conditions and land use changes
- ▼ implementation of actions to improve community awareness and involvement in catchment management and protection, and
- ▼ development and implementation of an emergency response plan (particularly with regard to fires and floods).

Details of the three opportunities for improvement that the auditor identified to improve these strategies are included in the auditor's report in Appendix C.

Assets

WaterNSW was assigned non-compliances with the two audited assets clauses of its SCA operating licence.

Part 5 of the SCA licence outlines WaterNSW's obligations to develop an AMS by 30 June 2015, and implement the System 1 July 2016.

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 2.9 Summary of compliance with Part 5 of the SCA licence – Assets

Clause Requirement		Compliance grading				
5	Assets	2012-13 ^a	2013-14 ^b	2014-15 ^c	2015-16 ^d	2016-17
5.1.1	Developing an Asset Management System	NR	NR	-	NC	-
5.1.2	Implementing the Asset Management System	NR	NR	NR	NC	-

^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 IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^d Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 5.1.1: Developing an Asset Management System

The auditor concluded that WaterNSW did not comply with the requirement to develop an AMS by 30 June 2015 that was consistent with *BSI PAS 55:2008 (PAS 55) Asset Management standards*, the Water Services Association of Australia's Aquamark benchmarking tool, or another asset management standard agreed to by IPART. WaterNSW self-reported this non-compliance in its Statement of Compliance, as discussed in section 3.3.

The auditor identified no recommendations or opportunities for improvement in relation to this non-compliance because they considered that WaterNSW has now rectified it. The auditor considered that the non-compliance resulted from the merger of the previous State Water and SCA on 1 January 2015 which delayed development of an AMS by 30 June 2015. This resulted in a non-compliance with the SCA licence. After the merger, it was no longer meaningful for WaterNSW to continue to develop an AMS that only covered WaterNSW's functions under the SCA licence. As such, in 2015, WaterNSW proposed a revised program for the development of an AMS that covered its functions under both of its licences by June 2016, in consultation with us. WaterNSW reported this non-compliance in the 2014-15 audit as well.

At the audit, the auditor found that WaterNSW had developed an AMS, which covered the functions of the merged organisation, by June 2016 (see Appendix D for the auditor's assessment on WaterNSW's systems development). While we acknowledge the auditor's findings, we make one recommendation for WaterNSW to develop the AMS so that we may track progress and completion in

future audits. This is included in Recommendation 3 below which also addresses implementation.

WaterNSW's incident management

As discussed in the Water Quality section, NSW Health identified two separate asset management incidents that occurred during the audit period at the outlet at Warragamba Dam and incidents with the offtake and a gate valve leading to the Nepean Filtration Plant. These incidents had impacts on water quality at Prospect Filtration Plant and Nepean Filtration Plant, with high turbidity incoming raw water.³⁰ Further, WaterNSW did not provide adequate prior warning to its customers about these incidents which impacts on their incoming water quality. While this is not directly relevant to this licence clause which is about development of an AMS, we consider that it was reasonable for WaterNSW to explain its asset management capability and responses in relation to these incidents.

The auditor considered that while WaterNSW may have had some shortfalls in their asset management that led to these incidents, WaterNSW's response to these incidents was appropriate and consistent with their licence requirements. WaterNSW was not able to provide prior warning to Sydney Water. However, WaterNSW regularly communicated with Sydney Water and NSW Health during the incidents to minimise any downstream impacts on public health. Further, WaterNSW undertook separate incident debriefs for the incidents to understand lessons learnt. While NSW Health reported that WaterNSW had not communicated effectively before or during the incidents in accordance with their MoU, NSW Health acknowledged that WaterNSW communicated the outcomes of the incidents effectively during a meeting and in the incident debriefs.³¹ Further details are available in the auditor's report in Appendix C.

Incident management processes, incident debriefs and continual improvement processes are both contained and are referenced within the Asset Management System. When incidents occur in the future an auditor will consider a utility's responses under in the audit of the implementation of the Asset Management System.

Clause 5.1.2: Implementing the Asset Management System

The auditor concluded that WaterNSW did not comply with the requirement to ensure that by 1 July 2015, the AMS is fully implemented and that all relevant activities are carried out in accordance with the System.

The auditor identified no recommendations or opportunities for improvement with this clause because they considered that WaterNSW has already commenced rectifying it. As with clause 5.1.1, the auditor considered that this

³⁰ Letter to IPART, Dr Ben Scalley, Director Environmental Health Branch, NSW Health, undated.

³¹ Ibid..

non-compliance also resulted from the merger on 1 January 2015. The merger delayed implementation of the AMS by 1 July 2015 to meet the requirements of the SCA licence. WaterNSW reported this non-compliance in the 2014-15 audit as well.

The auditor considered that WaterNSW would have fully implemented and certified an AMS that covers its full range of functions since the merger certified by December 2016 (see Appendix D for the auditor's assessment on WaterNSW's systems development).

We make the following recommendation in relation to the AMS, under clauses 5.1.1 and 5.1.2 of the SCA operating licence.

Recommendation

- 3** WaterNSW should finalise its development and certification of the Asset Management System and fully implement it by or before 31 December 2016.

Customers

WaterNSW achieved Full Compliance with the two audited customer clauses of its SCA operating licence.

Part 6 of the SCA licence outlines WaterNSW's obligations to maintain an internal complaints handling procedure and make this procedure available to its customers, or any member of the public, to access free of charge.

Under the risk-based auditing framework, we consider that this part of the licence poses a low-moderate risk with respect to both the likelihood and consequence of non-compliance.

Table 2.10 Summary of compliance with Part 5 of the SCA licence – Customers

Clause Requirement		Compliance grading				
6	Customers	2012-13 ^a	2013-14 ^b	2014-15 ^c	2015-16	2016-17
6.2.1	Maintaining Complaints Handling Procedure	Full	-	-	Full	-
6.2.2	Making information on Complaints Handling Procedure available	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 IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^d Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 6.2.1: Maintaining Complaints Handling Procedure

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to 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) (Complaints Handling Procedure). Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The auditor noted in January 2016, ie, in the middle of the audit period, WaterNSW replaced the previous SCA's Complaints and Compliments Handling Procedure (which it used in relation to its operations in the Sydney catchment area). The Internal Complaints Handling Procedure that was previously developed for State Water was used across the merged organisation's functions for the remainder of the audit period. Both procedures were consistent with *AS ISO 1002-2006*.

As previously discussed under WaterNSW's compliance with clause 5.6.1 of the State Water operating licence, at the time of the audit, WaterNSW's Internal Complaints Handling Procedure was being reviewed demonstrating that the procedure was being maintained.

Clause 6.2.2: Making information on Complaints Handling Procedure available

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to provide to customers information concerning its (internal) Complaints Handling Procedure available free of charge on its website for downloading by any person. This information was presented on WaterNSW's website in the form of its Feedback and Complaints Handling Policy.³² WaterNSW also had a customer feedback and complaints form on its website. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

The Feedback and Complaints Handling Policy outlined how customers could provide feedback or make a complaint, how WaterNSW dealt with customer feedback and what a customer could do if WaterNSW did not resolve a customer's concern or issue (ie, the policy referred customers to the Energy and Water Ombudsman of New South Wales).

WaterNSW reported that between July and October 2015, information related to its Complaints Handling Procedure was available from the previous SCA

³² WaterNSW, Feedback and Complaints Handling Policy, <http://www.waternsw.com.au/customer-service/feedback/feedback-and-complaints-handling-policy>, accessed on 10 November 2016.

website. In November 2016, the relevant information was migrated to the WaterNSW website. The auditor noted that they were not able to confirm that information was available on the previous SCA website as the website is no longer available. We consider that this is not a significant issue and there is no reason to doubt that the requisite information was available from July-October 2015. WaterNSW (as the previous SCA) achieved Full Compliance with this requirement when last audited in 2012-13.

Environment

WaterNSW achieved Full Compliance with one of the audited environment clauses of its SCA operating licence and was assigned non-compliances for the other two audited environment clauses.

Part 7 of the SCA licence outlines WaterNSW's obligations to develop and implement an EMS. Until the EMS has been developed and implemented, WaterNSW must maintain programs to manage the risks to the environment that could result from WaterNSW's activities.

Under the risk-based auditing framework, we consider that this part of the licence poses a moderate-high risk with respect to both the likelihood and consequence of non-compliance.

Table 2.11 Summary of compliance with Part 5 of the SCA licence – Environment

7	Clause Requirement	Compliance grading				
		2012-13 ^a	2013-14 ^b	2014-15 ^c	2015-16 ^d	2016-17
7.1.1	Developing an Environmental Management System	NR	NR	-	NC	-
7.1.2	Implementing the Environmental Management System.	NR	NR	NR	NC	-
7.1.4	Implementing programs to manage risks to the environment	Full	Full	NR	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 IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^d Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Clause 7.1.1: Developing an Environmental Management System

The auditor concluded that WaterNSW did not comply with the requirement to develop an EMS by 30 June 2015 that was consistent with the *Australian Standard*

AS/NZS ISO 14001:2004: Environmental management systems – Requirements with guidance for use.

Similar to clause 5.1.1, the auditor did not identify any recommendations or opportunities for improvement in relation to this non-compliance because they considered that WaterNSW has now rectified it. The auditor considered that the non-compliance resulted from the merger of the previous State Water and SCA which delayed development of an EMS by 30 June 2015. This resulted in a non-compliance with the SCA licence. After the merger, it was no longer meaningful for WaterNSW to continue to develop an EMS that only covered WaterNSW's functions under the SCA licence. As such, in 2015, WaterNSW proposed a revised program for the development of an EMS that covered its functions under both of its licences by June 2016, in consultation with us. WaterNSW reported this non-compliance in the 2014-15 audit as well.

At the audit, the auditor found that WaterNSW had developed an EMS, which covers the functions of the merged organisation, by June 2016 (see Appendix D for the auditor's assessment on WaterNSW's systems development). While we acknowledge the auditor's findings, we make one recommendation for WaterNSW to develop the EMS so that we may track progress and completion in future audits. This is included in Recommendation 4 below which also addresses implementation.

Clause 7.1.2: Implementing the Environmental Management System

The auditor concluded that WaterNSW did not comply with the requirement to ensure that by 1 July 2015, the EMS was fully implemented and that all relevant activities were carried out in accordance with the System.

Similar to clause 5.1.2, the auditor identified no recommendations to improve compliance or opportunities for improvement with this clause because they considered that WaterNSW has already commenced rectifying it. The auditor considered that this non-compliance also resulted from the merger on 1 January 2015. The merger delayed implementation of the EMS by 1 July 2015 to meet the requirements of the SCA licence. WaterNSW reported this non-compliance in the 2014-15 audit as well.

The auditor considered that WaterNSW would have fully implemented and certified an EMS that covers its full range of functions since the merger by December 2016 (see Appendix D for the auditor's assessment on WaterNSW's systems development).

We make the following recommendation in relation to the EMS, under clauses 5.1.1 and 5.1.2 of the SCA operating licence.

Recommendation

- 4 WaterNSW should finalise its development and certification of the Environmental Management system and fully implement it by or before 31 December 2016.

Clause 7.1.4: Implementing programs to manage risks to the environment

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to 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. These programs were to be maintained until the EMS is developed and certified in accordance with clauses 7.1.1 and 7.1.2 of the SCA licence. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

As explained in section 3.12 of this report, previously, WaterNSW maintained Environmental Management Plans (EMP) and conducted its activities in accordance with EMPs. Within the audit period WaterNSW adopted and implemented new business objectives, targets and supporting programs, replacing the EMPs.

To support the new objectives and targets, WaterNSW maintained seven programs, and five of these applied to WaterNSW's activities under its SCA operating licence. These included:

- ▼ Project delivery system which contained provisions to trigger environmental consultation and input at all stages
- ▼ Variable offtake management plans that support the health of aquatic habitats
- ▼ Asset management system which integrated environmental controls and obligations into asset management and environmental impacts were undertaken for WaterNSW's activities
- ▼ Contaminated site management strategy to support protection of the environment from contaminated sites
- ▼ Healthy catchment strategy which outlined priorities for work and activities to reduce risks to water quality and improve environmental health in the Sydney catchment area, and
- ▼ Special areas strategic plan of management to secure high quality water for the storages and ensure ecosystem integrity of the Special Areas.

Memoranda of understanding

WaterNSW achieved Full Compliance with the one audited Memoranda of Understanding (MoU) clause of its SCA operating licence.

Part 9 of the SCA licence outlines WaterNSW's obligations to maintain MoU with NSW Health and the EPA.

Under the risk-based auditing framework, we consider that this part of the licence poses a low risk with respect to both the likelihood and consequence of non-compliance.

Table 2.12 Summary of compliance with Part 5 of the SCA licence – Memoranda of Understanding

Clause	Requirement	Compliance grading				
		2012-13 ^a	2013-14 ^b	2014-15 ^c	2015-16 ^d	2016-17
9	Memoranda of Understanding					
9.1.1	Maintaining Memoranda of Understanding with NSW Health and the EPA	-	-	-	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 IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

^d Cobbitty Consulting and Viridis, *2015/16 Operational Audit of WaterNSW*, Final Audit Report, November 2016.

Note: The full conditions are available within the audit scope in Appendix B.

Maintaining Memoranda of Understanding with NSW Health and the EPA

The auditor concluded that WaterNSW achieved Full Compliance with the requirement to maintain MoUs with NSW Health and the EPA. Consequently, the auditor identified no recommendations to improve compliance. Further, the auditor identified no opportunities for improvement either.

MoU with NSW Health

The auditor noted that the MoU with NSW Health was signed on 2 September 2011 with a period of five years (ie, it expired in September 2016). A new MoU was signed on 16 June 2016 before the old one was due to expire. The MoU reflects WaterNSW's operational relationship with NSW Health.

The auditor reviewed the September 2011 MoU as it was relevant to the audit period. The auditor found that the MoU addressed matters including its purpose, term, responsibilities and accountabilities of WaterNSW and NSW Health, raw water quality, events of public health significance, incident management, the consultation process, research, information exchange, dispute resolution, and amendment of the MoU.

The MoU with NSW Health required it to maintain a Strategic Liaison Group (SLG) and Joint Operational Group (JOG) to discuss issues. The auditor noted that WaterNSW sometimes held tripartite meetings with Sydney Water (which also maintains a MoU with NSW Health). During the audit period, there were

two SLG meetings (which were tripartite meetings with Sydney Water) and two JOG meetings (which included tripartite participation for part of the meetings) demonstrating that the MoU was operational.

NSW Health raised concerns with WaterNSW's communication before and during the asset management incidents discussed under our assessment of Parts 2, 5 and 7 of the licence, as these did not meet the agreed protocols of the MoU. However, NSW Health agreed that their concerns had been subsequently addressed in the incident debriefs and one of the JOG meetings held during the audit period.³³ This was evidence that the MoU was working effectively.

MoU with the EPA

The auditor noted that the MoU with the EPA was signed on 16 November 2011 also with a period of five years (ie, it expired in November 2016). The MoU was operational throughout the audit period. At the time of audit, WaterNSW had commenced the renewal process for the MoU demonstrating that the MoU is maintained.

The MoU with the EPA addressed matters including its objectives, purpose, term, principles, structures and processes, exchange of information and data, communications and media, dispute resolution, and amendment of the MoU. This MoU also required WaterNSW to maintain a SLG with the EPA to consider long-term strategic issues and policies. A SLG meeting had been held once during the audit period demonstrating that the MoU was operational.

2.3 WaterNSW's statements of compliance

In addition to the scope of the audit, every item of the State Water and SCA licences is subject to exception based Statements of Compliance (Appendix E) signed by the CEO and the Chairperson of the Board of WaterNSW.

A 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.

³³ Letter to IPART, Dr Ben Scalley, Director Environmental Health Branch, NSW Health, undated.

WaterNSW's Statement of Compliance with the State Water licence reported that WaterNSW has fully complied with its licence in 2015-16 (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 2015-16. WaterNSW did not develop or implement an Asset Management System (AMS) or Environmental Management System (EMS) by the dates required by the licence.³⁴

WaterNSW explained in its Statement of Compliance with the SCA licence that the merger of the previous SCA and State Water on 1 January 2015 delayed the development and implementation of these systems by the dates required by the SCA licence. WaterNSW reported similar non-compliances in the 2014-15 period. As discussed in the relevant sections above, the auditor considered that WaterNSW had developed the systems by June 2016 and had made progress towards implementing and certifying them by December 2016 (see auditor's letter on the management systems in Appendix D).

We consider these non-compliance matters do not create a risk to 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 its State Water licence.

³⁴ The SCA licence requires WaterNSW to have developed these systems by 30 June 2015 (clauses 5.1.1 and 7.1.1 of the SCA licence). It further requires WaterNSW to have implemented these systems by 1 July 2015 (clauses 5.1.2 and 7.1.2 of the SCA licence).

3 Progress on previous audit recommendations

Previous audits in 2012-13, 2013-14 and 2014-15 identified areas where WaterNSW's performance with its obligations in its State Water and SCA licences did not achieve Full Compliance. We previously made recommendations to the Minister to address these issues.³⁵

Table 4.1 below outlines WaterNSW's progress in implementing any outstanding recommended actions from previous audits, during the audit period. WaterNSW has completed five out of six outstanding recommendations. One recommendation is ongoing. It will be followed up in 2016-17, together with the recommendation from this year's audit.

WaterNSW has shown that it has made endeavours to implement the recommendations from the previous audits, thereby improving its performance since 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 did not previously recommend completion dates for recommendations that arose from the 2012-13 and 2013-14 audits. We subsequently recommended that all outstanding recommendations from these audits should be completed by 30 September 2016, together with the recommendations from the 2014-15 audit. We considered this to be a reasonable approach because the majority of the outstanding recommendations were related to Recommendation 2014-15-02 from the 2014-15 audit.

³⁵ IPART, *WaterNSW Operational Audit 2015-16 Report to the Minister – Compliance Report*, March 2016.

Table 3.1 WaterNSW's progress in 2015-16 to address our (outstanding) recommendations from previous audits during the audit period

	Recommendation	Progress
WaterNSW compliance with the State Water licence		
SW 2014-15-01	Customers, licence clause, 5.6.1 WaterNSW should ensure that it has exercised its best endeavours to enter into (and maintain) customer agreements with each of its Fish River Scheme customers, including all minor consumers). ^a	Complete The auditor found that WaterNSW did not enter into formal agreements with some minor customers. However, WaterNSW demonstrated that it made best endeavours to formalise agreements with these customers. The customers did not respond. The auditor noted that these customers were still using water and paying their bills during the audit period, so they are deemed to be in agreements with WaterNSW.
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.^b 	Complete The auditor noted that during the audit period, WaterNSW drafted a procedure for maintaining the register during the audit period. The procedure was subsequently finalised by 30 September 2016. The auditor noted that the procedure involved extracting a report from WaterNSW's Water Accounting System to ensure that all relevant customers are included in the Register, and then contacting each Local Water Utility to confirm their details.
WaterNSW compliance with the SCA licence		
SCA 2014-15-01	Water quality, licence clause .2.1.1 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. The WQMS should be consistent with the requirements of the <i>Australian Drinking Water Guidelines 2011</i> . ^a	Ongoing The auditor found that WaterNSW's Water Quality Management Framework (WQMF) did not consistently reference its associated processes and documents. These documents together formed the WaterNSW's WQMS. Further, the auditor considered that some of these associated processes and documents needed to be strengthened to be consistent with the Australian Drinking Water Guidelines. As such, the auditor noted that WaterNSW's WQMS did not provide 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.

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 Critical Control Points (CCP) 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.^c 	<p>Complete</p> <p>The auditor noted that WaterNSW identified which CCPs it monitored in its WQMF for supply of raw water to customers in the Sydney catchment area) and in its Quality Assurance Plans (QAPs, for supply of drinking water to recreational/picnic areas).</p> <p>The auditor noted that WaterNSW included preventive measures, including those to manage CCPs, in its WQMF and QAPS. Further, validation tables, which were also included in the WQMF and QAPS, included justifications for the target and critical limits and corrective actions to manage CCPs.</p>
<p>SCA 2012-13-02 Water quality, licence clause 2.1.2 – WaterNSW 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, and ▼ ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs).^d 	<p>Complete</p> <p>The auditor noted that WaterNSW had identified preventive measures, including CCPs, for supplying drinking water to its recreational areas. As part of this process, WaterNSW revised its CCPs and validation tables. NSW Health noted its satisfaction with the revised CCPs and limits, as the relevant regulator.</p> <p>The revised CCPs and validation tables were included in the Picnic Area QAPs. The auditor was satisfied that the CCPs were implemented and monitoring of the identified CCPs was undertaken at appropriate frequencies.</p>
<p>SCA 2012-13-03 Water quality, licence clause 2.1.2 – WaterNSW 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, and ▼ ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs).^d 	<p>Complete</p> <p>The auditor noted that WaterNSW had identified preventive measures, including CCPs, for supplying raw water to customers in the Sydney catchment area. As part of this process, WaterNSW revised its CCPs and validation tables. The revised CCPs and validation tables were included in the WQMF (as an appendix).</p> <p>The auditor was satisfied that the CCPs were implemented and monitoring of the identified CCPs was undertaken at appropriate frequencies.</p>

^a IPART, *WaterNSW Operational Audit 2014/15 – Report to the Minister – Compliance Report*, March 2016.

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

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

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






The actions undertaken by WaterNSW listed in the table above, demonstrate its progress towards completing the previous audit recommendations.



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.

B | 2015-16 Audit Scope

2015-16 operational audit scope

WaterNSW (State Water Corporation Operating Licence)

Contents

Table 1	2015-16 audit scope for WaterNSW (State Water Corporation Operating Licence)	3
Table 2	Recommendations / outstanding items from previous audits	16
Table 3	Previous field verification locations for WaterNSW (State Water Corporation Operating Licence)	17

2015-16 audit scope

This scope is based on the five year audit program for WaterNSW's 2012-2017 State Water Corporation Operating Licence. Auditors should note any directions in the comments column of Table 1.

Previous recommendations

Table 2 outlines outstanding audit recommendations. These recommendations are reviewed to determine progress and are reported on separately within the audit report.

Statement of compliance

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

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

Development and implementation of management systems

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

This applies to WaterNSW's State Water licence as follows:

- ▼ the development and certification of an Asset Management System (AMS) and Environmental Management System (EMS) by 30 June 2018.

The auditor should note that WaterNSW is in the process of implementing a certified AMS and EMS by 31 December 2016 that addresses its functions under both the Sydney Catchment

Authority (SCA) and State Water licences. These systems are being developed following the Government imposed merger of the previous SCA and State Water Corporation in January 2015.

We request that the auditor provides a summary of WaterNSW's progress, to date, on developing, certifying and implementing the management systems. This should include if, in the auditor's view, sufficient progress was made since the 2014-15 audit toward meeting the new deadline for this requirement. This should be provided in the cover letter to the audit report.

Key

Requirement	Meaning
Audit/Review	Audit/review clause in 2015-16
SC	We will rely on the utility's Statement of Compliance. All clauses require a Statement of Compliance unless there is a "no requirement" designation.
NR	No requirement (for audit or statement of compliance).

Table 1 2015-16 audit scope for WaterNSW (State Water Corporation Operating Licence)

Licence clause	Operating Licence obligation	2015-16 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	
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	

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
1.2	Duration of this Licence		
1.2.1	The term of this Licence is 5 years from the Commencement Date. [Note: This Licence starts on 1 July 2013, which means that it will end on 30 June 2018.]	NR	
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	
1.4.2	State Water must exercise any functions conferred on it under this Licence consistently with the <i>Water Management Act 2000</i> (NSW), the <i>Water Act 1912</i> (NSW), the <i>New South Wales – Queensland Border Rivers Act 1947</i> (NSW), any other relevant law and any relevant Water Management Plan.	NR	
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 clause 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. <i>[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.]</i>	SC	
1.4.4	State Water must make the statement described in clause 1.4.3 available free of charge: a) on its website for downloading by any person; and b) to the public on request.	SC	

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
2	Water quality		
2.1	Bulk Water supplied to Local Water Utilities for Drinking Water purposes		<i>Note: The purpose of clause 2.1 is to ensure that there are mechanisms in place for WaterNSW 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.</i>
2.1.1	State Water must maintain a register of all Local Water Utilities: c) for which State Water maintains a Water Allocation Account; and d) to which State Water delivers water that will be used for the purposes of Drinking Water (Local Water Utility Customers). e) 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	This clause was last audited in 2014-15 and was assigned High Compliance in that audit. The 2014-15 audit found the LWU register is in place. However the letters not responded to by LWUs had not been followed up. WaterNSW does not have a documented process to maintain and update the LWU register. The 2015-16 audit will inform the licence review. There is a related recommendation to also be audited (see Table 2).
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).	Audit	This clause was last audited in 2013-14 and was assigned Full Compliance in that audit. The 2015-16 audit will inform the licence review.
2.1.3	State Water's LWU Information Request Procedure under clause 2.1.2 above must: 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 clause was last audited in 2014-15 and was assigned Full Compliance in that audit. This was a re-audit of this clause (as opposed to a scheduled audit) because in 2013-14, WaterNSW was assigned High Compliance with this clause. It is appropriate to undertake a second scheduled audit in 2015-16. The procedure was due for review in September 2015 and upload onto the WaterNSW website The 2015-16 audit will also inform the licence review.
2.1.4	State Water must make details of the LWU Information Request Procedure free of charge: a) on its website for downloading by any person; and b) to the public on request.	SC	

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
3	Water quantity		
3.1	Delivery of water to Customers		
3.1.1	<p>State Water must take all reasonable steps to process all Water Orders promptly and efficiently.</p> <p>Note: Where a Customer places an incomplete or incorrect Water Order, WaterNSW could fulfil this obligation by notifying that Customer promptly and efficiently of the error, and how to rectify it.</p>	Audit	<p>This clause was last audited in 2014-15 and was assigned Full Compliance in that audit.</p> <p>The 2015-16 audit will inform the licence review.</p>
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	<p>This clause was last audited in 2014-15 and was assigned Full Compliance in that audit.</p> <p>The 2015-16 audit will inform the licence review.</p>
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.	SC	
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	<p>This clause was last audited in 2014-15 and was assigned Full Compliance in that audit.</p> <p>The 2015-16 audit will inform the licence review</p>
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 clause was last audited in 2014-15 and was assigned Full Compliance in that audit. This was a re-audit of this clause (as opposed to a scheduled audit) because in 2013-14, WaterNSW was assigned High Compliance with this clause.</p> <p>The 2015-16 audit will inform the licence review</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.	Audit	<p>This clause was last audited in 2014-15 and was assigned Full Compliance in that audit.</p> <p>The 2015-16 audit will inform the licence review</p>

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
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	<p>Cannot be audited until 2017-18. Verbal update on progress to be provided at audit interviews.</p> <p>As part of the SCA licence audit, the auditor will separately review whether WaterNSW has developed and implemented an AMS consistent with ISO55001 by 30 June 2016, and is on track to have it certified by 31 December 2016, as indicated in WaterNSW's 30 March 2015 letter to IPART (in response to a non-compliance with the SCA licence).</p>
4.1.2	In the case of an Asset Management System which is developed under the <i>International Standard ISO 55001: 2013 Asset Management – Management systems – Requirements</i> , 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 clause 4.1.2(a) above, the certification is maintained during the remaining term of this Licence. 	NR	<p>Cannot be audited until 2017-18. Verbal update on progress to be provided at audit interviews.</p> <p>As above.</p>
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	<p>Cannot be audited until 2017-18. Verbal update on progress to be provided at audit interviews.</p> <p>As above.</p>
4.1.4	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: <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	<p>This clause was last audited in 2014-15 and was assigned Full Compliance in that audit.</p> <p>Audit until new asset management system is in place.</p>
4.1.5	Once the Asset Management System is certified in accordance with clause 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	

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
4.2	Water metering		<i>Note: This clause 4.2 enables State Water to perform the metering functions set out in this clause for the purposes of section 22A(1) of the Act, subject to the terms and conditions of this Licence.</i>
4.2.1	State Water must read each of its Customers' meters.	Audit	This clause was last audited in 2013-14 and was assigned Full Compliance in that audit. The 2015-16 audit will inform the licence review.
4.2.2	Where provided for in any agreement between State Water and the Minister or the NSW Office of Water, State Water must: a) read Metering Equipment (if applicable); or b) determine water extraction for groundwater and Unregulated River licence holders.	Audit	This clause was last audited in 2013-14 and was assigned Full Compliance in that audit. The 2015-16 audit will inform the licence review.
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	
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 clause 5.2 of this Licence.	Audit	This obligation is similar to a licence condition in the previous Operating Licence. This clause was last audited in 2011-12 and was assigned Full Compliance in that audit. The 2015-16 audit will inform the licence review.
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: 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 clause 5.1.2, Customer does not include a Fish River Water Scheme Customer.	Audit	We previously deferred the first audit to 2015-16 to balance out the audit scope in years 2 and 3 of the licence (a significant number of customer clauses were scheduled in year 2). The 2015-16 audit will inform the licence review.

Licence clause	Operating Licence obligation	2015-16 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.	Audit	We previously deferred the first audit to 2015-16 to balance out the audit scope in years 2 and 3 of the licence (a significant number of customer clauses were scheduled in year 2). The 2015-16 audit will inform the licence review.
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).	Audit	We previously deferred the first audit to 2015-16 to balance out the audit scope in years 2 and 3 of the licence (a significant number of customer clauses were scheduled in year 2). The 2015-16 audit will inform the licence review.
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 <i>Water Management Act 2000</i> (NSW), the <i>Water Act 1912</i> (NSW) and any other applicable law.	Audit	We previously deferred the first audit to 2015-16 to balance out the audit scope in years 2 and 3 of the licence. The 2015-16 audit will inform the licence review.
5.2.3	State Water must make the Customer Service Charter available free of charge: a) on its website for downloading by any person; and b) to the public on request.	Audit	We previously deferred the first audit to 2015-16 to balance out the audit scope in year 2 and 3 of the licence. The 2015-16 audit will also inform the licence review.
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.	SC	
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	This clause was last audited in 2014-15 and was assigned Full Compliance in that audit A second audit was initially scheduled for 2016-17 to balance out the audit scope in years 3 and 4. We have brought this forward to 2015-16 to inform the WaterNSW licence review process (it was previously expected that the licence review would occur in 2016/17).

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
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.	SC	
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	<p>This clause was last audited in 2014-15 and was assigned High Compliance in that audit. This needs to be reaudited this year, and progress assessed with regard to the related recommendation.</p> <p>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.</p> <p>A second audit was scheduled for 2016-17. We have brought this forward to 2015-16 to inform the WaterNSW licence review process (it was previously expected that the licence review would occur in 2016/17).</p>
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. 	SC	

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
5.5	Code of practice on payment difficulties		
5.5.1	State Water must develop, maintain and fully implement a code of practice (the Code) relating to Customers having payment difficulties, which must: <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. 	Audit	This clause was last audited in 2013-14 and was assigned Full Compliance in that audit. The 2015-16 audit will inform the licence review.
5.5.2	State Water must set out details of the Code in the Customer Service Charter.	SC	
5.5.3	State Water must provide information on the Code free of charge: <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. 	SC	
5.6	Internal Complaints Handling Procedure		
5.6.1	State Water 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) (Internal Complaints Handling Procedure).	Audit	This clause was last audited in 2013-14 and was assigned Full Compliance grade in that audit. The 2015-16 audit will inform the licence review.
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.	SC	
5.6.3	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: <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. 	SC	
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	WaterNSW is listed as a water supplier on the EWON website (date checked: 22 March 2016)

Licence clause	Operating Licence obligation	2015-16 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	
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 <i>Australian Standard AS/NZS ISO 14001:2004: Environmental Management Systems - Requirements with guidance for use (Environmental Management System)</i> .	NR	Cannot be audited until 2017-18. Verbal update on progress to be provided at audit interviews. As part of the SCA licence audit the the auditor will separately review whether WaterNSW has developed and implemented an EMS consistent with ISO14001 by 30 June 2016, and is on track to have it certified by 31 December 2016, as indicated in WaterNSW's 30 March 2015 letter to IPART (in response to a non-compliance with the SCA licence).
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 clause 6.1.2(a), the certification is maintained during the remaining term of this Licence.	NR	Cannot be audited until 2017-18. Verbal update on progress to be provided at audit interviews. As above.
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	Cannot be audited until 2017-18. Verbal update on progress to be provided at audit interviews. The auditor will separately review whether WaterNSW has implemented an EMS consistent with ISO14001 by 30 June 2016, and is on track to have it certified by 31 December 2016, as indicated in WaterNSW's 30 March 2015 letter to IPART (in response to a non-compliance with the SCA licence).

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
6.1.4	Until the Environmental Management System has been developed and certified in accordance with clauses 6.1.1 and 6.1.2, State Water must: <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. 	Audit	This clause was last audited in 2013-14 and was assigned Full Compliance in that audit Audit until new environmental management system is in place.
6.1.5	Once the Environmental Management System is certified in accordance with clause 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	Audit following any notice of change.
7	Performance monitoring		
7.1	Operational Audits		
7.1.1	IPART may undertake, or may appoint an Auditor to undertake, an audit on State Water's compliance with: <ul style="list-style-type: none"> a) this Licence; b) the Reporting Manual; and c) any matters required by the Minister, (Operational Audit). 	NR	
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	
7.1.3	State Water must provide the information requested under clause 7.1.2 within a reasonable time of it being requested.	NR	
7.1.4	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: <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	

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
7.2	Reporting		
7.2.1	State Water must comply with its reporting obligations set out in this Licence and in the Reporting Manual, which include: a) reporting to IPART in accordance with the Reporting Manual and this Licence, and b) making reports and other information publicly available, in the manner set out in the Reporting Manual.	SC	
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).	SC	
7.2.3	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.	NR	
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	<i>This obligation is no longer relevant as the National Water Initiative Rural National Performance Report is no longer produced.</i>
7.3	Provision of information		
7.3.1	If IPART requests that State Water provide information relating to the performance of its obligations under clause 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 clause 7.2.2.	NR	
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	
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 clause 7 as if that third party were State Water.	NR	
7.3.4	If IPART or an Auditor requests information under this clause 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	

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
8	End of term review		
8.1	End of Term Review		
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	
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	

Source: WaterNSW (State Water Corporation Operating Licence) five year audit program.

Table 2 Recommendations / outstanding items from previous audits

Recommendation number	Operational issue (licence reference where applicable)	IPART's recommendation to the Minister	2014-15 audit findings, and status as reported by utility on 31 March 2016 ^a	Guidance for 2015-16 audit
2013-14 – 1	Water quality (maintain register of LWUs) (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. 	Ongoing WaterNSW has implemented a documented procedure to maintain its register. However it should strengthen its process for confirming contact details for the LWUs.	Audit to check progress in completing this recommendation by 30 September 2016.
2014-15 - 2	Fish River customer agreements (clause 5.4.1)	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)	New Recommendation from 2014-15 audit.	Audit to check progress towards completing this recommendation by 30 September 2016.

^a The March 2016 report is currently unavailable, due to a change in the 2014-15 audit program. There is no progress reporting at this time. The 2015-16 progress report will be available at the end of May 2016.

Table 3 Previous field verification locations for WaterNSW (State Water Corporation Operating Licence)

Audit year	Location	Facility
2015-16	TBA	TBA
2014-15	Fish River	Water Supply
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	-

Note: Locations and facilities for the 2015-16 WaterNSW (State Water Corporation Operating Licence) operational audit will be confirmed with the utility and successful auditor.

2015-16 operational audit scope

WaterNSW (Sydney Catchment Authority Operating Licence)

Contents

Table 1	2015-16 audit scope for WaterNSW (Sydney Catchment Authority Operating Licence)	3
Table 2	Recommendations / outstanding items from previous audits	13
Table 3	Previous field verification locations for WaterNSW (Sydney Catchment Authority Operating Licence)	15

2015-16 audit scope

This scope is based on the five year audit program for WaterNSW's 2012-2017 Sydney Catchment Authority Operating Licence. Auditors should note any directions in the comments column of Table 1.

Previous recommendations

Table 2 outlines outstanding audit recommendations. These recommendations are reviewed to determine progress and are reported on separately within the audit report.

Statement of compliance

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

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

Development and implementation of management systems

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

This applies to WaterNSW's SCA licence as follows:

- ▼ the development of an Asset Management System (AMS) and Environmental Management System (EMS) by 30 June 2015, and
- ▼ certification of the EMS by 30 June 2017.

Due to the Government imposed merger of SCA and State Water Corporation, WaterNSW has previously identified that the AMS and EMS will not be fully developed by 30 June 2015. However, the auditor should note that WaterNSW is in the process of implementing an AMS and EMS by 30 June 2016. These systems address WaterNSW's functions under both SCA and State Water licences.

We intend to report this as a non-compliance; however, in light of the circumstances, take no enforcement action. The auditor should also note that WaterNSW intends to have these management systems certified by 31 December 2016.

We request that the auditor provides a summary of WaterNSW's progress, to date, on developing, certifying and implementing the management systems. This should include if, in the auditor's view, sufficient progress was made since the 2014-15 audit toward meeting the new deadline for this requirement. This should be provided in the cover letter to the audit report.

Key

Requirement	Meaning
Audit/Review	Audit/review clause in 2015-16
SC	We will rely on the utility's Statement of Compliance. All clauses require a Statement of Compliance unless there is a "no requirement" designation.
NR	No requirement (for audit or statement of compliance).

Table 1 2015-16 audit scope for WaterNSW (Sydney Catchment Authority Operating Licence)

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
1	Licence details		
1.1	Objectives of this Licence		
1.1.1	The objective of this Licence is to set out the terms and conditions under which SCA is to: <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	
1.2	Duration of Licence		
1.2.1	The term of this Licence is 5 years from the Commencement Date. [Note: This Licence starts on 1 July 2012, which means that it will end on 30 June 2017.]	NR	
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	
1.4	Availability of Licence		
1.4.1	SCA must make this Licence 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	

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
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	
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, (Water Quality Management System). <p>[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.</p> <p>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.]</p> 	Audit	<p>This clause was last audited in 2014-15 and was assigned High Compliance in that audit.</p> <p>The 2014-15 audit 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.</p> <p>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.</p> <p>Components of the ADWG framework and site visits to be audited to be determined by IPART in consultation with the auditor.</p> <p>NSW Health requests that the auditor consider if the communication protocols with Sydney Water and NSW Health during and after the Warragamba pipeline turbidity incident followed and if they are appropriate.</p>

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
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 clause was last audited in 2014-15. WaterNSW achieved Full Compliance in that audit. This audit will inform the WaterNSW operating licence review.</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	Audit if directed to by NSW Health.
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	NSW Health considers that this clause does not need to be audited in 2015-16.
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	<p>This clause was last audited in 2012-13 and was awarded Full Compliance in that audit. This audit will inform the WaterNSW operating licence review.</p> <p>The audit 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.</p>
3.1.2	SCA must make the Design Criteria available to the public in accordance with the Reporting Manual.	Audit	<p>This clause was last audited in 2012-13 and was awarded Full Compliance in that audit.</p> <p>We will reaudit this clause following the merge with State Water, to test that compliance of the new website maintains publically available information</p>

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
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. 	Audit	WaterNSW advised that there was a minor change to the system yield in 2015-16.
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	
3.2.3	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.	Audit	WaterNSW advised that there was a minor change to the system yield in 2015-16.
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). 	Audit	<p>The intent of this clause was that the task comprising all three subclauses be commenced by the applicable date. Thus all sub clauses should be audited at the one time.</p> <p>Requirement due for commencement 30 June 2016.</p>
3.3.2	<p>During the independent expert's review under condition 3.3.1, SCA must consult with:</p> <ul style="list-style-type: none"> 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. 	Audit	Requirement due for commencement 30 June 2016.

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
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.	Audit	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 (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	<p>This clause was last audited in 2014-15 and was awarded Full Compliance in that audit.</p> <p>This year's audit will inform the WaterNSW operating licence review.</p> <p>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.</p> <p>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.</p>
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	
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).	Audit	Imposed non-compliance due to WaterNSW amalgamation.

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
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.	Audit	Imposed non-compliance due to WaterNSW amalgamation. If the auditor finds that WaterNSW is non-compliant with this clause, the auditor must separately review if WaterNSW is on track to have its AMS implemented by 31 December 2016, as indicated in WaterNSW's 30 March 2015 letter to IPART.
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	
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	
6.1.2	The terms and conditions under condition 6.1.1 must at a minimum include: 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. [Note: SCA must enter into arrangements with Sydney Water regarding the terms and conditions of supply of water under section 22 of the Act.]	SC	
6.2	Complaints		
6.2.1	SCA 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) (Complaints Handling Procedure).	Audit	This clause was last audited in 2012-13 and was awarded Full Compliance in that audit. This audit will inform the WaterNSW operating licence review.
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: a) on its website for downloading by any person; and b) at its offices for access or collection by any member of the public.	Audit	This clause was last audited in 2012-13 and was awarded Full Compliance in that audit. This audit will inform the WaterNSW operating licence review.

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
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).	Audit	Imposed non-compliance due to WaterNSW amalgamation.
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.	Audit	Imposed non-compliance due to WaterNSW amalgamation. If the auditor finds that WaterNSW is non-compliant with this clause, the auditor must separately review if WaterNSW is on track to have its EMS implemented by 31 December 2016, as indicated in WaterNSW's 30 March 2015 letter to IPART.
7.1.3	SCA must ensure that: a) by 30 June 2017, 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 7.1.3(a), the certification is maintained during the remaining term of this Licence.	Review	The auditor should assess WaterNSW's progress towards certification by 30 June 2017.
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.	Audit	This should continue to be audited until we receive confirmation that an EMS is in place. The auditor should separately review whether WaterNSW has implemented an EMS consistent with ISO14001 by 30 June 2016, and is on track to have it certified by 31 December 2016, as indicated in WaterNSW's 30 March 2015 letter to IPART.

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
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	
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	
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	
8.1.3	SCA must provide any information requested under condition 8.1.2 within a reasonable time of it being requested.	NR	
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 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. 	NR	

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
8.2	Reporting		
8.2.1	SCA 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 Auditor; and b) making reports and other information publicly available,	SC	
8.2.2	SCA must maintain sufficient record systems that enable it to report accurately in accordance with condition 8.2.1.	SC	
8.3	Provision of information		
8.3.1	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 condition 8.2 and providing physical and/or electronic records.	NR	
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	
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	
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	
9	Memorandum of Understanding		
9.1	Memorandum of Understanding		
9.1.1	SCA must maintain a Memorandum of Understanding in accordance with section 36 of the Act, with each of the following: a) Director-General of the Ministry of Health; and b) Environment Protection Authority. [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.]	Audit	We will re audit to test compliance after the merger. We seek NSW Health and EPA comments in relation to the inclusion of this clause in the scope.

Licence clause	Operating Licence obligation	2015-16 audit requirement	Comments
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	
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>[Note: In the event that IPART undertakes the End of Term review, IPART intends to:</p> <ul style="list-style-type: none"> a) commence the end of term review (including undertaking public consultation) in the first quarter of 2016; b) report to the Minister by 30 April 2017 on: <ul style="list-style-type: none"> i. the findings of the End of Term Review, ii. any recommendations for conditions to be included in a new licence, and iii. any recommendations for amending any law that adversely impacts on this Licence; and c) make the report to the Minister publicly available after the End of Term Review.] 	NR	
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	

Source: WaterNSW (Sydney Catchment Authority Operating Licence) five year audit program.

Table 2 Recommendations / outstanding items from previous audits

Recommendation number	Operational issue (licence reference where applicable)	IPART's recommendation to the Minister	2014-15 audit findings, and status as reported by utility on 31 March 2016^a	Guidance for 2015-16 audit
2012/13-1	2.1.2	<p>WaterNSW 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, and ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs). 	<p>Ongoing</p> <p>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.</p> <p>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.</p>	Audit to check progress in completing this recommendation by 30 September 2016
2012/13-2	2.1.2	<p>WaterNSW 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, and ensure appropriate (ideally continuous) frequency of operational monitoring for identified target criteria (including critical limits for CCPs). 	<p>Ongoing</p> <p>WaterNSW identified preventive measures, including CCPs, in its Water Quality Management Framework.</p> <p>The auditor considers that WaterNSW should further investigate, in consultation with the respective stakeholders, the appropriateness of CCP limits (targets and critical).</p>	Audit to check progress in completing this recommendation by 30 September 2016
2013/14-1	2.1.1 & 2.1.2.	<p>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. 	<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.</p>	Audit to check progress in completing this recommendation by 30 September 2016

Recommendation number	Operational issue (licence reference where applicable)	IPART's recommendation to the Minister	2014-15 audit findings, and status as reported by utility on 31 March 2016 ^a	Guidance for 2015-16 audit
2013/14-2	2.1.1	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).	New finding	Progress towards completion by 30 September 2016

^a The March 2016 report is currently unavailable, due to a change in the 2014-15 audit program. There is no progress reporting at this time. The 2015-16 progress report will be available at the end of May 2016.

Table 3 Previous field verification locations for WaterNSW (Sydney Catchment Authority Operating Licence)

Audit year	Location	Facility
2015-16	TBA	TBA
2014-15	Leura Falls	Catchment works
2013-14	Cataract Dam	Chemical dosing facility
		Outlet works
	Broughton's Pass	Weir
	Prospect Reservoir	Warragamba Pipeline Outlet Works Prospect RWPS (WP0903)
2012-13	Broughton's Pass to Prospect Reservoir	Upper Canal
	Prospect Reservoir	Prospect Reservoir
2011-12	Nil	-
2010-11	Nil	-

Note: Locations and facilities for the 2015-16 WaterNSW (Sydney Catchment Authority Operating Licence) operational audit will be confirmed with the utility and successful auditor.

C | Operational audit report 2015-16 - WaterNSW



2015/16 Operational Audit of WaterNSW

Final Audit Report

#14042-10-001 Version 3.0

Independent Pricing and Regulatory Tribunal

November 2016

Document History

2015/16 Operational Audit of WaterNSW

Final Audit Report

Independent Pricing and Regulatory Tribunal

This document has been issued and amended as follows:

Version	Date	Description	Created by	Checked by	Approved by
1.0	14 October 2016	Draft	Jim Sly	Bob Burford	Jim Sly
2.0	6 November 2016	Revised Draft	Jim Sly	Bob Burford	Jim Sly
3.0	21 November 2016	Final	Jim Sly	Bob Burford	Jim Sly

Cobbitty Consulting Pty Ltd
ABN: 45 164 692 488

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

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

© Cobbitty Consulting Pty Ltd, 2016

Contents

Glossary	v
Executive Summary	1
1. Introduction	5
1.1 Objectives	5
1.2 Audit Method	5
1.3 Regulatory Regime	9
1.4 Quality Assurance Process	10
2. State Water Operating Licence Section 2 – Water Quality	11
2.1 Summary of Findings	11
2.2 Recommendations	12
2.3 Opportunities for Improvement	12
3. State Water Operating Licence Section 3 – Water Quantity	13
3.1 Summary of Findings	13
3.2 Recommendations	14
3.3 Opportunities for Improvement	14
4. State Water Operating Licence Section 4 – Assets	15
4.1 Summary of Findings	15
4.2 Recommendations	16
4.3 Opportunities for Improvement	16
5. State Water Operating Licence Section 5 – Customers	17
5.1 Summary of Findings	17
5.2 Recommendations	20
5.3 Opportunities for Improvement	20
6. State Water Operating Licence Section 6 – Environmental Management	21
6.1 Summary of Findings	21
6.2 Recommendations	21
6.3 Opportunities for Improvement	21
7. Sydney Catchment Authority Operating Licence Section 2 – Water Quality	22
7.1 Summary of Findings	22
7.2 Recommendations	24
7.3 Opportunities for Improvement	24
8. Sydney Catchment Authority Operating Licence Section 3 – Water Supply Sufficiency	27
8.1 Summary of Findings	27
8.2 Recommendations	28
8.3 Opportunities for Improvement	29
9. Sydney Catchment Authority Operating Licence Section 4 – Catchment	30
9.1 Summary of Findings	30
9.2 Recommendations	30
9.3 Opportunities for Improvement	30

10. Sydney Catchment Authority Operating Licence Section 5 – Assets	31
10.1 Summary of Findings	31
10.2 Recommendations	31
10.3 Opportunities for Improvement	31
11. Sydney Catchment Authority Operating Licence Section 6 – Customers	32
11.1 Summary of Findings	32
11.2 Recommendations	32
11.3 Opportunities for Improvement	32
12. Sydney Catchment Authority Operating Licence Section 7 – Environment	33
12.1 Summary of Findings	33
12.2 Recommendations	34
12.3 Opportunities for Improvement	34
13. Sydney Catchment Authority Operating Licence Section 9 – Memorandum of Understanding	35
13.1 Summary of Findings	35
13.2 Recommendations	35
13.3 Opportunities for Improvement	35

Appendix A	Detailed Audit Findings State Water Operating Licence	37
A.1	Section 2 – Water Quality	38
	Table A.1.1 Bulk Water supplied to Local Water Utilities for Drinking Water purposes (Sub-clause 2.1.1)	38
	Table A.1.2 Bulk Water supplied to Local Water Utilities for Drinking Water purposes (Sub-clause 2.1.2)	40
	Table A.1.3 Bulk Water supplied to Local Water Utilities for Drinking Water purposes (Sub-clause 2.1.3)	42
	Table A.1.4 Recommendation 2013/14-1 (Water Quality – Sub-clause 2.1.1)	44
A.2	Section 3 – Water Quantity	46
	Table A.2.1 Delivery of water to Customers (Sub-clause 3.1.1)	46
	Table A.2.2 Delivery of water to Customers (Sub-clause 3.1.2)	49
	Table A.2.3 Delivery of water to Customers (Sub-clause 3.1.4)	52
	Table A.2.4 Advance notification of changes to flow release patterns (Sub-clause 3.2.1)	54
	Table A.2.5 Water balance reporting (Sub-clause 3.3.1)	56
A.3	Section 4 – Assets	58
	Table A.3.1 Asset Management System (Sub-clause 4.1.4)	58
	Table A.3.2 Water metering (Sub-clause 4.2.1)	64
	Table A.3.3 Water metering (Sub-clause 4.2.2)	66
A.4	Section 5 – Customers	68
	Table A.4.1 Valley-based customer service committees (excluding Fish River Scheme Customers) (Sub-clause 5.1.1)	68
	Table A.4.2 Valley-based customer service committees (excluding Fish River Scheme Customers) (Sub-clause 5.1.2)	71
	Table A.4.3 Valley-based customer service committees (excluding Fish River Scheme Customers) (Sub-clause 5.1.3)	74
	Table A.4.4 Customer Service Charter (excluding Fish River Water Scheme Customers) (Sub-clause 5.2.1)	77
	Table A.4.5 Customer Service Charter (excluding Fish River Water Scheme Customers) (Sub-clause 5.2.2)	79
	Table A.4.6 Customer Service Charter (excluding Fish River Water Scheme Customers) (Sub-clause 5.2.3)	80
	Table A.4.7 Fish River Customer Council (Sub-clause 5.3.2)	81
	Table A.4.8 Fish River Customer Contracts (Sub-clause 5.4.1)	83
	Table A.4.9 Recommendation 2014/15-2 (Fish River Customer Contracts – Sub-clause 5.4.1)	85
	Table A.4.10 Code of practice on payment difficulties (Sub-clause 5.5.1)	88
	Table A.4.11 Internal Complaints Handling Procedure (Sub-clause 5.6.1)	90
A.5	Section 6 – Environmental Management	92
	Table A.5.1 Environmental management (Sub-clause 6.1.4)	92
Appendix B	Detailed Audit Findings Sydney Catchment Authority Operating Licence	97
B.1	Section 2 – Water Quality	98
	Table B.1.1 Water Quality Management System (Sub-clause 2.1.1)	98
	Table B.1.2 Water Quality Management System (Sub-clause 2.1.2)	110
	Table B.1.3 Recommendation 2012/13-1 (Water Quality Management System – Sub-clause 2.1.2)	115
	Table B.1.4 Recommendation 2012/13-2 (Water Quality Management System – Sub-clause 2.1.2)	117
	Table B.1.5 Recommendation 2013/14-1 (Water Quality Management System – Sub-clauses 2.1.1 and 2.1.2)	119
	Table B.1.6 Recommendation 2014/15-1 (Water Quality Management System – Sub-clause 2.1.1)	121
B.2	Section 3 – Water Supply Sufficiency	123
	Table B.2.1 Catchment Infrastructure management (Sub-clause 3.1.1)	123
	Table B.2.2 Catchment Infrastructure management (Sub-clause 3.1.2)	126
	Table B.2.3 Re-calculating Water Supply System Yield (Sub-clause 3.2.1)	128
	Table B.2.4 Re-calculating Water Supply System Yield (Sub-clause 3.2.3)	129
	Table B.2.5 Reviewing the model for Water Supply System Yield (Sub-clause 3.3.1)	130
	Table B.2.6 Reviewing the model for Water Supply System Yield (Sub-clause 3.3.2)	134
	Table B.2.7 Reviewing the model for Water Supply System Yield (Sub-clause 3.3.3)	137

B.3	Section 4 – Catchment	139
	Table B.3.1 Catchment management (Sub-clause 4.1.1)	139
B.4	Section 6 – Assets	146
	Table B.4.1 Asset Management System (Sub-clauses 5.1.1 and 5.1.2)	146
B.5	Section 6 – Customers	149
	Table B.5.1 Complaints (Sub-clause 6.2.1)	149
	Table B.5.2 Complaints (Sub-clause 6.2.2)	151
B.6	Section 7 – Environment	153
	Table B.6.1 Environment management (Sub-clauses 7.1.1 and 7.1.2)	153
	Table B.6.2 Environment management (Sub-clause 7.1.4)	155
B.7	Section 9 – Memorandum of Understanding	159
	Table B.7.1 Memorandum of Understanding (Sub-clause 9.1.1)	159

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 2015 and 30 June 2016. The audit was undertaken by Cobbitty Consulting, in association 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. Forty (40) clauses of the two Operating Licences were audited, the findings in respect of which can be summarised as follows:

- WaterNSW self-reported technical non-compliance with four (4) of the audited clauses; these non-compliances arose due to the Government imposed merger of State Water Corporation and the Sydney Catchment Authority;
- It was found that two (2) of the audited clauses had not been triggered and there was no requirement for compliance during the audit period; and
- Full compliance has been awarded to all but one of the remaining thirty-four (34) audited clauses.

The identified shortcomings relate to Water Quality under the provisions of the *Sydney Catchment Authority Operating Licence*. The non-compliances relate to delays in the development and implementation of an Asset Management System and Environmental Management System under the provisions of the *Sydney Catchment Authority Operating Licence*; management systems that address the requirements of both the *Sydney Catchment Authority Operating Licence* and *State Water Operating Licence* could not reasonably be developed and implemented within the specified timeline.

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**.

¹ IPART, *Audit Guideline – Public Water Utilities* (Revision 7), May 2016.

² IPART, *Request for Quote; 2015-16 Water NSW Audits* (RFQ 16/154), 27 May 2016.

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	Full Compliance
	2.1.2	Full Compliance
	2.1.3	Full Compliance
3. Water Quantity	3.1.1	Full Compliance
	3.1.2	Full Compliance
	3.1.4	Full Compliance
	3.2.1	Full Compliance
	3.3.1	Full Compliance
4. Assets	4.1.4	Full Compliance
	4.2.1	Full Compliance
	4.2.2	Full Compliance
5. Customers	5.1.1	Full Compliance
	5.1.2	Full Compliance
	5.1.3	Full Compliance
	5.2.1	Full Compliance
	5.2.2	Full Compliance
	5.2.3	Full Compliance
	5.3.2	Full Compliance
	5.4.1	Full Compliance
	5.5.1	Full Compliance
	5.6.3	Full Compliance
6. Environmental Management	6.1.4	Full Compliance
<i>SCA Operating Licence:</i>		
2. Water Quality	2.1.1	High Compliance – WaterNSW has established a WQMF that is consistent with the ADWG and there are adequate systems in place to manage raw water quality. However, the WQMF needs to be kept up to date to reflect the changes and improvements made. A process for regular review of the WQMF should be refined and documented. Furthermore, the WQMF should be better integrated with its supporting documentation, processes and procedures to provide a structured and systematic approach as required by the ADWG.
	2.1.2	Full Compliance

³ Comment provided where less than full compliance assessed.

Licence Part	Clause/Obligation	Compliance Grade/Comment ³
3. Water Supply Sufficiency	3.1.1	Full Compliance
	3.1.2	Full Compliance
	3.2.1	No Requirement
	3.2.3	No Requirement
	3.3.1	Full Compliance
	3.3.2	Full Compliance
	3.3.3	Full Compliance
4. Catchment	4.1.1	Full Compliance
5. Assets	5.1.1	Non-Compliant – this is a declared technical non-compliance, which has arisen due to the merger of the SCA and State Water on 1 January 2016 (refer table footnote).
	5.1.2	
6. Customers	6.2.1	Full Compliance
	6.2.2	Full Compliance
7. Environment	7.1.1	Non-Compliant– this is a declared technical non-compliance, which has arisen due to the merger of the SCA and State Water on 1 January 2016 (refer table footnote).
	7.1.2	
	7.1.4	Full Compliance
9. Memorandum of Understanding	9.1.1	Full Compliance

Note:

Due to the Government imposed merger of the Sydney Catchment Authority and State Water Corporation, WaterNSW has previously advised IPART that an Asset Management System and Environmental Management System would not be developed by 30 June 2015 as required pursuant to the SCA Operating Licence. WaterNSW has, however, made substantial progress in that it had developed an Asset Management System and Environmental Management System that addresses the requirements of both the SCA and State Water Operating Licences by 30 June 2016 and intends to have these management systems certified as being compliant with the relevant standards by 31 December 2016.

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)	Addressed
2014/15-2	Fish River Customer Contracts – use best endeavours to enter into customer agreements (Licence sub-clause 5.4.1)	Addressed

⁴ Refer to the relevant section of this report and associated appendix for full details of previous 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)	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)	Addressed
2013/14-1	Water Quality – clearly document CCP monitoring, critical limits and management activities (Licence sub-clause 2.1.2)	Addressed
2014/15-1	Water Quality – maintain a Water Quality Management System (WQMS) (Licence sub-clause 2.1.1)	Partially Addressed – further work is required to update the entire framework. Completion by 30 September 2016 unlikely.

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:		
		There are no recommendations
SCA Operating Licence:		
2. Water Quality	2.1.1	It is recommended that WaterNSW: <ul style="list-style-type: none"> ▪ REC-2015/16-01: Refines and documents the review process to ensure that effective reviews of the WQMF, which go beyond reviewing only water quality performance, are undertaken.

1. Introduction

1.1 Objectives

The objective of this audit was to assess, for the period from 1 July 2015 to 30 June 2016, WaterNSW's performance against the terms and conditions (obligations) of:

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

1.2 Audit Method

1.2.1 Audit Scope

The scope of the 2015/16 Operational Audit of WaterNSW is specified in detail in the *Request for Quote – 2015-16 WaterNSW audits* (RFQ 16/154); 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**.

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 4.

Table 1.1 Scope of 2015/16 Operational Audit of WaterNSW

Licence Part	Clause/Obligation
<i>State Water Operating Licence:</i>	
2. Water Quality	2.1.1; 2.1.2; 2.1.3
3. Water Quantity	3.1.1; 3.1.2; 3.1.4; 3.2.1; 3.3.1
4. Assets	4.1.4; 4.2.1; 4.2.2
5. Customers	5.1.1; 5.1.2; 5.1.3; 5.2.1; 5.2.2; 5.2.3; 5.3.2; 5.4.1; 5.5.1; 5.6.1
6. Environmental Management	6.1.4
<i>SCA Operating Licence:</i>	
2. Water Quality	2.1.1; 2.1.2
3. Water Supply Sufficiency	3.1.1; 3.1.2; 3.2.1; 3.2.3; 3.3.1; 3.3.2; 3.3.3
4. Catchment	4.1.1
5. Assets	5.1.1; 5.1.2
6. Customers	6.2.1; 6.2.2
7. Environment	7.1.1; 7.1.2; 7.1.3; 7.1.4
9. Memorandum of Understanding	9.1.1

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 2014/15-2: related to Customers – Fish River Customer Contracts
<i>SCA Operating Licence</i>	<ul style="list-style-type: none"> 2012/13-1: related to Water Quality – preventive measures for drinking water supplied to recreational areas 2012/13-2: related to Water Quality – preventive measures for raw water quality 2013/14-1: related to Water Quality – documentation of Critical Control Points (CCPs) 2014/15-1: related to Water Quality – documentation of Water Quality Management System (WQMS) consistent with the requirements of the Australian Drinking Water Guidelines (ADWG)

⁸ Refer to the relevant section of this report and associated appendix for full details of previous recommendations.

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 19 September 2016 to 23 September 2016. Interviews were conducted with WaterNSW representatives at WaterNSW's Penrith and Sydney CBD offices. Field verification site visits were made to:

- Catchment Areas – inspection of:
 - Rural Landscape Program project at Brayton; and
 - Bradley Street Sewer Pumping Station project at Goulburn, which was undertaken under the Priority Pollutants Program; and
- Burrinjuck Dam – inspection of infrastructure, review of operational and maintenance practices and briefing on the metering project (Telemetered Metering System).

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 (IPART observer)
Step 6	Wrap up and close out sessions	Auditor/Utility (IPART observer)
Step 7	Audit assessment and reporting	Auditor/Utility/IPART
Step 8	Report to the Minister	IPART
Step 9	Report on audit recommendations	Utility

⁹ IPART, *Audit Guideline – Public Water Utilities* (Revision 7), May 2016.

¹⁰ IPART, *Audit Guideline – Public Water Utilities* (Revision 7), May 2016, table 2.1, page 7.

1.2.4 Audit Team

The audit team comprised of the following:

- Jim Sly – team lead and Lead Auditor;
- Tasleem Hasan – Lead Auditor;
- Bob Burford – Lead Auditor and Lead Auditor providing audit support; and
- Karen Pither – Lead Auditor/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**.



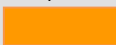
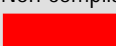
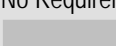
Table 1.4 Allocation of Audit Responsibilities

Licence Part	Clause/Obligation	Auditor/Support
<i>State Water Operating Licence:</i>		
2. Water Quality	2.1.1; 2.1.2; 2.1.3	Jim Sly/Bob Burford
3. Water Quantity	3.1.1; 3.1.2; 3.1.4; 3.2.1; 3.3.1	Jim Sly/Bob Burford
4. Assets	4.1.4; 4.2.1; 4.2.2	Jim Sly/Bob Burford
5. Customers	5.1.1; 5.1.2; 5.1.3; 5.2.1; 5.2.2; 5.2.3; 5.3.2; 5.4.1; 5.5.1; 5.6.1	Jim Sly/Bob Burford
6. Environmental Management	6.1.4	Bob Burford/Karen Pither
Recommendations/Outstanding Items from Previous Audits	2013/14-1; 2014/15-2	Jim Sly/Bob Burford
Management Systems Development Status	Asset Management System and Environmental Management System	Jim Sly and Bob Burford
<i>SCA Operating Licence:</i>		
2. Water Quality	2.1.1; 2.1.2	Tasleem Hasan/Karen Pither
3. Water Supply Sufficiency	3.1.1; 3.1.2; 3.2.1; 3.2.3; 3.3.1; 3.3.2; 3.3.3	Jim Sly/Bob Burford
4. Catchment	4.1.1	Tasleem Hasan/Karen Pither
5. Assets	5.1.1; 5.1.2	Jim Sly/Bob Burford
6. Customers	6.2.1; 6.2.2	Jim Sly/Bob Burford
7. Environment	7.1.1; 7.1.2; 7.1.3; 7.1.4	Bob Burford/Karen Pither
9. Memorandum of Understanding	9.1.1	Jim Sly/Bob Burford
Recommendations/Outstanding Items from Previous Audits	2012/13-1; 2012/13-2; 2013/14-1; 2014/15-1	Tasleem Hasan/Karen Pither
Management Systems Development Status	Asset Management System and Environmental Management System	Jim Sly and Bob Burford

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.

1.3 Regulatory Regime

WaterNSW is constituted under the *Water NSW 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 Corporation 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 2015 to 30 June 2016), WaterNSW has been granted and has been operating under the provisions of the *State Water Corporation Operating Licence 2013-2018* and the *Sydney Catchment Authority Operating Licence 2012-2017*.

¹¹ IPART, *Audit Guideline – Public Water Utilities* (Revision 7), May 2016, table C.1, page 27.

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 – Full Compliance

This clause requires WaterNSW to maintain a register of all Local Water Utilities (LWUs) for which it maintains Water Allocation Account and to which it delivers water that will be used for drinking water purposes, including contact details for each LWU Customer, and the Valley and approximate location from which each LWU Customer extracts water.

WaterNSW maintains a register of all Local Water Utilities (LWUs), including the contact details, Work Approval and licence details and the extraction location. Review of the register revealed that it includes contact details for all listed LWUs.

It is noted that Recommendation 2013/14-1, which relates to this sub-clause, has now been fully addressed albeit subsequent to the audit period (refer comments below).

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

Clause 2.1.2 – Full Compliance

This clause requires WaterNSW to 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.

WaterNSW had a *LWU Information Request Procedure*, which outlines the process for providing information in respect of water quality when requested by a Local Water Utility, in place throughout the audit period.

Detailed assessment in respect to this sub-clause is presented in **Table A.1.2** (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 in a timely manner and define any fees charged, including how these will be calculated and how they will be paid.

The *LWU Information Request Procedure* defines the process, sets a response time and outlines the basis on which fees and charges are to be levied.

Detailed assessment in respect to this sub-clause is presented in **Table A.1.3** (refer **Appendix A**).

Recommendation 2013/14-1 –Addressed

This recommendation, which relates to the requirement to maintain a Local Water Utility (LWU) register, required WaterNSW to (by 30 September 2016):

- 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.

WaterNSW has prepared a documented procedure for updating the Local Water Utility (LWU) Register; this was finalised and approved on 20 September 2016. Furthermore, WaterNSW has confirmed contact details that were previously missing from the Register.

Detailed assessment in respect to this sub-clause is presented in **Table A.1.4** (refer **Appendix A**).

2.2 Recommendations

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

2.3 Opportunities for Improvement

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

- **OFI-2015/16-01:** It is suggested that WaterNSW should record the date on which all formal documents (eg. procedures) are finalised and/or approved on the actual document.

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. Orders can be placed on-line using the iWAS system, in which case orders are processed automatically, or via the Customer Helpdesk, in which case there is a clearly defined procedure for ensuring compliance and submitting the order into the WAS system.

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. Based on the number of complaints received, it is evident that WaterNSW ensures the timely delivery of water for almost 100 percent (99.99 percent) of water orders.

Detailed assessment in respect to this sub-clause is presented in **Table A.2.2** (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 implementation of alternative water ordering protocols, it had taken reasonable steps to conserve water and minimise water losses that result from undertaking its operations during the audit period.

Detailed assessment in respect to this sub-clause is presented in **Table A.2.3** (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.2.4** (refer **Appendix A**).

Clause 3.3.1 – Full Compliance

This clause requires WaterNSW to prepare water balance reports for each of the Valleys in which it operates and to make them available on its website and at its offices.

WaterNSW demonstrated that it had prepared water balance reports for each of the valleys in which it operates and the reports included the requisite information. The auditors confirmed that the water balance reports were available on the WaterNSW website for downloading. Although the auditors did not seek to obtain or access a copy of the water balance reports at a WaterNSW office as part of this audit, it is assessed that WaterNSW is fully compliant with this obligation.

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

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

- **OFI-2015/16-02:** It may be prudent for WaterNSW to review its data management processes so as to ensure consistency between its internal system records and formally reported performance statistics.
- **OFI-2015/16-03:** It was noted that the Hume Dam EWN guideline nominates specific staff officers by name as primary and alternative contacts for event notification approvals. It is suggested that this should be changed to nominate officers by position.

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, and had it certified pursuant to clause 4.1.2 (if applicable), 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. Risks to assets and levels of service are managed through a rigorous maintenance audit program, supported by the implementation of effective operation and maintenance practices.

Assessment of the field implementation of asset management practices at Burrinjuck Dam revealed that site based personnel undertake an extensive range of operations and maintenance activities. It was apparent that they have a clear, well-founded understanding of their roles and responsibilities and effectively fulfil their asset management role.

An overview of the metering program, which involves the management of assets, revealed that it is well managed. SCADA connected meters installed under the metering project appear to be providing clear operational benefits, although it is understood that funding will not be available to extend the project in the near future due to the minimal water savings secured.

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

Clause 4.2.1 – Full Compliance

This clause requires WaterNSW to read each of its customers meters.

WaterNSW demonstrated that it had read its customers' meter throughout the audit period; the total number of reads was of the expected order given the documented frequency requirements. It is noted that water use data from approximately 30 percent of meters is captured via SCADA; it is suggested that the Meter Reading Procedure be updated to reflect this approach.

Detailed assessment in respect to this sub-clause is presented in **Table A.3.2** (refer **Appendix A**).

Clause 4.2.2 – Full Compliance

This clause requires WaterNSW to read metering equipment and determine water extraction for groundwater and Unregulated River licence holders, where it has an agreement in place with DPI Water to do so.

WaterNSW demonstrated, through a sample of records and reports, that it has read metering equipment and determined water extraction for groundwater and Unregulated River licence holders where there is an agreement to do so in place with DPI Water.

Detailed assessment in respect to this sub-clause is presented in **Table A.3.3** (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*:

- **OFI-2015/16-04:** WaterNSW may wish to consider updating the Meter Reading Procedure to incorporate reference to meter reading captured via SCADA. This would also provide an opportunity to re-brand the document, although it is an internal document this aspect is not considered to be a high priority. It is noted that the proposed review date (as recorded in the document) was June 2016.

5. State Water Operating Licence

Section 5 – Customers

5.1 Summary of Findings

Clause 5.1.1 – Full Compliance

This clause requires WaterNSW to regularly consult with Valley-based customer service committees (CSCs) to enable Customer involvement in issues relevant to the performance of WaterNSW's obligations to its Customers (excluding Fish River Water Supply Scheme Customers) under the provisions of the *Operating Licence* and the *Customer Service Charter*.

WaterNSW demonstrated that, during the audit period, it regularly consulted with the Valley-based customer service committees (CSCs) regarding issues relevant to the performance of its obligations to customers. The establishment of a reference group comprising a representative from each CSC to provide feedback in respect of WaterNSW's rural business pricing submission was a positive extension of the CSC arrangements.

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

Clause 5.1.2 – Full Compliance

This clause requires WaterNSW to invite at least one representative from groups or bodies, including customers that are Unregulated River water users, customers that are groundwater users, the NSW environmental water entitlement holder, the Commonwealth Environmental Water Holder and the relevant Catchment Management Authority, to be members of each Valley-based customer service committee.

WaterNSW demonstrated that it has invited at least one representative of the nominated groups or bodies to be members of each of the Valley-based customer service committees (CSCs). It also demonstrated that it had commenced the process of renewing membership of the CSCs in accordance with the *CSC Terms of Reference*, although the process has been deferred with CSC agreement.

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

Clause 5.1.3 – Full Compliance

This clause requires WaterNSW to provide the customer service committees (CSCs) with adequate information within its possession or under its control to enable the CSC to discharge the tasks assigned to it, subject to confidentiality (or similar) provisions.

WaterNSW demonstrated that it provides the CSCs with adequate information within its possession or under its control so as to enable the Customer Council to discharge the tasks assigned to it. It was noted that the *CSC Terms of Reference* identify restrictions in respect of the provision of confidential information.

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

Clause 5.2.1 – Full Compliance

This clause requires WaterNSW, in consultation with the customer service committees, to establish and maintain a *Customer Service Charter* (which does not relate to the Fish River Water Supply Scheme customers).

WaterNSW demonstrated that a *Customer Service Charter* was in place throughout the audit period, and that the CSCs had been consulted in respect of any required changes to the *Customer Service Charter*.

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

Clause 5.2.2 – Full Compliance

This clause requires that the *Customer Service Charter* must set out the mutual responsibilities and obligations of WaterNSW and its Customers.

The *Customer Service Charter* sets out the responsibilities and obligations of State Water and its Customers in a clear and concise manner, addressing service objectives in respect of Water Ordering and Delivery, Customer Contact and Information and Communication.

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

Clause 5.2.3 – Full Compliance

This clause requires WaterNSW to make the *Customer Service Charter* available on its website for downloading and to the public on request.

The auditors confirmed that the *Customer Service Charter* is available for downloading on the WaterNSW website. Although the auditors did not seek to obtain a copy of *Customer Service Charter* from a WaterNSW office as part of this audit, it is assessed that WaterNSW is compliant with this obligation.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.6** (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 provided a membership list, which demonstrated that it has invited at least one representative of the nominated organisations (Lithgow City Council, Oberon Council, Energy Australia (previously Delta Electricity) to be members of the Fish River Customer Council. It is noted that as of 1 January 2015, the former Sydney Catchment Authority has been integrated into WaterNSW and is thereby a default member of the Council.

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

Clause 5.4.1 – Full Compliance

This clause requires WaterNSW to enter into and maintain an agreement with each of its Fish River Water Supply 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 Supply Scheme Customers. It is noted that a small number of minor consumers have not signed formal agreements; however, based on the evidence provided, the auditors are of the opinion that deemed or inferred agreements exist between these customers and WaterNSW.

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

Recommendation 2014/15-2 – Addressed

This recommendation required WaterNSW to ensure that it has exercised its best endeavours to enter into (and maintain) customer agreements with each of its Fish River Water Supply Scheme customers, including all minor consumers (by 30 September 2016).

WaterNSW has undertaken (and is still undertaking) a range of actions in an endeavour to ensure that it has agreements in place with all of its Fish River Water Supply Scheme Customers. These actions have included both direct contact and alternative approaches. In the absence of securing a signed contract, and having provided appropriate notification to customers, an agreement will ultimately be deemed to be in place irrespective of whether a formally signed agreement has been provided.

Detailed assessment in respect to this past recommendation is presented in **Table A.4.9** (refer **Appendix A**).

Clause 5.5.1 – Full Compliance

This clause requires WaterNSW to develop, maintain and fully implement a code of practice relating to Customers having payment difficulties.

WaterNSW demonstrated that it has a *Debt Management Code of Practice*, together with associated procedures for Water Debtor Management and Debt Management Compliance (Licence Suspension), in place throughout the audit period. Statistics presented in the *2015/16 Compliance and Performance Report* provided evidence that the *Debt Management Code of Practice* was being implemented.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.10** (refer **Appendix A**).

Clause 5.6.1 – Full Compliance

This clause requires WaterNSW to 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*.

WaterNSW demonstrated that it maintained a procedure for receiving, responding to and resolving complaints throughout the audit period. Previous review of the procedure has found that it is generally consistent with the *Australian Standard AS ISO 10002-2006: Customer satisfaction*

- *Guidelines for complaints handling in organizations.* The procedure is currently under review, which indicates that it continues to be maintained.

Detailed assessment in respect to this sub-clause is presented in **Table A.4.11** (refer **Appendix A**).

5.2 Recommendations

No recommendation is made in respect of this section of the *State Water Operating Licence*.

5.3 Opportunities for Improvement

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

6. State Water Operating Licence

Section 6 – Environmental Management

6.1 Summary of Findings

Clause 6.1.4 – Full Compliance

This clause requires that, until it has developed an Environmental Management System pursuant to clause 6.1.1 and had it certified pursuant to clause 6.1.2, WaterNSW must maintain programs to manage risks to the environment from carrying out its activities and ensure that all its activities are carried out in accordance with those programs.

The evidence provided demonstrates that WaterNSW has maintained programs to manage risks to the environment from carrying out its activities and has ensured that all its activities are carried out in accordance with those programs. Target actions in support of objectives to minimise the environmental impact of infrastructure and activities and to promote an environmentally responsible culture were substantially met.

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

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

7. Sydney Catchment Authority Operating Licence

Section 2 – Water Quality

7.1 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 has established a Water Quality Management Framework (WQMF) that is generally 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. However, the WQMF needs to be kept up to date to reflect the changes and improvements made. WaterNSW is currently in the process of reviewing and updating the WQMF, however, this is not yet complete. A process for regular review of the WQMF to ensure that it remains accurate and relevant to contemporary practice should be refined and documented; details of review frequency, purpose and records should be included.

Furthermore, the intent of the framework prescribed by the ADWG is to provide a structured and systematic approach to managing water quality. The WQMF, which relies on a number of supporting documents, processes and procedures to fully define WaterNSW's approach to water quality management, needs to be better integrated. Although some of the specific components of the framework are very well addressed, some sub-components of the elements or associated processes need to be better referenced and/or strengthened.

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 WQMF, the items that were documented were being implemented. In particular, the catchment management aspect was very well managed. In addition, actions, including communication with key customers (eg. Sydney Water), during events/incidents were well implemented.

NSW Health was also generally satisfied that WaterNSW had met its obligations under the *SCA Operating Licence*.

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

Recommendation 2012/13-1 – 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;
- 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).

Preventive measures, including those for CCPs, have been identified in the respective QAPs. The CCPs and validation tables were recently revised. It was noted that the revised CCPs and limits had been shared with NSW Health, and that NSW Health had indicated its satisfaction with these (although outside the audit timeframe).

The preventive measures identified are appropriate and include actions such as confirming the C.t target for disinfection, installing signage, providing alternative water and closing down the picnic area site.

Monitoring of identified CCPs is undertaken at appropriate frequency. It was noted that SCADA alarms for CCP breaches and failures are not relayed to the duty operator (except for Fitzroy Falls), but this is part of the improvement actions yet to be undertaken.

Detailed assessment in respect to this past recommendation is presented in **Table B.1.3** respectively (refer **Appendix B**).

Recommendation 2012/13-2 – 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;
- 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).

Preventive measures, including for CCPs, have been identified in the WQMF and are considered appropriate. The CCPs have been revised following recent consultation and meetings with Sydney Water. Monitoring of identified CCPs is undertaken at appropriate frequencies.

Detailed assessment in respect to this past recommendation is presented in **Table B.1.4** respectively (refer **Appendix B**).

Recommendation 2013/14-1 – Addressed

This recommendation required WaterNSW to clearly document the following:

- 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.

The CCPs are clearly documented in the WQMF, which includes the CCPs monitored (including instrument numbers), CCP limits with justification for the targets and critical limits selected, and corrective actions to manage CCP failures. The respective QAPs for the picnic areas include the CCPs, validation tables and relevant CCP procedures.

Detailed assessment in respect to this past recommendation is presented in **Table B.1.5** respectively (refer **Appendix B**).

Recommendation 2014/15-1 – Partially Addressed

This recommendation required WaterNSW to 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).

Whilst the WQMF provided to the auditors is currently under review, only Appendix 4, which includes the revised CCP validation tables and procedures, had been updated during the audit period. Further work is required to complete the review and update of the entire framework; it is unlikely that this would have been achieved by the 30 September 2016 target date.

Detailed assessment in respect to this past recommendation is presented in **Table B.1.6** respectively (refer **Appendix B**).

7.2 Recommendations

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

- **REC-2015/16-01:** Refine and document the review process to ensure that effective reviews of the WQMF, which go beyond reviewing only water quality performance, are undertaken; requirements in respect of review frequency, purpose and records should be documented within the WQMF.

The WQMF should be regularly reviewed to ensure that it is accurate (reflects the on-ground circumstances) and relevant (appropriate to manage water quality risks), and remains consistent with the ADWG. Review of the WQMF should be undertaken in accordance with the following timelines:

- completion of the *Water Quality Management System Review Project* by June 2017;
- review of operational performance including, but not limited to, water quality performance, CCP validity, changes in legislative or formal requirements, relevance/effectiveness of preventive measures, outcomes of incident and emergency management and audit outcomes, which should be conducted at least annually; and
- comprehensive review of the WQMF every two years (or as otherwise defined in the WQMF) unless the findings of the annual review or other significant change warrants an earlier comprehensive review.

7.3 Opportunities for Improvement

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

WQMF:

Element 1

- **OFI-2015/16-05:** The reference to the policy document number in WQMF should be updated.
- **OFI-2015/16-06:** Summarise and reference the corporate process on maintaining, reviewing and communicating the regulatory and formal requirements in the WQMF.
- **OFI-2015/16-07:** Reference the Water Quality Contact List as the list for stakeholders. Include the process for the review of this list in the WQMF.

Element 2

- **OFI-2015/16-08:** The process for periodic review of the schematics (e.g. prior to risk assessment review or upon significant change to infrastructure or operations) should be stated in the WQMF.
- **OFI-2015/16-09:** The process on how the risk register is reviewed and maintained in between the 5-year comprehensive review cycles should be explained in the WQMF.

Element 4

- **OFI-2015/16-10:** Investigate developing a corporate procedure/process on chemical quality, receipt, safety and use for all of WaterNSW operations including supplies that were under the former State Water operations.

Element 5

- **OFI-2015/16-11:** Reference the water data review and reporting procedure and summarise the process in the WQMF.

Element 7

- **OFI-2015/16-12:** Document in the WQMF how employee training needs are identified and addressed.

Element 9

- **OFI-2015/16-13:** For completeness, the “Validation of processes” and “Design of equipment” sub-sections should be explicitly included in the WQMF.

Element 10

- **OFI-2015/16-14:** Reference the corporate ‘how to guide’ on managing compliance with reporting requirements in the WQMF.

Element 12

- **OFI-2015/16-15:** Describe the process for the monitoring, review and update of the improvement plan.

General:

- **OFI-2015/16-16:** Going forward and having close to 20 QAPs along with the WQMF, establish a process for internal audits of these risk-based plans, especially with a focus on the operational aspects (eg. CCP implementation, monitoring, record keeping, currency and relevance).

- **OFI-2015/16-17:** Investigate the appropriateness of the CCP critical limits for the picnic area sites and re-validate the CCP limits, as appropriate. Periodic reviews of the QAPs, including CCPs and limits should be undertaken in accordance with NSW Health's requirements.

8. Sydney Catchment Authority Operating Licence

Section 3 – Water Supply Sufficiency

8.1 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 continued to operate and manage 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 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**).

Clause 3.1.2 – Full Compliance

This clause requires WaterNSW to make the Design Criteria available to the public on its website and at its offices.

The auditors confirmed that information regarding the Design Criteria is available on the WaterNSW website, albeit contained within other documents. Although the auditors did not seek to obtain a copy of the Design Criteria from a WaterNSW office as part of this audit, it is assessed that WaterNSW is compliant with this obligation.

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

Clause 3.2.1 – No Requirement

This clause requires WaterNSW to re-calculate the Water Supply System Yield on the occurrence of an event that may have an impact on the supply of water.

The need to re-calculate the Water Supply System Yield was not “triggered” during the audit period. Accordingly, there was no requirement in respect of this obligation.

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

Clause 3.2.3 – No Requirement

This clause requires WaterNSW to make details of any change to the Water Supply System Yield available to the public on its website and at its offices.

There were no changes to the Water Supply System Yield during the audit period. Accordingly, there was no requirement in respect of this obligation.

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

Clause 3.3.1 – Full Compliance

This clause requires WaterNSW to retain an independent expert to review its model and procedure for calculating the Water Supply System Yield, test the robustness of the model and the process for calculating the Water Supply System Yield, and advise whether the Water Supply System Yield should be re-calculated; this must be done by 30 June 2016.

WaterNSW demonstrated that it had engaged an independent expert to review its model and procedure for calculating the Water Supply System Yield; the review was undertaken prior to 30 June 2016. The independent experts endorsed the model and yield estimation methodology, and concluded that, whilst there are some opportunities for improvement, there is no imperative to adjust (recalculate) the current yield estimates.

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

Clause 3.3.2 – Full Compliance

This clause requires WaterNSW to consult with Sydney Water, stakeholders and regulators as agreed with IPART; and any other persons reasonably expected to have an interest in the review of the model during the independent expert's review.

WaterNSW demonstrated that it had consulted with Sydney Water and DPI Water, and had invited the Office of Environment and Heritage to participate in stakeholder workshops. Although IPART had suggested that Sydney Desalination Plant also be invited to participate, it appears that WaterNSW's contention that this would not be appropriate was not disputed and therefore deemed to have been agreed.

Detailed assessment in respect to this sub-clause is presented in **Table B.2.6** (refer **Appendix B**).

Clause 3.3.3 – Full Compliance

This clause requires WaterNSW to make the findings of the independent expert's review and WaterNSW's response to those findings available to the public on its website and at its offices.

The auditors confirmed that findings of the independent expert's review and WaterNSW's response to those findings are available on the WaterNSW website. Although the auditors did not seek to obtain a copy of this information from a WaterNSW office as part of this audit, it is assessed that WaterNSW is compliant with this obligation.

Detailed assessment in respect to this sub-clause is presented in **Table B.2.7** (refer **Appendix B**).

8.2 Recommendations

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

8.3 Opportunities for Improvement

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

- **OFI-2015/16-18:** WaterNSW may wish to make the Design Criteria more readily accessible on its website. Publication of the Design Criteria as a “standalone” document may be an appropriate manner in which to achieve this.
- **OFI-2015/16-19:** It would be prudent for WaterNSW to ensure that Licence requirements in respect of independent review of the appropriateness of the frequency of yield calculation or the nominated trigger events should be explicitly included and reported as part of the independent review of the model and procedure for calculating the Water Supply System Yield.

9. Sydney Catchment Authority Operating Licence

Section 4 – Catchment

9.1 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 implements activities to manage and protect the catchment area consistent with its relevant objectives and functions under the Act. WaterNSW has diverse catchment management strategies in place to target both diffuse and point sources of pollution, and is implementing them so as to promote water quality, protect public health and public safety, and protect the environment.

WaterNSW also maintains key components related to catchment management, including policy/strategy, land use controls, criteria for development applications, partnerships, 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**).

9.2 Recommendations

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

9.3 Opportunities for Improvement

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

- **OFI-2015/16-20:** Develop a Monitoring and Evaluation (M&E) Framework which guides and identifies the monitoring indicators (direct and/or proxy) for catchment management actions. The M&E Framework should clearly show the indicators being monitored and the link/s to the overall objective of protecting and enhancing water quality in the catchment areas, thereby demonstrating the benefits from the interventions.
- **OFI-2015/16-21:** Investigate options to package and showcase the success of “The Junction” property project under the Rural Landscape Program to incentivise other landowners in high risk drainage units to participate in the program.
- **OFI-2015/16-22:** The Environmental Assessment Manual should be reviewed as it is past its review date of November 2015 (as indicated in the document), and re-branded as a WaterNSW document.

10. Sydney Catchment Authority Operating Licence

Section 5 – Assets

10.1 Summary of Findings

Clause 5.1.1 – Non-Compliant

and

Clause 5.1.2 – Non-Compliant

These clauses require WaterNSW to:

- development an Asset Management System consistent with an approved standard or guidance by 30 June 2015; and
- to ensure that the Asset Management System is fully implemented and that all relevant activities are carried out in accordance with the System by 1 July 2015.

WaterNSW has declared an “imposed non-compliance” in respect of these clauses due to the merger of the SCA and State Water on 1 January 2015, following which it is developing an *Asset Management System* that will meet its obligations under both the *State Water Operating Licence* and the *SCA Operating Licence*, or their replacement.

WaterNSW has advised that the *Asset Management System* will be in place by June 2016 and certified by December 2016. The auditor has assessed that the *Asset Management System* was in place by June 2016 and that sufficient progress had been made to have it certified as being compliant with the requirements of ISO 55001 and fully implemented by December 2016 (as proposed).

In response to concerns raised by NSW Health in respect of WaterNSW’s asset maintenance for the Sydney catchments following two specific incidents, the auditors are of the view that, whilst there may have been some (long-term) shortfalls in management of the assets that led to these incidents, WaterNSW’s response has been both robust and appropriate. The manner in which these issues have been addressed is considered to be consistent with typical asset management practice.

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

10.2 Recommendations

No recommendations are made in respect of this section of the *Sydney Catchment Authority Operating Licence* as this non-compliance is being addressed.

10.3 Opportunities for Improvement

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

11. Sydney Catchment Authority Operating Licence

Section 6 – Customers

11.1 Summary of Findings

Clause 6.2.1 – Full Compliance

This clause requires WaterNSW to 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*.

WaterNSW demonstrated that it maintained a procedure for receiving, responding to and resolving complaints throughout the audit period; there was a change in procedure from January 2016 onwards at which time the former State Water procedure was adopted as the WaterNSW procedure. Previous review of both procedures has found that they are generally consistent with the *Australian Standard AS ISO 10002-2006: Customer satisfaction - Guidelines for complaints handling in organizations*.

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

Clause 6.2.2 – Full Compliance

This clause requires WaterNSW to make information which explains how to make a complaint and how complaints are managed available to its customers free of charge.

The auditors confirmed that information regarding the Complaints Handling Procedure (the *Feedback and Complaints Policy*), which explains how to make a complaint and how complaints are managed, is available on the WaterNSW website. Although the auditors did not seek to obtain the requisite information from a WaterNSW office as part of this audit, it is assessed that WaterNSW is compliant with this obligation.

Detailed assessment in respect to this sub-clause is presented in **Table B.5.2** (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

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

12. Sydney Catchment Authority Operating Licence

Section 7 – Environment

12.1 Summary of Findings

Clause 7.1.1 – Non-Compliant

and

Clause 7.1.2 – Non-Compliant

These clauses require WaterNSW to:

- development an Environmental Management System consistent with the *Australian Standard AS/NZS ISO 14001:2004: Environmental management systems – Requirements with guidance for use* by 30 June 2015; and
- to ensure that the Environmental Management System is fully implemented and that all relevant activities are carried out in accordance with the System by 1 July 2015.

WaterNSW has declared an “imposed non-compliance” due to the merger of the SCA and State Water on 1 January 2015, following which it is developing an *Environmental Management System* that will meet its obligations under both the *State Water Operating Licence* and the *SCA Operating Licence*, or their replacement.

WaterNSW advised that the *Environmental Management System* will be in place by June 2016 and certified by December 2016. The auditor has assessed that the *Environmental Management System* was in place by June 2016 and that sufficient progress had been made to have it certified as being compliant with the requirements of ISO 14001 and fully implemented by December 2016 (as proposed).

Detailed assessment in respect to this sub-clause is presented in **Table B.6.1** (refer **Appendix B**).

Clause 7.1.4 – Full Compliance

This clause requires that, until it has developed an Environmental Management System pursuant to clause 7.1.1 and implemented it pursuant to clause 7.1.2, WaterNSW must maintain programs to manage risks to the environment from carrying out its activities and ensure that all its activities are carried out in accordance with those programs.

The evidence provided demonstrates that WaterNSW has maintained programs to manage risks to the environment from carrying out its activities and has ensured that all its activities are carried out in accordance with those programs. Target actions in support of objectives to minimise the environmental impact of infrastructure and activities, to positively influence third party activities to protect Sydney catchment areas and to promote an environmentally responsible culture were substantially met.

Detailed assessment in respect to this sub-clause is presented in **Table B.6.2** (refer **Appendix B**).

12.2 Recommendations

No recommendations are made in respect of this section of the *Sydney Catchment Authority Operating Licence* as this non-compliance is being addressed.

12.3 Opportunities for Improvement

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

13. Sydney Catchment Authority Operating Licence

Section 9 – Memorandum of Understanding

13.1 Summary of Findings

Clause 9.1.1 – Full Compliance

This clause requires WaterNSW to maintain a Memorandum of Understanding with each of the Director-General of the Ministry of Health (NSW Health) and the Environment Protection Authority (EPA), pursuant to section 36 of the *Sydney Water Catchment Management Act 1998*.

WaterNSW demonstrated that it had maintained Memoranda of Understanding (MOU) with both NSW Health and the EPA throughout the audit period. The process of renewing both MOUs was commenced and, in the case of NSW Health, signed during the audit period.

Evidence was provided to demonstrate that arrangements under the MOUs are, in general, being implemented as intended. Concerns raised by NSW Health in respect of a breach of communication protocols by WaterNSW were effectively resolved under the provisions of the MOU, thereby demonstrating the provisions were working effectively.

Detailed assessment in respect to this sub-clause is presented in **Table B.6.1** (refer **Appendix B**).

13.2 Recommendations

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

13.3 Opportunities for Improvement


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

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> <ul style="list-style-type: none"> 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). <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>	 Full Compliance

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.

Evidence sighted

- WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.
- MS Excel Workbook: *DOC13/29697 - Local Water Utilities contact details.xlsx*.
- WaterNSW Procedure (Draft), *Local Water Utilities Register of Contact Details (RuralNSW)* (Reference: D2016_96233), undated.
- WaterNSW Procedure, *Local Water Utilities – Maintaining of Contact Details (RuralNSW)* (Reference: D2016_96233), undated.
- Interviews with WaterNSW staff, 19-23 September 2016.

Summary of reasons for grade

WaterNSW maintains a register of all Local Water Utilities (LWUs), including the contact details, Work Approval and licence details and the extraction location. Review of the register revealed that it includes contact details for all listed LWUs. Accordingly, it is assessed that WaterNSW is fully compliant with this obligation.

It is noted that Recommendation 2013/14-1, which relates to this sub-clause, has now been fully addressed (albeit subsequent to the audit period).

Discussion and notes

This requirement was previously audited in detail as part of the 2014/15 Operational Audit.

WaterNSW advised that:¹²

¹² WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 5.

“... a register is maintained for all Local Water Utilities.

The Register categorises LWU’s by licence type category and contains the contact details and extraction point.”

The *Local Water Utilities (LWU) Register*¹³ identifies the water source, details of the relevant Work Approval including holder name, access license details and status, extraction location and contact details. WaterNSW advised¹⁴ that the *Register* is populated by downloading a report from the Water Accounting System (WAS).

Review of the *Register* is managed through the Tickit (task management) system, which triggers a review on 1 February each year; Tickit No: 921 was sighted during the audit interviews. It was noted from the Tickit records that the task of updating the Register typically involves 6-8 hours of time input.

The update procedure involves extracting a report from WAS to ensure that all relevant customers are included as well as contacting each Local Water Utility (LWU) to confirm contact details. A documented procedure outlining this process had been drafted during the audit period,¹⁵ and has subsequently been finalised and approved¹⁶ (refer Table A.1.4 for further discussion).

A review of the *Register* revealed that contact details were included for all listed LWU’s. On the basis that the *Register* is fully populated, it is assessed that it is up-to-date. It is noted, however, that no reconciliation between the *Register* and WAS has been undertaken as part of the audit.

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.


¹³ MS Excel Workbook: *DOC13/29697 - Local Water Utilities contact details.xlsx*.

¹⁴ Personal comment during audit interviews.

¹⁵ WaterNSW Procedure (Draft), *Local Water Utilities Register of Contact Details (RuralNSW)* (Reference: D2016_96233), undated.

¹⁶ WaterNSW Procedure, *Local Water Utilities – Maintaining of Contact Details (RuralNSW)* (Reference: D2016_96233), undated.

Table A.1.2 Bulk Water supplied to Local Water Utilities for Drinking Water purposes (Sub-clause 2.1.2)

Sub-clause	Requirement	Compliance Grade
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).	 Full Compliance

Risk	Target for Full Compliance
Without an adequate water quality information request 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 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

- WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.
- State Water, *Water Quality Information Request Procedure* (Reference: DOC13/29728), 30 September 2015.
- WaterNSW, *Agency Information Guide 2016-17; Government Information (Public Access) Act 2009*, undated.
- Interviews with WaterNSW staff, 19-23 September 2016.

Summary of reasons for grade

WaterNSW had a *LWU Information Request Procedure* in place throughout the audit period. The procedure outlines the process for providing information in respect of water quality when requested by a Local Water Utility. Accordingly, it is assessed that WaterNSW is fully compliant with this obligation.

It was noted, however, that whilst the procedure was in place, there were no requests for water quality information during the audit period.

Discussion and notes

WaterNSW advised¹⁷ that it has developed and is implementing a *LWU Information Request Procedure*.

WaterNSW further advised that:¹⁸

“WaterNSW uses its customer helpdesk and Ticket system to record all requests for water quality data in terms of this procedure.

To date there have been no requests for information on water quality in relation to the procedure.

There are still some legacy procedures/arrangements for reporting and requesting information from the State Water and Sydney Catchment Authority days. However work to streamline these and bringing this in line with the GIPA Act is underway.

Another option for LWU's is to request information according to the Government Information (Public Access) Act 2009. Information can be requested by using the form located on WaterNSW's website:

<http://www.watarnsw.com.au/about/information>

Alternatively, contact Water NSW's right to information officer ...”

¹⁷ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 6.

¹⁸ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 6.

The *LWU Information Request Procedure*¹⁹ describes how a LWU can request information, describes how WaterNSW will respond (and timeframe), and defines fees that will be charged and the basis of charging. The water quality data that can be requested is identified in the procedure; it includes algal data, temperature, DO (dissolved oxygen) and conductivity.

It is noted that the *LWU Information Request Procedure* indicated that it was due for review by 30 September 2015. WaterNSW advised that the procedure had not been reviewed since 2013; however, a review is currently underway. The need to review the procedure in accordance with stated timelines would normally be raised as an opportunity for improvement, however, given that a review is already in hand this is not deemed constructive.

It is noted that, as part of the review, WaterNSW is considering the requirements of the *Government Information (Public Access) Act 2009 (NSW)* and the provisions of the WaterNSW Agency Information Guide.²⁰ This approach is considered appropriate.

In respect to implementation of the procedure, WaterNSW's advice that "*To date there have been no requests for information on water quality in relation to the procedure*" is noted. In the absence of any such requests, it is not possible to confirm implementation. Notwithstanding, based on the level of WaterNSW's overall compliance with its Licence obligations, the auditor is satisfied that WaterNSW would fully implement the procedure if a request is received.

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.

¹⁹ State Water, *Water Quality Information Request Procedure* (Reference: DOC13/29728), 30 September 2015.

²⁰ WaterNSW, *Agency Information Guide 2016-17*; *Government Information (Public Access) Act 2009*, undated.

Table A.1.3 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: 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></div> Full Compliance
Risk		Target for Full Compliance
Without an adequate water quality information communication procedure, there is a 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 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">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.State Water, <i>Water Quality Information Request Procedure</i> (Reference: DOC13/29728), 30 September 2015.Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
The <i>LWU Information Request Procedure</i> defines the process, sets a response time and outlines the basis on which fees and charges are to be levied. Accordingly, it is assessed that WaterNSW was fully compliant with this obligation throughout the audit period.		
Discussion and notes		
This requirement was previously audited as part of the 2014/15 Operational Audit.		
WaterNSW provided a copy of the <i>LWU Information Request Procedure</i> ²¹ and advised that: ²² “Yes – the procedure identifies how to request the information timeframes for response and the basis for charging of fees The procedure has not been reviewed since 2013. As stated in 2.1.2 work is underway to consolidate and streamline the procedure for WaterNSW.”		
As reported in Table A.1.2, review of the <i>LWU Information Request Procedure</i> reveals that it addresses the required subject matter, as follows:		
<ul style="list-style-type: none">How to request information – this is shown in a flow chart under the heading “Request and Response Procedure”;		

²¹ State Water, *Water Quality Information Request Procedure* (Reference: DOC13/29728), 30 September 2015.

²² WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 6.

-
- How State Water (WaterNSW) will respond to the request in a timely manner – the process is shown in a flow chart under the heading “Request and Response Procedure” whilst the required response time (five (5) working days) is documented under the heading “Procedural Time”; and
 - Definition of fees or charges, how these will be calculated, and how they are to be paid – this is outlined under the heading “Fees and Charges”, which indicates that costs are recovered on the basis of an estimated cost of retrieving the information (to be advised to the customer prior to processing the request). It is noted that the procedure does not specifically outline how fees or charges are to be paid; however, the auditor is of the view that this can reasonably be expected to be part of the discussion when WaterNSW advises the LWU the cost of retrieving the water quality data.
-

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.1.4 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 style="background-color: green; width: 100px; height: 30px;"></div> <p>Addressed</p>
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.
Evidence sighted		
<ul style="list-style-type: none"> WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016. WaterNSW Procedure (Draft), <i>Local Water Utilities Register of Contact Details (RuralNSW)</i> (Reference: D2016_96233), undated. WaterNSW Procedure, <i>Local Water Utilities – Maintaining of Contact Details (RuralNSW)</i> (Reference: D2016_96233), undated. Document: <i>D2016_119420 Screenshot of D2016_96233 approval in ARK.</i> MS Excel Workbook: <i>DOC13/29697 - Local Water Utilities contact details.xlsx.</i> Interviews with WaterNSW staff, 19-23 September 2016. 		
Summary of reasons for grade		
<p>This recommendation is considered to have been addressed. WaterNSW has prepared a documented procedure for updating the Local Water Utility (LWU) Register; this was finalised and approved on 20 September 2016. Furthermore, WaterNSW has confirmed contact details that were previously missing from the Register.</p>		
Discussion and notes		
<p>WaterNSW advised that:²³</p> <p><i>“Work has commenced on the development of the procedure and it is anticipated it will be in place by end of September 2016.</i></p> <p><i>Contact details are in the LWU register.</i></p> <p><i>The register has not been updated during the 2014/15 audit period.”</i></p> <p>WaterNSW initially provided a copy of a draft procedure,²⁴ and subsequently provided a finalised and approved procedure,²⁵ that outlines the process of updating the Local Water Utilities Register. The procedure is consistent with the update process described during the audit interviews.</p>		

²³ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 6.

It is noted that the procedure is undated (although it does identify the next review date); however, WaterNSW provided a screenshot from its document management system, which indicated that the procedure had been approved on 20 September 2016.²⁶ It is suggested that WaterNSW adopts a process of dating all of its procedures (on the actual document); an opportunity for improvement (**OFI-2015/16-01**) has been identified accordingly.

As noted in Table A.1.1, a review of the *Register*²⁷ revealed that contact details were included for all listed LWU's. On the basis that the *Register* is fully populated, it is assessed that WaterNSW had confirmed previously omitted contact details.

Recommendations

There are no further recommendations arising in respect of this previous recommendation.

Opportunities for improvement

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

- **OFI-2015/16-01:** It is suggested that WaterNSW should record the date on which all formal documents (eg. procedures) are finalised and/or approved on the actual document.

²⁴ WaterNSW Procedure (Draft), *Local Water Utilities Register of Contact Details (RuralNSW)* (Reference: D2016_96233), undated.


²⁵ WaterNSW Procedure, *Local Water Utilities – Maintaining of Contact Details (RuralNSW)* (Reference: D2016_96233), undated.

²⁶ Document: D2016_119420 Screenshot of D2016_96233 approval in ARK.

²⁷ MS Excel Workbook: DOC13/29697 - *Local Water Utilities contact details.xlsx*.

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. <i>[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.]</i>	 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 response to 2016 Operational Audit Questionnaire, 1 September 2016.
- WaterNSW, *Water Ordering Procedure* (Reference: CD2015/312), 29 November 2012.
- Ordering Water webpage at: <http://www.waternsw.com.au/customer-service/ordering#stay>
- Water Accounting System (iWAS) webpage at: <http://www.waternsw.com.au/customer-service/iwas>
- State Water, *Water Order Checklist*, undated (Reference: DOC10_11867).
- Document: *Example docket for a non-complying water order* (Reference: D2016_96900).
- WaterNSW, *All Water Orders 2015/16* (Reference: D2016_88548).
- Derived from MS Excel Spreadsheet: *Processing times complying water orders* (Reference: D2016_97241).
- MS Excel Spreadsheet: *complying water order, are contacted within 1 working day to rectify that order* (Reference: D2016_86354).
- Interviews with WaterNSW staff, 19-23 September 2016.

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. Orders can be placed on-line using the iWAS system, in which case orders are processed automatically, or via the Customer Helpdesk, in which case there is a clearly defined procedure for ensuring compliance and submitting the order into the WAS system.

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

Discussion and notes

WaterNSW advised that:²⁸

“WaterNSW has an approved water ordering procedure, under review due to review cycle. This procedure defines how to assess whether a water order is complete and correct WaterNSW has a water order checklist in place, which CSOs use to ensure water orders received are correct.”

²⁸ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 7.

WaterNSW has made an online water ordering system available to customers (iWAS). These online orders once entered by the customer are processed immediately.”

The *Water Ordering Procedure*²⁹ identifies the range of options available 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) [now Customer Service Officer (CSO)].

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 the WAS. Only complying orders are entered; protocols 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.³⁰

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.³¹ WaterNSW advised that there were 11,078 customer water orders entered using iWAS during the 2015/16 water year; due to the internal checks, these are all complying orders.

The *Water Ordering Procedure*³² includes clear guidelines to assist CSOs 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.

For orders placed via the Ticketing System, CSOs use a simple Water Order Checklist³³ to check compliance. Items checked relate to Water Order Type, Water Access Licence Details, Combined Approval or Works Approval, Extraction Details, Meter Reading and Authorisation. A sample docket for a non-complying water order was provided for review.³⁴

The *Water Ordering Procedure* also includes instructions to assist CSOs to deal with Non-Complying Orders. These instructions direct CSOs 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.³⁵

The 2015/16 Water Orders reconciliation³⁶ shows that 4,951 customer interactions were processed through the Customer Helpdesk, including 4,639 water orders. Of these 4,639 water orders, 3,186 were

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

³⁰ Ordering Water webpage at: <http://www.waternsw.com.au/customer-service/ordering#stay>

³¹ Water Accounting System (iWAS) webpage at: <http://www.waternsw.com.au/customer-service/iwas>

³² WaterNSW, *Water Ordering Procedure* (Reference: CD2015/312), 29 November 2012, page 2.

³³ State Water, *Water Order Checklist*, undated (Reference: DOC10_11867).

³⁴ Document: *Example docket for a non-complying water order* (Reference: D2016_96900).

³⁵ Ordering Water webpage at: <http://www.waternsw.com.au/customer-service/ordering#stay>

³⁶ WaterNSW, *All Water Orders 2015/16* (Reference: D2016_88548).

complying and approved; 1,082 were non-complying and approved; and 371 were non-complying and not approved. Other customer interactions managed through the Customer Helpdesk were related to meter reading (215) and customer enquiries (97).

Processing times for the 3,186 complying water orders processed through the Customer Helpdesk³⁷ is shown in Table A.2.1A below. This data shows that 93% 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 register of Non-Complying Orders³⁸ shows that there were 7 orders for which the processing time (elapsed time) was greater than 8 hours. Of the non-complying orders received, only two (2) were not contacted within one working day of submitting that order.³⁹

Table A.2.1A Water Order Processing Times – 2015/16

Processed Time	Number of Orders	Cumulative Percentage
< 1 Hour	2273	71%
1-2 Hours	418	84%
2-3 Hours	202	91%
3-4 Hours	73	93%
4-8 Hours	114	97%
> 8 hours	106	100%
Total	3186	

The above analysis indicates that WaterNSW has 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.

³⁷ Derived from MS Excel Spreadsheet: *Processing times complying water orders* (Reference: D2016_97241).

³⁸ MS Excel Spreadsheet: *complying water order, are contacted within 1 working day to rectify that order* (Reference: D2016_86354).

³⁹ In its *2015/16 Compliance and Performance Report* (WaterNSW, *Report to IPART under the Operating Licence 2013-2018 for Non-Sydney Catchment Functions*, 1 September 2016, section 7.1.1.1), WaterNSW reported that two (2) non-complying orders were not contacted within one working day.

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 response to 2016 Operational Audit Questionnaire, 1 September 2016.
- MS Excel Spreadsheet: *IPART Reporting 7.1.1 Customer complaints +- 1 day Ticket System Report 2015-16* (Reference: D2016_81599).
- WaterNSW, *Report to IPART under the Operating Licence 2013-2018 for Non-Sydney Catchment Functions*, 1 September 2016.
- Interviews with WaterNSW staff, 19-23 September 2016.

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. Based on the number of complaints received, it is evident that WaterNSW ensures the timely delivery of water for almost 100 percent (99.99 percent) of water orders.

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

Discussion and notes

WaterNSW advised that it processes all water orders in accordance with its *Water Ordering Procedure*.⁴⁰

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)), WaterNSW must then implement processes and procedures to ensure the timely delivery of the water ordered by customers.

WaterNSW advised that:⁴¹

“Water orders are entered into the Computer Aided Improved River Operations (CAIRO) water balance model for the different water systems. CAIRO then determines the amount of water to be released from a storage to fulfil these orders allowing for water losses during delivery and inflows from tributaries. WaterNSW has also developed a more sophisticated model (CARMS) based on real time flows from meters and gauges with telemetry that has been trialled in the Murrumbidgee Valley. CARMS will be progressively rolled out to other NSW valleys.”

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

⁴⁰ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 8.

⁴¹ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 8.

presented during the audit interviews.

CARMS (Computer Aided River Management System) is a recently developed, more sophisticated computer based system that is currently being trialled in the Murrumbidgee river basin (where it is being used in parallel with CAIRO). CARMS is based on hydraulic flow models⁴² 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, CARMS has the capability to more accurately account for all important flow processes.

WaterNSW advised that:

“WaterNSW measures timeliness of delivery (actual delivery date relative to day water ordered for by recording complaints received) by the number of complaints received about orders outside of +1/-1 day of delivery. In addition, WaterNSW will contact customers directly in the event that a shortfall is predicted and work with the affected customers to reschedule water delivery. Conversely if a surplus is predicted WaterNSW will work directly with customers for rescheduling of water delivery to reduce any surplus.

In 2015-16 WaterNSW received 18 Complaints regarding water deliveries and low water levels. Half of these were related to Hunter River where WNSW tried to realise better water savings by running the river lower than usual when water was restricted. Because of low available water determinations, many rivers were unseasonably low during the 2015-16 year.”

Taking account of the demonstrated performance record of the CAIRO system and the efforts of WaterNSW to develop and improve the CARMS 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 data,⁴³ which indicates that, based on the number of Customer Complaints, all except ten (10) orders were delivered within +/- one day of the scheduled (ordered) day of delivery.

Notwithstanding the demonstrated performance, it is noted that the number of complaints appears to be differently reported in:

- the above-mentioned performance data (which is an extract from the Tickit system) which indicates ten (10) complaints;
- the 2015/16 Compliance and Performance Report, which indicates eleven (11) complaints;⁴⁴ and
- WaterNSW’s audit questionnaire response, which indicates eighteen (18) complaints.

Given the apparent discrepancies between system records and formally reported performance statistics, albeit that they are minor, it may be prudent for WaterNSW to review its data management processes. This issue, which was also noted in Table A.2.1, has been identified as an opportunity for improvement **(OFI-2015/16-02)**.

Adopting ten (10) complaints (as this figure is based on the extract from the Tickit system, ie. the source information) and comparing it to the total number of orders (93,259, as reported in the 2015/16 Compliance and Performance Report),⁴⁵ then 99.99 percent $((1-(10/93,259)) \times 100)$ of water orders were delivered within +/- one day of the scheduled (ordered) day of delivery.

⁴² CARMS is based on a customised DHI MIKE Operations platform.

⁴³ MS Excel Spreadsheet: IPART Reporting 7.1.1 Customer complaints +- 1 day Ticket System Report 2015-16 (Reference: D2016_81599).

⁴⁴ WaterNSW, Report to IPART under the Operating Licence 2013-2018 for Non-Sydney Catchment Functions, 1 September 2016, section 7.1.1.2.

⁴⁵ WaterNSW, Report to IPART under the Operating Licence 2013-2018 for Non-Sydney Catchment Functions, 1 September 2016, section 7.1.1.2.

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:

- **OFI-2015/16-02:** It may be prudent for WaterNSW to review its data management processes so as to ensure consistency between its internal system records and formally reported performance statistics.
-

Table A.2.3 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.	<div></div> <div>Full Compliance</div>
Risk	Target for Full Compliance	
Failure to conserve water and minimise losses presents a high risk of water shortage; with resultant operational and environmental impacts.	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 response to 2016 Operational Audit Questionnaire, 1 September 2016.WaterNSW, <i>Fact Sheet; Water Order Debiting; Macquarie Cudgegong Valley</i> (Reference: D2016_95266).Email Newsletter: <i>MRFF Weekly Update – 28th August 2015</i>.WaterNSW, <i>Fact Sheet, Tier 1 – Water Ordering; As grouped under the 2015-16 water order trial, Lachlan Valley Regulated Customers</i> (Reference: D2016_95259).Document: <i>BN15-4501 Expansion of Lachlan trial water ordering protocol June 2015</i> (Reference: D2016_95263).Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
WaterNSW demonstrated that, through the implementation of alternative water ordering protocols, it had taken reasonable steps to conserve water and minimise water losses that result from undertaking its operations during the audit period. Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.		
Discussion and notes		
WaterNSW advised that it had: ⁴⁶ <i>“Implemented discretionary water order debiting procedure in the Macquarie River to reduce operational losses resulting from rain rejection of water orders.</i> <i>Expanded water ordering trial that was implemented in the Lachlan River in 2014-15 to 2015-16. Procedures for Tier 1 customers helps to reduce operational losses as customers tended to over order water to avoid compliance action.”</i> Under the Water Order Debiting arrangements being implemented in the Macquarie Cudgegong Valley: ⁴⁷ <i>“... customers who repeatedly extract less water than indicated in their approved water order (underpump), will have their account debited for the full amount ordered, rather than the amount extracted, as has been the case in the past.”</i> This water conservation measure, which was suggested by the Macquarie Cudgegong Customer Service Committee, is being implemented to help reduce operational losses by deterring customers from ordering more water than they need. When customers order water and then do not extract the full amount ordered, water is lost (is no longer available for use) from regulated supplies. It is noted that a Macquarie River Food and Fibre (MRFF) Weekly update email issued on 28 August 2015 included a reminder to customers that the water order debiting protocol was in place for the upcoming		

⁴⁶ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 8.

⁴⁷ WaterNSW, *Fact Sheet; Water Order Debiting; Macquarie Cudgegong Valley* (Reference: D2016_95266).

irrigation season.⁴⁸

The water ordering trial in the Lachlan Valley involves the implementation of a water ordering protocol for Tier 1 customers⁴⁹ (Licence Holder who must order water as needed) which is aimed at discouraging over-ordering. The trial was implemented in February 2014, and approval was given by DPI Water to extend the trial during 2014/15. Following submission of a WaterNSW report detailing the success of the trial, DPI Water approved a further extension for 2015/16.⁵⁰

Other water conservation initiatives implemented during the audit period included:⁵¹

- Block releases in the Northern Rivers systems; and
- Closing-off the Darling River downstream of Menindee during the last year of a three-year drought.

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.


⁴⁸ Email Newsletter: MRFF *Weekly Update* – 28th August 2015.

⁴⁹ WaterNSW, *Fact Sheet, Tier 1 – Water Ordering: As grouped under the 2015-16 water order trial, Lachlan Valley Regulated Customers* (Reference: D2016_95259).

⁵⁰ Document: *BN15-4501 Expansion of Lachlan trial water ordering protocol June 2015* (Reference: D2016_95263).

⁵¹ Personal comment during audit interviews.

Table A.2.4 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 response to 2016 Operational Audit Questionnaire, 1 September 2016.
- Early Warning Network webpage at: <http://www.waternsw.com.au/about/EWN>.
- MS Excel Workbook: *Early Warning Network - EWN - Notification Levels.xlsx* (Reference: DOC12_40883).
- Document: *EWN Group Members Graph*, undated (Reference: DOC2016_96850).
- Interviews with WaterNSW staff, 19-23 September 2016.

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 website⁵² indicates that there are four categories of notifications: Dam safety notifications, Flood notifications, High regulated releases and Fish River Supply Interruptions. The website also provides information regarding How to register; How do I change or update my details? What is a notification? How do I receive notifications? and More Information.

WaterNSW advised that:

“A significant change to release patterns is defined by individual valleys and is based on historical notifications of downstream land holders and agreed flood levels. 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 the Water Operations group after determining the release requirements for the specific

⁵² Early Warning Network webpage at: <http://www.waternsw.com.au/about/EWN>.

day.”

Trigger levels for Flood, High Reregulated Release and Dam Safety notifications are defined for individual dams/valleys in a Notifications Level Register.⁵³ Information regarding notification levels and what will be communicated is available on the website; this can be accessed via the “EWN” tab on each dam’s information page.

WaterNSW provided two examples of EWN notification instructions:

- Notifications Instructions for Supply Changes in the Fish River system:⁵⁴

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:⁵⁵

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.

It was noted that the Hume Dam guideline nominates specific staff officers by name as primary and alternative contacts for event notification approvals. It is suggested that officers should be nominated by position; this has been identified as an opportunity for improvement (**OFI-2015/16-03**).

WaterNSW advised that:

“Media releases have been undertaken over the past four years as well as discussion at the local CSC meeting. In addition, there is a self-register link on the WaterNSW web site.”

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 details for the EWN.⁵⁶ This shows that registration numbers continued to grow incrementally throughout the audit period, increasing from approximately 1020 in July 2015 to 1110 in June 2016. Although outside the audit period, it is noted that there has been a further step increase to approximately 1340 during August/September 2016, presumably in response to the high rainfall events during that period.

Although outside the audit period, it was interesting to note the notifications being issued in relation to Burrinjuck Dam and Wyangala Dam due to high rainfall events and flooding that were occurring at the time of the audit interviews.

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:

- **OFI-2015/16-03:** It was noted that the Hume Dam EWN guideline nominates specific staff officers by name as primary and alternative contacts for event notification approvals. It is suggested that this should be changed to nominate officers by position.

⁵³ MS Excel Workbook: *Early Warning Network - EWN - Notification Levels.xlsx* (Reference: DOC12_40883).

⁵⁴ WaterNSW, *EWN – Fish River – Supply Change Notification Instructions* (Reference: CD2015 295), undated.

⁵⁵ State Water, *Early Warning Network – Guideline – Hume Dam Notifications* (Reference: CD2015 337), undated.

⁵⁶ Document: *EWN Group Members Graph*, undated (Reference: DOC2016_96850).

Table A.2.5 Water balance reporting (Sub-clause 3.3.1)

Sub-clause	Requirement	Compliance Grade
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.	<div></div> Full Compliance
Risk	Target for Full Compliance	
This requirement represents a moderate operational risk. It is important that WaterNSW has a clear understanding of water use in each of the valleys in which it operates; it is less important that this information is available to the public.		Evidence that WaterNSW had prepared water balance reports for each valley in accordance with the Reporting Manual.
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
WaterNSW demonstrated that it had prepared water balance reports for each of the valleys in which it operates and the reports included the requisite information. The auditors confirmed that the water balance reports were available on the WaterNSW website for downloading. Although the auditors did not seek to obtain or access a copy of the water balance reports at a WaterNSW office as part of this audit, it is assessed that WaterNSW is fully compliant with this obligation.		
Discussion and notes		
The <i>Reporting Manual</i> requires that: ⁵⁷ “ <i>State Water must complete water balance reports for each financial year. State Water must complete final reports by 1 December following the end of the financial year, or at such later date as agreed to by IPART.</i> <i>The water balance reports must be prepared consistently for each Valley, and must include an annual account of:</i> <ul style="list-style-type: none"><i>water delivery, including sources and distribution of water</i><i>breakdown of the distribution of water by each major category of water user,</i><i>the percentage of time that planned environmental water delivery requirements were met; and</i><i>water that is unaccounted for.”</i>		
The <i>Reporting Manual</i> also requires that: ⁵⁸ “ <i>State Water must make the water balance reports (referred to in section 3.1.1 of this Reporting Manual) available free of charge:</i> <ul style="list-style-type: none"><i>on its website for downloading by any person, and</i><i>at its offices for access or collection by any person.</i>		
WaterNSW provided a copy of an email from WaterNSW to IPART dated 1 December 2015 as evidence that water balance reports for the 2014/15 financial year had been prepared and were available on the		

⁵⁷ IPART, *State Water Corporation Reporting Manual*, July 2013, section 3.1.1.

⁵⁸ IPART, *State Water Corporation Reporting Manual*, July 2013, section 3.2.

WaterNSW website. This notification was acknowledged in an email from IPART to WaterNSW dated 1 December 2015.⁵⁹

Review of the published water balance reports confirmed that they had been prepared for all valleys and that they include the requisite information.

The auditors did not seek to obtain or access a copy of water balance reports at a WaterNSW office as part of this audit.

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.

⁵⁹ D2016/97273: Emails from WaterNSW to IPART and IPART response to WaterNSW (*WaterNSW (State Water) - 2013-14 water balance reports*).

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> <p>a) maintain programs to manage risks to its assets and to maintain the appropriate levels of service of those assets; and</p> <p>b) ensure that all its activities are carried out in accordance with those programs.</p>	<div></div> <p>Full Compliance</p>
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		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.Cobbitty Consulting/Viridis Consultants, <i>2014/15 Operational Audit of WaterNSW; Final Audit Report (Version 4.1)</i>, March 2016.WaterNSW, <i>IPART2015-16 Annual Audit; Update – Asset Management System Progress (presentation)</i> (Reference: D2016_107039).State Water, <i>Maintenance Audit Procedure (Under Review)</i> (Reference: CD2016_15).WaterNSW, <i>Maintenance Audit of Carcoar Dam; 15th-16th December 2015</i> (Reference: D2016_91990).WaterNSW, <i>Maintenance Audit of Blowering Dam; 12th-13th April 2016</i> (Reference: D2016_063444).Document: <i>Burrinjuck Dam Surveillance Reports Oct 2015 Feb 2016</i> (Reference: D2016_108463).MS Excel Workbook: <i>Burrinjuck Maintenance Lift and Gates 28-9-16V1</i> (Reference: D2016_109031).WaterNSW, <i>Weekly Report For Maintenance And Services South Week Ending 15/4/2016</i> (Reference: D2016_33174).WaterNSW, <i>Asset Operation and Maintenance; Weekly Briefing Notes; 4th July 2016</i> (Reference: D2016_75876).MS Excel Workbook: <i>Routine Completion to Annual Maintenance Plan Report</i> (Reference: D2016_104643).WaterNSW, <i>IPART 2016 Operational Audit; Metering and Compliance – Retail Operations</i> (Reference: D2016_109891).Letter from NSW Health to IPART regarding WaterNSW’s performance against Operating Licence during 2015/16, undatedInterviews with WaterNSW staff, 19-23 September 2016.		

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. Risks to assets and levels of service are managed through a rigorous maintenance audit program, supported by the implementation of effective operation and maintenance practices.

Assessment of the field implementation of asset management practices at Burrinjuck Dam revealed that site based personnel undertake an extensive range of operations and maintenance activities. It was apparent that they have a clear, well-founded understanding of their roles and responsibilities and effectively fulfil their asset management role.

An overview of the metering program, which involves the management of assets, revealed that it is well managed. SCADA connected meters installed under the metering project appear to be providing clear operational benefits, although it is understood that funding will not be available to extend the project in the near future due to the minimal water savings secured.

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

Discussion and notes

Overview

The auditors undertook a detailed review of WaterNSW's Asset Management System as part of the 2014/15 Operational audit. That audit concluded that:⁶⁰

“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.”

Consequently, this year's audit has been more focused on reviewing and gaining an understanding of changes that have occurred during the audit period (ie. the 2015/16 financial year), whilst also seeking to ensure that the key elements of the Asset Management System have been maintained and continue to be implemented.

During the audit period, WaterNSW continued development of its Asset Management System to ensure alignment with the requirements of ISO 55001 *Asset management – Management systems – Requirements*. WaterNSW expects to have secured certification of its system by December 2016; an overview of its progress in the further development of the system was provided during the audit interviews.⁶¹

WaterNSW demonstrated that it has a robust Asset Management System in place, having drawn together the best elements of the systems implemented by the former State Water and Sydney Catchment Authority. The findings of a detailed gap analysis led to the development of the combined system that is “fit for purpose”, and will give value to the organisation.

The implementation of WaterNSW's asset management practices during the audit period has been assessed by consideration of the following:

- Asset Risk Management;
 - Implementation of Asset Management Practices; and
 - Metering Program.
-

⁶⁰ Cobbitty Consulting/Viridis Consultants, 2014/15 Operational Audit of WaterNSW; Final Audit Report (Version 4.1), March 2016, section 4.1 and table A.3.1.

⁶¹ WaterNSW, IPART 2015-16 Annual Audit; Update – Asset Management System Progress (presentation) (Reference: D2016_107039).

Asset Risk Management

WaterNSW advised that:⁶²

“Risks to Assets and Levels of Service - is managed through a rigorous audit program that complies with ANCOD guidelines. A defined audit process is established to verify maintenance practices are being undertaken to acceptable standards as specified by Asset Management System requirements and compliant with approved maintenance work management processes. This program is mature in the Northern or Southern Region assets parts of WaterNSW and following the amalgamation of the two previous enterprises, is now being implemented across the Greater Sydney assets. The Maintenance Audit Procedure interrogates maintenance procedures for pertinence, accuracy and currency during the preparatory phase of the audit, and then reviews records, inspection results and testing processes. Outcomes from the audit may include:

- *Updates of technical procedures for the conduct of maintenance work (both inspections and repairs);*
- *Recommendations for training of personnel; and*
- *Refinement of work management practices.*

Update of asset recommendations from audits is managed through respective Computerised Maintenance Management Systems (CMMS).”

Review of the Maintenance Audit Procedure⁶³ reveals that it sets out a detailed approach for conducting and reporting on asset condition and capability. It identifies (amongst other requirements) assets which are subject to maintenance audits, responsibilities, qualification/capability requirements for members of audit teams, and a detailed audit methodology for audits of different asset types. Guidance is provided (for example in respect of classifying the condition of surface protection on metallic assets).

A report on a maintenance audit conducted at Carcoar Dam on 15/16 December 2015 was provided for review.⁶⁴ This provided an assessment of assets on the dam crest, dissipater access, downstream bank, outlet works, butterfly chamber, valve control, piezometer installation and outlet works control room; a general inspection of the workshops was also undertaken. Progress on previous audit recommendations was assessed (three out of a total of twenty seven remained in progress) and a further twenty four recommendations made; priority was assigned in each case. Recommended actions had subsequently been captured in the CMMS (Computerised Maintenance Management System).

A report on a maintenance audit undertaken at Blowering Dam on 12/13 April 2016⁶⁵ was sighted during the site visit to Burrinjuck Dam (refer below). The report set out a detailed assessment of the whole site, including observations, status of previous recommendations, and thirty-three new recommendations. These had subsequently been raised as “C” (corrective/condition based) work orders in the CMMS (SmartAsset).

It is noted that the maintenance audits are undertaken by the Strategic Engineering – Reliability Engineering team. The Strategic Engineering team has responsibility for maintaining the capability of the assets, whilst the Operations and Maintenance team has responsibility for implementing the maintenance plans.

Implementation of Asset Management Practices

As part of the audit, a site visit/inspection to Burrinjuck Dam was undertaken. The principal objective was to assess the field implementation of asset management practices. A summary of the understanding derived from discussions at the site is as follows:

Dam operations:

- The principal activities in relation to dam operations are the operation of the facility to manage the
-

⁶² WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 10.

⁶³ State Water, *Maintenance Audit Procedure (Under Review)* (Reference: CD2016_15).

⁶⁴ WaterNSW, *Maintenance Audit of Carcoar Dam; 15th-16th December 2015* (Reference: D2016_91990).

⁶⁵ WaterNSW, *Maintenance Audit of Blowering Dam; 12th-13th April 2016* (Reference: D2016_063444).

release (or retention) of flows and undertaking dam surveillance inspections.

- The facility is operated under direction of the Water System Operations team. Instructions are typically received by telephone with follow-up confirmation. Standard operation procedures are documented and available.
- Given that the site visit was during a high rainfall period during which notifications were being issued under the early warning network (EWN) mechanism, operators were asked about their role. They advised that the EWN was typically driven by the Water System Operations team.
- It was noted that backup communications systems are in place; generators are available on site and all equipment (gates, etc) can be operated by hand-driven hydraulic systems if necessary.
- Notwithstanding the availability of backup communications, protocols are in place to guide operators in the event that external communication (and therefore direction) is lost when the reservoir is near or at high level. Adjustments to operational settings are made in incremental steps relative to standard operations. A chart based nomograph is available on-site to guide operations if necessary.
- Dam surveillance activities involve a program of daily and weekly inspections, including visual inspections, seepage measurements, pin hair measurements plummet readings and uplift pressure readings. A sample of record sheets from October 2015 and February 2016 were provided as evidence.⁶⁶
- A flood operations training session is undertaken annually; this is recorded in the “task book” training records (see below).
- Surveillance surveys are undertaken annually by a specialist survey team.

Maintenance:

- Maintenance work is undertaken in accordance with schedules generated from the Computerised Maintenance Management System (CMMS), SmartAsset. A local/site based planning sheet is developed to assign tasks (copy sighted).
 - Records of maintenance are captured in the corporate on-line filing system and details recorded into the CMMS.
 - Work Orders (samples sighted) are designated “C” for condition based/corrective work order and “P” for programmed/preventative maintenance work orders.
 - Maintenance records for the gates and lift were provided on request as an extract from the SmartAsset CMMS.⁶⁷ These showed (for example) that 6-monthly mechanical and electrical tests had been undertaken on Sector Gate No 1 on 27 August 2015 and 11 March 2016.
 - The WaterNSW Strategic Engineering team undertakes maintenance audits on a three-four year rolling program (refer above discussion).
 - WaterNSW is organised into three groups (Rural North, Rural South and Greater Sydney) and fifteen (15) clusters for operation and maintenance management activities. Burrinjuck is within the Rural South/Burrinjuck cluster (together with Blowering and Brogo Dams).
 - Weekly reports are submitted; a sample for Burrinjuck⁶⁸ revealed that it addresses topics including Safety and Environment; Highlights and Lowlights for the Week; Priorities for Next Week; Improvement Focus; Asset Performance (Availability and Reliability); Upward Feedback; People and
-

⁶⁶ Document: *Burrinjuck Dam Surveillance Reports Oct 2015 Feb 2016* (Reference: D2016_108463).

⁶⁷ MS Excel Workbook: *Burrinjuck Maintenance Lift and Gates 28-9-16V1* (Reference: D2016_109031)

⁶⁸ WaterNSW, *Weekly Report For Maintenance And Services South Week Ending 15/4/2016* (Reference: D2016_33174).

Culture; and Significant Planned Maintenance Activities. This report contained significant detail.

- Weekly briefing notes are issued; these include information of interest across the WaterNSW operation and maintenance team. Review of a sample⁶⁹ revealed that it addressed topics including Safety; Asset Reliability/Maintenance; Operational Update; People; Improvement Focus; Across WaterNSW; and Significant Maintenance Activities. This appears to be an effective approach to information distribution.
- Completion of routine maintenance in comparison to the Annual Maintenance Plan is monitored by cluster. Albeit outside of the audit period, the September 2016 report⁷⁰ showed that the Burrinjuck cluster had completed 82 percent of planned maintenance to that date. This had fallen from 93 percent at the end of August, and is likely to have been impacted by the period of high rainfall.

Training:

- Operations staff are trained in accordance with an extensive program under which each operator is trained and assessed for competence before being able to undertake specific tasks on their own.
- Training records are maintained through a “task book” a sample of which was sighted during the audit.

In summary, site based personnel undertake an extensive range of operations and maintenance activities. The explanations provided gave the impression that the operators at Burrinjuck have a clear, well-founded understanding of their roles and responsibilities and effectively fulfil their asset management role.

Metering Program

WaterNSW provided an overview presentation of the metering program, which involves the management of metering assets;⁷¹ a planned inspection of metering installations was not possible due to high rainfall. A summary of points arising from the presentation and subsequent discussion is as follows:

- Metering activities are undertaken subject to the requirements of the *Water Management Act 2000*, relevant Water Sharing Plans, and Water Access Licences.
 - Meter readings are collected by Customer Field Officers (CFOs), the Internet Water Accounting System (iWAS), the WaterNSW Helpdesk/Contact Centre, and the Telemetered Metering System (TMS).
 - Meters are typically mechanical flow meters, some of which can be subject to interference (examples of this were shown).
 - Water volumes can be estimated using alternative information sources such as power usage and/or pump run hours.
 - The Metering Project was funded under the Australian Government’s *Sustainable Rural Water Use and Infrastructure Program* through the NSW Government’s *Sustaining the Basin Program*.
 - The project area included the Murrumbidgee catchment (regulated users only), Upper Murray (regulated, un-regulated and groundwater) and Mid-Murray (selected regulated users).
 - Flow data is transmitted via telemetry; a variety of Magflow and alternate technology (eg. channel measurement) meters are used.
 - Each installation requires a calibration certificate.
 - A total of 2,001 meters have been installed, including 1,285 regulated, 105 un-regulated and 611 groundwater.
 - Meter reading are captured on CFO Run Sheets for manually read meters, and transmitted via
-

⁶⁹ WaterNSW, *Asset Operation and Maintenance; Weekly Briefing Notes; 4th July 2016* (Reference: D2016_75876).

⁷⁰ MS Excel Workbook: *Routine Completion to Annual Maintenance Plan Report* (Reference: D2016_104643).

⁷¹ WaterNSW, *IPART 2016 Operational Audit; Metering and Compliance – Retail Operations* (Reference: D2016_109891).

telemetry/Clear SCADA for the metering project installations. Data displayed on the SCADA screen is updated every 15 minutes.

- All data is entered/captured into the Water Accounting System (WAS) for water and financial accounting purposes. There is an automated download from SCADA into the WAS every 6 hours. Water account balances can be viewed on-line by customers using the iWAS.
- There are offences under the *Water Management Act* in respect of failure to install or maintain metering equipment; taking water when metering equipment is not working; failure to keep metering records; meter tampering; and directions to install and maintain metering equipment.
- Savings recorded as a result of the Metering Project (primary justification for funding) have been verified by leaving some customer meters in place. This shows that the old meters were within 5 percent accuracy overall, however, there were some significant errors in some cases.
- Contracts are in place for maintenance of the meter fleet. The scope of contract includes maintenance of meters to with ± 5 percent; response to alarms (raised via the SCADA system); and refinement and implementation of a maintenance regime (eg. monitor battery performance and commence programmed battery replacement).

In summary, the auditors were of the view that the metering program is well managed. SCADA connected meters installed under the metering project appear to be providing clear operational benefits, although it is understood that funding will not be available to extend the project in the near future due to the minimal water savings secured.

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.3.2 Water metering (Sub-clause 4.2.1)

Sub-clause	Requirement	Compliance Grade
4.2.1	State Water must read each of its Customers' meters.	<div></div> <div>Full Compliance</div>
Risk		Target for Full Compliance
This requirement represents a high operational risk. Without meter reads, WaterNSW is unable to effectively implement its water accounting obligations and does not have a basis for invoicing.		Evidence that WaterNSW has read its customers meters.
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.State Water, <i>Meter Reading Procedure</i>, 7 November 2012 (Reference: D2015_294).MS Excel Workbook: <i>Operating License audit 15-16 number of Customer Meters 15-16</i> (Reference: D2016_97248).MS Excel Workbook: <i>Operating License Audit 15-16 Regulated meter reads full year 15-16</i> (Reference: D2016_95944).Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
<p>WaterNSW demonstrated that it had read its customers' meter throughout the audit period; the total number of reads was of the expected order given the documented frequency requirements. It is noted that water use data from approximately 30 percent of meters is captured via SCADA; it is suggested that the Meter Reading Procedure be updated to reflect this approach.</p> <p>Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.</p>		
Discussion and notes		
<p>WaterNSW advised that:⁷²</p> <p><i>“Water NSW reads 3329 customer owned meters.</i></p> <p><i>As at 30/6/2016 WaterNSW has completed 14,048 reads which is a combination of assessed and flow meter reads. This is an average of 4.2 reads per meter for the 2015/16 water year.</i></p> <p><i>WaterNSW also received SCADA data for the 1288 meters with telemetry it owns which was entered into the Water Accounting System.”</i></p> <p>WaterNSW provided a copy of its <i>Meter Reading Procedure</i>,⁷³ which sets out details of the meter reading process. It sets out a detailed approach to the meter reading process, including:</p> <ul style="list-style-type: none">General Procedures – including procedures if unable to read a meter due to a work health and safety issue;Meter Reading Procedures – including reading water flow meters, collection of other information, data entry, the frequency of meter readings, quarterly billing, end of year finish and record keeping;		

⁷² WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 10.

⁷³ State Water, *Meter Reading Procedure*, 7 November 2012 (Reference: D2015_294).

-
- Standard Water Apportioning Rules and Procedures; and
 - Compliance Procedures.

WaterNSW also provided copies of spreadsheets which list and summarise all meters⁷⁴ and all meter readings⁷⁵ on regulated rivers. The information presented therein supports the summary figures reported by WaterNSW (refer above extract). As noted, an average of 4.2 meter reads per meter were undertaken during 2015/16; this is consistent with the requirement of 4 meter reads per year for the majority of meters, as documented in the *Meter Reading Procedure*.

It is noted that the number of meter reads reported above excludes meters for which SCADA data was received. From the perspective that WaterNSW must read meters to record water use, data captured via SCADA must also constitute meter readings. As an opportunity for improvement (**OFI-2015/16-04**), it is suggested that WaterNSW considers updating the *Meter Reading Procedure* to incorporate reference to meter reading captured via SCADA.

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:

- **OFI-2015/16-04:** WaterNSW may wish to consider updating the Meter Reading Procedure to incorporate reference to meter reading captured via SCADA. This would also provide an opportunity to re-brand the document, although it is an internal document this aspect is not considered to be a high priority. It is noted that the proposed review date (as recorded in the document) was June 2016.
-

⁷⁴ MS Excel Workbook: *Operating License audit 15-16 number of Customer Meters 15-16* (Reference: D2016_97248).

⁷⁵ MS Excel Workbook: *Operating License Audit 15-16 Regulated meter reads full year 15-16* (Reference: D2016_95944).

Table A.3.3 Water metering (Sub-clause 4.2.2)

Sub-clause	Requirement	Compliance Grade
4.2.2	<p>Where provided for in any agreement between State Water and the Minister or the NSW Office of Water, State Water must:</p> <p>a) read Metering Equipment (if applicable); or</p> <p>b) determine water extraction</p> <p>for groundwater and Unregulated River licence holders.</p>	<div></div> <p>Full Compliance</p>
Risk	Target for Full Compliance	
This requirement represents a high operational and commercial risk. If meters are not read, DPI Water is unable to account for groundwater and Unregulated River water use and WaterNSW may be subject to penalty under the terms of any agreement.	If there is an agreement in place, evidence that WaterNSW has read metering equipment and determined water extraction for groundwater and Unregulated River licence holders.	
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.MS Excel Workbook: <i>2015-2016 Schedule J1 WMA 2000_Final.xlsx</i> (Reference: D2016_10973).MS Excel Workbook: <i>Operating License Audit 1516 GW meter reads as at the 18 Aug 2016</i> (Reference: D2016_95938).WaterNSW, <i>Groundwater Service Agreement; 3rd Quarter Report 2015-16; to NSW Office of Water</i> (Reference: D2016_69939).Document: <i>Groundwater meter read water account statements</i> (Reference: D2016_97266).Document: <i>Operating License audit 15-16 copy of Barwon Darling SLA 15-16 Signed DPI Water</i> (Reference: D2016_98203).Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
WaterNSW demonstrated, through a sample of records and reports, that it has read metering equipment and determined water extraction for groundwater and Unregulated River licence holders where there is an agreement to do so in place with DPI Water. Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.		
Discussion and notes		
WaterNSW advised that: ⁷⁶		
<p><i>“For the 2015-16 Groundwater SLA undertaken by WaterNSW on behalf of DPI Water as at the 18-8-2016 WaterNSW had completed 5,734 reads which is a combination of assessed and flow meter reads.</i></p> <p><i>The total scope of work for the 2015/16 GW SLA is yet to be completed however. WaterNSW is on track to make the required 6 725 meter reads outlined in the above agreement.</i></p>		

⁷⁶ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 11.

Water NSW also has an SLA with DPI Water for the unregulated meter reads in the Barwon Darling. For this SLA, meters are read twice a year with data entered into WAS once all field reads have been completed.

Final reads for the year are due to be completed end August 2016.”

WaterNSW provides groundwater meter reading services under a Service Level Agreement with DPI Water. To demonstrate that WaterNSW had undertaken meter reading and determined water extraction during the audit period, the following was provided:

- A spreadsheet recording details of extraction points, meters, and meter readings for groundwater sources across NSW.⁷⁷
- A summary of meter reads undertaken during the period to 18 August 2016.⁷⁸
- A report on activities under the Service Level Agreement as submitted to DPI Water.⁷⁹
- Sample Water Account Statements for groundwater extracted from the Cudgegong Alluvial Groundwater Source.⁸⁰

WaterNSW also provides unregulated river meter reading services in the Barwon Darling system. A copy of the *2015/16 Barwon Darling Usage Service Agreement*, together with covering DPI Water approval brief,⁸¹ was provided as evidence.

It is noted that meter reading is undertaken in accordance with the *Meter Reading Procedure*,⁸² which is discussed in Table A.3.3.

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.

⁷⁷ MS Excel Workbook: *2015-2016 Schedule J1 WMA 2000_Final.xlsx* (Reference: D2016_10973).

⁷⁸ MS Excel Workbook: *Operating License Audit 1516 GW meter reads as at the 18 Aug 2016* (Reference: D2016_95938).

⁷⁹ WaterNSW, *Groundwater Service Agreement; 3rd Quarter Report 2015-16; to NSW Office of Water* (Reference: D2016_69939).


⁸⁰ Document: *Groundwater meter read water account statements* (Reference: D2016_97266).

⁸¹ Document: *Operating License audit 15-16 copy of Barwon Darling SLA 15-16 Signed DPI Water* (Reference: D2016_98203).

⁸² State Water, *Meter Reading Procedure*, 7 November 2012 (Reference: D2015_294).

A.4 Section 5 – Customers

Table A.4.1 Valley-based customer service committees (excluding Fish River Scheme Customers) (Sub-clause 5.1.1)

Sub-clause	Requirement	Compliance Grade
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 clause 5.2 of this Licence.	 Full Compliance
Risk		Target for Full Compliance
Failure to consult with the customer service committees 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 its customer service committees regarding issues relevant to the performance of its obligations to Customers.
Evidence sighted		
<ul style="list-style-type: none"> WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016. State Water, <i>Customer Service Committees; Terms of Reference and Operating Guidelines</i>, 1 April 2005, available at: http://www.watarnsw.com.au/_data/assets/pdf_file/0005/67145/CSC-Terms-of-Reference.pdf WaterNSW, <i>Border Customer Service Committee; Minutes of Meeting 23 March 2016</i> (Reference: D2016_27768). WaterNSW, <i>Lachlan CSC – Agenda and Business Papers for meeting held on 29 March 2016</i> (Reference: D2016_26374). WaterNSW, <i>Gwydir Customer Service Committee; Minutes of Meeting 22 March 2016</i> (Reference: D2016_27765). WaterNSW, <i>Murrumbidgee Customer Service Committee; Minutes of Meeting 15 March 2016</i> (Reference: D2016_24304). WaterNSW, <i>Namoi-Peel Customer Service Committee; Minutes of Meeting 31 March 2016</i> (Reference: D2016_29976). WaterNSW, <i>Murray-Lower Darling Customer Service Committee; Minutes of Meeting 16 March 2016</i> (Reference: D2016_25766). WaterNSW, <i>Macquarie-Cudgegong Customer Service Committee; Minutes of Meeting 9 March 2016</i> (Reference: D2016_22764). WaterNSW, <i>Coastal Valleys CSC – Agenda and Business Papers for meeting held on 8 March 2016</i> (Reference: D2016_78042). WaterNSW Fact Sheet, <i>Customer Service Charter</i> (Reference: DOC15_21356). Interviews with WaterNSW staff, 19-23 September 2016. 		

Summary of reasons for grade

WaterNSW demonstrated that, during the audit period, it regularly consulted with the Valley-based customer service committees (CSCs) regarding issues relevant to the performance of its obligations to customers. The establishment of a reference group comprising a representative from each CSC to provide feedback in respect of WaterNSW's rural business pricing submission was a positive extension of the CSC arrangements.

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

Discussion and notes

The WaterNSW Valley-based customer service committees operate in accordance with a *Terms of Reference*,⁸³ which is available on the WaterNSW website. These *Terms of Reference* set out in detail the operating arrangements for the CSCs; they address matters including The Role of Committee Members; Operating Protocols; Member's Expenses; and a Code of Conduct. The Operating Protocols detail arrangements in respect of terms of office; deputies; alternative delegates; vacancies; quorum; conflict of interest; decisions and recommendations; meetings; records; confidentiality; discretion; sub-committees; representation at other meetings; and process of escalation of CSC concerns.

There are eight (8) CSC's, each of which is required to meet no less than twice each year, and at other times to achieve the required outcomes. WaterNSW provided a Schedule of Meeting Dates for the 2016 calendar year; the Border Rivers, Gwydir and Coastal Valleys CSCs are scheduled to meet three (3) times, whilst the remainder (Lachlan, Murrumbidgee, Namoi-Peel, Murray-Lower Darling and Macquarie-Cudgegong CSCs) are scheduled to meet four (4) times in the 2016 year (which it is acknowledged extends beyond the audit period). WaterNSW advised⁸⁴ that there had been more than twenty five (25) meetings in total during the audit period.

As evidence that each of the CSCs had met, WaterNSW provided agendas and business papers or minutes of meetings held for each of the CSCs, as follows:

- Border Rivers CSC – Minutes of meeting held 23 March 2016;⁸⁵
 - Lachlan CSC – Agenda and Business Papers for meeting held on 29 March 2016;⁸⁶
 - Gwydir CSC – Minutes of meeting held 22 March 2016;⁸⁷
 - Murrumbidgee CSC – Minutes of meeting held 15 March 2016;⁸⁸
 - Namoi-Peel CSC – Minutes of meeting held 31 March 2016;⁸⁹
 - Murray-Lower Darling CSC – Minutes of meeting held on 16 March 2016;⁹⁰
 - Macquarie-Cudgegong CSC – Minutes of meeting held on 9 March 2016;⁹¹ and
 - Coastal Valleys CSC – Agenda and Business Papers for meeting held on 8 March 2016.⁹²
-

⁸³ State Water, *Customer Service Committees; Terms of Reference and Operating Guidelines*, 1 April 2005, available at: http://www.watnsw.com.au/_data/assets/pdf_file/0005/67145/CSC-Terms-of-Reference.pdf

⁸⁴ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 11.

⁸⁵ WaterNSW, *Border Customer Service Committee; Minutes of Meeting 23 March 2016* (Reference: D2016_27768).

⁸⁶ WaterNSW, *Lachlan CSC – Agenda and Business Papers for meeting held on 29 March 2016* (Reference: D2016_26374).

⁸⁷ WaterNSW, *Gwydir Customer Service Committee; Minutes of Meeting 22 March 2016* (Reference: D2016_27765).

⁸⁸ WaterNSW, *Murrumbidgee Customer Service Committee; Minutes of Meeting 15 March 2016* (Reference: D2016_24304).

⁸⁹ WaterNSW, *Namoi-Peel Customer Service Committee; Minutes of Meeting 31 March 2016* (Reference: D2016_29976).

⁹⁰ WaterNSW, *Murray-Lower Darling Customer Service Committee; Minutes of Meeting 16 March 2016* (Reference: D2016_25766).

⁹¹ WaterNSW, *Macquarie-Cudgegong Customer Service Committee; Minutes of Meeting 9 March 2016* (Reference: D2016_22764).

⁹² WaterNSW, *Coastal Valleys CSC – Agenda and Business Papers for meeting held on 8 March 2016* (Reference: D2016_78042).

The agenda for the meetings which has been standardised, typically included the following (as evidenced by both the agendas and minutes provided):

- Adoption of the Previous Meeting Minutes and Business Arising;
- Correspondence;
- Water Delivery;
- Presentations/Consultation;
- Customer Service;
- Projects;
- Finance;
- Our People;
- Environmental Water Agency Update;
- DPI Water Agenda Items; and
- General Business.

WaterNSW advised that:

“In addition to the regular consultation with CSCs as scheduled in the CSC Calendar (DOC15/17942), for its Pricing submission consultation this year WaterNSW established a CSC reference group (1 member from each CSC) which met on (3 December 2015, 25 February 2016 and 29 April 2016). Agendas, meeting papers and minutes from these (over 25) meetings are distributed to members and maintained in the document management system.”

Review of the minutes provided confirmed that outcomes from the Pricing submission reference group had also been discussed at individual CSC meetings. WaterNSW advised⁹³ that feedback in respect of the Pricing submission consultation had been very positive.

WaterNSW advised that a meeting of CSC chairpersons is held annually, thereby providing a “whole of business” perspective. The frequency of these meetings is to be increased to twice annually.⁹⁴

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.

⁹³ Personal comment during audit interviews.

⁹⁴ Personal comment during audit interviews.

Table A.4.2 Valley-based customer service committees (excluding Fish River Scheme Customers) (Sub-clause 5.1.2)

Sub-clause	Requirement	Compliance Grade
5.1.2	<p>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:</p> <p>a) Customers which are Unregulated River water users;</p> <p>b) Customers which are groundwater users;</p> <p>c) the NSW environmental water entitlement holder;</p> <p>d) the Commonwealth Environmental Water Holder; and</p> <p>e) the relevant Catchment Management Authority.</p> <p>For the purposes of this clause 5.1.2, Customer does not include a Fish River Water Scheme Customer.</p>	<div></div> <p>Full Compliance</p>
<hr/>		
Risk	Target for Full Compliance	
Failure to invite representatives of the nominated groups or bodies 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 groups or bodies to be a member of its customer service committees.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.MS Excel Workbook: <i>Border Rivers CSC membership list.xls</i> (Reference: DOC12/20186).MS Excel Workbook: <i>Lachlan CSC membership list.xls</i> (Reference: DOC12/23415).MS Excel Workbook: <i>Gwydir CSC membership list.xls</i> (Reference: DOC12/20295).MS Excel Workbook: <i>Murrumbidgee CSC membership list.xls</i> (Reference: DOC12/20350).MS Excel Workbook: <i>Namoi-Peel membership list.xls</i> (Reference: DOC12/20178).MS Excel Workbook: <i>Murray-Lower Darling CSC membership list.xls</i> (Reference: DOC12/20375).MS Excel Workbook: <i>Macquarie-Cudgegong CSC membership list.xls</i> (Reference: DOC12/23428).MS Excel Workbook: <i>Coastal Valleys CSC membership list.xls</i> (Reference: DOC12/20202).WaterNSW, <i>WaterNSW Customer Service Committee Membership: Compliance with Operating Licence 2013-2018</i>.State Water, <i>Customer Service Committees; Terms of Reference and Operating Guidelines</i>, 1 April 2005, available at: http://www.watarnsw.com.au/_data/assets/pdf_file/0005/67145/CSC-Terms-of-Reference.pdfWaterNSW, <i>Gwydir Customer Service Committee; Minutes of Meeting 22 March 2016</i> (Reference: D2016_27765)WaterNSW Customer Notice, available at: http://www.watarnsw.com.au/_data/assets/pdf_file/0011/70994/Rural-Pricing-Determination-		

[2017-2021-Consultation.pdf](#)

- WaterNSW April 2016 Customer Newsletter, available at:
http://www.waternsw.com.au/_data/assets/pdf_file/0008/71279/WaterNSW_April2016_Newsletter.pdf
 - Interviews with WaterNSW staff, 19-23 September 2016.
-

Summary of reasons for grade

WaterNSW demonstrated that it has invited at least one representative of the nominated groups or bodies to be members of each of the Valley-based customer service committees (CSCs). It also demonstrated that it had commenced the process of renewing membership of the CSCs in accordance with the CSC *Terms of Reference*, although the process has been deferred with CSC agreement.

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

Discussion and notes

In respect of membership of the customer service committees (CSCs), WaterNSW advised that:⁹⁵

“Membership is renewed four yearly via public advertisement last done in early 2012. The current membership is in its final year. When an existing member departs their nominating group is invited to nominate a replacement. Replacement members provide paperwork to ensure they are appropriate for membership. This is signed off by the Executive or Manager responsible for CSCs. Eg. Doc14/35583 and DOC14/35581 for new member in the Lachlan or DOC14/33871 or DOC33879. At DOC15/16686 is a summary of an audit this year of existing CSC membership reflecting compliance with this requirement, noting that in the Coastal Valleys CSC, the Commonwealth Environmental Water Holder has chosen not to represent themselves, as they have no water interest in these valleys.

The 2016-2020 committee renewal process, with the endorsement of every CSC, has been delayed as outlined in meeting papers from March.”

A list of current membership for each of the eight (8) CSCs was provided as evidence,⁹⁶ together with a report on an audit of compliance undertaken in 2015.⁹⁷ The audit confirmed that all committees included representatives of the required groups or bodies, with the exception that the Commonwealth Environmental Water Holder had elected not to be represented in the Coastal Valleys CSC as this valley is not within the Murray-Darling catchment.

Arrangements for the nomination of members to the CSCs are documented in the *Terms of Reference*,⁹⁸ as is the term of office (four years). As inferred, membership renewal process was due to commence in early 2016, however, was deferred with the agreement of CSCs due to the (then) “potential DPIW functional transfer to WNSW pending and possible change to WNSW scope of services and consequently its customer profile”.

⁹⁵ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 12.

⁹⁶ CSC Membership Lists:

- MS Excel Workbook: *Border Rivers CSC membership list.xls* (Reference: DOC12/20186);
- MS Excel Workbook: *Lachlan CSC membership list.xls* (Reference: DOC12/23415);
- MS Excel Workbook: *Gwydir CSC membership list.xls* (Reference: DOC12/20295);
- MS Excel Workbook: *Murrumbidgee CSC membership list.xls* (Reference: DOC12/20350);
- MS Excel Workbook: *Namoi-Peel membership list.xls* (Reference: DOC12/20178);
- MS Excel Workbook: *Murray-Lower Darling CSC membership list.xls* (Reference: DOC12/20375);
- MS Excel Workbook: *Macquarie-Cudgegong CSC membership list.xls* (Reference: DOC12/23428); and
- MS Excel Workbook: *Coastal Valleys CSC membership list.xls* (Reference: DOC12/20202).

⁹⁷ WaterNSW, *WaterNSW Customer Service Committee Membership: Compliance with Operating Licence 2013-2018*.

⁹⁸ State Water, *Customer Service Committees; Terms of Reference and Operating Guidelines*, 1 April 2005, available at:
http://www.waternsw.com.au/_data/assets/pdf_file/0005/67145/CSC-Terms-of-Reference.pdf

Review of the meeting minutes referenced in Table A.4.1 confirmed this to be the case (for example, Minutes of the Gwydir CSC meeting held 22 March 2016).⁹⁹

It is noted that a Customer Notice, which included notice of the WaterNSW Rural Customer Service Committee Membership Renewal, was posted on the WaterNSW website on 22 February 2016.¹⁰⁰ Advice of the deferral of the renewal process was included in the April 2016 Customer Newsletter.¹⁰¹

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.

⁹⁹ WaterNSW, *Gwydir Customer Service Committee; Minutes of Meeting 22 March 2016* (Reference: D2016_27765), item 7.2.

¹⁰⁰ WaterNSW Customer Notice, available at:
http://www.waternsw.com.au/_data/assets/pdf_file/0011/70994/Rural-Pricing-Determination-2017-2021-Consultation.pdf

¹⁰¹ WaterNSW April 2016 Customer Newsletter, available at:
http://www.waternsw.com.au/_data/assets/pdf_file/0008/71279/WaterNSW_April2016_Newsletter.pdf

Table A.4.3 Valley-based customer service committees (excluding Fish River Scheme Customers) (Sub-clause 5.1.3)

Sub-clause	Requirement	Compliance Grade
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 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 service committees 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 service committees to discharge the tasks assigned to it.
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.WaterNSW, <i>Murray-Lower Darling CSC — Agenda & Business Papers_V2 for 8 June 2016 meeting</i> (Reference: D2016/75705).WaterNSW, <i>Murrumbidgee CSC — Agenda & Business Papers_v2 for 7 June 2016 meeting</i> (Reference: D2016/75694); includes minutes and actions from previous meeting.WaterNSW, <i>Namoi-Peel Customer Service Committee – Business Papers for 26 November 2016 meeting</i> (Reference: D2015/134790).WaterNSW, <i>Macquarie-Cudgegong CSC – Business Papers for 9 March 2016 meeting</i> (Reference: D2016/60923).WaterNSW, <i>WaterNSW Rural Pricing Determination; CSC Reference Group; Minutes of Meeting held on 3 December 2015</i> (Reference: D2015_127265).WaterNSW, <i>Customer Service Committee Chairs Meeting; Minutes of Meeting held on 4 November 2015</i> (Reference: D2015_127265).Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
WaterNSW demonstrated that it provides the customer service committees (CSCs) with adequate information within its possession or under its control so as to enable the Customer Council to discharge the tasks assigned to it. It was noted that the CSC Terms of Reference identify restrictions in respect of the provision of confidential information.		
Accordingly, it is assessed that WaterNSW has fully complied with this obligation.		

Discussion and notes

The tasks assigned to the customer service committees (CSCs) are defined in the *Terms of Reference*.¹⁰²

WaterNSW advised that:¹⁰³

“Agendas, meeting papers and minutes from these (over 25 in the audit period) meetings are distributed to members and maintained in the document management system (W2015/257).

Information includes industry correspondence, Water Delivery Reports, Performance reports, Customer service and compliance reports, meeting satisfaction reports, staff updates, project reports, capital and operating statements, presentations on water market reforms, organisational changes, pricing submission consultation and CSC renewal.

Members request additional information within meeting proceedings resulting in Action items and future agenda items.

Manager responsible for CSC’s in consultation with the Executive responsible for CSC’s exercise their professional judgement re information provision to CSC’s.”

The *Customer Service Committee (CSC) Procedure*¹⁰⁴ sets out in detail the process of compiling and issuing information (business papers), together with the agenda, prior to each CSC meeting.

WaterNSW provided a number of samples of meeting agendas/business papers as samples of the types of information provided.¹⁰⁵ The business papers for, or information provided at, the meeting of the Murray-Lower Darling CSC on 8 June 2016 (for example), included information in respect of:

- *Water Delivery* – Water Delivery Report; Resource Assessment; and DPI Functional Review;
- *Presentations/ Consultation* – Rural Pricing Determination; and Rural Pricing (MDBA Costs);
- *Customer Service* – Performance Indicator and Exceptions Report; Compliance Report; Customer Service Report; and Meeting Satisfaction Report;
- *Projects* – Capital Expenditure Statement; Key Projects Update; and Southern Valleys Metering Update;
- *Finance* – Operating Statement;
- *Our People* - Local Staffing Update;
- *Environmental Water Agency Update* – Commonwealth Environmental Water Update; and Office of Environment and Heritage Update; and
- *DPI Water Agenda Items* – Lower Darling/Menindee Update; Menindee Lakes Water Saving Project; and Water Sharing Plan Update.

During 2015/16, information was provided to both the CSC’s (as noted above) and the CSC Reference Group in respect of WaterNSW’s rural business pricing submission. This is acknowledged in the minutes of the CSC Reference Group meeting held on 3 December 2015.¹⁰⁶

¹⁰² State Water, *Customer Service Committees; Terms of Reference and Operating Guidelines*, 1 April 2005, available at: http://www.waternsw.com.au/_data/assets/pdf_file/0005/67145/CSC-Terms-of-Reference.pdf (refer section 1.3, page 4).

¹⁰³ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 13.

¹⁰⁴ State Water, *Customer Service Committee (CSC) Procedure*

¹⁰⁵ CSC Agenda and Business Papers:

- WaterNSW, *Murray-Lower Darling CSC — Agenda & Business Papers_V2 for 8 June 2016 meeting* (Reference: D2016/75705);
- WaterNSW, *Murrumbidgee CSC — Agenda & Business Papers_v2 for 7 June 2016 meeting* (Reference: D2016/75694); includes minutes and actions from previous meeting;
- WaterNSW, *Namoi-Peel Customer Service Committee – Business Papers for 26 November 2016 meeting* (Reference: D2015/134790); and
- WaterNSW, *Macquarie-Cudgegong CSC – Business Papers for 9 March 2016 meeting* (Reference: D2016/60923).

Requests for information arising from CSC meetings are captured in the Meeting Minutes; these are initially recorded in the Issues Paper prepared immediately following the meeting. An example of information requested is captured in the minutes of the meeting of CSC Chairs held on 4 November 2015, in which information was requested, including:¹⁰⁷

- modelling of a full range of fixed/variable water pricing ratios be provided to inform the pricing consultation process; and
- an update from WaterNSW on drought contingency measures.

Restrictions in respect of the provision of information from a confidentiality perspective are identified in the *Terms of Reference*.¹⁰⁸ Information that can be provided to the CSCs is generally limited to publicly available information.

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.

¹⁰⁶ WaterNSW, *WaterNSW Rural Pricing Determination; CSC Reference Group; Minutes of Meeting held on 3 December 2015* (Reference: D2015_127265).

¹⁰⁷ WaterNSW, *Customer Service Committee Chairs Meeting; Minutes of Meeting held on 4 November 2015* (Reference: D2015_127265).

¹⁰⁸ State Water, *Customer Service Committees; Terms of Reference and Operating Guidelines*, 1 April 2005, available at: http://www.watarnsw.com.au/_data/assets/pdf_file/0005/67145/CSC-Terms-of-Reference.pdf

**Table A.4.4 Customer Service Charter (excluding Fish River Water Scheme Customers)
(Sub-clause 5.2.1)**

Sub-clause	Requirement	Compliance Grade
5.2.1	State Water must, in consultation with the CSCs, establish and maintain a customer service charter (Customer Service Charter).	 Full Compliance
Risk		Target for Full Compliance
Failure to establish and maintain a Customer Service Charter poses a moderate commercial risk. It is important that both WaterNSW and its customers understand their respective responsibilities and obligations.		Evidence that WaterNSW has, in consultation with the customer service committees, established and maintained a Customer Service Charter.
Evidence sighted		
<ul style="list-style-type: none"> WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016. WaterNSW Fact Sheet, <i>Customer Service Charter</i> (Reference: DOC15_21356). WaterNSW, <i>Namoi-Peel Customer Service Committee; Minutes of Meeting held on 18 June 2015</i> (Reference: DOC15_17004). Internal email dated 28 September 2016 regarding changes to the Customer Service Charter Interviews with WaterNSW staff, 19-23 September 2016. 		
Summary of reasons for grade		
WaterNSW demonstrated that a <i>Customer Service Charter</i> was in place throughout the audit period, and that the CSCs had been consulted in respect of any required changes to the <i>Customer Service Charter</i> . Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.		
Discussion and notes		
WaterNSW advised that: ¹⁰⁹		
<i>“The Customer Service Charter sets out our and customers obligations, is at (DOC15/21356) and is published on the website at http://www.watarnsw.com.au/customer-service/charter. This has been in place for many years.”</i>		
A copy of the <i>Customer Service Charter</i> was provided. ¹¹⁰		
WaterNSW further advised that:		
<i>“CSCs are periodically consulted for input on changes/improvements. Minutes from an eg. CSC meeting round when this was last done is at (DOC15/17004). No material change has been made to the Charter in the past two years as a consequence of, or requiring further consultation.”</i>		
As evidence that CSCs are consulted in respect of the <i>Customer Service Charter</i> , WaterNSW provided copies of the minutes of the Namoi-Peel CSC meeting held on 18 June 2015 (it is acknowledged that this meeting was outside the audit period). ¹¹¹ These minutes record that:		

¹⁰⁹ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 13.

¹¹⁰ WaterNSW Fact Sheet, *Customer Service Charter* (Reference: Doc15_21356).

¹¹¹ WaterNSW, *Namoi-Peel Customer Service Committee; Minutes of Meeting held on 18 June 2015* (Reference: DOC15_17004).

-
- “- *WaterNSW is currently seeking feedback from CSCs on the former State Water Customer Service Charter (attached) in order to roll into a new WaterNSW Charter.*
- *Feedback is to be provided directly to [...] within 2 weeks ...*
- *... stated it is a great Charter as long as WaterNSW meets the obligations set out in the document.”*

The auditors queried whether the current version of the Customer Service Charter was in place during the audit period. In internal email correspondence,¹¹² it was confirmed that the Customer Service Charter had remained the same; the only change had been rebranding and layout, as well as a change in the feedback email address.

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.

¹¹² Internal email dated 28 September 2016 regarding changes to the Customer Service Charter.

Table A.4.5 Customer Service Charter (excluding Fish River Water Scheme Customers) (Sub-clause 5.2.2)

Sub-clause	Requirement	Compliance Grade
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 <i>Water Management Act 2000</i> (NSW), the <i>Water Act 1912</i> (NSW) and any other applicable law.	<div></div> Full Compliance
Risk		Target for Full Compliance
The requirements of this sub-clause represent a moderate commercial risk. It is important that both WaterNSW and its customers understand their respective responsibilities and obligations.		Evidence that the Customer Service Charter sets out the mutual responsibilities and obligations of WaterNSW and its customers.
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.WaterNSW Fact Sheet, <i>Customer Service Charter</i> (Reference: Doc15_21356).Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
The <i>Customer Service Charter</i> sets out the responsibilities and obligations of WaterNSW and its Customers in a clear and concise manner, addressing service objectives in respect of Water Ordering and Delivery, Customer Contact and Information and Communication. Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.		
Discussion and notes		
Review of the <i>Customer Service Charter</i> ¹³ reveals that its sets out the mutual responsibilities and obligations of WaterNSW and its customers. It is presented in a format that identifies:		
<ul style="list-style-type: none">Service objectives in respect of Water Ordering and Delivery, Customer Contact and Information and Communication;What the customers can expect (in relation to each service objective); andWhat customers need to do to help WaterNSW deliver its services in accordance with the objectives.		
WaterNSW specifically noted the regulatory instruments that define its obligations, as identified in the Customer Service Charter:		
<i>“To achieve this, we will operate in accordance with our legislative requirements, including our Operating Licence, Water Sharing Plans, Water Management Act 2000 and Water Act 1912.”</i>		
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.		

¹¹³ WaterNSW Fact Sheet, *Customer Service Charter* (Reference: Doc15_21356).

**Table A.4.6 Customer Service Charter (excluding Fish River Water Scheme Customers)
(Sub-clause 5.2.3)**


Sub-clause	Requirement	Compliance Grade
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. 	 Full Compliance
Risk	Target for Full Compliance	
This requirement represents a moderate commercial risk. It is important that customers are aware of their responsibilities and obligations as well as those of WaterNSW.	Evidence that the Customer Service Charter is made available, free of charge, on the WaterNSW website and to the public on request.	
Evidence sighted	<ul style="list-style-type: none"> ▪ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016. ▪ Interviews with WaterNSW staff, 19-23 September 2016. 	
Summary of reasons for grade	<p>The auditors confirmed that the <i>Customer Service Charter</i> is available for downloading on the WaterNSW website. Although the auditors did not seek to obtain a copy of <i>Customer Service Charter</i> from a WaterNSW office as part of this audit, it is assessed that WaterNSW is compliant with this obligation.</p>	
Discussion and notes	<p>The auditors confirmed that the <i>Customer Service Charter</i> is available for downloading on the WaterNSW website. It can be viewed on-line or downloaded in pdf format at: http://www.waternsw.com.au/customer-service/charter#stay</p> <p>It can be accessed from the website Home page via the following links:</p> <ul style="list-style-type: none"> ↳ Customer Service ↳ Our Service Charter (from the drop down list) <p>The auditors did not seek to obtain a copy of the <i>Customer Service Charter</i> from a WaterNSW office as part of this audit.</p>	
Recommendations	<p>There are no recommendations in respect of this sub-clause.</p>	
Opportunities for improvement	<p>No opportunities for improvement have been identified in respect of this sub-clause.</p>	

Table A.4.7 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>
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.	
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.WaterNSW, <i>Fish River Water Supply Customer Council Members</i> (MS Excel Workbook: 5.3.2 D2016_30231 <i>Fish River Customer Council - Membership List - 2016.xls</i>) (Reference: D2016_30231).WaterNSW, <i>Fish River Water Supply Customer Council; Minutes of Meeting 1 2015/16 held 8 September 2015</i> (Reference: D2015_135005).WaterNSW, <i>Fish River Customer Council; Minutes of meeting held on 14 June 2016</i> (Reference: D2016_75794).Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
<p>WaterNSW provided a membership list, which demonstrated that it has invited at least one representative of the nominated organisations (Lithgow City Council, Oberon Council, Energy Australia (previously Delta Electricity) to be members of the Fish River Customer Council. It is noted that as of 1 January 2015, the former Sydney Catchment Authority has been integrated into WaterNSW and is thereby a default member of the Council.</p> <p>Accordingly, it is assessed that WaterNSW has fully complied with this obligation.</p>		

Discussion and notes

WaterNSW provided a list of the *Fish River Water Supply Customer Council Members*.¹¹⁴ This document listed primary and alternative members representing:

- Energy Australia (previously Delta Electricity);
- Oberon Council; and
- Lithgow City Council.

As the former Sydney Catchment Authority (SCA) was integrated into WaterNSW as of 1 January 2015, it is by default a member of the Customer Council.

Evidence that representatives of the nominated organisations had been invited to/participated in meetings of the Customer Council was provided by the minutes of meetings held on 8 September 2015,¹¹⁵ 14 June 2016.¹¹⁶

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.

¹¹⁴ WaterNSW, *Fish River Water Supply Customer Council Members* (MS Excel Workbook: 5.3.2 D2016_30231 *Fish River Customer Council - Membership List - 2016.xls*) (Reference: D2016_30231).

¹¹⁵ WaterNSW, *Fish River Water Supply Customer Council; Minutes of Meeting 1 2015/16 held 8 September 2015* (Reference: D2015_135005).

¹¹⁶ WaterNSW, *Fish River Customer Council; Minutes of meeting held on 14 June 2016* (Reference: D2016_75794).

Table A.4.8 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.	<div></div> Full Compliance
Risk		Target for Full Compliance
Failure to have an effective agreement in place between WaterNSW and its customers presents a high commercial 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.		Evidence that WaterNSW has entered into and maintained an agreement with each of its Fish River Scheme Customers.
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.Cobbitty Consulting/Viridis Consultants, <i>2014/15 Operational Audit of WaterNSW; Final Audit Report (Version 4.1)</i>, March 2016.WaterNSW, <i>Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Drinking (filtered) Water; 2016/2017</i>.WaterNSW, <i>Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Raw Water; 2016/2017</i>.Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
<p>WaterNSW demonstrated that it has agreements in place with the majority of its Fish River Water Scheme Customers. It is noted that a small number of minor consumers have not signed formal agreements; however, based on the evidence provided, the auditors are of the opinion that deemed or inferred agreements exist between these customers and WaterNSW.</p> <p>Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.</p>		
Discussion and notes		
<p>This requirement was previously audited as part of the 2014/15 Operational Audit. ¹¹⁷ It was found that contracts were in place with each of its four major customers (Delta Electricity (now Energy Australia); the Sydney Catchment Authority (now part of WaterNSW, so no longer a customer); Lithgow City Council; and Oberon Council); however, it appeared that agreements may not have been in place with a small number of minor customers.</p> <p>WaterNSW advised that, during the 2015/16 audit period, it had been using its best endeavours to ensure that it entered into agreements with all of its minor customers; these endeavours are reported in Table A.4.9 (in which progress in respect of Recommendation 2014/15-2 is reported). Actions and/or status of relevance in assessing compliance with this obligation during the 2015/16 audit period include the following:</p>		

¹¹⁷ Cobbitty Consulting/Viridis Consultants, *2014/15 Operational Audit of WaterNSW; Final Audit Report (Version 4.1)*, March 2016, table A.4.4.

-
- Contracts had been reissued to all minor customers in 2012.
 - WaterNSW subsequently wrote to all minor customers with outstanding agreements in 2013.
 - As at 30 June 2016, there were approximately twenty six (26) customers that haven't signed agreements, but are paying their bills.

As outlined in Table A.4.9, WaterNSW is now adopting the principle that by continuing to use water after being advised of the need to sign an agreement, customers have a deemed (or inferred) agreement with WaterNSW notwithstanding that they have not formally signed an agreement. The question then arises as to whether this can be considered to have been the case during the audit period.

Given that customers were advised of this arrangement in 2013, the auditors are of the view that it can reasonably be assessed that a deemed or inferred agreement existed between the customer and WaterNSW during the audit period. Furthermore, had the auditors been aware of this additional evidence, they would likely have made the same assessment at the time of the 2014/15 Operational Audit.

WaterNSW provided blank copies of the Minor Consumer Agreements for both Drinking (filtered) Water and Raw Water,^{118,119} noting that these had been reviewed, but not revised, during the audit period. It is noted that these are also available on the WaterNSW website.¹²⁰

WaterNSW also provided a sample of signed minor consumer agreements (one (1) drinking water and two (2) raw water), which had been signed in August and September 2015.

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.

¹¹⁸ WaterNSW, *Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement - Drinking (filtered) Water; 2016/2017*.

¹¹⁹ WaterNSW, *Fish River Water Supply Scheme; Agreement for the Supply of Water; Minor Consumer Agreement – Raw Water; 2016/2017*.

¹²⁰ Minor Consumer Agreements available on WaterNSW website at: <http://www.waternsw.com.au/customer-service/fish-river-customers>

Table A.4.9 Recommendation 2014/15-2 (Fish River Customer Contracts – Sub-clause 5.4.1)

Sub-clause	Requirement	Compliance Grade
2014/15-2	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).	 Addressed

Risk

Failure to have an effective agreement in place between WaterNSW and its customers presents a high commercial 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 used its best endeavours to enter into (and maintain) customer agreements with each of its Fish River Water Scheme customers.

Evidence sighted

- WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.
- Interviews with WaterNSW staff, 19-23 September 2016.

Summary of reasons for grade

WaterNSW has undertaken (and is still undertaking) a range of actions in an endeavour to ensure that it has agreements in place with all of its Fish River Water Scheme Customers. These actions have included both direct contact and alternative approaches. In the absence of securing a signed contract, and having provided appropriate notification to customers, an agreement will ultimately be deemed to be in place irrespective of whether a formally signed agreement has been provided.

Accordingly, this recommendation is considered to have been addressed.

Discussion and notes

WaterNSW advised that action taken/being taken in respect of this recommendation is as follows:¹²¹

- “1.) All contracts received have been scanned into ARK (the WaterNSW electronic document system) and are being cross-referenced with Customer data (to be completed Sep 6).
- 2.) Any customer who we are missing a contract for we will:
 - Write to each individual customer
 - Write to each land occupant in case the property has changed hands, and
 - Contact by phone if possible
 - And advise them of their contractual conditions and advising their continued use of the Fish River system we will be deeming to be acceptance of the contract conditions.
- 3.) A copy of the standard WaterNSW Minor Consumer Raw Water and Drinking Water Contracts will be made available on the WaterNSW website so should a Fish River customer be not able to locate their contract, they can access the relevant contractual details online.
- 4.) We are writing to the Law Society to ask them to update their membership in the local area to be aware should they be processing a conveyance of land which has a Fish River connection the purchaser will want to check for

¹²¹ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 15.

outstanding Fish River charges prior to the settlement of contract referring them in particular to Part 4 of the Water Management Act 2000 (NSW).

- 5.) *We will be advertising in the Lithgow Mercury to remind users on the Fish River pipeline of their contractual conditions and to refer to our Call Centre or website for future information. This advertisement will also remind them to update us in case they sell their property.*
- 6.) *The Fish River Customer Connection procedure is being reviewed and if needed, revised to ensure all opportunity is taken to ensure customer information is maintained.*
- 7.) *We will also be printing labels/ sign to be attached to all Fish River metering locations advising the user that water use will be charged and subject to conditions determined by WaterNSW and referring them to our website and call centre.*
- 8.) *WaterNSW will also be installing a new Customer Relationship Management system in early 2017 which will allow significant progress in work flowing appropriate work tasks.”*

During the audit interviews, WaterNSW reiterated the above actions, noting the following:¹²²

- Contracts had been reissued to all minor customers in 2012.
- WaterNSW subsequently wrote to all minor customers with outstanding agreements during 2013. Customers were offered a rebate of \$350 against their previously paid Fish River connection charge upon signing of their agreement; as at September 2016, nine (9) customers had failed to sign the agreement and claim the rebate.
- As at 30 June 2016, there were:
 - approximately twenty six (26) customers that haven’t signed agreements, but are paying their bills; and
 - 4-5 customers that are not paying, but have signed agreements.
- WaterNSW is currently (September 2016) calling all customers who have not yet signed agreements.
- WaterNSW plans to then write to remaining customers that have not signed agreements, advising them that they need to be aware that they have a contract with WaterNSW; if they do not respond, their water will be cut-off.
- Advertisements will be placed in three (3) local papers, including the Lithgow Mercury, advising customers of their legal obligations and reminding them to advise WaterNSW if they sell their property.
- WaterNSW plans to write to the Blue Mountains Law Society asking them to inform their members of WaterNSW’s interests when processing a land conveyance.

It was further observed that the inability to get customers to sign agreements may be exacerbated by the fact that:

- In many cases, the properties are hobby farms or recreational “bush blocks”; and
- Some customers believe that they are supplied water by Sydney Water (as is the case for their primary residence), and do not recognise WaterNSW as their water utility.

On the basis of the actions described above, the auditors are of the opinion that WaterNSW has used its best endeavours to enter into (and maintain) customer agreements with each of its Fish River Water Scheme customers. It has implemented/is implementing a range of actions including both direct contact and alternative approaches. In the absence of securing a signed contract, and having provided appropriate notification to customers, an agreement will ultimately be deemed to be in place irrespective of whether a formally signed agreement has been provided.

¹²² Personal comment during audit interviews.

Recommendations

There are no recommendations in respect of this previous recommendation.

Opportunities for improvement

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

Table A.4.10 Code of practice on payment difficulties (Sub-clause 5.5.1)

Sub-clause	Requirement	Compliance Grade
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> <p>a) provide for deferred payment or payment by instalment for Customers who are required to pay Bills and who are experiencing payment difficulties; and</p> <p>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.</p>	<div></div> <p>Full Compliance</p>
Risk		Target for Full Compliance
The requirements of this sub-clause poses a high risk in respect of customer relations and the commercial management of WaterNSW’s business.		Evidence that WaterNSW has developed, maintained and fully implemented a code of practice relating to customers having payment difficulties.
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.WaterNSW <i>Debt Management Code of Practice</i> (Reference: DOC14_27736).Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
<p>WaterNSW demonstrated that it has a <i>Debt Management Code of Practice</i>, together with associated procedures for Water Debtor Management and Debt Management Compliance (Licence Suspension), in place throughout the audit t period. Statistics presented in the <i>2015/16 Compliance and Performance Report</i> provided evidence that the <i>Debt Management Code of Practice</i> was being implemented.</p> <p>Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.</p>		
Discussion and notes		
<p>WaterNSW advised that:¹²³</p> <p>“WaterNSW has developed, and maintains to operate a Code of Practice for Payment Difficulties.</p> <p>Information on the Code of Practice for Payment Difficulties can be found by our customers in the following ways:</p> <ol style="list-style-type: none">On The WaterNSW website on a web page entitled "Having difficulty paying your bill?" http://www.watarnsw.com.au/customer-service/my-account#stayCustomer Newsletters (see attached) which is sent out at least once a year.Customer bills.” <p>WaterNSW provided a copy of the <i>Debt Management Code of Practice</i>.¹²⁴ This outlines the assistance that is available if a customer is having difficulties paying their water bill. The information presented in the <i>Debt</i></p>		

¹²³ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 16.

¹²⁴ WaterNSW *Debt Management Code of Practice* (Reference: DOC14_27736).

Management Code of Practice is available on the website as noted above; however, the website includes additional detail in respect of eligibility, and how to make an application for, a deferred payment plan longer than three (3) months.

WaterNSW further advised that:

“WaterNSW may suspend a customer’s license as a result of non-payment of water charges. These circumstances are outlined in the Water Debt Management Procedure.

Prior to suspension, WaterNSW must follow the process as outlined in the Debt Management and Compliance procedures.”

Copies of these procedures were provided, as follows:

- Water Debtor Management Procedure – which outlines the sequence of actions to be taken if an invoice is not paid; these actions include issue of a reminder notice, overdue notice, show cause letter; suspension; court action; caveats; and sale of a Water Access Licence. The procedure also provides guidance in respect of negotiating payment terms; interest payments; dishonoured or declined payments; and payment options.¹²⁵
- Debt Management – Compliance Procedure – which outlines the procedure to be followed in suspending a licence.¹²⁶

WaterNSW advised that these two procedures are currently being reviewed and combined.

In the *2015/16 Compliance and Performance Report*,¹²⁷ WaterNSW advised that:

- It had received and approved request from customers for assistance in paying their bills, including the following during 2015/16:
 - forty five (45) for deferral of less than 3 months; and
 - two (2) for deferral of more than 3 months.
- It had suspended 16 licences and lifted 23 licence suspensions during 2015/16; there were 21 suspensions in place as at 30 June 2016.

These statistics indicate that the *Debt Management Code of Practice* was being implemented 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.

¹²⁵ State Water, *Water Debt Management Procedure*, undated (Reference: CD2015_311).

¹²⁶ State Water, *Debt Management – Compliance Procedure*, undated (Reference: DOC13_17314).

¹²⁷ WaterNSW, *Report to IPART under the Operating Licence 2013-2018 for Non-Sydney Catchment Functions*, 1 September 2016.

Table A.4.11 Internal Complaints Handling Procedure (Sub-clause 5.6.1)

Sub-clause	Requirement	Compliance Grade
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).	<div></div> Full Compliance
Risk	Target for Full Compliance	
Non-compliance with the requirements of this sub-clause poses a 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 and public relations.	Evidence that WaterNSW has maintained a Complaints Handling Procedure consistent with <i>AS ISO 10002:2006: Customer satisfaction – Guidelines for complaints handling in organizations</i> .	
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.State Water, <i>Complaints Handling Procedure</i> (Reference: DOC11/23232), undated.Cardno, <i>Operational Audit of State Water Corporation</i>, November 2014, table E.2.WaterNSW webpage: http://www.watnsw.com.au/customer-service/feedback/feedback-and-complaints-handling-policyWaterNSW, <i>Customer Newsletter; October 2015</i> (Reference: D2016_86747).WaterNSW, <i>Report to IPART under the Operating Licence 2013-2018 for Non-Sydney Catchment Functions</i>, 1 September 2016.Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
WaterNSW demonstrated that it maintained a procedure for receiving, responding to and resolving Complaints throughout the audit period. Previous review of the procedure has found that it is generally consistent with the <i>Australian Standard AS ISO 10002-2006: Customer satisfaction - Guidelines for complaints handling in organizations</i> . The procedure is currently under review, which indicates that it continues to be maintained.		
Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.		
Discussion and notes		
WaterNSW advised that: ¹²⁸		
“A Complaints handling procedure that meets requirements of ISO 10002-2006 as verified in audit 2013-14 is in use internally and periodically reviewed DOC11/23232 (v1).”		
A copy of the <i>Complaints Handling Procedure</i> , ¹²⁹ which has been adopted as the WaterNSW procedure, was provided for review. Previous detailed review of the procedure (document references were confirmed)		

¹²⁸ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 16.

¹²⁹ Sate Water, *Complaints Handling Procedure* (Reference: DOC11/23232), undated.

revealed that it was generally consistent with the guidance provided in *Australian Standard AS ISO 10002-2006: Customer satisfaction - Guidelines for complaints handling in organizations*. More specifically, the procedure was reviewed as part of the 2013/14 Operational Audit, which found that: “*State Water maintains a procedure for complaints handling that we found to be consistent with AS ISO 10002-2006*”.¹³⁰

WaterNSW noted that:¹³¹

“Customers advised how to make complaints or leave feedback on website: <http://www.waternsw.com.au/customer-service/feedback/feedback-and-complaints-handling-policy>.

Customers are regularly informed (at least once a year) about complaints procedure in quarterly customer newsletters.”

Review of the website¹³² confirmed that information in respect of how to make complaints or provide feedback is available via this mechanism. Review of the October 2015 *Customer Newsletter*¹³³ revealed that it includes information in respect of customer service and complaints.

WaterNSW further advised that:¹³⁴

“The Complaints handling procedure is currently under review and is also being merged with the previous SCA complaints handling procedure. As reported in the previous year, WaterNSW identified an inconsistent complaint reporting process that did not distinguish clearly enough between Customer Complaints and Feedback (both positive and negative). This is being addressed in a revision to the Complaints Handling Procedure currently being finalised, which includes a clarification of the definition of a complaint to follow the AS ISO10002-2014 Customer Satisfaction – Guidelines for Complaints Management in organisations definition of a complaint.”

Whilst this review will be completed outside of the audit period, it demonstrates that the *Complaints Handling Procedure* continues to be maintained. It is assumed that, as part of this review, the current State Water “badged” procedure will be issued under the WaterNSW banner; accordingly, an opportunity for improvement has not been identified in respect of this issue.

Further to WaterNSW’s advice as reported above, it is noted that WaterNSW has also reported its endeavours to distinguish between complaints and feedback in its *2015 Compliance and Performance Report*.¹³⁵ WaterNSW advises that, in addition to reviewing and updating its procedure, this matter has been raised as an issue for discussion at Customer Service Officer (CSO) team meetings.

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.

¹³⁰ Cardno, *Operational Audit of State Water Corporation*, November 2014, table E.2.

¹³¹ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 16.

¹³² WaterNSW webpage: <http://www.waternsw.com.au/customer-service/feedback/feedback-and-complaints-handling-policy>


¹³³ WaterNSW, *Customer Newsletter; October 2015* (Reference: D2016_86747).

¹³⁴ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 16.

¹³⁵ WaterNSW, *Report to IPART under the Operating Licence 2013-2018 for Non-Sydney Catchment Functions*, 1 September 2016, section 5.1.1.

A.5 Section 6 – Environmental Management

Table A.5.1 Environmental management (Sub-clause 6.1.4)

Sub-clause	Requirement	Compliance Grade
6.1.4	<p>Until the Environmental Management System has been developed and certified in accordance with clauses 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. 	 Full Compliance

Risk	Target for Full Compliance
Failure to maintain programs to manage risks to the environment from carrying out its activities and ensuring that all activities are carried out in accordance with these programs poses a high operational risk to environmental health, raw water quality and the ability of WaterNSW to meet its business objectives.	Evidence that WaterNSW has maintained programs to manage risks to the environment from carrying out its activities and has ensured that all its activities are carried out in accordance with those programs.

Evidence sighted

- WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.
- Audit Report – Environmental Objectives and Targets 2015-16 (D2016/76864).
- WaterNSW, Report to IPART non-Sydney Catchment Functions, 1 September 2016 (D2016/92996).
- Environmental Objectives and Targets (D2016/102190).
- Environmental Management System Gap Analysis Audit Report SAI Global (D2016/92994).
- Annual Review of the Environmental Program 2015-16 (D2016/107671).
- WaterNSW, Business Improvement Audit Report; Environmental Objectives and Targets Compliance, June 2016 (D2016/76864).
- Interviews with WaterNSW staff, 19-23 September 2016.

Summary of reasons for grade

The evidence provided demonstrates that WaterNSW has maintained programs to manage risks to the environment from carrying out its activities and has ensured that all its activities are carried out in accordance with those programs. Target actions in support of objectives to minimise the environmental impact of infrastructure and activities and to promote an environmentally responsible culture were substantially met.

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

Discussion and notes

WaterNSW advised that:¹³⁶

¹³⁶ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 17.

“All environmental programs were maintained in accordance with the Objectives, targets and supporting programs 2015/16. See audit on the status of targets and supporting programs end of FY 15/16.”

During the 2015/16 audit period the previous State Water and SCA EMPs were superseded by the WaterNSW EMS and new business objectives and targets and supporting programs were adopted and implemented.¹³⁷

The WaterNSW Environmental Management System Environmental Objectives and Targets were approved in December 2015. WaterNSW Environmental Management System Manual outlines the environmental management approach for the development, implementation, monitoring and review of environmental programs, actions and performance measures. The Environmental Objectives and Targets address environmental risks, legal obligations and achieving environmental improvements.¹³⁸

WaterNSW implements an Audit Schedule for systems to ensure the management of environmental impacts and risk to the environment are being maintained. Throughout the audit period, actions and programs were implemented to manage risks to the environment.

The Environmental Objectives and Targets 2015-16 document sets out three environmental objectives, one of which is not applicable to the “non-Sydney catchment” functions of WaterNSW (ie. functions under the former *State Water Operating Licence*).^{139 140} Progress against the targets associated with each of these objectives is set out below:

- Objective 1. Minimise the environmental impact of infrastructure and operational activities.
 - a. Environmental impact assessments undertaken: The outcome for this target was that all environmental impact assessments completed.¹⁴¹ This target is assessed as complete.
 - b. Implement heritage management action plan: The outcomes for this target were the development of a range of heritage management plans, procedures and registers. Heritage impact assessments (HIA) for maintenance and projects were incorporated into the Environmental Impact Assessment process. During 2015/16, 332 HIA jobs were logged into the Maximo and SmartAssets work schedule, of which 160 were completed and the remaining 172 are in progress.¹⁴² The WaterNSW assessment of ‘in progress’ was accepted.
 - c. Audit program executed. The outcome for this target was that an audit program was implemented across WaterNSW projects to ensure the ongoing compliance and implementation of environmental mitigations measures in accordance with approvals.¹⁴³ More audits (140%) were undertaken than were planned and 91% of the non-conformances were completed within the timeframe.¹⁴⁴ The WaterNSW assessment of ‘in progress’ was accepted.
 - Objective 2. Positively influence third party activities to protect Sydney catchment areas.

This objective is not applicable to the non-Sydney catchment functions of WaterNSW.
 - Objective 3. Promote an environmentally responsible culture that anticipates and responds to our
-

¹³⁷ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 6.

¹³⁸ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 6.

¹³⁹ Environmental Objectives and Targets 2015-16 (Reference D2015/102190).

¹⁴⁰ WaterNSW, Report to IPART for non-Sydney Catchment Functions (Reference D2016/92995), 1 September 2016, page 14. While three objectives are listed, the second objective only applies to activities undertaken in the Sydney Catchment area.

¹⁴¹ WaterNSW Report to IPART for non-Sydney Catchment Functions (Reference D2016/92995), 1 September 2016, page 14.

¹⁴² Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 2.

¹⁴³ Environmental Management Report to IPART 2015-16, 1 September 2016, page 1.

¹⁴⁴ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

environmental obligations.

- a. Implement sustainability management plan. The outcome for this target was that whilst six actions of 10 were completed, an additional four actions were undertaken that had not been planned.¹⁴⁵

The Annual Review of the Environmental Program 2015-16 reports five actions implemented, but the programs “Meet NSW Government green star rating for the fleet” and “1% of fleet must be petrol/electric hybrid fuel vehicles” appear to be counted as one action where they are listed in the Sustainability Management Plan Actions 2015-16 table as two actions. WaterNSW reported that the second of these actions was well exceeded with a total of 3% rather than the target of 1%.

The actions not completed were examined as follows. Two actions relating to waste could not be reported since historical data on water use reduction had only been collected for one of the legacy organisations. The other two actions relate to waste reduction measures and associated reporting; these activities are no longer supported by Government, having been replaced by “Government Resource Efficiency Policy”. The NSW Government carbon footprint is no longer used. The *2015/16 Compliance and Performance Report* in respect to WaterNSW’s non-Sydney catchment functions also mentions the ‘mobile muster’ campaign.¹⁴⁶

Based on this evidence, the WaterNSW assessment of programs for this target as ‘in progress’ was accepted.

- b. Implement environmental training. The outcome for this target was that 145 people received environmental training.¹⁴⁷ All orientation sessions include an environmental component. All new staff are required to complete orientation within 12 months of starting with WaterNSW. This target is assessed as ‘target met’.
- c. Operational sites compliant with POEO Act. The outcome for this target was that no infringements occurred during the year.¹⁴⁸ This target is assessed as ‘target met’.
- d. Sites with EPLs are compliant. The outcome for this target was that compliance was achieved. There is only one licence which is outside the Sydney Catchment area.¹⁴⁹ This target is assessed as ‘target met’.

WaterNSW has seven programs that support these objectives, as follows:¹⁵⁰

- Project delivery system – contains provisions to trigger environmental consultation and input at all stages. The Project Delivery System did not contain triggers for environmental consultation during 2015/16, but these are now being incorporated. However, the Procurement Framework contains triggers for environmental consultation.¹⁵¹ The Report on the Audit of Environmental Objectives and Targets 2015/16 mentions that the Project Risk and Issue Register Template includes a tab to identify environmental risks associated with the project.¹⁵²
- Variable offtake management plans – supports health of aquatic habitats where multilevel offtakes exist. All plans were implemented and supported aquatic health.

¹⁴⁵ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

¹⁴⁶ WaterNSW Report to IPART for non-Sydney Catchment Functions (Reference D2016/92995), 1 September 2016, page 15.

¹⁴⁷ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

¹⁴⁸ WaterNSW Report to IPART for non-Sydney Catchment Functions (Reference D2016/92995), 1 September 2016, page 15.

¹⁴⁹ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1. According to the EPA Public Register, this licence relates to the Duckmaloi Water Clarification Plant.

¹⁵⁰ Audit Report – Environmental Objectives and Targets 2015-16, July 2016 (Reference D2016/76864), page 11 and Annual Review of Environmental Program 2015-16 (Reference D2016/107671), page 1.

¹⁵¹ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

¹⁵² Business Improvement Audit Report Environmental Objectives and Targets Compliance, June 2016, page 11.

-
- Cold water pollution reduction program – supports health of aquatic habitats where there is no multilevel offtake. The major source of data for this project is collected from the “curtain” process at Burrendong Dam. Due to the drought, this storage has been too low to collect data.
 - Asset management system – integrate environmental controls and obligations into asset management. Environmental Impact Assessments were undertaken for activities. This system is being developed to include environmental controls.
 - Contaminated sites management strategy – supports protection of the environment from contaminated sites. This strategy is under review to develop and implement further improvements.
 - Healthy catchments strategy – this only applies to the Sydney catchment functions of WaterNSW.
 - Special areas strategic plan of management – this only applies to the Sydney catchment functions of WaterNSW.

Taking account of the dislocation associated with the consolidation of the two legacy organisations into WaterNSW, the above commentary illustrates that the supporting programs have been satisfactorily maintained and implemented, where possible.

The evidence outlined above demonstrates that WaterNSW has maintained programs to manage risks to the environment from carrying out its activities and has ensured that all its activities are carried out in accordance with those programs.

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.

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>
<hr/>		
Risk	Target for Full Compliance	
Without a comprehensive 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.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">Water Quality Management Framework (2012-2017).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).Water Quality Policy.Compliance to Legal and Other Obligations Procedure.Legal and Other Requirements Register.WaterNSW Water Quality Contact List.Woronora Water Supply System Schematic.		

-
- Prospect Supply Schematic.
 - Catchment to Tap Risk Assessment (C2T) Report final – 2014.
 - Catchment to Tap Risk Assessment 2014 Kangaroo Valley.
 - C2T Risk Assessment Report Goulburn Mulwaree Water Supply from Wingecarribee Reservoir.
 - C2T Risk Assessment Report Wingecarribee Water Supply to Bowral.
 - Catchment to Customer Risk Register Summary.
 - THMs for picnic areas.
 - Annual Cyanobacteria Risk Forecast 2015-16 Revised in September 2015.
 - Water Quality Management Framework 2012-2017 UNDER REVIEW.
 - Minutes – CCP validation meeting 12 May 2016.
 - Validation of CCPs after meeting with SWC 12 May 2016.
 - NSW Health Response Water Quality Management System – CCPs.
 - Briefing note – *E. coli* compliance at metropolitan picnic areas.
 - Picnic Tap CT calculation document.
 - Water Monitoring Program 2015-2020.
 - Raw Water Quality Incident Response Plan.
 - Water Quality Incident Response Plan - UNDER REVIEW.
 - Hypochlorite Purchasing Procedure for Picnic Tap Chlorination Facilities.
 - Sodium Hypochlorite Quality Assurance for Potable Water Disinfection Sept 2014.
 - Complaints Procedure – DRAFT.
 - Water Quality Data Review and Reporting Procedure.
 - Operating Licence Clauses – Compliance Updates – How to Guide.
 - Annual Water Quality Monitoring Report 2014-15 Nov 2015.
 - Water Quality Management Report 2015-16 including Water Quality Improvement Plan 2016-17.
 - Letter from NSW Health commenting on WaterNSW's performance during the audit period.
 - D2016/117230 Water Quality Management System Review Project Plan, undated.
 - Staff interview 19 September 2016.
-

Summary of reasons for grade

High compliance has been awarded for this sub-clause. WaterNSW has established a management system that is generally consistent with the ADWG, and there are adequate systems in place to manage raw water quality and risks across the drinking water supply chain. However, the WQMF needs to be kept up to date to reflect the changes and improvements made. WaterNSW is currently in the process of reviewing and updating the WQMF, however, this is not yet complete. A process for regular review of the WQMF to ensure that it remains accurate and relevant to contemporary practice should be refined and documented; details of review frequency, purposes and records should be included.

Furthermore, the intent of the framework prescribed by the ADWG is to provide a structured and systematic approach to managing water quality. The WQMF, which relies on a number of supporting documents, processes and procedures to fully define WaterNSW's approach to water quality management, needs to be better integrated. Although some of the specific components of the framework are very well

addressed, some sub-components of the elements or associated processes need to be better referenced and/or strengthened as discussed below (element-by-element breakdown).

NSW Health did not specify any changes to the ADWG that need to be addressed by the WQMF.

Discussion and notes

WaterNSW has established a Water Quality Management Framework 2012-2017 (WQMF)¹⁵³ that is generally consistent with the twelve elements of the ADWG for managing water quality. WaterNSW also has site specific Quality Assurance Plans (QAPs) for its recreational (picnic) area schemes, which are referenced in the WQMF.

More recently, WaterNSW has developed QAPs for other dam sites and undertaken the catchment to tap risk assessment for the Fish River Water Supply Scheme (it is acknowledged that these lie outside of the declared catchment areas and that the requirements of the *SCA Operating Licence* are not applicable). The QAPs have been reviewed by NSW Health.¹⁵⁴

The WQMF is the principal document that describes WaterNSW's approach to managing water quality in a manner that is consistent with the framework prescribed by the ADWG. It relies on a number of supporting documents, processes and procedures (including, for example, QAPs, C2T Risk Assessments, the *Water Quality Monitoring Program* and the *Raw Water Quality Incident Response Plan* (RWQIRP)) to fully define the adopted approach. It is noted that the WQMF does not in all cases reference the relevant and/or current supporting documents, processes and procedures, some of which need to be developed or strengthened; these shortfalls need to be addressed to ensure that the approach to water quality management is fully and effectively integrated.

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,¹⁵⁵ which was endorsed by the WaterNSW Board on 31 March 2016. The content of the policy, which also captures the potable schemes, is adequate.

The reference to the policy document number in the current version of the WQMF is outdated.

- 1.2. *Regulatory and formal requirements*

Regulatory and formal instruments are explained and listed in Appendix 6 of the WQMF. There is also a *Compliance to Legal and Other Obligations* procedure¹⁵⁶ and the *Legal and Other Requirements Register*,¹⁵⁷ which include the process to review and maintain the register. WaterNSW is currently in the process of reviewing these, and a consultant has been engaged in relation to this.

A reference to the procedure (which includes the review process) and register should be included in this section of the WQMF.

- 1.3. *Engaging stakeholders*

Stakeholder engagement is undertaken through a number of mechanisms and is described in the WQMF (pages 4, 23 and 24). A list of stakeholders is included in the WQMF (Appendix 6). There is also a *Water Quality Contact List*,¹⁵⁸ which includes stakeholders, available in ARK/TRIM.

The process for maintaining the *Water Quality Contact List* involves a check of names and contact details prior to the Catchment to Tap (C2T) risk assessment or preparing for incident

¹⁵³ CD2013_56[v3] WQMF 2012-2017.

¹⁵⁴ Letter from NSW Health, request for comments during audit period.

¹⁵⁵ CD2014_5[v3] Water quality policy.

¹⁵⁶ CD2012_118[v3] Compliance to Legal and Other Obligations Procedure.

¹⁵⁷ CD2013_26 Legal and Other Requirements Register.

¹⁵⁸ D2013_94543 WaterNSW Water Quality Contact List.

management. The formal process is to update the list every two years. Informally the list can be updated by relevant staff who maintain contact with the stakeholders and become aware of changes in contact details.

A reference to the list and review process would be useful to include in this section of the WQMF.

■ Element 2 – Assessment of the Water Supply System

○ 2.1. *Water supply system analysis*

Risk assessment team: the WQMF mentions that representatives from the SCA (should be now replaced with WaterNSW throughout the framework), Sydney Water, Wingecarribee Shire, Shoalhaven City Council and NSW Health identified and assessed the risks (page 7). The Catchment to Tap (C2T) Risk Review Report¹⁵⁹ includes the names of the review steering committee (page 9).

Flow diagram: Figure 2.1 and Figure 2.2 in the WQMF include overview diagrams for the catchment and supply networks. The diagrams for the Woronora¹⁶⁰ and Prospect¹⁶¹ systems have been updated as conceptual flow diagrams, showing a greater level of detail. The flow diagrams for the remaining supply systems have not been prepared as yet, and are planned to be completed prior to the next comprehensive catchment to tap (C2T) risk assessment.

The location of the detailed process flow diagrams (if not included in the WQMF) and the process of periodic review of the flow diagrams should be included in the WQMF.

The QAPs¹⁶² for picnic areas include flow diagrams for the potable schemes operated.

System characteristics: are documented in the WQMF (Appendix A) and respective QAPs.

○ 2.2. *Assessment of water quality data*

The water quality database stores data from the monitoring programs. This is used to undertake short and long-term trend analysis (WQMF page 17).

○ 2.3. *Hazard identification and risk assessment*

Risk assessment approach and methodology: this is explained in general in the WQMF (pages 7-8), including corporate risk management, C2T risk assessment and the Pollution Source Assessment Tool (PSAT).

The C2T process includes hazards identified in the ADWG and assessment of hazardous events that 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 reports.¹⁶³ The most recent C2T risk assessment has been undertaken for the Fish River Water Supply Scheme; whilst this is not required to fulfil WaterNSW's obligations under the *SCA Operating Licence* (or the *State Water Operating Licence*), it demonstrates that WaterNSW is appropriately addressing water quality risks across the whole of

¹⁵⁹ D2015_35804 C2T Report_final-2014.

¹⁶⁰ D2016/78089 Woronora Water Supply System Schematic.

¹⁶¹ D2016/96321 Prospect Supply Schematic.

¹⁶² CD2014/57[v3] Avon Picnic Area Water Supply Quality Assurance Plan; CD2014/58[v3] Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan; CD2014/59[v3] Cordeaux Picnic Area Water Supply Quality Assurance Plan; CD2014/60[v3] Cataract Picnic Area Water Supply Quality Assurance Plan.

¹⁶³ D2016_41354 Catchment to Tap Risk Assessment 2014 Kangaroo Valley; D2016_60695 C2T Risk Assessment Report Goulburn Mulwaree Water Supply from Wingecarribee Reservoir; D2016_61005 C2T Risk Assessment Report Wingecarribee Water Supply to Bowral.

its operations.

Hazard and hazard sources: these are identified in the risk register provided,¹⁶⁴ which is a summary exported from the risk management software “KnowRisk”. A summary of high-risk hazardous events is presented in the WQMF (Appendix 2).

For picnic areas, the hazards and sources are identified in the QAPs (medium and high risks). It was pleasing to note that WaterNSW was quantifying the risks from disinfection by-products (through monitoring of THMs) at the picnic sites (which was an opportunity for improvement identified in the 2014/15 audit). The results are showing that there is no elevated risk.¹⁶⁵

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 in the C2T 2014 Review Report.

An annual cyanobacteria risk forecast,¹⁶⁶ which includes controls and residual risks, is also undertaken for the reservoirs.

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.

Significant risks: Priority pollutants (significant hazards) are identified in the WQMF (page 7) and a summary of high-risk hazard events is presented in Appendix 2.

Review: the frequency for the C2T risk review is stated in Element 12 of the WQMF, and also in the C2T 2014 Review Report,¹⁶⁷ as every 5 years. A mid-term desktop review is also undertaken (page 29).

The process on how the risk register is reviewed in between the 5-year comprehensive review cycles is not explained in the WQMF, although during the audit interview it was mentioned that risks are reviewed and the register is maintained.

- 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.¹⁶⁸ Preventive measures are listed in the C2T risk assessment register as existing controls. The preventive measures are also included in detail in the WQMF (pages 10-13 and Appendix 5), including strategies addressing hazardous events.

Control or preventive measures for picnic areas are listed in the respective QAPs.

- 3.2. Critical control points

The rationale for CCP selection, CCPs and procedures are presented in the WQMF (Appendix 4).¹⁶⁹ The raw water CCPs, including limits, were revised on 12 May 2016 at a meeting between WaterNSW and Sydney Water.¹⁷⁰ The validation table and revised CCPs were provided to the auditors.¹⁷¹

It was also noted by the auditors that the revised CCPs and limits have been shared with NSW Health for both the WQMF and picnic area QAPs through an email dated 15 July 2016

¹⁶⁴ D2015_75664 Catchment to Customer Risk Register_150316_summary_WaterNSW.

¹⁶⁵ D2016_105308 THMs for picnic areas.

¹⁶⁶ D2015/100104 Annual Cyanobacteria Risk Forecast 2015-16 Revised in September 2015.

¹⁶⁷ Page 8 D2015/35804 C2T Report final – 2014.

¹⁶⁸ WQMF, pages 10-13 and Appendix 5.

¹⁶⁹ CD2013_56[v4] Water Quality Management Framework 2012-2017 UNDER REVIEW.

¹⁷⁰ D2016_61857 Minutes – CCP validation meeting 12 May 2016.

¹⁷¹ D2016_64197 Validation of CCPs after meeting with SWC 12 May 2016.

(although this is outside the audit timeframe). NSW Health has indicated its satisfaction with these.¹⁷² The revised validation tables and CCPs for picnic areas have been included in the current QAPs.

The revised CCP limits for the picnic area sites are based on the fact that turbidity is <5 NTU 95% of the time, adequate chlorine *C.t* is being achieved for *E. coli* compliance. However, it was noted that the *C.t* target was not achieved on five occasions at Avon, thirteen occasions at Cordeaux and once at Cataract, although no *E. coli* was detected in the weekly sampling.¹⁷³ It was advised that the reason for this was low chlorine dosing caused by problems with the dosing feedback algorithm (which has now been changed). It should be noted that the weekly *E. coli* sampling is only a snapshot of performance and has the potential to miss an event.

The *C.t*, which is important to maintain, is also dependent on water flow. There were instances noted in the data spreadsheet¹⁷⁴ provided where the chlorine was >0.1 mg/L (CCP lower limit) but with higher flow the *C.t* failed (for the Cordeaux site). The appropriateness of the chlorine lower critical limit should be investigated; a value higher than 0.1 mg/L may be required. Also, as the only treatment in the picnic areas is disinfection (chlorination), the appropriateness of the turbidity critical limit of >10 NTU should be further investigated. If the source is normally at <5 NTU and WaterNSW is confident that this is the background level (and risk from *Cryptosporidium* is low at this level), having the critical limit at >5 NTU (for example) may be more appropriate to manage risks associated with increased turbidity in the source water (or deviation from normal background level) which can include increasing the chlorine demand leading to failure of *C.t* target.

In any case, all CCPs and limits should be reviewed periodically to ensure that they are effective and are managing risks. QAPs should be reviewed in accordance with NSW Health's requirements.

■ Element 4 – Operational Procedures and Process Control

○ 4.1. *Operational procedures*

It is mentioned in the WQMF (page 14) 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 stated. The procedures are stored in ARK/TRIM and can be accessed through the WaterNSW intranet page. The auditors were shown the intranet page and list of procedures during the audit interview.

○ 4.2. *Operational monitoring*

There is a *Water Quality Monitoring Program*,¹⁷⁵ and the WQMF makes reference to this. The operational monitoring program is comprehensive and includes the parameter, location, frequency and the water quality criteria. This program addresses the potential hazards and hazardous events identified in the risk assessment. This monitoring program is specific to the former SCA area of operations (ie. the WaterNSW metropolitan system).

○ 4.3. *Corrective actions*

The response actions are stated in the *Raw Water Quality Incident Response Plan (RWQIRP)*,¹⁷⁶ and corrective actions for CCPs are also included 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 RWQIRP, which includes the picnic areas. For turbidity meters connected to SCADA, alarms for breaches are sent to the Primary Incident Notification Officer (page 18).

¹⁷² D2016_88488 NSW Health Response Water Quality Management System – CCPs.

¹⁷³ F2016/348 Briefing note – *E. coli* compliance at metropolitan picnic areas.

¹⁷⁴ D2015_43081 Picnic Tap CT calculation document.

¹⁷⁵ CD2011/179[v4] Water Monitoring Program 2015-2020.

¹⁷⁶ CD2004/183[v3] Raw Water Quality Incident Response Plan - UNDER REVIEW.

The RWQIRP is under review, with comments already received from stakeholders (eg. NSW Health). It is currently undergoing internal WaterNSW approval.

- *4.4. Equipment maintenance*

The inspection and calibration of equipment is explained in the WQMF (page 15) and respective QAPs.

- *4.5 Materials and chemicals*

Materials and chemicals are mentioned in the WQMF (page 16). The treatment chemicals (liquid sodium hypochlorite and calcium hypochlorite tablets) are purchased from chemical suppliers. A procedure for purchasing chlorine¹⁷⁷ has been developed and is referenced in the WQMF (page 16).

For the Upper Canal, an internal email enquiry on the quality assurance process used for potable water disinfection was provided to the auditors. It included the supplier (Orica), product specification and supplier's certification (expires 22 November 2016).¹⁷⁸

Going forward, it will be useful to investigate having a corporate procedure/process on chemical quality, receipt, safety and use that covers all of WaterNSW operations, including supplies that were under the former State Water responsibility.

- Element 5 – Verification of Water Quality

- *5.1. Monitoring*

There is a *Water Quality Monitoring Program*¹⁷⁹, which details the parameters, locations and frequencies for testing. The monitoring program is comprehensive and meets the requirements of the schemes and picnic sites. This monitoring program is specific to the former SCA area of operations.

- *5.2. Customer satisfaction*

Although not mentioned under Element 5, discussion on customer complaints and responses is mentioned under Element 8 of the WQMF (pages 23-24). The complaints procedure¹⁸⁰ provided to the auditors needs to be reviewed and re-branded as a WaterNSW document; WaterNSW advised that a review has been initiated.

Regular meetings and close working relationship with major customers (eg. Sydney Water) enables the opportunity to discuss issues regarding water quality. Raw Water Supply protocols provide for resolving issues before they manifest into complaints.

- *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. There is a water data review and reporting procedure,¹⁸¹ however, this is not mentioned in the WQMF. Monthly reports are prepared for each storage and picnic area.

- *5.4. Corrective actions*

These are undertaken as per the RWQIRP, which includes picnic areas.

¹⁷⁷ CD2915_38 Hypochlorite Purchasing Procedure for Picnic Tap Chlorination Facilities.

¹⁷⁸ D2014_95103 Water Ops Sodium Hypochlorite Quality Assurance for Potable Water Disinfection Sept 2014.

¹⁷⁹ CD2011/179[v4] Water Monitoring Program 2015-2020.

¹⁸⁰ DOC11_23232[v2] Complaints Procedure – DRAFT – For review.

¹⁸¹ CD2012/130[v4] Water Quality Data Review and Reporting Procedure.

■ Element 6 – Management of Incidents and Emergencies

○ 6.1. *Communication protocols*

These are explained in the RWQIRP and referenced in the WQMF (pages 19-20). The contacts list is present in the RWQIRP. It states that the TRIM document D2013/94543 should be referred to for the up-to-date contact list at any time.

As discussed in respect of Element 1, 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.

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*

The corporate induction program includes awareness of water quality management for all staff (page 21).

○ 7.2. *Employee training*

Training is provided to staff on incident management and bushfire management; additional training includes external training and conferences (page 21). The WQMF does not specify how the training needs are identified.

■ Element 8 – Community Involvement and Awareness

○ 8.1. *Community consultation*

There is a comprehensive school 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 WaterNSW 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 undertaken by WaterNSW in their local government areas. There are further details on community consultation and involvement in the Healthy Catchments Strategy 2012-2016.

○ 8.2. *Communication*

Communication activities are explained in the WQMF (page 23). The Strategic Operational Interface meetings are held regularly with each major customer. Formal communications are also undertaken at the Strategic Liaison Group and Joint Operational Group meetings. The frequency of these meetings is not identified in the WQMF.

■ Element 9 – Research and Development

○ 9.1. *Investigative studies and research monitoring*

The Science Strategic Plan was replaced by the Science Program in 2015, although the WQMF has not been updated to reflect this change. WaterNSW has a legislative obligation to undertake science and research. Input into the Science Program was received from customers and

stakeholders, through JOG meetings and annual project reviews (for example).

- *9.2. Validation of processes*

This is not explicitly mentioned under Element 9 of the WQMF. However, validation tables for CCPs are included in the WQMF and the respective QAPs. This sub-section could be added in the WQMF for completeness.

The validation table in the WQMF was revised; however, the updated table has not been included in the WQMF.

As mentioned in respect of Element 3, processes like CCPs should be revalidated periodically.

- *9.3. Design of equipment*

This is not covered explicitly in the WQMF and could be included for completeness.

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 the latest water quality management technology. Staff members also participate in the WSAA Technology Approval Group.

- Element 10 – Documentation and Reporting

- *10.1. Management of documentation and records*

WaterNSW operates a computerised document management 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 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.

ARK/TRIM software is used for version control and records management. The WQMF, QAPs and operational procedures are kept in ARK/TRIM, which can be accessed by staff.

- *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 (implemented through ARK/TRIM) is maintained and collates information to support internal and external reporting requirements, including the reporting requirements of the *Operating Licence 2012 -2017*. The How to Guide¹⁸² in relation to these reporting requirements was provided to the auditors, but is not referenced in the WQMF.

■ Element 11 – Evaluation and Audit

○ 11.1. *Long-term evaluation of data*

Annual statistical evaluation is undertaken and noted in the Water Quality Monitoring Report. Trend analysis is undertaken every two years, with the last one undertaken in 2015 and included in the Water Quality Monitoring Report 2014-15.¹⁸³

○ 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 by IPART. Catchment audits are undertaken every three years and the outcomes are also published.

Going forward, and having close to 20 QAPs along with the WQMF, it will be useful to establish a process for internal audits of these risk-based plans, especially on the operational aspects (eg. CCP implementation, monitoring, record keeping, currency and relevance).

■ Element 12 – Review and Continuous Improvement

○ 12.1. *Review*

The process for the review of the WQMF (and QAPs) is not explained clearly in the WQMF; however, the review frequency is stated.

Reviews are undertaken by WaterNSW (for example, annual water quality performance), however, it does not address the full intent of a management system review. The WQMF should be regularly reviewed to ensure that it remains valid; it should not be treated as a static document. The review should ensure that the WQMF is still accurate (reflects the on-ground circumstances) and relevant (appropriate to manage water quality risks). Aspects that should be reviewed at least annually include, but are not limited to, water quality performance, CCP performance and validity, changes in legislative or formal requirements, outcomes of incident and emergency management and audit outcomes. A comprehensive review of the WQMF should be undertaken every two years (or as otherwise defined in the WQMF) unless the findings of the annual review or other significant change warrants an earlier comprehensive review.

The *Water Quality Management System Review Project Plan*¹⁸⁴ provided by WaterNSW outlines a planned review strategy; this is considered a good start to addressing the need for a robust review process.

○ 12.2. *Improvement plan*

A 5-year Water Quality Improvement Plan¹⁸⁵ is referenced in the WQMF (page 30). Implementation progress is monitored through annual executive meetings. During the audit interviews, it was mentioned that learnings and improvement actions from risk assessments, incident de-briefs and stakeholder meetings are captured in the improvement plan during the annual review. The process to track the progress of improvement actions should be described in the WQMF.

¹⁸² CD2011_548 Op Licence Clauses – Compliance Updates – How to Guide.

¹⁸³ D2015_121650 Annual Water Quality Monitoring Report 2014-15 Nov 2015.

¹⁸⁴ D2016/117230 Water Quality Management System Review Project Plan, undated.

¹⁸⁵ D2016/91854 Water Quality Management Report 2015-16 including Water Quality Improvement Plan 2016 17.

In summary, the WQMF adequately addresses, and in most respects is consistent with, the framework prescribed by the ADWG. The main shortfall relates to Element 12 of the ADWG, which requires that effective review processes are documented and implemented. A recommendation (**REC-2015/16-01**) has been raised in respect of this issue.

A number of other minor deficiencies are also identified in the element-by-element discussion presented above. Opportunities for improvement (**OFI-2015/16-05 to 17**) have been identified in respect of those deficiencies, which when addressed, will improve the robustness of WaterNSW's system for the management of water quality.

Recommendations

The following recommendation is made in respect of this sub-clause:

- **REC-2015/16-01:** Refine and document the review process to ensure that effective reviews of the WQMF, which go beyond reviewing only water quality performance, are undertaken; requirements in respect of review frequency, purpose and records should be documented within the WQMF.

The WQMF should be regularly reviewed to ensure that it is accurate (reflects the on-ground circumstances) and relevant (appropriate to manage water quality risks), and remains consistent with the ADWG. Review of the WQMF should be undertaken in accordance with the following timelines:

- completion of the *Water Quality Management System Review Project* by June 2017;
 - review of operational performance including, but not limited to, water quality performance, CCP validity, changes in legislative or formal requirements, relevance/effectiveness of preventive measures, outcomes of incident and emergency management and audit outcomes, which should be conducted at least annually; and
 - comprehensive review of the WQMF every two years (or as otherwise defined in the WQMF) unless the findings of the annual review or other significant change warrants an earlier comprehensive review.
-

Opportunities for improvement

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

WQMF:

Element 1

- **OFI-2015/16-05:** The reference to the policy document number in WQMF should be updated.
- **OFI-2015/16-06:** Summarise and reference the corporate process for maintaining, reviewing and communicating the regulatory and formal requirements in the WQMF.
- **OFI-2015/16-07:** Reference the Water Quality Contact List as the list for stakeholders. Include the process for the review of this list in the WQMF.

Element 2

- **OFI-2015/16-08:** 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.
- **OFI-2015/16-09:** The process on how the risk register is reviewed and maintained in between the 5-year comprehensive review cycles should be explained in the WQMF.

Element 4

- **OFI-2015/16-10:** Investigate developing a corporate procedure/process on chemical quality, receipt, safety and use for all of WaterNSW operations including supplies that were under the former State Water operations.
-

Element 5

- **OFI-2015/16-11:** Reference the water data review and reporting procedure and summarise the process in the WQMF.

Element 7

- **OFI-2015/16-12:** Document how employee training needs are identified and addressed in the WQMF.

Element 9

- **OFI-2015/16-13:** For completeness, the “Validation of processes” and “Design of equipment” sub-sections should be explicitly included in the WQMF.

Element 10

- **OFI-2015/16-14:** Reference the corporate “how to guide” on managing compliance with reporting requirements in the WQMF.


Element 12

- **OFI-2015/16-15:** Describe the process for the monitoring, review and update of the improvement plan.

General:

- **OFI-2015/16-16:** Going forward and having close to 20 QAPs along with the WQMF, establish a process for internal audits of these risk-based plans, especially with a focus on the operational aspects (eg. CCP implementation, monitoring, record keeping, currency and relevance).
 - **OFI-2015/16-17:** Investigate the appropriateness of the CCP critical limits for the picnic area sites and re-validate the CCP limits, as appropriate. Periodic reviews of the QAPs, including CCPs and limits should be undertaken in accordance with NSW Health’s requirements.
-

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.	 Full Compliance
Risk		
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.		Target for Full Compliance
		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.
Evidence sighted		
<ul style="list-style-type: none"> ▪ Water Quality Management Framework (2012-2017). ▪ Water quality policy. ▪ Annual Water Quality Monitoring Report 2014-15. ▪ Incident management records June 2016. ▪ SOPs List. ▪ Water Monitoring Program 2015-2020. ▪ Water Quality Exception Reports. ▪ Instrument calibration contract clauses. ▪ 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. ▪ Catchment to Tap Risk Assessment (C2T) Report final – 2014. ▪ Water Quality Reports. ▪ Raw Water Quality Incident Response Plan. ▪ Water Quality Incident Response Plan – UNDER REVIEW. ▪ NSW Health comments on Water Quality Incident Response Plan. ▪ NSW Health acceptance of WaterNSW Water Quality Incident Response Plan. ▪ Sydney Water acceptance of WQIRP. ▪ Operational Debrief – East Coast Lows June 2016. ▪ WaterNSW Water Quality Contact List. ▪ Menacing Cloud Participants 9 Mar 2016. ▪ Menacing Cloud Final Report. ▪ Induction Package. 		

-
- Copy of Contractor Catchment Induction.
 - Visitor Education monthly statistics 2015-2016.
 - WaterNSW Science Program 2016-2020.
 - Hypochlorite Purchasing Procedure for Picnic Tap Chlorination Facilities.
 - Science Projects progress 2015-16.
 - Annual Catchment Management Report 2014-15.
 - SCA Annual Water Quality Monitoring Report 2013-14.
 - HSWQ Board Committee meeting minutes – 25 September 2015.
 - Water Quality Management Report 2015-16 including Water Quality Improvement Plan 2016 17.
 - Letter from NSW Health commenting on WaterNSW's performance during the audit period.
 - Staff interview 19 September 2016.
-

Summary of reasons for grade

Although there were some deficiencies in the WQMF, it was noted that the items that were documented were being implemented. In particular, the catchment management aspect was very well managed. In addition, actions, including communication with key customers (eg. Sydney Water), during events/incidents, were well implemented.

NSW Health was generally satisfied that WaterNSW met its obligations under the *SCA Operating Licence*.¹⁸⁶

Discussion and notes

Implementation was sampled across the twelve Elements through relevant examples as discussed in the following:

- Water quality policy – the policy was displayed in the WaterNSW Penrith office (auditor observation).
 - Stakeholder engagement – minutes of meetings¹⁸⁷ with customers (eg. Sydney Water); strategic operations group; and joint operations groups were provided as evidence.
 - Assessment of water quality data – statistical analysis of data was undertaken and presented in the Appendix of the Annual Water Quality Monitoring Report.¹⁸⁸
 - Risk assessment currency – evidence was presented that the C2T risk assessment was reviewed¹⁸⁹ in 2014, and that the risk register is current. The next review will be undertaken 5-years after the last review.
 - Preventive measures – source selection is one of the key preventive measures. An example¹⁹⁰ of actions undertaken to change the selection depth, based on monitoring data, to prevent impact on quality of water supplied was sighted by the auditors. This was for an event on 11 June 2016 when significant rainfall in the catchment resulted in an underflow at Woronora impacting the water column at low outlets (deep end). The change was made to the high outlet. Sydney Water was kept updated in respect of the situation.
-

¹⁸⁶ Letter from NSW Health, request for comments during audit period.

¹⁸⁷ D2015/117883 Minutes WaterNSW-SWC Strategic Operational Interface 2 Nov 2015; D2016/38756 WaterNSW WSC SOG Meeting Minutes 29 April 2016; D2016/93202 Minutes JOG 25 May 2016_final.

¹⁸⁸ D2015/121653 Annual Water Quality Monitoring Report 2014-15 – Appendices.

¹⁸⁹ D2015/35804 C2T Report_final -2014 – Appendix A.

¹⁹⁰ D2016_67978 NOCTSO Open Woronora high Outlet 11 June 2016.

-
- Catchment management – this has been discussed in detail in Table B.3.1, with the auditors noting that improvement projects have been successfully implemented to enhance and protect water quality in catchment areas.
 - CCPs – the revised CCP limits have been entered into the SCADA system for monitoring. A SCADA screenshot showing an example of the turbidity levels was seen by the auditors.¹⁹¹ The turbidity trend sighted showed turbidity going over the operational target on 5 June 2016, with a CCP critical limit breach occurring on 6 June 2016 at Warragamba Dam (WQM01). Incident logs show communication with relevant Sydney Water operators on 5 June 2016¹⁹² to alert them about the situation and subsequent discussions with Sydney Water and NSW Health on 7 June 2016¹⁹³ in relation to actions.
 - Operational procedures – operational procedures are stored in ARK/TRIM; the auditors sighted the list of procedures through the intranet page during the interview. The SOPs list from the intranet page was also provided to the auditors.¹⁹⁴
 - Operational monitoring – The *Water Quality Monitoring Program*¹⁹⁵ was provided. The monitoring program includes parameters tested, location, frequency and the water quality criteria. The parameters and frequency of testing for the Prospect WFP site PWF010 was checked by the auditors. The parameters (pH, temperature, conductivity, dissolved oxygen and turbidity) were tested monthly,¹⁹⁶ as stated in the *Water Quality Monitoring Program*.
 - 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; this includes picnic areas. An example of an email notification (Water Quality Exception Report) was sighted by the auditors.¹⁹⁷
 - 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 Contracts Manager.¹⁹⁸
 - Chemicals – the procedure for procuring chlorine for picnic sites was provided.¹⁹⁹
 - Short-term evaluation of results – monthly water quality reports are prepared for each storage and picnic area. Examples of reports²⁰⁰ prepared were provided to the auditors.
 - Incident and emergency response protocols – the WQMF makes reference to the RWQIRP. The RWQIRP,²⁰¹ which includes the protocols to follow including notifications, was provided.

The auditors noted that this document has been reviewed (but is awaiting formal internal approval) and is now referred to as the “Water Quality Incident Response Plan.”²⁰² Stakeholders (NSW Health and Sydney Water, for example) have provided comments and confirmed their satisfaction with the revised document.²⁰³

¹⁹¹ D2016_104527 out of spec results id SCADA HUC_LIVR turbidity.

¹⁹² D2016_104521 out of spec results id PINO log 5 June 2016.

¹⁹³ D2016_66759 June 2016 East Coasts Low Incident Log Sheet 7 June 2016.

¹⁹⁴ D2016_86223 Operations reviews of SOPs 2015_16.

¹⁹⁵ CD2011/179[v4] Water Monitoring Program 2015-2020.

¹⁹⁶ D2015/121653 Annual Water Quality Monitoring Report 2014-15 – Appendices.

¹⁹⁷ D2016_95215 Water Quality Exception Report 15616.

¹⁹⁸ D2015/106307 Instrument Calibration.

¹⁹⁹ CD2015_38 Hypochlorite Purchasing Procedure for Picnic Tap Chlorination Facilities.

²⁰⁰ D2016 Prospect Water Quality Report 16 May 2016; Lake Burragorang Water Quality Report 10 May 2016; D2016 Lake Cataract Water Quality Report 24 May 2016; D2016/61412 Fitzroy Falls Water Quality Report 20 May 2016.

²⁰¹ CD2004/183[v2] Raw Water Quality Incident Response Plan.

²⁰² CD2004/183[v3] Water Quality Incident Response Plan.

²⁰³ D2016/93986 NSW Health comments on Water Quality Incident Response Plan; D2016/93979 NSW Health acceptance of WaterNSW Water Quality Incident Response Plan; D2016_93998 Sydney Water acceptance of WQIRP.

During the audit interview, the actions undertaken for managing the June 2016 East Coast Lows and Rain Water Event incidents were discussed. It was noted that stakeholders (eg. Sydney Water and NSW Health) were kept updated of the situation. Good communication was maintained between Sydney Water and WaterNSW to prevent any impact on public health.²⁰⁴ The incident de-brief²⁰⁵ was undertaken (July 2016) to review the learnings from the incident.

As identified in the recommendation REC-2015/16-01 (refer Table B.1.1), reviews of the WQMF should consider the outcomes of water quality incidents. Given that water quality management integrates across a number of organisational functions, an incident debrief may (for example) identify the need to investigate or review and update communication protocols or maintenance schedules.

- Contacts list – it is noted in the RWQIRP that reference should be made to the document D2013/94543, a copy of which was provided to the auditors,²⁰⁶ 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. Current contact details for the Lithgow Council staff were not included in the contact list, following recent Council staff departure. However, the new contact details were updated in the revised Water Quality Incident Response Plan (staff interview).
- Staff training on Incident and Emergence Response – the invitation email to participants for the “Menacing Cloud” incident response training was provided.²⁰⁷ The final training report²⁰⁸ was also sighted by the auditors.
- Staff awareness – the corporate induction package screenshot²⁰⁹ was provided to the auditors. This includes awareness training on the WQMF for new staff.
- Contractor awareness – a copy of the contractor catchment induction package was provided to the auditors.²¹⁰ The induction package captures water pollution and contractor responsibilities. An example of a filled-in induction form was not provided to the auditors.
- Community consultation – WaterNSW maintained its visitor education program over the 2015/16 period.²¹¹ This has been discussed in detail in Table B.3.1.
- Research and Development – the Science Program 2016-2020,²¹² as well as the progress of the projects identified in the Science Program,²¹³ were sighted by the auditors.
- Validation of processes – the CCPs were revised and discussed with relevant stakeholders (Sydney Water and NSW Health). As stated in Table B.1.1, all CCPs should be periodically validated to ensure continued effectiveness.
- Management of documentation – WaterNSW operates a computerised document control system. The documents pertinent to the water quality management system are kept in ARK/TRIM and are easily accessible through the intranet. The use of the intranet access page was demonstrated during the site visit.
- Reporting – examples of reports produced over the reporting period have been provided including the Annual Catchment Management Report 2014-15²¹⁴ and annual Water Quality Monitoring Report 2014-15.²¹⁵

²⁰⁴ D2016_65745 NOCTSO Warragamba Outlet change 5 June 2016; D2016_66556 Email NOCSO Warragamba Outlet change June 2016.

²⁰⁵ D2016_107951 Operational Debrief – East Coast Lows June 2016.

²⁰⁶ D2013_94543 WaterNSW Water Quality Contact List.

²⁰⁷ D2016_85615 Menacing Cloud Participants 9 Mar 2016.

²⁰⁸ D2016_108046 Menacing Cloud Final.

²⁰⁹ D2016_95739 Induction Package review.

²¹⁰ D2016_108192 Copy of Contractor Catchment Induction.

²¹¹ D2016_62427 Visitor Education monthly statistics 2015-2016.

²¹² D2015_126524 WaterNSW Science Program 2016-2020.

²¹³ D2016_39983 Science Projects progress 2015_16.

²¹⁴ D2015/114793 Annual Catchment Management Report 2014-15.

-
- Long-term evaluation – an annual statistical evaluation is undertaken and noted in the water quality monitoring report.²¹⁶ Trend analysis was also undertaken and included in the report.
 - Audit – external audits are undertaken annually as part of the Operating Licence requirement. An example of follow up on audit recommendations was provided to the auditors (emails).²¹⁷
 - Review – the review of the WQMF was undertaken during the reporting period at the Health, Science and Water Quality committee meeting.²¹⁸ The meeting did not discuss in detail the effectiveness of the WQMF or suggest need for changes or improvements, although a way forward for integrating the WQMF was discussed. This may not be the right forum to review in detail the effectiveness of the WQMF, but rather to discuss the findings/outcomes from reviews undertaken. A recommendation in relation to reviews of the WQMF is provided in Table B.1.1.
 - Improvement plan – the 5-year improvement plan²¹⁹ and the annual/yearly improvement plan²²⁰ were provided to the auditors. During the audit interview, it was mentioned that the improvement plan is revised annually and items not completed move forward into the following year's plan. It was also mentioned that progress of the improvement plan is monitored throughout the year, however, the progress report and update is undertaken yearly.
 - NSW Health Concerns – As reported in Table B.4.1, in comments provided to IPART in respect of WaterNSW's performance during the audit period, NSW Health indicated it had concerns in respect of WaterNSW's asset maintenance for the Sydney catchments, which arose from two separate incidents.²²¹ NSW Health also indicated that it had concerns regarding communication in respect of these incidents.

Whilst the expressed concerns related primarily to asset maintenance, the identified incidents reportedly resulted in the Prospect Water Filtration Plant and Nepean Water Filtration Plant being shut down due to high turbidity levels. Actions taken, from a water quality perspective, in response to these incidents are described in the documented Operational Debrief for each of the two incidents, ie. the Warragamba Pipeline Turbidity Incident²²² and June East Coast Lows and Rainfall Weather Event²²³ (also referenced above).

In its letter to IPART, NSW Health indicated that its concerns have been addressed in the incident debriefs and the joint operational group meeting. Further discussion from an asset management perspective is presented in Table B.4.1.

Recommendations

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

Opportunities for improvement

There are no opportunities for improvement in respect of this sub-clause.

²¹⁵ D2015/121650 Annual Water Quality Monitoring Report 2014-15 – 25 Nov 2015.

²¹⁶ D2015/13811 SCA Annual Water Quality Monitoring Report 2013-14 – Appendices.

²¹⁷ D2016_55194 RE Recommendations from 2013-14 and 2014/15 operating licence audit.

²¹⁸ D2016_95897 HSWQ Board Ctee – 25 September 2015.

²¹⁹ D2016/91854 Water Quality Management Report 2015-16 including Water Quality Improvement Plan 2016 17.

²²⁰ D2016_92996 1 Sept 2016 Water Quality Management 2015-16 Water Quality Improvement Plan 201617.

²²¹ Letter from NSW Health to IPART regarding WaterNSW's performance against Operating Licence during 2015/16, undated.

²²² D2015/99068 Operational Debrief; Warragamba Pipeline Turbidity Incident; 27 July 2015.

²²³ D2016/107951 Operational Debrief; June East Coast Lows and Rainfall Weather Event; June 2016.

Table B.1.3 Recommendation 2012/13-1 (Water Quality Management System – Sub-clause 2.1.2)

Reference	Requirement	Compliance Grade
2012/13-1	<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> <p>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.NSW Health response to revised CCPs.Staff interview 19 September 2016.		
<hr/>		
Summary of reasons for grade		
<p>This recommendation is considered to have been addressed. Preventive measures, including those for CCPs, have been identified in the QAPs and are considered appropriate. The preventive measures have also been discussed with NSW Health.</p> <p>The validation tables for the CCPs have been revised and included in the QAPs. The monitoring frequencies for chlorine residual and turbidity are appropriate.</p> <p>The CCP limits should be re-validated periodically; this is included in the recommendations in respect of sub-clause 2.1.1 (refer Table B.1.1).</p>		

Discussion and notes

Preventive measures, including for CCPs, have been identified in the respective QAPs.²²⁴ The CCPs and validation tables were recently revised.

It was also noted by the auditors that the revised CCPs and limits for the picnic area QAPs have been shared with NSW Health through an email dated 15 July 2016 (although this is outside the audit timeframe). NSW Health indicated their satisfaction with these limits.²²⁵ The revised validation tables and CCPs for picnic areas have been included in the current QAPs.

The preventive measures identified, which include actions such as confirming the *C.t* target for disinfection, installing signage, providing alternative water and closing down the picnic area site, are appropriate.

As discussed in respect of sub-clause 2.1.1 (refer Table B.1.1), the auditors noted that the CCP limits should be periodically investigated and revalidated.

Monitoring of identified CCPs is undertaken continuously online for chlorination and selective abstraction (turbidity), which are also tested through daily grab samples.²²⁶ It was noted that SCADA alarms for CCP breaches and failures are not relayed to the duty operator (except for Fitzroy Falls), but this is part of the improvement actions yet to be undertaken.

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.

²²⁴ CD2014/57[v3] Avon Picnic Area Water Supply Quality Assurance Plan; CD2014/58[v3] Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan; CD2014/59[v3] Cordeaux Picnic Area Water Supply Quality Assurance Plan; CD2014/60[v3] Cataract Picnic Area Water Supply Quality Assurance Plan.

²²⁵ D2016_88488 NSW Health Response Water Quality Management System – CCPs.

²²⁶ Respective QAPs.

Table B.1.4 Recommendation 2012/13-2 (Water Quality Management System – 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> <p>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.Water Quality Management Framework – Under Review.Meeting Minutes with Sydney Water.Staff interview 19 September 2016.		
<hr/>		
Summary of reasons for grade		
<p>This recommendation is considered to have been addressed. Preventive measures, including those for CCPs, have been identified in the WQMF and are considered appropriate. The preventive measures have also been discussed with Sydney Water as the major customer.</p> <p>The validation tables for the CCPs have been revised and included in the WQMF (which is under review). The revised limits have also been entered into SCADA. The monitoring frequencies for the identified CCPs are appropriate, online for turbidity and with fast turnaround times for cyanotoxins.</p> <p>The CCP limits should be re-validated periodically; this is included in the recommendations in respect of sub-clause 2.1.1 (refer Table B.1.1).</p>		
<hr/>		
Discussion and notes		
<p>Preventive measures, including for CCPs, have been identified in the current version of the WQMF. The CCPs have been revised following consultation and meetings with Sydney Water.²²⁷</p>		

²²⁷ D2016_61857 Minutes – CCP validation meeting 12 May 2016.

The revised CCPs and validation table were provided to the auditors,²²⁸ and have been included in Appendix 4 of the WQMF, which is under review.²²⁹

The implementation of the CCPs was discussed in detail in respect of sub clause 2.1.2 (refer Table B.1.2), and the auditors were satisfied that they are being implemented.

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.

It was also noted that the limits for hydrocarbons are being trialled as a (new) CCP for the Upper Canal Diversion (Prospect) and will be reviewed after a year.

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.

²²⁸ D2016_64197 Validation of CCPs after mtg with SWC 12 May 2016

²²⁹ CD2013_56[v4] Water Quality Management Framework 12-17 – UNDER REVIEW

Table B.1.5 Recommendation 2013/14-1 (Water Quality Management System – Sub-clauses 2.1.1 and 2.1.2)

Reference	Requirement	Compliance Grade
2013/14-1	<p>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.	<div></div> <p>Addressed</p>
Risk		Target for Full Compliance
There is a high risk to consumers if out-of-specification water is made available to raw water customers and potable water users due to CCPs that are inadequately documented and/or 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.
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 19 September 2016.		
Summary of reasons for grade		
<p>This recommendation is considered to have been addressed. The CCPs, including the management actions, are well documented. The validation tables include justifications for the target and critical limits.</p> <p>The CCP limits should be re-validated periodically; this is included in the recommendations in respect of sub-clause 2.1.1 (refer Table B.1.1).</p>		
Discussion and notes		
<p>The WQMF²³⁰ (under review) includes documentation of the CCPs monitored (including instrument numbers), CCP limits with justification for the targets and critical limits selected and corrective actions to manage CCPs.</p> <p>The respective QAPs²³¹ for the picnic areas include the CCP procedure for the picnic areas.</p>		

²³⁰ Appendix 4 CD2013/56[v4] - Water Quality Management Framework 2012-2017.

²³¹ CD2014/57[v3] Avon Picnic Area Water Supply Quality Assurance Plan; CD2014/58[v3] Fitzroy Falls Picnic Area Water Supply Quality Assurance Plan; CD2014/59[v3] Cordeaux Picnic Area Water Supply Quality Assurance Plan; CD2014/60[v3] 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.1.6 Recommendation 2014/15-1 (Water Quality Management System – Sub-clause 2.1.1)

Reference	Requirement	Compliance Grade
2014/15-1	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.	<div><div></div><div></div></div> Partially Addressed
<hr/>		
Risk	Target for Full Compliance	
Without a comprehensive 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.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">Water Quality Management Framework – Under Review.D2016_40330 16 May 2016 report to IPART.Staff interview 19 September 2016.		
<hr/>		
Summary of reasons for grade		
This recommendation has only been partially addressed. Whilst the WQMF provided to the auditors is currently under review, only Appendix 4, which includes the revised CCP validation tables and procedures, had been updated during the audit period. Further work is required to complete the review and update of the entire framework; it is unlikely that this would have been achieved by the 30 September 2016 target date.		
<hr/>		
Discussion and notes		
WaterNSW has commenced a review of the WQMF, ²³² however only Appendix 4, which includes the revised CCP validation tables and procedures, had been updated within the audit period. As also reported in Table B.1.1, further work is required to complete the review and update the WQMF.		
The intent of the WQMS/WQMF is to provide a structured and systematic approach to managing water quality, consistent with the requirements of the ADWG. Accordingly, the structure and approach should be clearly and sufficiently documented in the framework; however, as discussed in Table B.1.1, this has not yet been fully achieved. Some sub-components of the elements or associated processes need to be better referenced and/or strengthened.		
In its May 2016 report to IPART ²³³ on the status of 2014/15 Audit Recommendations, WaterNSW indicated that action to address this recommendation was “In progress” with an expected completion date of 30 September 2016. Based on the demonstrated status at the time of the audit, it is unlikely that this target would have been achieved.		
<hr/>		
Recommendations		
There are no further recommendations arising in respect of this previous recommendation.		

²³² CD2013_56[v4] Water Quality Management Framework 12-17 – UNDER REVIEW.


²³³ D2016_40330 16 May 2016 report to IPART.

Opportunities for improvement

Opportunities for improvement identified for the WQMF in sub-clause 2.1.1 are applicable to this previous recommendation.

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

- WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.
- MS Excel Workbook: *D2016_62432 MASTER SCHEDULE 250516.xlsx*.
- Email dated 29 March 2016 and attachment (Reference: D2016_28438): *Draft Upper Nepean and Shoalhaven Configuration Schedule (UN Shoalhaven Configuration 30-03-2016 DR.docx)*.
- Cobbitty Consulting/Viridis Consultants, *2014/15 Operational Audit of WaterNSW; Final Audit Report (Version 4.1)*, March 2016.
- Interviews with WaterNSW staff, 19-23 September 2016.

Summary of reasons for grade

WaterNSW demonstrated that it had continued to operate and manage 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 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,²³⁴ as follows:

- *Security level of service - SCA's storages do not approach emptiness (defined as 5% of water in the storage) more often 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).*

²³⁴ *Sydney Catchment Authority Operating Licence 2012-2017*, clause 12.1, page 16.

It is understood that there has been no change to the Design Criteria since the Commencement Date.

WaterNSW advised that:²³⁵

“WaterNSW has continued to manage the Water Supply System in accordance with the Design Criteria through the application of operating rules developed by the WATHNET system model. The operating rules, in the form of a system nomograph, as implemented in the Master Schedule planning tool, are used to guide our decision making around source selection in addition to considering water quality constraints, availability of assets and drought triggers as detailed in the Water sharing Plan. Flow schedules are developed up to 12 months in advance to provide information on storage balancing and outline the current drivers governing system configuration. The schedules are reviewed on at least a weekly basis to take into account any changes resulting from inflows, water quality or asset availability.”

As noted, 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.

In simple terms, the aim is to keep all storages in balance whilst taking account of the likelihood of spills.

As also noted, WaterNSW implements the Operating Rules using:

- a System Nomograph (Excel spreadsheet)²³⁶ – 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 *Metro Area Major Outage Program*²³⁷ 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.

WaterNSW provided a copy of the *Master Schedule*²³⁸ and demonstrated its use. It also explained the role of the Master Schedule and its reliance on information presented in the System Nomograph.

As an example of a scheduling instruction, WaterNSW provided a copy of the *Draft Upper Nepean and Shoalhaven Configuration Schedule*,²³⁹ as issued on 30 March 2016. This schedule set out proposed system settings for a two-week period prior to recharging of the Upper Canal commencing on 11 April 2016. In addition to Operating Advice, the schedule provided information in relation to Rain Forecast; Storage Balancing; the Upper Canal Outage; the Upper Nepean System Supply to Broughtons Pass; Prospect Pumping; and the Shoalhaven System.

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

²³⁵ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 27.

²³⁶ The System Nomograph (WaterNSW, *System Nomograph June 2015 (Document No: D2015/75957)* (MS Excel spreadsheet)) has been reviewed by the auditors during previous audits, including the 2014/15 Operational Audit.

²³⁷ A sample of the *Metro Area Major Outage Program* has previously been sighted by the auditor (refer Cobbitty Consulting/Viridis Consultants, *2014/15 Operational Audit of WaterNSW; Final Audit Report (Version 4.1)*, March 2016, table B.2.1).

²³⁸ MS Excel Workbook: *D2016_62432 MASTER SCHEDULE 250516.xlsx*.

²³⁹ Email dated 29 March 2016 and attachment (Reference: D2016_28438): *Draft Upper Nepean and Shoalhaven Configuration Schedule (UN Shoalhaven Configuration 30-03-2016 DR.docx)*.

operating rules on a short term basis.

As reported in the 2014/15 Operational Audit Report,²⁴⁰ WaterNSW has developed a decision making framework within which decisions in respect of system operational configuration are made. This framework is based on a number of documents, including but not limited to the following:

- *Water Licences and Approvals Package;*
- *SCA/SWC Bulk Water Supply Protocols;*
- *Flood Prediction Procedure;*
- *Agreement for the Supply of Water from the Fish River Water Supply;*
- *Warragamba Dam Operations Manual; Part 7 – Flood Operations; and*
- *Agreement for Operations and Maintenance of the Kangaroo-Fitzroy Project of the Shoalhaven Scheme.*

The scope of these documents provides an insight to the complexity of operational configuration decision making.

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.

²⁴⁰ Cobbitty Consulting/Viridis Consultants, *2014/15 Operational Audit of WaterNSW; Final Audit Report (Version 4.1)*, March 2016, table B.2.1.

Table B.2.2 Catchment Infrastructure management (Sub-clause 3.1.2)

Sub-clause	Requirement	Compliance Grade
3.1.2	SCA must make the Design Criteria available to the public in accordance with the Reporting Manual.	 Full Compliance
Risk	Target for Full Compliance	
This requirement represents a low risk. Whilst the Design Criteria may be of interest to some members of the public, availability will not affect effective operation of the water supply system (Catchment Infrastructure). Failure to make the Design Criteria available may have an impact (albeit minimal) on WaterNSW's public relations.		Evidence that the Design Criteria have been made available to the public in accordance with the <i>Reporting Manual</i> .
Evidence sighted		
<ul style="list-style-type: none"> WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016. WaterNSW, <i>Greater Sydney's Water Supply System Yield</i>, August 2015, which is available on the WaterNSW website at: http://www.watarnsw.com.au/_data/assets/pdf_file/0006/69189/Yield-document-redrafted.pdf Interviews with WaterNSW staff, 19-23 September 2016. 		
Summary of reasons for grade		
The auditors confirmed that information regarding the Design Criteria is available on the WaterNSW website, albeit contained within other documents. Although the auditors did not seek to obtain a copy of the Design Criteria from a WaterNSW office as part of this audit, it is assessed that WaterNSW is compliant with this obligation.		
Although compliant, the auditors are of the opinion that Design Criteria is not readily accessible, and have identified an opportunity for improvement in respect of this issue.		
Discussion and notes		
The Reporting Manual requires that:		
<p><i>“SCA must make:</i></p> <ul style="list-style-type: none"> <i>the Design Criteria</i> <i>any changes to the Water Supply System Yield (including reasons for the changes)</i> <i>the report on the review of the model and procedure for calculating the water supply system (referred to in clause 3.3.2 of this Reporting Manual),</i> <p><i>available free of charge:</i></p> <ul style="list-style-type: none"> <i>on its website for downloading by any person, and</i> <i>at its offices for access or collection by any member of the public.”</i> 		
As evidence that the Design Criteria are published on its website, WaterNSW indicated that the Design Criteria are presented within the report <i>Greater Sydney's Water Supply System Yield</i> , ²⁴¹ which is published on		

²⁴¹ WaterNSW, *Greater Sydney's Water Supply System Yield*, August 2015, which is available on the WaterNSW website at: http://www.watarnsw.com.au/_data/assets/pdf_file/0006/69189/Yield-document-redrafted.pdf

its website. The auditors noted that the Design Criteria are also defined within the *SCA Operating Licence*, which is also available on the WaterNSW website.

Whilst the Design Criteria is available on WaterNSW's website, the auditors are of the opinion that it was not readily accessible. Accordingly, an opportunity for improvement (**OFI-2015/16-18**) has been raised in respect of this issue.

The auditors did not seek to obtain the requisite information from a WaterNSW office as part of this audit.

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:

- **OFI-2015/16-18:** WaterNSW may wish to make the Design Criteria more readily accessible on its website. Publication of the Design Criteria as a “standalone” document may be an appropriate manner in which to achieve this.

Table B.2.3 Re-calculating Water Supply System Yield (Sub-clause 3.2.1)

Sub-clause	Requirement	Compliance Grade
3.2.1	SCA must re-calculate the Water Supply System Yield on the occurrence of any one or more of the following events: 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 d) any material change to the Design Criteria.	<div></div> No Requirement
Risk	Target for Full Compliance	
This requirement represents a high operational risk. Any of the nominated events may, singularly or collectively, have a significant impact on the Water Supply System Yield, which may in turn require a change to system operations.	Evidence the WaterNSW had re-calculated the Water Supply System Yield if any of the nominated events had occurred.	
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.Interviews with WaterNSW staff, 19-23 September 2016.		
Summary of reasons for grade		
The need to re-calculate the Water Supply System Yield was not “triggered” during the audit period. Accordingly, there was no requirement in respect of this obligation.		
Discussion and notes		
WaterNSW advised that: ²⁴² “No changes occurred to system configuration over this period. No revision of yield is required. No bathymetry survey conducted over this period. No operational rule changes made over this period.”		
No evidence to the contrary was observed; accordingly, there was no requirement in respect of this obligation 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.		

²⁴² WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 27.

Table B.2.4 Re-calculating Water Supply System Yield (Sub-clause 3.2.3)

Sub-clause	Requirement	Compliance Grade
3.2.3	As soon as practicable after advising the Minister of any changes to the Water Supply System Yield under clause 3.2.2(a), SCA must make those changes and reasons for those changes available to the public in accordance with the Reporting Manual.	No Requirement
<hr/>		
Risk	Target for Full Compliance	
This requirement represents a low risk. Whilst changes to the Water Supply System Yield may be of interest to some members of the public, availability will not affect effective operation of the water supply system. Failure to make changes to the Water Supply System Yield available may have an impact (albeit minimal) on WaterNSW’s public relations.	Evidence that any changes, and reasons for the changes, to the Water Supply System Yield has been made available to the public in accordance with the Reporting Manual as soon as practicable after advising the Minister.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.Interviews with WaterNSW staff, 19-23 September 2016.		
<hr/>		
Summary of reasons for grade		
There were no changes to the Water Supply System Yield during the audit period. Accordingly, there was no requirement in respect of this obligation.		
<hr/>		
Discussion and notes		
As there was no requirement to re-calculate the Water Supply System Yield pursuant to sub-clause 3.2.1 (refer Table B.2.3), there was no requirement to advise the Minister of any changes to the Water Supply System Yield pursuant to clause 3.1.1(a). Accordingly, there was no requirement to make any changes or reasons for any changes available to the public in accordance with the Reporting Manual.		
<hr/>		
Recommendations		
There are no recommendations in respect of this sub-clause.		
<hr/>		
Opportunities for improvement		
No opportunities for improvement have been identified in respect of this sub-clause.		

Table B.2.5 Reviewing the model for Water Supply System Yield (Sub-clause 3.3.1)

Sub-clause	Requirement	Compliance Grade
3.3.1	By 30 June 2016, SCA must retain an independent expert to: <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 clause 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 clause 3.3.1(b). 	<div style="background-color: #008000; height: 20px; width: 100%;"></div> Full Compliance
Risk		Target for Full Compliance
This requirement represents a high operational risk. Ensuring that calculation of the Water Supply System Yield is robust is critical to understanding the likely availability of water.		Evidence that WaterNSW has retained an independent expert to review its model and procedure for calculating the Water Supply System Yield, test the robustness of the model and advise whether the Water Supply System Yield should be re-calculated.
Evidence sighted		
<ul style="list-style-type: none"> ▪ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016. ▪ WaterNSW, <i>Sydney's Water Supply System Yield Review 2015-16; Specification</i> (Reference: D2016_12639), undated. ▪ WREMA, <i>WATHNET Water Supply System Model Independent Review; Final Report</i> (WaterNSW Reference: D2016_74435), June 2016. ▪ SKM, <i>Water Supply System Model and Yield Review 2009/2010; Volume 1: Main Report</i>, June 2011, page x. ▪ Interviews with WaterNSW staff, 19-23 September 2016. 		
Summary of reasons for grade		
<p>WaterNSW demonstrated that it had engaged an independent expert to review its model and procedure for calculating the Water Supply System Yield; the review was undertaken prior to 30 June 2016. The independent experts endorsed the model and yield estimation methodology, and concluded that, whilst there are some opportunities for improvement, there is no imperative to adjust (recalculate) the current yield estimates.</p> <p>Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.</p>		
Discussion and notes		
<p>WaterNSW advised²⁴³ that it had conducted an independent expert review of the model and procedure for calculating the Water Supply System Yield in June 2016. As evidence, WaterNSW provided copies of:</p>		

²⁴³ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 28.

-
- the specification that defines the scope of the independent review;²⁴⁴
 - the final report (*Water Supply System Model Independent Review Report*) on the findings of the independent review.²⁴⁵

Review of the specification reveals that it sets out the scope of the independent review in detail. The scope addresses the requirements of this Licence obligation and includes:

- Review of the model (including configuration and input data) and reported yield for a specified series of scenarios;
- Preparation of a draft report;
- Engagement of a peer review panel of external experts and conduct a review of yield assessment methodology;
- Preparation of a final report.

More specifically, the specification requires the independent expert to:²⁴⁶

- Analyse and confirm the correctness of all configuration and input data including evaporation, environmental flows, riparian flows, demand distribution, storages, restrictions, transfer rules and constraints, desalination and groundwater pumping triggers.
- For each of the scenarios identified by WaterNSW, run, review, confirm and document the representation of the Sydney water supply system in WATHNET. Detailed documentation should cover the methodology and assumptions used in the simulation process, for complete and thorough reviews and future use and improvements.
- Determine security and reliability yields for each scenario, and extract and provide the information identified in the specified format for the adopted yield.
- Engage an external panel of experts (comprising four (4) industry experts from within Australia) to undertake a peer review:
 - involving review of the water supply system's yield assessment methodology in light of recent developments and world's best practice;
 - concentrating on the application of the WATHNET model to the Sydney's water supply system; and
 - taking into account the recommendations from the previous (2010) review.

It is noted that WaterNSW's requirement that the independent expert engages an external panel of experts to undertake a peer review ensures that both the process and findings of the independent expert review are robust.

Review of the *Water Supply System Model Independent Review Report* reveals that it:

- Provides an overview of the study;
 - Provides background information, including details of the Sydney Water Supply System, the previous (2010) independent review and changes since the previous review;
 - Details the review and presents key findings and recommended improvements to the model configuration;
 - Details the expert panel peer review and the conclusions and recommendations arising from that review;
 - Presents the estimated system yields for the specified scenarios;
-

²⁴⁴ WaterNSW, *Sydney's Water Supply System Yield Review 2015-16; Specification* (Reference: D2016_12639), undated.

²⁴⁵ WREMA, *WATHNET Water Supply System Model Independent Review; Final Report* (WaterNSW Reference: D2016_74435), June 2016.

²⁴⁶ WaterNSW, *Sydney's Water Supply System Yield Review 2015-16; Specification* (Reference: D2016_12639), undated.

-
- Appendices including:
 - A progress report which presents detailed findings;
 - Minutes of the Peer Review Workshop; and
 - WaterNSW's responses to the review recommendations.

It is noted that the review process included Peer Review Workshop; participants included WaterNSW Staff, Stakeholders, Peer Review Panel and the [Expert] Consultants engaged to undertake the review.

The independent experts endorsed the model and yield estimation methodology, as well as suggesting some opportunities for improvement. The report concluded that, whilst there are some opportunities for improvement that will be implemented over time, there is no imperative to adjust (recalculate) the current yield estimates.

It is noted that the specification does not specifically addresses the requirement to review the appropriateness of the frequency of yield calculation or the nominated trigger events; nor does the independent review report. The auditor is, however, of the opinion that the broader scope and reporting of the review do address this issue. The specification includes a general requirement for the outcomes of the independent review to meet the requirements of the *Operating Licence*, whilst the review report indicates that the Peer Review Workshop included some discussion in respect of:²⁴⁷

- the ongoing use of the WATHAM yield model “... to assess planning options and to inform management decisions ...”; and
- acknowledgment that: “*The yield has been calculated for a range of different operating rules and planning assumptions which informs the decision on the adopted rules and strategy. These are updated when the Metropolitan Water Plan is revised.*”

It is further noted that the following finding/recommendation arising from the 2010 independent review of the model in respect of the frequency of yield calculations has effectively been adopted as part of the 2016 review:²⁴⁸

“The expert panel and SKM agree that the triggers for yield review identified in the SCA operating licence are appropriate as long as the last trigger (i.e. material change to the operating rules) is understood to include changes to environmental flow rules, changes to water use restriction levels and reductions in response to changed observed behaviour etc. The panel recommended that the yield review should be carried out every 5 years regardless of the triggers. This will ensure incorporation of additional data and any advances in methodology, especially in the current environment where there is considerable effort being invested in understanding climate variability and climate change. However, since Sydney currently reviews and prepares a new Metropolitan Water Plan every 4 years it would seem to be appropriate and consistent to adopt this 4 year cycle.”

The yield scenarios assessed as part of the 2016 review include replacement of the combined eflows and riparian flows from Warragamba (Run R24) and SW Revised restriction savings introduced (Run R28); these are deemed to represent material changes to the operating rules. Furthermore, as noted above, recalculation of the yield in response to revision of the *Metropolitan Water Plan* (which occurs nominally every four years) sets the base timing for recalculation of the yield.

Although the auditor is of the opinion that the frequency/timing of yield recalculations has been effectively addressed as part of the independent review, this has not been explicitly documented. Accordingly, an opportunity for improvement (**OFI-2015/16-19**) has been identified in respect of this issue.

²⁴⁷ WREMA, *WATHNET Water Supply System Model Independent Review; Final Report* (WaterNSW Reference: D2016_74435), June 2016, appendix B.

²⁴⁸ SKM, *Water Supply System Model and Yield Review 2009/2010; Volume 1: Main Report*, June 2011, page x.

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:

- **OFI-2015/16-19:** It would be prudent for WaterNSW to ensure that Licence requirements in respect of independent review of the appropriateness of the frequency of yield calculation or the nominated trigger events should be explicitly included and reported as part of the independent review of the model and procedure for calculating the Water Supply System Yield.
-

Table B.2.6 Reviewing the model for Water Supply System Yield (Sub-clause 3.3.2)

Sub-clause	Requirement	Compliance Grade
3.3.2	During the independent expert's review under clause 3.3.1, SCA must consult with: <ul style="list-style-type: none"> 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 clause 3.3.1. 	<div style="background-color: #008000; height: 20px; width: 100%;"></div> Full Compliance
Risk		Target for Full Compliance
This requirement represents a moderate operational risk. It is prudent that relevant stakeholders are consulted in order to avoid overlooking any relevant inputs or contributions to the review process.		Evidence that, during the independent expert's review, WaterNSW consulted with Sydney Water, stakeholders and regulators as agreed with IPART; and any other persons reasonably expected to have an interest in the review of the model.
Evidence sighted		
<ul style="list-style-type: none"> ▪ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016. ▪ WREMA, <i>WATHNET Water Supply System Model Independent Review; Final Report</i> (WaterNSW Reference: D2016_74435), June 2016. ▪ Letter dated 8 July 2016 from WaterNSW to IPART regarding <i>WaterNSW Review of Model for Water Supply System Yield</i> (Reference: D2016_74441). ▪ Email dated 7 April 2016 from WaterNSW to IPART regarding initial Stakeholder Workshop. ▪ Email dated 18 May 2016 from WaterNSW to IPART regarding second Stakeholder Workshop. ▪ Email dated 19 May 2016 from IPART to WaterNSW requesting a formal letter regarding Stakeholder Workshop. ▪ Letter dated 23 May 2016 from WaterNSW to IPART regarding WaterNSW Review of Model for Water Supply System Yield – Stakeholder Workshop (Reference: D2016/060963). ▪ Letter dated 25 May 2016 from IPART to WaterNSW regarding WaterNSW Review of Model for Water Supply System Yield – Stakeholder involvement (WaterNSW reference: D2016_67781). ▪ Interviews with WaterNSW staff, 19-23 September 2016. 		
Summary of reasons for grade		
<p>WaterNSW demonstrated that it had consulted with Sydney Water and DPI Water, and had invited the Office of Environment and Heritage to participate in stakeholder workshops. Although IPART had suggested that Sydney Desalination Plant also be invited to participate, it appears that WaterNSW's contention that this would not be appropriate was not disputed and was therefore deemed to have been agreed.</p> <p>Accordingly, it is assessed that WaterNSW has demonstrated full compliance with this obligation.</p>		

Discussion and notes

WaterNSW advised that:²⁴⁹

“WaterNSW consulted DPI Water, OEH, SWC, IPART during the review. Attendee list can be found in the appendices - Minutes of workshop in report D2016/74435.”

Review of the *Water Supply System Model Independent Review Report* reveals that attendees at the Peer Review Workshop included representatives of WaterNSW, Sydney Water, DPI Water, and IPART as well as the Peer Review Panel and the consultants (independent experts).²⁵⁰ The Office of Environment and Heritage was also invited to participate.

In respect of the requirement that WaterNSW must consult with stakeholders and regulators as agreed with IPART, it was noted that when submitting the *Water Supply System Model Independent Review Report* to IPART, WaterNSW stated that:²⁵¹

“In relation to IPART’s suggestion (by letter on 25 May 2016) that the Sydney Desalination Plant Pty Ltd (SDP) be invited to participate in the presentation of the findings by the independent experts, WaterNSW determined that this would not be appropriate.”

The auditors sought evidence that IPART had agreed to this position. In response, WaterNSW provided:

- Email correspondence dated 7 April 2016 from WaterNSW seeking IPART’s advice in relation to sub-clause 3.3.2.²⁵²
- Email correspondence dated 18 May 2016 from WaterNSW to IPART providing details of the proposed Stakeholder Workshop to be held on Friday, 27 May 2016.²⁵³
- Email correspondence dated 19 May 2016 from IPART to WaterNSW requesting a formal letter setting out details of the Stakeholder Workshop, including stakeholder involvement proposed by WaterNSW.²⁵⁴
- Letter dated 23 May 2016 from WaterNSW to IPART in response to the above request.²⁵⁵ This letter indicated that:

“An initial stakeholder workshop held on 11 April 2016 to which Sydney Water, DPI Water, OEH and IPART were invited in line with the requirements of Clause 3.3.2 of the licence. The workshop provided an overview of WaterNSW’s approach and methodology for the review and an opportunity for stakeholders to participate in the process from the outset.”
- Letter dated 25 May 2016 from IPART to WaterNSW in which IPART suggested that an invitation be extended to Sydney Desalination Plant (SDP) to have a subsequent opportunity for consultation on the review.²⁵⁶
- Comment that WaterNSW had not interpreted IPART’s suggestion to involve SDP as a requirement, and that IPART had not subsequently raised the fact that SDP had not been consulted.

The auditors are of the opinion that WaterNSW had sought IPART’s input in respect of stakeholder involvement in a timely manner, and that the suggestion for consultation with SDP was not provided until

²⁴⁹ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 28.

²⁵⁰ WREMA, *WATHNET Water Supply System Model Independent Review; Final Report* (WaterNSW Reference: D2016_74435), June 2016, section 4.1 and appendix B.

²⁵¹ Letter dated 8 July 2016 from WaterNSW to IPART regarding *WaterNSW Review of Model for Water Supply System Yield* (Reference: D2016_74441).

²⁵² Email dated 7 April 2016 from WaterNSW to IPART regarding initial Stakeholder Workshop.

²⁵³ Email dated 18 May 2016 from WaterNSW to IPART regarding second Stakeholder Workshop.

²⁵⁴ Email dated 19 May 2016 from IPART to WaterNSW requesting a formal letter regarding Stakeholder Workshop.

²⁵⁵ Letter dated 23 May 2016 from WaterNSW to IPART regarding WaterNSW Review of Model for Water Supply System Yield – Stakeholder Workshop (Reference: D2016/060963).

²⁵⁶ Letter dated 25 May 2016 from IPART to WaterNSW regarding WaterNSW Review of Model for Water Supply System Yield – Stakeholder involvement (WaterNSW reference: D2016_67781).

immediately prior to the stakeholder workshop. Given that there is no evidence to suggest that IPART has subsequently queried WaterNSW's position in not consulting with SDP, it is considered that there had been effective agreement.


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 B.2.7 Reviewing the model for Water Supply System Yield (Sub-clause 3.3.3)

Sub-clause	Requirement	Compliance Grade
3.3.3	SCA must report: <ul style="list-style-type: none"> a) the findings of the independent expert's review under clause 3.3.1; and b) SCA's response to those findings, in accordance with the Reporting Manual. 	 Full Compliance
Risk	Target for Full Compliance	
This requirement represents a low risk. Whilst the results of the independent expert's review may be of interest to some members of the public, availability will not affect effective operation of the water supply system. Failure to make report the findings may have an impact (albeit minimal) on WaterNSW's public relations.		Evidence that the findings of the independent expert's review and WaterNSW's response to those findings have been made available to the public in accordance with the Reporting Manual.
Evidence sighted		
<ul style="list-style-type: none"> ▪ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016. ▪ WREMA, <i>WATHNET Water Supply System Model Independent Review; Final Report</i> (WaterNSW Reference: D2016_74435), June 2016. ▪ Letter dated 8 July 2016 from WaterNSW to IPART regarding <i>WaterNSW Review of Model for Water Supply System Yield</i> (Reference: D2016_74441). ▪ Interviews with WaterNSW staff, 19-23 September 2016. 		
Summary of reasons for grade		
The auditors confirmed that findings of the independent expert's review and WaterNSW's response to those findings are available on the WaterNSW website. Although the auditors did not seek to obtain a copy of this information from a WaterNSW office as part of this audit, it is assessed that WaterNSW is compliant with this obligation.		
Discussion and notes		
The Reporting Manual requires that:		
<p><i>"SCA must make:</i></p> <ul style="list-style-type: none"> ▪ <i>the Design Criteria</i> ▪ <i>any changes to the Water Supply System Yield (including reasons for the changes)</i> ▪ <i>the report on the review of the model and procedure for calculating the water supply system (referred to in clause 3.3.2 of this Reporting Manual),</i> <p><i>available free of charge:</i></p> <ul style="list-style-type: none"> ▪ <i>on its website for downloading by any person, and</i> 		

-
- *at its offices for access or collection by any member of the public.”*

WaterNSW advised that the *Water Supply System Model Independent Review Report*²⁵⁷ is available on the website via the following links:

- ↳ Publications
 - ↳ General publications
 - ↳ General water reports (tick box and view to reveal list of available reports).

[http://www.waternsw.com.au/about/pubs/general?queries_topic7_query%5B%5D=General+water+reports&search_page_54712_submit_button=View¤t_result_page=1&results_per_page=10&submitted_search_category=&mode=]

When submitting a copy of the *Water Supply System Model Independent Review Report* to IPART,²⁵⁸ WaterNSW advised that the report would be made publicly available through the WaterNSW website.

WaterNSW's response is included as Appendix D of the *Water Supply System Model Independent Review Report*; therefore, it is also available on the WaterNSW website.

The auditors did not seek to obtain the requisite information from a WaterNSW office as part of this audit.

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.

²⁵⁷ WREMA, *WATHNET Water Supply System Model Independent Review; Final Report* (WaterNSW Reference: D2016_74435), June 2016.

²⁵⁸ Letter dated 8 July 2016 from WaterNSW to IPART regarding *WaterNSW Review of Model for Water Supply System Yield* (Reference: D2016_74441).

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.	<div></div> Full Compliance
Risk	Target for Full Compliance	
Ineffective management of catchment areas impacts the first barrier for water quality protection and therefore represents a high risk to water quality, public health and the environment.	Evidence that WaterNSW has managed and protected catchment areas consistent with its objectives and functions under the Act.	
Evidence sighted		
<ul style="list-style-type: none">Water Quality Policy.Healthy Catchments Strategy 2012 – 2016.Healthy Catchments Program 2015 -2016.Source Water Protection Framework 2016-2020.Water Monitoring Program.Draft Annual Catchment Management Report 2014-15.Summary of advice to external planning authorities including planning proposal responses.WaterNSW Response to exhibition of draft Central West and Orana Regional Plan.WaterNSW response to exhibition of Draft North Coast Regional Plan.State Environment Planning Policy (Sydney Drinking Water Catchment) 2011.CRP endorsement criteria.CRP list for library 30 March 2016.NorBE User Guide for Councils 2014.NorBE User Guide for Consultants.WaterNSW Concurrence and Referral Report July 2015 - June 2016.Environmental Assessment Manual – SCA November 2014.PSAT Full Report 2016.2-Day RLP WHS & Acquittal Inspection Report.Minutes Rural Landscape Program Quarterly Meetings.SCA Infrastructure Grants – additional information request.Water Quality Monitoring Plan Bradley St Pump Station Infrastructure Grants.Goulburn Bradley St Upgrade Quarterly Reports.Bradley Street Sewer Pump Station Upgrade Fifth Quarter Monitoring Report 7 May 2015.Assessing pasture health on properties in grazing incentive program.		

-
- Examining water quality changes resulting from the upgrade of Lithgow and Braidwood STPs.
 - Riparian management assistance program – Grants evaluation and monitoring tool.
 - Wingecarribee Council – Bowral Sewer Refurbishment Final Report (Draft).
 - Targeted Inspection schedule 1 July 2015 to 30 June 2016.
 - WaterNSW Joint Operations Regular Weekend Surveillance – 2011 to current.
 - Land use change 2012 – 2016.
 - Schools program reporting 2015 – 2016.
 - Calendar Month Statistics July 2015 – May 2016.
 - Corporate Incident Management Framework.
 - Bushfire Operational Plan.
 - Special Area Closure.
 - Regional Operations SCA managed lands.
 - Recreation Area and Catchment Closure Checklist.
 - Water Quality Incident Response Plan - UNDER REVIEW.
 - Staff interview 19 September 2016.
 - Field visit catchment 20 September 2016.
-

Summary of reasons for grade

Full compliance has been awarded for this sub-clause. WaterNSW has demonstrated that it implements activities to manage and protect the catchment area consistent with its relevant objectives and functions under the Act. WaterNSW has diverse catchment management strategies in place to target both diffuse and point sources of pollution, and is implementing them so as to promote water quality, protect public health and public safety, and protect the environment.

Discussion and notes

The Act, as defined in the *Operating Licence*, is the *Sydney Water Catchment Management Act 1998* (NSW). However, as of 1 January 2015 this was repealed and replaced by the *Water NSW Act 2014* (NSW).

The objectives and functions under the *Water NSW Act* relevant to catchment management and protection include:

- *Objective:* to ensure that declared catchment areas and water management works in such areas are managed and protected so as to promote water quality, the protection of public health and public safety, and the protection of the environment.
- *Functions:* to protect and enhance the quality and quantity of water in declared catchment areas; to manage and protect declared catchment areas and water management works vested in or under the control of WaterNSW that are used within or for the purposes of such areas; to undertake research on catchments generally, and in particular on the health of declared catchment areas; and to undertake an educative role within the community.

It is noted that these objectives and functions remain substantially the same as under the now repealed *Sydney Water Catchment Management Act*.

In order to fulfil the objectives and functions mentioned above, WaterNSW requires effective catchment management strategies, which should include the following (based on ADWG 2011):

- Policies and/or strategies

There is a Water Quality Policy,²⁵⁹ which demonstrates the commitment to effective catchment management. In addition, the Healthy Catchments Strategy (HCS) 2012-16²⁶⁰ and Healthy Catchments Work Program 2015²⁶¹ outline the objectives and strategies for managing and protecting the declared catchments. Going forward, the Source Water Protection Framework 2016-2020²⁶² will replace initiative six of the HCS, ie. Targeting high risk pollution.

- Land use controls

There are a 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 influencing land use planning and development control plans (DCPs) in these areas.

WaterNSW works with and provides advice to external planning authorities (for example, local Councils) in the catchment during land use planning stage. A summary of advice provided over the reporting period was sighted by the auditors.²⁶³ Examples of advice provided to local Councils were also sighted.²⁶⁴

WaterNSW also provides advice on significant changes in planning law, policies, planning instruments and growth plans and tools that could have an impact in the catchment. Examples of such advice/responses were seen by the auditors.²⁶⁵

At the local level, WaterNSW has developed and provided the Neutral or Beneficial Effect (NorBE) tool for use by Councils (and consultants assisting Councils and applicants) who are required to assess all proposed development in the drinking water catchment using this tool. 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).²⁶⁶

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. The CRP endorsement criteria²⁶⁷ and a list of CRPs were provided for review.²⁶⁸

- Criteria for development applications

Development applications are assessed by local Councils using the NorBE tool. The user guides developed for use by Councils and consultants were provided to the auditors.²⁶⁹ There was no formal training delivered for the use of NorBE tool during the reporting period, however, informal support

²⁵⁹ CD2014_5[v3] Water Quality Policy.

²⁶⁰ D2013/33378 Healthy Catchment Strategy 2012-2016.

²⁶¹ D2015/65691 Healthy Catchments Workplan 2015.

²⁶² D2016/69118 Source Water Protection Framework 2016-2020.

²⁶³ D2016/79376 Summary of advice to external planning authorities including planning proposal responses.

²⁶⁴ D2016/39678 Camden; D2015/97925 Wollongong.

²⁶⁵ D2016/75612 WaterNSW Response to exhibition of draft Central West and Orana Regional Plan; D2016/63708 WaterNSW response to exhibition of Draft North Coast Regional Plan.

²⁶⁶ D2016/95567 State Environment Planning Policy (Sydney Drinking Water Catchment) 2011.

²⁶⁷ D2013_46639 – CRP Endorsement Criteria.

²⁶⁸ D2016/28621 CRP list for library 0 30 March 2016.

²⁶⁹ D2014_47432 NorBE User Guide for Councils 2014; D2014_47435 NorBE User Guide for Consultants.

continued through direct contact with WaterNSW officers.

WaterNSW also provided concurrence advice to Councils for Development Approvals (DAs) in 2015/16.²⁷⁰ An example of a completed NorBE checklist for a DA was provided.²⁷¹ WaterNSW uses the procedures documented in the Environmental Assessment Manual²⁷² to assess DAs. The Manual should be reviewed (past its review date), and re-branded as a WaterNSW document.

- Responsibility of agencies

The catchment management roles of the various relevant agencies are articulated in respective Acts and statutory roles and responsibilities. At a general level, the Healthy Catchments Strategy 2012-16 identifies the key stakeholders that need to be engaged to develop and implement the management strategies.

- Water quality risks and planning of management strategies

The four priority pollutants identified by WaterNSW from the C2T risk assessment are pathogens, nitrogen, phosphorous and suspended solids. The actions that WaterNSW took to reduce the risks to water quality and improve catchment health were based on the Healthy Catchments Strategy 2012-16 and Health Catchments Work Program 2015.

The Pollution Source Assessment Tool (PSAT) informed the HCS by providing an understanding of where the high risk pollution sources were in the catchment, thereby allowing prioritisation of catchment actions to protect water quality. The PSAT modelled the risks to water quality from fourteen land uses in the declared catchment.²⁷³ The high and very high risks identified through the PSAT model serve as a starting point for response and improvement programs.

The PSAT model is re-run every four years, with the most recent PSAT report guiding the development of the Source Water Protection Framework 2016-20.

WaterNSW annually prepares a Healthy Catchments Program (HCP)²⁷⁴ 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 draft annual report²⁷⁵ for the audit period was sighted by the auditors.

The audit team also undertook field visits to see first-hand some of the improvement projects implemented as part of the Rural Landscape Program and Sewerage and Stormwater Infrastructure Grant Program. These included looking at interventions for both diffuse and points sources of pollution. To ensure a project is eligible for funding, applicants (Councils or landowners) need to submit an expression of interest before submitting an application. The expression of interest enables WaterNSW to check eligibility and provide applicants with advice/further assistance when preparing an application. One of the eligibility criteria is that the project is implemented in a high risk area identified by WaterNSW.

Diffuse Source Programs – the Rural Landscape Program is a partnership between WaterNSW and South East Local Land Services (LLS) aimed at improving management practices in the grazing landscape. Grants help landowners to manage farming activities in the grazing landscape with the overall goal of protecting water quality. The auditors visited “The Junction” property, which is adjacent to the confluence of the Paddy’s and Wollondilly Rivers; the Wollondilly River flows into Warragamba Dam.

The auditors were pleased to note the work completed and to hear about the benefits from the landowner/farmer, which included increased productivity and river water quality (aesthetic wise).

²⁷⁰ D2015/83634 WaterNSW Concurrence and Referral Report July 2015 - June 2016.

²⁷¹ D2016_107780 DA NorBE checklist example 16073.

²⁷² CD2012 16[v2] Environmental Assessment Manual – SCA.

²⁷³ D2015/98663 PSAT Full Report 2016.

²⁷⁴ D2015/7489 Healthy Catchments Program 2014 -2015.

²⁷⁵ D2016_105148 Draft Annual Catchment Management Report 2015-16.

The success of this project should be capitalised on and used as an example to promote the program benefits to other landowners to bring them on-board.

The auditors sighted evidence of WaterNSW's involvement and guidance in the Rural Landscape Program, including field inspection²⁷⁶ and quarterly meeting minutes with LLS.²⁷⁷

Point Source Programs – WaterNSW provides grants to councils in the drinking water catchments to help build sewage and stormwater infrastructure that aims to reduce pollution of waterways caused by sediment, nutrients and/or pathogens.

The Bradley Street Pump Station Upgrade project (Goulburn Mulwaree Council) was visited by the auditors to see one of the projects under the Sewerage and Stormwater Infrastructure Program. The project involved upgrade of the Bradley Street Sewage Pumping Station to meet flow requirements and reduce sewer overflows into the Mulwaree River, which eventually flows into Warragamba Dam.

Council staff showed the auditors the project work, and discussed the benefits in terms of the capacity of the upgraded pumping station to meet peak inflows, thereby resulting in elimination of overflow discharges to the Mulwaree River. The monitoring report²⁷⁸ provided to the auditors showed that the upgrade was working well.

The auditors sighted evidence of WaterNSW's role in the Infrastructure Grant Program, including expert panel assessment outcomes,²⁷⁹ the water quality monitoring plan²⁸⁰ and quarterly project reports.²⁸¹

Monitoring undertaken for both visited projects, including for example water quality or groundcover or flow monitoring, showed positive impacts from the project. Although demonstrating the benefits from the interventions on the overall objective of water quality enhancement and protection is not straightforward and requires time and long-term data, it would be useful to develop a well-defined Monitoring and Evaluation (M&E) Framework going forward.

- Monitoring program to identify pollution sources

WaterNSW implements a Water Monitoring Program,²⁸² with 40 routine sites and 47 auto samplers. The water quality and catchment health indicators are also included in the *Operating Licence* and tested through the program. The results are reported in the Annual Water Quality Monitoring Report.²⁸³

Other forms of monitoring undertaken include:

- analysis of remotely sensed imagery;²⁸⁴
- before and after water quality monitoring (BACI);²⁸⁵
- direct field observations;²⁸⁶ and
- modelling.²⁸⁷

²⁷⁶ D2016_81962 2-Day RLP WHS & Acquittal Inspection Report – V3.

²⁷⁷ D2015_135092 Draft Minutes Rural Landscape Program Quarterly Meeting – 14 December 2015; Final Minutes Rural Landscape Program Quarterly Meeting – 23 March 2016 rev 1.

²⁷⁸ Bradley Street Sewer Pump Station Upgrade Fifth Quarter Monitoring Report 7 May 2015.

²⁷⁹ D2013_11512 SCA Infrastructure Grants – additional information request.

²⁸⁰ D2014_20772 Water Quality Monitoring Plan Bradley St Pump Station Infrastructure Grants.

²⁸¹ D2014_59545 Goulburn Bradley St Upgrade Quarterly Report No 1 May 2014; D2014_97706 Goulburn Bradley St Upgrade Quarterly Report No 2 August 2014; D2014_121848 SCA Third Quarterly Report GMC.

²⁸² CD2011/179[v4] Water Monitoring Program.

²⁸³ D2015/121650 Annual Water Quality Monitoring Report 2014-15; D2015/121653 Annual Water Quality Monitoring Report 2014-15 – Appendices.

²⁸⁴ D2016/37053 Assessing pasture health on properties in grazing incentive program.

²⁸⁵ D2012/115247[v2] Examining water quality changes resulting from the upgrade of Lithgow and Braidwood STPs.

²⁸⁶ D2011/50884 Riparian management assistance program – Grants evaluation and monitoring tool.

²⁸⁷ D2016/87993 Wingecarribee Council – Bowral Sewer Refurbishment Final Report (Draft).

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. During the audit period, WaterNSW conducted 154 hours of targeted inspections²⁸⁸ and 1,830 hours of Special Area surveillance.²⁸⁹

WaterNSW uses satellite imagery to detect changes in land use. Every two years, a systematic review of existing land use mapping, with reference to recent aerial photographs and satellite imagery, is used to identify and digitise changes in land use. Groundcover is assessed based on MODIS imagery. A summary of land use changes between 2012 and 2016 was provided to the auditors.²⁹⁰ There is also 24-hour security monitoring at the dam walls and CCTV raising SCADA alarms.

- Community awareness to support the catchment management

Initiative 2 of the Health Catchment Strategy 2012-16 addresses the community awareness and involvement aspect with regards to water quality and catchment management. Community awareness was raised through a number of activities, including school education, community involvement and community information programs. The activities delivered are included in the draft Annual Catchment Management Report 2014-15. For example, a total of 5,438 students participated in curriculum linked lessons and hands on activities relating to water quality and catchment management²⁹¹ and approximately 92,000 visitors were recorded at the Warragamba Dam Visitor Centre.²⁹²

- Emergency response plan

The Corporate Incident Management Framework²⁹³ is used in response to incidents and emergencies. The key incidents and emergencies in the declared catchments are bushfires and floods. The NSW Rural Fire Service is the fire authority for all wildfires on WaterNSW land. WaterNSW prevention, preparedness, response and recovery processes for responding to bushfires are provided in the Bushfire Operations Plan²⁹⁴. Flood related incidents are managed by closing affected recreational areas and Special Areas following relevant procedures.²⁹⁵

For responding to water quality incidents, WaterNSW uses its Raw Water Quality Incident Response Plan,²⁹⁶ which includes the protocols to follow, notification requirements, 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.

Opportunities for improvement

The following opportunities for improvement have been identified:

- **OFI-2015/16-20:** Develop a Monitoring and Evaluation (M&E) Framework which guides and identifies the monitoring indicators (direct and/or proxy) for catchment management actions. The M&E Framework should clearly show the indicators being monitored and the link/s to the overall objective of protecting and enhancing water quality in the catchment areas, thereby demonstrating the

²⁸⁸ D2015/78579 Targeted Inspection schedule 1 July 2015 to 30 June 2016

²⁸⁹ D2015/72299 WaterNSW Joint Operations Regular weekend Surveillance – 2011 to current.

²⁹⁰ D2016_96279 land use change 2012 – 2016.

²⁹¹ D2016_67473 Schools program reporting 2015-2016.

²⁹² D2016_69121 Calendar Month Statistics July 2015 – May 2016.

²⁹³ CD2009/2[v4] Corporate Incident Management Framework.

²⁹⁴ D2014/96590 Bushfire Operational Plan.

²⁹⁵ D2013/45681 Special Area Closure; D2013/47596 Regional Operations SCA managed lands; D2013/4324 Recreation Area and Catchment Closure Checklist.

²⁹⁶ CD2004/183[v3] Water Quality Incident Response Plan - UNDER REVIEW.

benefits from the interventions.

- **OFI-2015/16-21:** Investigate options to package and showcase the success of “The Junction” property project under the Rural Landscape Program to incentivise other landowners in high risk drainage units to participate in the program.
 - **OFI-2015/16-22:** The Environmental Assessment Manual should be reviewed as it is past its review date of November 2015 (as indicated in the document), and re-branded as a WaterNSW document.
-

B.4 Section 6 – Assets

Table B.4.1 Asset Management System (Sub-clauses 5.1.1 and 5.1.2)

Sub-clause	Requirement	Compliance Grade
5.1.1	By 30 June 2015, SCA must develop a Management System that is consistent with: <ul style="list-style-type: none"> a) the <i>BSI PAS 55:2008 (PAS 55) Asset Management standard</i>; b) the Water Services Association of Australia's Aquamark benchmarking tool; or c) another asset management standard agreed to by IPART, (Asset Management System).	<div style="background-color: red; width: 100px; height: 20px;"></div> Non-compliant
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.	

Risk	Target for Full Compliance
Failure to develop and implement an Asset Management System presents a high risk of reduced levels of service and ultimately asset failure. In the case of dam failure (the principal assets managed by WaterNSW), potential consequences are significant.	Evidence that WaterNSW had developed an Asset Management System by 30 June 2015, and fully implemented it by 1 July 2015.

Evidence sighted

- WaterNSW, *Statement of Compliance 1 September 2016; For Financial Year 2015-16 (Reference: D2016/93699)*, 1 September 2016.
- WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.
- Letter dated 2 November 2016 from Cobbitty Consulting to IPART regarding Assessment of WaterNSW Progress in Development of its Management Systems.
- Interviews with WaterNSW staff, 19-23 September 2016.

Summary of reasons for grade

WaterNSW has declared an “imposed non-compliance” in respect of these sub-clauses due to the merger of the SCA and State Water on 1 January 2015, following which it is developing an *Asset Management System* that will meet its obligations under both the *State Water Operating Licence* and the *SCA Operating Licence*, or their replacement.

WaterNSW has advised that the *Asset Management System* will be in place by June 2016 and certified by December 2016. The auditor has assessed that the *Asset Management System* was in place by June 2016 and that sufficient progress had been made to have it certified as being compliant with the requirements of ISO 55001 and fully implemented by December 2016 (as proposed).

In response to concerns raised by NSW Health in respect of WaterNSW's asset maintenance for the Sydney catchments following two specific incidents, the auditors are of the view that, whilst there may have been some (long-term) shortfalls in management of the assets that led to these incidents, WaterNSW's response has been both robust and appropriate. The manner in which these issues have

been addressed is considered to be consistent with typical asset management practice.

Discussion and notes

Development and Implementation of Asset Management System (clauses 5.1.1 and 5.1.2)

In its *Statement of Compliance*,²⁹⁷ WaterNSW declared the following in respect of clauses 5.1.1, 5.1.2 and 5.1.3:

“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 ISO 55001 will be in place by June 2016, and certified by December 2016.”

Furthermore, WaterNSW advised as follows:²⁹⁸

“Imposed non-compliance consistent with revised and agreed deadlines with IPART following the formation of WaterNSW, the asset management system (AMS) is under development to comply with the requirements of ISO55001 by end of 2016. External resources (Covaris) engaged to assist in drafting documentation. Draft SAMP completed and is being finalised by Strategic Engineering. The preliminary Audit by SAI Global was undertaken on 15/16 June 2016. Stage 1 audit scheduled for the 5th & 6th September 2016 with stage 2 audit scheduled for November 2016.”

The auditor has separately assessed that the *Asset Management System* was in place by June 2016 and that sufficient progress had been made to have it certified as being compliant with the requirements of ISO 55001 and fully implemented by December 2016 (as proposed).²⁹⁹

NSW Health Concerns (clause 5.1.2)In comments provided to IPART in respect of WaterNSW’s performance during the audit period, NSW Health indicated it had concerns in respect of WaterNSW’s asset maintenance for the Sydney catchments.³⁰⁰ More specifically, NSW Health commented that:

“On July 27 2015, WaterNSW changed the outlet in use at Warragamba dam. The outlet had not been used in several years and scouring prior to operation was inadequate. The incident resulted in high turbidity water entering the pipeline and the shutdown of Prospect water filtration plant. On June 6 2016 the turbidity and colour of the raw water for the Nepean filtration plant increased due to high rainfall and the decision was made to move the offtake to access better quality water. However, due to a broken crane, the change could not be completed until the following afternoon and the filtration plant could not maintain production. Additionally, the Stoney gate on the Nepean tunnel could not be closed which could have potentially impacted the ability of the Macarthur treatment plant to treat raw water to the target quality.”

These issues were raised with WaterNSW during the audit interviews, which subsequently outlined details of the action taken in response to the incidents identified by NSW Health. The actions taken are summarised as follows:

- Warragamba Outlet:
 - Analysis was undertaken following the incident to identify root causes of the two identified problems (high turbidity water supplied and no advanced warning) and an approach to mitigating them.
 - The primary root causes identified for both problems relates to the historical design and operational view of a specific Warragamba Dam outlet, where water quality was not a major consideration in the original design in 1960; and the high cost required for retrofitting flushing
-

²⁹⁷ WaterNSW, *Statement of Compliance 1 September 2016; For Financial Year 2015-16 (Reference: D2016/93699)*, 1 September 2016, Schedule A.

²⁹⁸ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 32.

²⁹⁹ Letter dated 2 November 2016 from Cobbitty Consulting to IPART regarding Assessment of WaterNSW Progress in Development of its Management Systems.

³⁰⁰ Letter from NSW Health to IPART regarding WaterNSW’s performance against Operating Licence during 2015/16, undated.

facilities and additional water monitoring equipment to that outlet.

- WaterNSW is exploring options to address the root cause, including options to redesign the system, install infrastructure to facilitate flushing of the outlet and to install additional water quality instrumentation for more reliable turbidity monitoring from that outlet.
- Nepean Tunnel Stoney Gate Failure:
 - The gate, which is a flow control device, has jammed on several occasions in the period 2004-2015, and repairs have been undertaken.
 - An incident report was raised, subsequent to the event identified by NSW Health, to undertake maintenance of the gate. Such maintenance would require work under a permanently suspended gate, which is prohibited from a work health and safety perspective without appropriate additional work health and safety controls being in place.
 - A maintenance audit undertaken in February 2016 had identified that the gate required immediate attention. Warning signage has been installed until maintenance is completed.
 - A business case for the assessment of repair options (including replacement) is being prepared.

The auditors are of the view that, whilst there may have been some (long-term) shortfalls in management of the assets that led to these incidents, WaterNSW's response has been both robust and appropriate, particularly given the nature of the assets involved. Such response to these unforeseen incidents is consistent with typical asset management practice, which requires an assessment of the identified issues and the options available to address them, followed by planning and implementation of response actions in accordance with established governance protocols.

Recommendations


There are no recommendations in respect of this sub-clause as the non-compliance is being addressed.

Opportunities for improvement

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

B.5 Section 6 – Customers

Table B.5.1 Complaints (Sub-clause 6.2.1)

Sub-clause	Requirement	Compliance Grade
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).	 Full Compliance

Risk	Target for Full Compliance
Non-compliance with the requirements of this sub-clause poses a 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 and public relations.	Evidence that WaterNSW has maintained a Complaints Handling Procedure consistent with <i>AS ISO 10002:2006: Customer satisfaction – Guidelines for complaints handling in organizations</i> .

Evidence sighted

- WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.
- SCA, *Complaints and Compliments Handling Procedure* (Reference: CD2007/00013), undated.
- State Water, *Complaints Handling Procedure* (Reference: DOC11/23232), undated.
- SCA, *How To Guide – Managing complaints and compliments* (Reference: CD2012/154), undated.
- BBTech Consulting, *Sydney Catchment Authority; 2012/13 Operational Audit (Final Report)*, December 2013, table A.6.3.
- Cardno, *Operational Audit of State Water Corporation*, November 2015, table E.2.
- Interviews with WaterNSW staff, 19-23 September 2016.

Summary of reasons for grade

WaterNSW demonstrated that it maintained a procedure for receiving, responding to and resolving complaints throughout the audit period; there was a change in procedure from January 2016 onwards at which time the former State Water procedure was adopted as the WaterNSW procedure. Previous review of both procedures has found that they are generally consistent with the *Australian Standard AS ISO 10002-2006: Customer satisfaction - Guidelines for complaints handling in organizations*.

Accordingly, it is assessed that WaterNSW is fully compliant with this obligation.

Discussion and notes

WaterNSW advised that:³⁰¹

“The SCA applied the Complaints and Compliments Handling Procedure (CD2007/13(v3) and How to Guide (CD2012/154) for receiving, responding to, and resolving Complaints (consistent with the Australian Standard AS ISO 10002-2006) up to the end of December 2015. The eTRIM system was used to capture, record and report on SCA complaints and compliments.

From 1st January 2016, the SCA Complaints and Compliments Handling Procedure was no longer followed. All

³⁰¹ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 32.

new complaints were entered into the WaterNSW Helpdesk system according to the relevant procedure DOC11 23232[v1] Complaints Handling Procedure which is in accordance with the Australian Standard AS ISO 10002-2006) and describes the procedure to be followed by staff to record, action and close-out complaints to the satisfaction of customers.”

In summary, WaterNSW implemented the former SCA *Complaints and Compliments Handling Procedure*³⁰² in respect of its metropolitan operations until the end of December 2015. For the remainder of the audit period, it implemented the former State Water *Complaints Handling Procedure*,³⁰³ which had been adopted as the WaterNSW procedure.

WaterNSW further advised that the WaterNSW (former State Water) *Complaints Handling Procedure* is currently under review and is being merged with the previous SCA *Complaints and Compliments Handling Procedure* as part of that process.

Copies of the SCA *Complaints and Compliments Handling Procedure*, and SCA *How to Guide*³⁰⁴ and WaterNSW (State Water) *Complaints Handling Procedure* were provided for review.

Previous detailed reviews of both the SCA and State Water complaint handling procedure (document references were confirmed) have revealed that they are both generally consistent with the guidance provided in *Australian Standard AS ISO 10002-2006: Customer satisfaction - Guidelines for complaints handling in organizations*. In particular:

- the SCA *Complaints and Compliments Handling Procedure* was reviewed as part of the 2012/13 Operational Audit, which found that: “We consider that the SCA has met the requirements of clause 6.2.1 because it demonstrated conformity with the required standard”;³⁰⁵ and
- the State Water *Complaints Handling Procedure* was reviewed as part of the 2013/14 Operational Audit, which found that: “State Water maintains a procedure for complaints handling that we found to be consistent with AS ISO 10002-2006”.³⁰⁶

The SCA *How to Guide* provides a step-by-step guide to the management of complaints and compliments, including relevant screen shots of the eTRIM system.

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.

³⁰² SCA, *Complaints and Compliments Handling Procedure* (Reference: CD2007/00013), undated.

³⁰³ State Water, *Complaints Handling Procedure* (Reference: DOC11/23232), undated.

³⁰⁴ SCA, *How To Guide – Managing complaints and compliments* (Reference: CD2012/154), undated.

³⁰⁵ BBTech Consulting, *Sydney Catchment Authority; 2012/13 Operational Audit (Final Report)*, December 2013, table A.6.3.

³⁰⁶ Cardno, *Operational Audit of State Water Corporation*, November 2015, table E.2.

Table B.5.2 Complaints (Sub-clause 6.2.2)

Sub-clause	Requirement	Compliance Grade
6.2.2	<p>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:</p> <p>a) on its website for downloading by any person; and</p> <p>b) at its offices for access or collection by any member of the public.</p>	<div></div> <p>Full Compliance</p>
<hr/>		
Risk	Target for Full Compliance	
Non-compliance with the requirements of this sub-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 and public relations.	Evidence that WaterNSW has provided information on the Internal Complaints Handling Procedure in accordance with the nominated requirements.	
<hr/>		
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.WaterNSW webpage: http://www.watarnsw.com.au/customer-service/feedbackInterviews with WaterNSW staff, 19-23 September 2016.		
<hr/>		
Summary of reasons for grade		
<p>The auditors confirmed that information regarding the Complaints Handling Procedure (the <i>Feedback and Complaints Policy</i>), which explains how to make a complaint and how complaints are managed, is available on the WaterNSW website. Although the auditors did not seek to obtain the requisite information from a WaterNSW office as part of this audit, it is assessed that WaterNSW is compliant with this obligation.</p>		
<hr/>		
Discussion and notes		
<p>WaterNSW advised that:³⁰⁷</p> <p><i>“The SCA merged with State Water on 1 January 2015 and from November 2015 the SCA Website was merged with that of WaterNSW. The current WaterNSW website has comprehensive information on the WaterNSW complaints handling policy and templates to lodge complaints and feedback. http://www.watarnsw.com.au/customer-service/feedback</i></p> <p><i>Information on how customers can lodge complaints or feedback is also published at least once a year in customer newsletters and is available on request from Helpdesk.</i></p> <p><i>From 1 July 2015 until 30 October 2015 the SCA continued to provide information on its website regarding its complaints and compliments handling procedure (www.sca.nsw.gov.au). The SCA website also provided a downloadable brochure detailing how to make a complaint or compliment, and the steps the SCA took to resolve complaints. A hard copy of the brochure was made available at all SCA offices and distributed to new SCA customers.”</i></p>		
<p>Review of the WaterNSW website³⁰⁸ reveals that information that explains how to make a complaint and how complaints are managed is available. Links in the “Giving us feedback” webpage leads to separate</p>		

³⁰⁷ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 33.

webpages:

- “Feedback and complaints handling policy” – which outlines how to provide feedback or make a complaint, how WaterNSW deals with customer feedback and what a customer can do if WaterNSW cannot resolve a customer’s concern or issue (refers to the service provided by the Energy and Water Ombudsman of New South Wales (EWON)); and
- “Customer feedback and complaints form” – which provides an on-line form for feedback submission.

The www.sca.gov.au link now directs to the WaterNSW website, so is not possible to confirm that the requisite information was available during the period July to October 2015, however, there is no basis upon which to doubt that this was the case.

The auditors did not seek to obtain the requisite information from a WaterNSW office as part of this audit.

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.

³⁰⁸ WaterNSW webpage: <http://www.watarnsw.com.au/customer-service/feedback>

B.6 Section 7 – Environment

Table B.6.1 Environment management (Sub-clauses 7.1.1 and 7.1.2)

Sub-clause	Requirement	Compliance Grade
7.1.1	By 30 June 2015, SCA must develop a Management System which is consistent with the <i>Australian Standard AS/NZS ISO 14001:2004: Environmental management systems – Requirements with guidance for use (Environmental Management System)</i> .	 Non-compliant
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.	

Risk	Target for Full Compliance
Failure to develop and implement an Environmental Management System presents a high risk that WaterNSW may not maintain and implement effective programs to manage risks to the environment from carrying out its activities.	Evidence that WaterNSW had developed an Environmental Management System by 30 June 2015, and fully implemented it by 1 July 2015.

Evidence sighted

- WaterNSW, *Statement of Compliance 1 September 2016; For Financial Year 2015-16 (Reference: D2016/93699)*, 1 September 2016.
- WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.
- Letter dated 2 November 2016 from Cobbitty Consulting to IPART regarding Assessment of WaterNSW Progress in Development of its Management Systems.
- Interviews with WaterNSW staff, 19-23 September 2016.

Summary of reasons for grade

WaterNSW has declared an “imposed non-compliance” in respect of these sub-clauses due to the merger of the SCA and State Water on 1 January 2015, following which it is developing an *Environmental Management System* that will meet its obligations under both the *State Water Operating Licence* and the *SCA Operating Licence*, or their replacement.

WaterNSW advised that the *Environmental Management System* will be in place by June 2016 and certified by December 2016. The auditor has assessed that the *Environmental Management System* was in place by June 2016 and that sufficient progress had been made to have it certified as being compliant with the requirements of ISO 14001 and fully implemented by December 2016 (as proposed).

Discussion and notes

In its *Statement of Compliance*,³⁰⁹ WaterNSW declared the following in respect of clause 7.1.1:

“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 ISO 14001 will be in place by June 2016, and certified by December 2016.”

³⁰⁹ WaterNSW, *Statement of Compliance 1 September 2016; For Financial Year 2015-16 (Reference: D2016/93699)*, 1 September 2016, Schedule A.

By inference, as a compliant environmental management system was not developed by 30 June 2015, it could not be fully implemented by 1 July 2015. Accordingly, the imposed non-compliance is also applicable in respect of clause 7.1.2.

WaterNSW also advised that:³¹⁰

“Imposed non-compliance. An Environmental Management System has been developed in line with ISO 14001:2004. A gap analysis against ISO 14001:2004 was conducted by SAI Global in June 2016 (D2016/80107). The report recommended that WaterNSW was ready to proceed to the certification process (beginning with Stage 1 audit).”

The auditor has separately assessed that the *Environmental Management System* was in place by June 2016 and that sufficient progress had been made to have it certified as being compliant with the requirements of ISO 14001 and fully implemented by December 2016 (as proposed).³¹¹

Recommendations

There are no recommendations in respect of this sub-clause as the non-compliance is being addressed.


Opportunities for improvement

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

³¹⁰ WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 34.

³¹¹ Letter dated 2 November 2016 from Cobbitty Consulting to IPART regarding Assessment of WaterNSW Progress in Development of its Management Systems.

Table B.6.2 Environment management (Sub-clause 7.1.4)

Sub-clause	Requirement	Compliance Grade
7.1.4	Until the Environmental Management System has been developed and implemented in accordance with clauses 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.	 Full Compliance

Risk

Failure to maintain programs to manage risks to the environment from carrying out its activities and ensuring that all activities are carried out in accordance with these programs poses a high operational risk to environmental health, raw water quality and the ability of WaterNSW to meet its business objectives.

Target for Full Compliance

Evidence that WaterNSW has maintained programs to manage risks to the environment from carrying out its activities and has ensured that all its activities are carried out in accordance with those programs.

Evidence sighted

- WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.
- Audit Report – Environmental Objectives and Targets 2015-16 (D2016/76864).
- WaterNSW, *SCA Environmental Management Report 2015-16; 1 September Report to IPART* (D2016/92994).
- Environmental Objectives and Targets (D2016/102190).
- Annual Review of the Environmental Program 2015-16 (D2016/107671).
- Environmental Management System Gap Analysis Audit Report SAI Global (D2016/92994).
- WaterNSW, Business Improvement Audit Report; Environmental Objectives and Targets Compliance, June 2016 (D2016/76864).
- Interviews with WaterNSW staff, 19-23 September 2016.

Summary of reasons for grade

The evidence provided demonstrates that WaterNSW has maintained programs to manage risks to the environment from carrying out its activities and has ensured that all its activities are carried out in accordance with those programs. Target actions in support of objectives to minimise the environmental impact of infrastructure and activities, to positively influence third party activities to protect Sydney catchment areas and to promote an environmentally responsible culture were substantially met.

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

Discussion and notes

WaterNSW advised that:³¹²

“WaterNSW has an Environmental Management Program 2012 - 2015 (valid until the end 2016) that was approved by the Executive. This Program documents the programs, targets and objectives that manage risks to the environment from the carrying out of WaterNSW activities. WaterNSW will report to IPART annually in the 1st September Environmental Management Report against the commitments made in the program annually, until the

³¹² WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016, page 35.

EMS is in place.”

During the 2015/16 audit period, the previous State Water and SCA EMPs were superseded by the WaterNSW EMS and new business objectives and targets and supporting programs were adopted and implemented.³¹³

The Environmental Management System Environmental Objectives and Targets were approved in December 2015. The WaterNSW Environmental Management System Manual outlines the environmental management approach for the development, implementation, monitoring and review of environmental programs, actions and performance measures.³¹⁴ The Environmental Objectives and Targets address environmental risks, legal obligations and achieving environmental improvements.³¹⁵

WaterNSW implements an Audit Schedule for systems to ensure the management of environmental impacts and risk to the environment are being maintained. Throughout the audit period, actions and programs were implemented to manage risks to the environment.

The Environmental Objectives and Targets 2015-16 document sets out three environmental objectives:³¹⁶ Progress against the targets associated with each of these objectives is set out below:

- Objective 1. Minimise the environmental impact of infrastructure and operational activities.
 - a. Environmental impact assessments undertaken: The outcome for this target was that all environmental impact assessments were completed.³¹⁷ This target is assessed as ‘target met’.
 - b. Implement heritage management action plan: The outcomes for this target were the development of a range of heritage management plans, procedures and registers. Heritage impact assessments (HIA) for maintenance and projects were incorporated into the Environmental Impact Assessment process. During 2015/16, 332 HIA jobs were logged into the Maximo and SmartAssets work schedule, of which 160 were completed and the remaining 172 are in progress.³¹⁸ The WaterNSW assessment of ‘in progress’ was accepted.
 - c. Audit program executed. The outcome for this target was that an audit plan was implemented across WaterNSW projects to ensure compliance and implementation of environmental mitigations measures in accordance with approvals.³¹⁹ More audits (140%) were undertaken than were planned and 91% of the non-conformances were completed within the timeframe.³²⁰ The WaterNSW assessment of ‘in progress’ was accepted.
- Objective 2. Positively influence third party activities to protect Sydney catchment areas.
 - a. Third party audit and inspection program executed. The outcome for this target was that all audits were completed (the target was 70%), and all non-conformances were addressed in the agreed timeframes.³²¹ This target is assessed as ‘target met’.
 - b. Submissions to mining proposals. The outcome for this target was that all submissions referenced the mining principles and used them to assess proposals.³²² This target is assessed as ‘target met’.
- Objective 3. Promote an environmentally responsible culture that anticipates and responds to our environmental obligations.
 - a. Implement sustainability management plan. The outcome for this target was that whilst six

³¹³ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 6.

³¹⁴ WaterNSW, *SCA Environmental Management Report 2015-16; 1 September Report to IPART* (D2016/92994), page 1.

³¹⁵ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 6.

³¹⁶ Environmental objectives and targets 2015-16 (Reference D2015/102190).

³¹⁷ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671).

³¹⁸ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 2.

³¹⁹ WaterNSW, *SCA Environmental Management Report 2015-16; 1 September Report to IPART* (D2016/92994), page 1.

³²⁰ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

³²¹ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

³²² Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

actions of 10 were completed, an additional four actions were undertaken that had not been planned.³²³

The Annual Review of the Environmental Program 2015-16 reports five actions implemented, but the programs “Meet NSW Government green star rating for the fleet” and “1% of fleet must be petrol/electric hybrid fuel vehicles” appear to be counted as one action where they are listed in the Sustainability Management Plan Actions 2015-16 table as two actions. WaterNSW reported that the second of these actions was well exceeded with a total of 3% rather than the target of 1%.

The actions not completed were examined as follows. Two actions relating to waste could not be reported since historical data on water use reduction had only been collected for one of the legacy organisations. The other two actions relate to waste reduction measures and associated reporting; these activities are no longer supported by Government, having been replaced by “Government Resource Efficiency Policy”. The NSW Government carbon footprint is no longer used.

Based on this evidence, the WaterNSW assessment of programs for this target as ‘in progress’ was accepted.

- b. Implement environmental training. The outcome for this target was that 145 people received environmental training.³²⁴ All orientation sessions include an environmental component. All new staff are required to complete orientation within 12 months of starting with WaterNSW. This target is assessed as ‘target met’.
- c. Operational sites compliant with POEO Act. The outcome for this target was that no infringements occurred during the year.³²⁵ This target is assessed as ‘target met’.
- d. Sites with EPLs are compliant. The outcome for this target was that compliance was achieved. There is only one licence, which is outside the Sydney catchment area.³²⁶ This target is assessed as ‘target met’.
- e. Report notifiable incidents. The outcome for this target was that all incidents with the potential to be notifiable were reported.³²⁷ This target is assessed as ‘target met’.

WaterNSW has seven programs that support these objectives, as follows:³²⁸

- Project delivery system – contains provisions to trigger environmental consultation and input at all stages. The Project Delivery System did not contain triggers for environmental consultation during 2015/16, but these are now being incorporated. However, the Procurement Framework contains triggers for environmental consultation.³²⁹ The Report on the Audit of Environmental Objectives and Targets 2015-16 mentions that the Project Risk and Issue Register Template includes a tab to identify environmental risks associated with the project.³³⁰
- Variable offtake management plans – this mainly applies to the non-Sydney catchment functions of WaterNSW.
- Cold water pollution reduction program – this mainly applies to the non-Sydney catchment functions of WaterNSW.

³²³ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

³²⁴ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

³²⁵ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

³²⁶ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1. According to the EPA Public Register, this licence relates to the Duckmaloi Water Clarification Plant.

³²⁷ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

³²⁸ Audit Report – Environmental Objectives and Targets 2015-16, July 2016 (Reference D2016/76864), page 11 and Annual Review of Environmental Program 2015-16 (Reference D2016/107671), page 1

³²⁹ Annual Review of the Environmental Program 2015-16 (Reference D2016/107671), page 1.

³³⁰ Business Improvement Audit Report Environmental Objectives and Targets Compliance, June 2016, page 11.

-
- Asset management system - integrate environmental controls and obligations into asset management. Environmental Impact Assessments were undertaken for activities. This system is being developed to include environmental controls.
 - Contaminated sites management strategy - supports protection of the environment from contaminated sites. This strategy is under review to develop and implement further improvements.
 - Healthy catchments strategy – outlines priorities for works and activities to reduce risks to water quality and improve environmental health. This strategy has been developed and has evolved over some years.
 - Special areas strategic plan of management – a long term plan to secure high quality water for the storages and ensure ecosystem integrity of the Special Areas continues to be implemented.

Taking account of the dislocation associated with the consolidation of the two legacy organisations into WaterNSW, the above commentary illustrates that the supporting programs have been satisfactorily maintained and implemented, where possible.

The evidence outlined above demonstrates that WaterNSW has maintained programs to manage risks to the environment from carrying out its activities and has ensured that all its activities are carried out in accordance with those programs.

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.

B.7 Section 9 – Memorandum of Understanding

Table B.7.1 Memorandum of Understanding (Sub-clause 9.1.1)

Sub-clause	Requirement	Compliance Grade
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> <p>a) Director-General of the Ministry of Health; and</p> <p>b) Environment Protection Authority.</p> <p><i>[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.]</i></p>	<div></div> <p>Full Compliance</p>
Risk	Target for Full Compliance	
Failure to comply with this obligation presents a moderate operational risk. NSW Health and the EPA are key stakeholders in respect of WaterNSW's operations, with obligations in respect of the protection of public health and environment respectively.	Evidence that WaterNSW has maintained a Memorandum of Understanding with each of NSW Health and the EPA.	
Evidence sighted		
<ul style="list-style-type: none">WaterNSW response to 2016 Operational Audit Questionnaire, 1 September 2016.SCA/NSW Health, <i>Memorandum of Understanding 2011</i>, signed 2 September 2011.WaterNSW Board Submission: Revised WaterNSW and NSW Health Memorandum of Understanding and Representations Report (Reference: D2016_69008), June 2016.WaterNSW/NSW Health, <i>Memorandum of Understanding 2016</i> (Reference: D2016_90171), signed 16 June 2016.WaterNSW/NSW Heath/Sydney Water, <i>Strategic Liaison Group (SLG); Minutes of meeting held on 4 December 2015</i> (Reference: D2016_75484).WaterNSW/NSW Heath/Sydney Water, <i>Strategic Liaison Group (SLG); Minutes of meeting held on 24 March 2015</i> (Reference: D2016_75486).WaterNSW/NSW Heath/Sydney Water, <i>Joint Operational Group (JOG); Minutes of meeting held on 11 August 2015</i> (Reference: D2015_114472).WaterNSW/NSW Heath/Sydney Water, <i>Joint Operational Group (JOG); Minutes of meeting held on 17 August 2016</i> (Reference: D2016_99722).MS Excel Workbook: <i>MoU D2015_94637 Communications protocols and guidelines_17March2015.xlsx</i>.Letter from NSW Health to IPART regarding WaterNSW's performance against Operating Licence during 2015/16, undatedSCA/EPA, <i>Memorandum of Understanding between the Sydney Catchment Authority and the Environment Protection Authority 2011</i>, signed 16 November 2011.WaterNSW/EPA, <i>Memorandum of Understanding 2016 (Initial Draft)</i> (Reference: D2016_72653), undated.		

-
- Email correspondence between WaterNSW and EPA (email chain 18 August 2016 to 31 August 2016).
 - WaterNSW/OEH/EPA, *Strategic Liaison Group; Minutes of meeting held on 29 July 2015*.
 - Interviews with WaterNSW staff, 19-23 September 2016.
-

Summary of reasons for grade

WaterNSW demonstrated that it had maintained Memorandum of Understanding (MOU) with both NSW Health and the EPA throughout the audit period. The process of renewing both MOUs was commenced and, in the case of NSW Health, signed during the audit period.

Evidence was provided to demonstrate that arrangements under the MOUs are, in general, being implemented as intended. Concerns raised by NSW Health in respect of a breach of communication protocols by WaterNSW were effectively resolved under the provisions of the MOU, thereby demonstrating the provisions were working effectively.

Accordingly, it is assessed that WaterNSW is fully compliant with this obligation.

Discussion and notes

WaterNSW demonstrated that it had maintained a Memorandum of Understanding (MOU) with each of the Director General of the Ministry of Health (NSW Health) and the Environment Protection Authority (EPA) throughout the audit period. The MOU with NSW Health was due to expire in September 2016 and the MOU with the EPA was due to expire in November 2016 (in both cases outside the audit period).

Each MOU is discussed as follows:

NSW Health:

The MOU in place with NSW Health during the audit period was signed on 2 September 2011;³³¹ the term of the MOU was a period of five years from the date of execution and it included a provision that either party could initiate the renewal, amendment or replacement of the MOU before that time. WaterNSW provided evidence that the renewal process had been completed; approval of the new MOU by the Board of WaterNSW was sought in June 2016³³² and the new MOU signed on 16 June 2016.³³³

Review of the September 2011 MOU (which was in place for the majority of the audit period) reveals that it addresses matters including Introduction; Purpose; Term; Responsibilities and accountabilities; Raw water quality; Event of public health significance; Incident management; Consultation processes; Research; Exchange of information; Dispute resolution; and Amendment.

The consultation provisions of the MOU require that WaterNSW and NSW Health maintain a Strategic Liaison Group (SLG) and Joint Operational Group (JOG), which reports to the Strategic Liaison Group. WaterNSW and NSW Health may also hold tripartite meetings with Sydney Water, which also maintains an MOU with NSW Health.

As evidence that both the SLG and JOG had been operational during the audit period, WaterNSW provided copies of meeting minutes as follows:

- SLG meeting held on 4 December 2015; this was a tripartite meeting;³³⁴
 - SLG meeting held on 24 March 2016; this was again a tripartite meeting;³³⁵
-

³³¹ SCA/NSW Health, *Memorandum of Understanding 2011*, signed 2 September 2011.

³³² WaterNSW Board Submission: Revised WaterNSW and NSW Health Memorandum of Understanding and Representations Report (Reference: D2016_69008), June 2016.

³³³ WaterNSW/NSW Health, *Memorandum of Understanding 2016* (Reference: D2016_90171), signed 16 June 2016.

³³⁴ WaterNSW/NSW Health/Sydney Water, *Strategic Liaison Group (SLG); Minutes of meeting held on 4 December 2015* (Reference: D2016_75484).

³³⁵ WaterNSW/NSW Health/Sydney Water, *Strategic Liaison Group (SLG); Minutes of meeting held on 24 March 2015* (Reference: D2016_75486).

-
- JOG meeting held on 11 August 2015; this includes a tripartite participation for part of the meeting;³³⁶ and
 - JOG meeting held on 17 August 2016; this again includes a tripartite participation for part of the meeting (note this meeting was held outside of the audit period).³³⁷

WaterNSW, NSW Health and Sydney Water have developed a *Communications protocol and guidelines* document³³⁸ which sets out details guidelines for public communication, protocols for interagency communications and a protocol for communications in respect of algae.

In comments provided to IPART in respect of WaterNSW's performance during the audit period,³³⁹ NSW Health indicated it had concerns that communication before, during and after two separate incidents that occurred on 27 July 2015 and 6 June 2016 did not meet agreed protocols. It further noted that these concerns had subsequently been addressed in the incident debriefs and the Joint Operational Group meeting. Review of the above-mentioned minutes confirmed that the need to shut down the Prospect Water Filtration Plant due to high turbidity was indeed discussed at the 11 August 2015 JOG meeting.

The auditors are of the view that, whilst NSW Health raised concerns in respect of these incidents, the subsequent "close-out" is evidence that the arrangements under the MOU are working effectively.

EPA:

The MOU in place with the EPA during the audit period was signed on 16 November 2011;³⁴⁰ the term of the MOU was a period of five years from the date of execution, upon which either party could initiate the renew, amendment or replacement of the MOU. WaterNSW provided evidence that the renewal process had been commenced, including a draft new MOU³⁴¹ and a copy of related email correspondence between WaterNSW and the EPA³⁴² (all fall outside the audit period).

Review of the November 2011 MOU (which was in place throughout the audit period) reveals that it addresses matters including Introduction; Objectives; Purpose; Term; Principles; Structures and Processes; Exchange of Information and Data; Communications and Media; Dispute Resolution; and Amendment.

The structure and processes provisions of the MOU require that WaterNSW and the Office of Environment and Heritage (OEH)/EPA maintain a Strategic Liaison Group (SLG) that will consider long-term strategic issues and policies. As evidence that the SLG had been operational during the audit period, WaterNSW provided a copy of minutes for a meeting held on 29 July 2015.³⁴³

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.

³³⁶ WaterNSW/NSW Health/Sydney Water, *Joint Operational Group (JOG); Minutes of meeting held on 11 August 2015* (Reference: D2015_114472).

³³⁷ WaterNSW/NSW Health/Sydney Water, *Joint Operational Group (JOG); Minutes of meeting held on 17 August 2016* (Reference: D2016_99722).

³³⁸ MS Excel Workbook: *MoU D2015_94637 Communications protocols and guidelines_17March2015.xlsx*.

³³⁹ Letter from NSW Health to IPART regarding WaterNSW's performance against Operating Licence during 2015/16, undated.

³⁴⁰ SCA/EPA, *Memorandum of Understanding between the Sydney Catchment Authority and the Environment Protection Authority 2011*, signed 16 November 2011.

³⁴¹ WaterNSW/EPA, *Memorandum of Understanding 2016 (Initial Draft)* (Reference: D2016_72653), undated.

³⁴² Email correspondence between WaterNSW and EPA (email chain 18 August 2016 to 31 August 2016).

³⁴³ WaterNSW/OEH/EPA, *Strategic Liaison Group; Minutes of meeting held on 29 July 2015*.

D | Letter to IPART – management systems

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

CobbittyConsulting
Engineering and Advisory Services

21 November 2016

Our reference: #14042
Your reference: D16/18827; 16/148

Independent Pricing and Regulatory Tribunal
PO Box K35
Haymarket Post Shop NSW 1240

Attention: Ms Jessica Hanna
Senior Analyst, Water Licensing and Compliance

Dear Jessica

2015/16 Operational Audit of Water NSW
Assessment of WaterNSW Progress in Development of its Management Systems

I refer to the requirement under the scope of the 2015/16 Operational Audit of WaterNSW to:

- provide a summary of the progress to date in development of the Asset and Environmental Management Systems; and
- provide an opinion as to whether sufficient progress has been made to meet:
 - the future requirement of the *State Water Operating Licence*; and
 - the new deadlines nominated by WaterNSW in respect of its obligations under the *Sydney Catchment Authority Operating Licence*.

Please find attached a brief report outlining our assessment. In summary, the auditors are of the view that WaterNSW:

- had an Asset Management System, generally compliant with the requirements of ISO 55001:2014 *Asset Management – Management Systems – Requirements* (ISO 55001), in place by June 2016 (as proposed by WaterNSW); and
- had an Environmental Management System, generally compliant with the requirements of ISO 14001:2004 *Environmental management systems – Requirements with guidance for use* (ISO 14001), in place by June 2016 (as proposed by WaterNSW);

and has made sufficient progress to enable it to:

- have its Asset Management System certified as compliant with the requirements of ISO 55001 and fully implemented by December 2016 (as proposed by WaterNSW); and
- have its Environmental Management System certified as compliant with the requirements of ISO 14001 and fully implemented by December 2016 (as proposed by WaterNSW).

Please contact me on telephone 0423 326 693 or via email at jim.sly@cobbittyconsulting.com.au if you have any queries.

Yours sincerely

A handwritten signature in blue ink that reads "James C. Sly". The signature is written in a cursive style with a large, stylized 'S' at the end.

Jim Sly
Director

2015/16 Operational Audit of Water NSW

Assessment of WaterNSW Progress in Development of its Management Systems

1. Introduction

In conjunction with the 2015/16 Operational Audit of WaterNSW, IPART requires the auditors to:

- provide a summary of the progress to date in development of Asset and Environmental Management Systems, as required pursuant to both the *State Water Operating Licence* and the *Sydney Catchment Authority Operating Licence*; and
- provide an opinion as to whether sufficient progress has been made to meet:
 - the future requirement of the *State Water Operating Licence*; and
 - the new deadlines nominated by WaterNSW in respect of its obligations under the *Sydney Catchment Authority Operating Licence*.

This report sets out a brief assessment in respect of the above matters.

2. Asset Management System

2.1 Licence Requirements

2.1.1 State Water Operating Licence

Sub-clauses 4.1.1, 4.1.2 and 4.1.3 of the *State Water Corporation Operating Licence* require that:

- “4.1.1 By 30 June 2018, *State Water* must develop a Management System that is consistent with:
- a) the International Standard ISO 55001:2013 *Asset Management – Management Systems – Requirements*; or
 - b) another asset management standard agreed to by IPART.
- (**Asset Management System**).
- 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:
- a) by 30 June 2018, the Asset Management System is certified by an appropriately qualified third party to be consistent with the ISO 55001:2013 *Asset Management – Management Systems – Requirements*; and
 - b) once the Asset Management System is certified under clause 4.1.2(a) above, the certification is maintained during the remaining term of this Licence.
- 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.”

In summary, under the provisions of the *State Water Corporation Operating Licence*, WaterNSW must develop an Asset Management System, have it certified and ensure that it is fully implemented by 30 June 2018.

2.1.2 Sydney Catchment Authority Operating Licence

Similarly, sub-clauses 5.1.1 and 5.1.2 of the *Sydney Catchment Authority Operating Licence* require that:

- “5.1.1 By 30 June 2015, *SCA* must develop a Management System that is consistent with:
- a) the BSI PAS 55:2008 *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**).
- 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.”

In summary, under the provisions of the *Sydney Catchment Authority Operating Licence*, WaterNSW must develop an Asset Management System and ensure that it is fully implemented by 30 June 2015.

2.2 WaterNSW Position

Subsequent to the Government imposed merger of the State Water Corporation and Sydney Catchment Authority, WaterNSW has:

- advised that it is developing an Asset Management System that will fulfil its obligations under both the *State Water Corporation Operating Licence* and the *Sydney Catchment Authority Operating Licence*;¹
- advised that, as a result of the merger, the Asset Management System will not be developed by 30 June 2015 (as required under the *Sydney Catchment Authority Operating Licence*);² and
- proposed that the Asset Management System will be in place by June 2016 and certified by December 2016.^{3,4}

Failure to develop an Asset Management System by 30 June 2015 constitutes a non-compliance with the provisions of the *Sydney Catchment Authority Operating Licence*.

It is, however, noted that certification of the Asset Management System is not a requirement of *Sydney Catchment Authority Operating Licence*. Accordingly, the requirement under the *State Water Operating Licence* for certification by 30 June 2018 remains the appropriate assessment criteria in respect of certification of the Asset Management System, notwithstanding that WaterNSW has proposed that it will achieve certification by an earlier date.

2.3 Auditor's Assessment

WaterNSW provided a verbal update, supported by a MS PowerPoint presentation,⁵ in respect of its progress in developing and implementing its Asset Management System. Key points from the presentation include the following:

- WaterNSW has continued the development of the WaterNSW Asset Management System during the last twelve months.
- A pre-certification audit (Gap Audit) of the Asset Management System against the requirements of ISO 55001:2014 *Asset Management – Management Systems – Requirements* (ISO 55001) was undertaken by SAI Global on 15/16 June 2016.⁶ The report on that audit included the following assessment:

“The audit identified that the organisation has documented the Asset Management System that generally complied with the major requirements of ISO 55001. Most procedures required for the asset management system has been documented as identified through the desk audit. All gaps identified at the audit have been raised as areas of concern. It is suggested that the organisation proceed for the stage 1 audit which is tentatively scheduled for 11-12/08/2016.”

The report identified a number of “areas of concern”, essentially minor issues that have now been addressed.

¹ IPART, *Request for Quote; 2015-16 Water NSW Audits* (RFQ 16/154), 27 May 2016, attachment A, page 2.

² IPART, *Request for Quote; 2015-16 Water NSW Audits* (RFQ 16/154), 27 May 2016, attachment A, page 2.

³ 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).

⁴ WaterNSW, *Statement of Compliance 1 September 2016; For Financial Year 2015-16; Submitted by WaterNSW (Sydney Catchment Authority)* (Reference: D2016/93699).

⁵ WaterNSW, *IPART 2015-16 Annual Audit; Update - Asset Management System Progress* (Reference: DOC2016/107039).

⁶ SAI Global, *Asset Management Audit Report; Gap Audit; WaterNSW*, 15/16 June 2016 (WaterNSW Reference: D2016/96466).

- A Preliminary Assessment Audit (Stage 1 Audit) of the Asset Management System against the requirements of ISO 55001 was undertaken by BSI Group on 5 September 2016.⁷ The report on that audit included the following assessment:

“I am pleased to confirm your readiness to proceed to the stage 2 assessment.

Progress has been established towards certification. The nonconformities that have been identified will need to be addressed before the next stage of assessment and will be reviewed in stage 2.”

A Stage 2 Audit is the Certification Audit.

- WaterNSW advised that action was planned as follows:
 - the six (6) minor non-conformances identified during the Stage 1 Audit will be addressed during September/October 2016;
 - an AMS communications plan will be finalised and implemented and site awareness sessions will be conducted during September/October 2016; and
 - a training needs analysis and training register will be finalised during October 2016.
- WaterNSW has arranged for a Stage 2 Audit (Certification Audit) to be conducted by BSI Group in November 2016, with the expectation that the WaterNSW Asset Management System will be certified as being compliant with the requirements of ISO 55001 in December 2016.

On the basis of the update provided by WaterNSW, the auditors are of the opinion that WaterNSW had a fully developed Asset Management System in place by June 2016 (as proposed by WaterNSW) and has made sufficient progress to have it certified and fully implemented by December 2016 (as also proposed by WaterNSW); that is, well in advance of the requirement (under the *State Water Operating Licence*) to have its system certified and fully implemented by 30 June 2018.

⁷ BSI, *Assessment Report: WaterNSW (Certificate: AMS 659130; Standard: ISO 55001:2014)*, 5 September 2016 (WaterNSW Reference: D2016/106065).

3. Environmental Management System

3.1 Licence Requirements

3.1.1 State Water Operating Licence

Sub-clauses 6.1.1, 6.1.2 and 6.1.3 of the *State Water Corporation Operating Licence* require that:

- “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 System – Requirements with guidance for use (**Environmental Management System**).
- 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 System – Requirements with guidance for use; and
 - b) once the Environmental Management System is certified under clause 6.1.2(a), the certification is maintained during the remaining term of this Licence.
- 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.”

In summary, under the provisions of the *State Water Corporation Operating Licence*, WaterNSW must develop an Environmental Management System, have it certified and ensure that it is fully implemented by 30 June 2018.

3.1.2 Sydney Catchment Authority Operating Licence

Similarly, sub-clauses 7.1.1, 7.1.2 and 7.1.3 of the *Sydney Catchment Authority Operating Licence* require that:

- “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 System – Requirements with guidance for use (**Environmental Management System**).”
- 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.”
- 7.1.3 SCA must ensure that:
 - a) by 30 June 2017, 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 System – Requirements with guidance for use; and
 - b) once the Environmental Management System is certified under clause 7.1.3(a), the certification is maintained during the remaining term of this Licence.

In summary, under the provisions of the *Sydney Catchment Authority Operating Licence*, WaterNSW must develop an Environmental Management System by 30 June 2015, ensure that it is fully implemented by 1 July 2015 and have it certified by 30 June 2017.

3.2 WaterNSW Position

Subsequent to the Government imposed merger of the State Water Corporation and Sydney Catchment Authority, WaterNSW has:

- advised that it is developing an Environmental Management System that will fulfil its obligations under both the *State Water Corporation Operating Licence* and the *Sydney Catchment Authority Operating Licence*;⁸
- advised that, as a result of the merger, the Environmental Management System will not be developed by 30 June 2015 (as required under the *Sydney Catchment Authority Operating Licence*);⁹ and
- proposed that the Environmental Management System will be in place by June 2016 and certified by December 2016.^{10,11}

Failure to develop an Environmental Management System by 30 June 2015 constitutes a non-compliance with the provisions of the *Sydney Catchment Authority Operating Licence*.

It is noted that the *Sydney Catchment Authority Operating Licence* requires certification of the Environmental Management System by 30 June 2017, whilst the *State Water Operating Licence* requires certification by 30 June 2018. Accordingly, from an *Operating Licence* perspective, certification of a WaterNSW Environmental Management System by 30 June 2017 is the more critical requirement.

3.3 Auditor Assessment

WaterNSW provided a verbal update, supported by an MS PowerPoint presentation,¹² in respect of its progress in developing and implementing its Environmental Management System (EMS). Key points from the presentation include the following:

- WaterNSW has continued the development of the WaterNSW Environmental Management System and has implemented it across the business during the last twelve months.
- A Preliminary Assessment Audit (Stage 1 Audit) of the Environmental Management System against the requirements of ISO 14001:2004 *Environmental management systems - Requirements with guidance for use* (ISO 14001) was undertaken by BSI Group on 1 September 2016.¹³ The report on that audit included the following assessment:

"I am pleased to confirm your readiness to proceed to the stage 2 assessment.

Progress has been established towards certification. The nonconformities that have been identified will need to be addressed before the next stage of assessment and will be reviewed in stage 2."

A Stage 2 Audit is the Certification Audit.

⁸ IPART, *Request for Quote; 2015-16 Water NSW Audits* (RFQ 16/154), 27 May 2016, attachment A, page 2.

⁹ IPART, *Request for Quote; 2015-16 Water NSW Audits* (RFQ 16/154), 27 May 2016, attachment A, page 2.

¹⁰ 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)

¹¹ WaterNSW, *Statement of Compliance 1 September 2016; For Financial Year 2015-16; Submitted by WaterNSW (Sydney Catchment Authority)* (Reference: D2016/93699).

¹² WaterNSW, *Environmental Management System; ISO 14001 Certification Update; September 2016* (Reference: D2016/107798).

¹³ BSI, *Assessment Report; WaterNSW (Certificate: EMS 659131; Standard: BS EN ISO 14001:2004 and (Certificate: OHS 659132; Standard: BS OHSAS 18001:2007)*, 1 September 2016 (WaterNSW Reference: D2016/103944).

- WaterNSW advised that action was planned as follows:
 - legal requirements will be linked to the Aspects and Impacts Register during September 2016;
 - an EMS on-line training will be developed and a training needs analysis finalised during September/October 2016;
 - a communications program for the EMS will be developed during October 2016; and
 - Emergency Management Plans will be updated to include environmental emergencies during November 2016.
- WaterNSW has arranged for a Stage 2 Audit (Certification Audit) to be conducted by BSI Group in November 2016, with the expectation that the WaterNSW Environmental Management System will be certified as being compliant with the requirements of ISO 14001 in December 2016.

On the basis of the update provided by WaterNSW, the auditors are of the opinion that WaterNSW had a fully developed Environmental Management System in place by June 2016 (as proposed by WaterNSW) and has made sufficient progress to have it certified and fully implemented by December 2016 (as also proposed by WaterNSW); that is, in advance of the requirement (under the *Sydney Catchment Authority Operating Licence*) to have its system by 30 June 2017.

E | WaterNSW's statements of compliance

Mr Hugo Harmstorf
The Chief Executive Officer
Independent Pricing and Regulatory Tribunal of NSW
PO Box K35
Haymarket Post Shop NSW 1240

Ref: D2016/93699

Statement of Compliance 1 September 2016
For Financial Year 2015 – 16
Submitted by WaterNSW (Sydney Catchment Authority)

WaterNSW reports as follows:

1. This statement documents compliance during 2015-16 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 2015-16.
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 Chairperson of the Board of WaterNSW.


Signed:

David Harris

Chief Executive Officer


Signed:

Anne McDonald

Chairperson 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>Clause 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.</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>

Statement of Compliance 1 September 2016

For Financial Year 2015 – 16

Submitted by WaterNSW (State Water Corporation)

WaterNSW reports as follows:

1. This statement documents compliance during 2015-16 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 B provides information on all obligations with which WaterNSW did not comply during 2015-16.
4. Other than the information provided in Schedule B, 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 Chairperson of the Board of WaterNSW.

A blue ink signature, appearing to be 'D. Harris', written over a horizontal line.

Signed:

David Harris
Chief Executive Officer

A blue ink signature, appearing to be 'Anne McDonald', written over a horizontal line.

Signed:

Anne McDonald
Chairperson WaterNSW Board

Schedule B: Non-Compliances for WaterNSW (State Water Corporation)

List of requirements breached	Description of non-compliance
Nil	Nil