



**IPART** Independent  
Pricing and Regulatory  
Tribunal | NSW

WaterNSW 2021 operational audit

# Report to the Minister

March 2022

Water >>

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## **Tribunal Members**

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## **The Independent Pricing and Regulatory Tribunal (IPART)**

Further information on IPART can be obtained from [IPART's website](#).

## **Acknowledgment of Country**

IPART acknowledges the Traditional Custodians of the lands where we work and live. We pay respect to Elders, past, present and emerging.

We recognise the unique cultural and spiritual relationship and celebrate the contributions of First Nations peoples.

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## Summary

Customers in NSW rely on safe and reliable water and wastewater services. Operating licences outline obligations imposed by the NSW Government on publicly owned monopoly suppliers of essential services such as WaterNSW. We undertake annual operational audits to ensure WaterNSW meets the requirements under its licence.

This is our report to the Minister on the 2021 operational audit as required under the *Water NSW Act 2014* (Act).<sup>a</sup> At the 2021 audit, we audited WaterNSW's compliance with 55 clauses of the *Water NSW 2017–2022 Operating Licence* (Licence).<sup>a</sup>

## Key findings

WaterNSW demonstrated strong compliance uplift in addressing non-compliances and shortcomings in previous audit findings tested during the 2021 operational audit. The auditors noted considerable improvements, particularly with WaterNSW's Water Quality Management System (WQMS), since the previous audit. Without an appropriately maintained and implemented WQMS, risks posed to public health could be significant. The auditors also cited considerable effort being made in addressing prior non-conformances and, in several instances, considered these and the WQMS improvements when assigning compliance gradings. WaterNSW was forthcoming and cooperative throughout the audit process, demonstrating a strong culture of commitment to compliance.

This is an exception report. Therefore, we only discuss clauses that were not awarded compliant grades. We provide a full explanation of the audited clauses (including compliant ones) in the auditor's report. Some of the clauses were not part of the auditor's scope as we checked these ourselves.

WaterNSW was fully compliant with 33 of the 55 audited Licence clauses. We found non-compliances with 13 Licence clauses (11 non-material and 2 material) and minor shortcomings with 5 Licence clauses. The final 4 clauses were not triggered during the audit period and were assigned a 'Not Required' grade.

- During 2020-21, WaterNSW was non-compliant (material) with 2 clauses because it:
  - Did not identify and consult with all relevant stakeholders during the review of its system yield model as required under clause 2.6.2.
  - Did not adequately retain certificates, reports and other documents lodged in its Duly Qualified Persons (DQP) portal, as required under clause 6.18.3.

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<sup>a</sup> Our report presents an exception-based summary of the audit. We discuss any audited clause which did not receive a "Compliant" grading in Chapter 2. For the full findings of the audit refer to the auditor's report in Appendix E.



- During 2020-21, WaterNSW was non-compliant (non-material) with 11 clauses because it:
  - Did not close out 2 outstanding non-compliances (from the 2020 audit) related to its WQMS until late into the 2021 audit period. These non-compliances related to an ongoing deficiency in documenting procedures and processes for the Fish River Water Scheme (clauses 2.1.1, 2.1.3 and 2.1.4).
  - Did not engage a suitably qualified expert to review its system yield model in the first quarter of 2021, complete its review by 30 June 2021, or make its response to the review available to the public as required under clauses 2.6.1 and 2.6.3, and the Reporting Manual.
  - Did not close out 4 outstanding customer-related non-compliances (from the 2020 audit) until part-way through the 2021 audit period. These non-compliances related to:
    - Supplying water to Fish River Filtered Water Supply customers in accordance with the *Australian Drinking Water Guidelines* (ADWG) (clause 6.1.2).
    - A lack of documentation in the *Customer Advisory Group Charter* of issues that should be referred to the Customer Advisory Group, and procedures for proposing and progressing amendments to the charter (clause 6.6.2).
    - The *Code of Practice on Payment Difficulties* not identifying circumstances under which WaterNSW may restrict supply to non-water licence holders (clause 6.8.2).
    - WaterNSW not having a *Complaints Management Policy* and some procedural omissions within its *Complaints Handling and Compliments Procedure* (clause 6.9.1).
  - Did not fully meet its reporting obligations when submitting annual reports as required under clause 7.2.1. This included minor gaps in reported data and failing to provide information per the Reporting Manual.
  - Did not make its updated Licence available on its website until 4 months after the Licence was amended (clause 1.5.1).
- During 2020-21, WaterNSW was compliant (minor shortcomings) with 5 clauses related to its WQMS for declared catchments, data errors in its Local Water Utility register, implementation of its Asset Management System (AMS), and maintaining and implementing its Environmental Management System (EMS).

We make 19 recommendations to address the deficiencies and shortcomings identified at the audit.<sup>b</sup> Our recommendations are based on the auditor's recommendations. We discuss the audit findings and recommendations further in Chapter 2.

<sup>b</sup> Auditors are only required to make recommendations for grades other than Compliant grades – i.e. for Compliant (minor shortcomings), Non-compliant (non-material) and Non-compliant (material) grades. This is consistent with our audit guideline for public water utilities (IPART, *Audit Guideline – Public Water Utilities*, July 2019).

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## Previous audit findings

This audit also followed up on WaterNSW's progress in addressing non-compliances or shortcomings identified in previous audits. WaterNSW closed out 19 of the 21 open recommendations.

Two recommendations remain open. We consider WaterNSW made considerable progress against one of these recommendations (2020-02). However, some issues remained around maintaining and implementing its WQMS, therefore the recommendation remains open.

The other outstanding recommendation relating to the water supplied performance standards remains open (recommendation 2020-09). We consider that the work to resolve this recommendation was delayed by the COVID-19 travel restrictions imposed on the Greater Sydney and Hunter Valley local government areas.

Our discussion of WaterNSW's progress with previous recommendations is presented in Chapter 3.

# 1 Introduction

We engaged specialist auditing firm, Atom Consulting, in partnership with Cardno Pty Ltd (now part of Stantec Pty Ltd), to undertake the audit on our behalf.

This report summarises the audit findings for the Minister.<sup>2</sup> The compliance grades used in this report are explained in Appendix A.

## 1.1 WaterNSW's operational performance in 2021

WaterNSW's compliance has improved in 2021. In particular, WaterNSW has made considerable progress in maintaining and implementing its Water Quality Management System.

The auditors identified some deficiencies and shortcomings related to WaterNSW's WQMS. During the audit period, WaterNSW was implementing the new online WQMS (Modelpedia). In its report, the auditor noted that "WaterNSW has made considerable efforts to address this non-compliance ... We consider that the Modelpedia WQMS is a significant improvement on the previous WQMS formats." We consider that WaterNSW continues to safely and reliably supply water to its customers.

The audit also identified some issues related to WaterNSW's review of its system yield model. WaterNSW did not identify the full range of customers and stakeholders relevant to the review. As WaterNSW only included targeted stakeholders, we consider that review may have failed to capture feedback from a wider stakeholder base. While it did not impact on WaterNSW's ability to estimate yield, the update of the model has not accounted for a potentially wider range of input.

Finally, the auditor found that WaterNSW did not adequately retain certificates, reports and other documents lodged in its Duly Qualified Persons (DQP) portal. WaterNSW was unable to provide evidence of a documented methodology for data retention. However, we consider that WaterNSW is working to address this deficiency.

Despite the deficiencies identified at the audit, we consider that WaterNSW has made substantial progress addressing compliance matters identified at the 2020 audit. We recognise WaterNSW's continued efforts to address outstanding compliance actions, particularly given the limitations imposed by the COVID-19 pandemic for significant periods of the 2021 audit period.

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## 1.2 Annual statement of compliance

In preparing this report we have also considered WaterNSW's annual Statement of Compliance (Appendix B). The Statement of Compliance is an exception-based report<sup>c</sup> certified by WaterNSW's Chief Executive Officer and the Chair of the Board of Directors. It explains what remedial action WaterNSW has taken, or is taking, to resolve outstanding non-compliances.

This year WaterNSW reported 11 non-compliances, 9 that related to non-compliances or recommendations identified at the 2020 audit. One non-compliance related to Clause 1.5.1. The Minister amended WaterNSW's licence on 1 July 2020, however WaterNSW did not make the licence available on its website until 12 November 2020. We assigned this clause a non-compliant (non-material) grade. One reported non-compliance was subsequently found to be compliant by the auditor.

## 1.3 Audit scope

The 2021 audit covered the period from 1 September 2020 to 31 August 2021. Appendix C describes the audit process and Appendix D includes the detailed audit scope.

We amended the audit scope on 25 August 2021 to include clauses 6.18.1–6.18.5 and 6.20.1–6.20.4 in response to issues raised in Natural Resource Access Regulator's (NRAR) submission. We subsequently removed clause 6.18.5 from the audit scope on 1 March 2022.

We discuss our reasons for amending the audit scope in section C.2 of Appendix C.

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<sup>c</sup> WaterNSW is only required to report on clauses where it considers itself non-compliant.



## 2 Audit findings and recommendations

This chapter sets out the audit findings relating to non-compliances and minor shortcomings. The compliance grades used in this report are explained in Appendix A.

Where WaterNSW was non-compliant with a clause, we make recommendation(s) as to how WaterNSW can address the non-compliance. In making these recommendations, we have considered the auditors findings and recommendations. The auditor's report in Appendix E also identifies some opportunities for improvement.

Our Reporting Manual<sup>3</sup> requires WaterNSW to report on its progress in implementing these recommendations by 31 March 2022. We may agree to receiving the progress report later than the date in the Reporting Manual. We have agreed to a later date of 6 June 2022.

The 2021 audit is the 4<sup>th</sup> operational audit of WaterNSW's compliance with the requirements of the current Licence. Table 1 provides a comparison of non-compliant and minor shortcomings audit findings across the audit years.

**Table 1 Comparative record of non-compliant findings and identified shortcomings for the 2017–2022 Licence**

Licence clause	Requirement	Compliance grade				
		2017-18	2018-19	2019-20	2020-21 <sup>a</sup>	2021-22
15.1	Making copies of this licence available	-	-			-
2.11	Managing a Water Quality Management System (WQMS) in line with clause 2.1					-
2.12	Maintaining a WQMS (Declared catchment areas)					-
2.13	Maintaining a WQMS (Non-Declared catchment areas)					-
2.14	Implementing the relevant WQMS					-
2.21	Manage and protect the Declared Catchment Areas in a manner consistent with WaterNSW's objectives and functions under the Act, and the WQMS, AMS and the EMS required under the Licence		-	-	-	-
2.41	Ensure that in the Declared Catchment Areas, the Catchment Infrastructure Works are operated and managed consistently with the Design Criteria and the AMS		-	-	-	-
2.61	Engaging an expert to review the System Yield model					-

Licence clause	Requirement	Compliance grade				
		2017-18	2018-19	2019-20	2020-21 <sup>a</sup>	2021-22
2.6.2	Consulting on the System Yield model review					-
2.6.3	Review the System Yield model by 30 June 2021					-
2.8.1	Maintain a program of research for each Declared Catchment Area, consistent with the requirements of this clause		-	-	-	-
3.2.1	Supplying water in accordance with the relevant WQMS and relevant customer supply agreements		-			-
3.4.2	Details which the LWU Register must include	-		-		-
3.4.3	Procedure for providing information to Local Water Utilities	-		-		-
4.2.2	Managing quality of water Supplied in accordance with the relevant WQMS					-
4.3.2	Managing non-complying water orders for water that is captured, stored and released to customers	-	-		- <sup>a</sup>	-
5.1.2	Implement the Asset Management System					-
5.2.1	Maintain an Environmental Management System (EMS)	-		-		-
5.2.2	Implement the EMS	-		-		-
6.1.2	Supplying water to customers in accordance with agreements		-			-
6.6.2	Addressing the issues in the Customer Advisory Group Charter specified in the licence	-	-			-
6.8.2	Making provisions in the Code of Practice on Payment Difficulties specified in the licence		-			-
6.9.1	Maintaining a complaints handling procedure consistent with AS/NZS 10002:2014		-			-
6.16.1	Agree in writing with the Department of Primary Industries Water (DPI Water) the roles and responsibilities regarding the conduct of Conferred Functions specified in Schedule A of the Licence and comply with the agreement		-	-	-	-

Licence clause	Requirement	Compliance grade				
		2017-18	2018-19	2019-20	2020-21 <sup>a</sup>	2021-22
6.17.1	Establishing, maintaining and complying with a Memorandum of Understanding with the Natural Resources Access Regulator	-	-			-
6.18.3	Retain certificates, reports and documents lodged in the portal	-	-	-		-
7.2.1	Comply with reporting obligations in the Licence and Reporting Manual	-		-		-

a. We did not reaudit clause 4.3.2 at the 2021. WaterNSW closed out the related recommendation (2020-11).

IPART, *WaterNSW Operational Audit 2018 – Report to the Minister – Compliance Report*, February 2019.

IPART, *WaterNSW Operational Audit 2019 – Report to the Minister – Compliance Report*, December 2019.

IPART, *WaterNSW Operational Audit 2020 – Report to the Minister – Compliance Report*, March 2021.

Atom Consulting, *WaterNSW 2021 Operational Audit*, March 2022.

Note: The 2017-18 audit period is 1 July 2017 to 30 June 2018. The 2018-19 audit period is 1 July 2018 to 30 August 2019. The 2019-20 audit period is 31 August 2019 to 31 August 2020. The 2020-21 audit period is 1 September 2020 to 31 August 2021.




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


= No Requirement.

## 2.1 Audit findings and recommendations summary



Table 2 provides details of non-compliances and minor shortcomings identified at the audit. We also provide recommendations to address the inadequacies.



Table 2 2021 compliance with WaterNSW's operating Licence – grades other than fully compliant



Licence clause	Requirement	Compliance grade	Audit finding	Recommendations
1.5.1	Water NSW must make this Licence available free of charge on its website for downloading by any person.	 Non-compliant (non-material)	<p>We have assigned WaterNSW a non-compliant (non-material) grade for clause 1.5.1.</p> <p>The Minister amended WaterNSW's Licence on 1 July 2020. In its annual Statement of Compliance, WaterNSW identified that it did not make the Licence available on its website until 12 November 2020.</p> <p>Key changes to the Licence included the addition of obligations related to:</p> <ul style="list-style-type: none"> <li>Water planning (clauses 2.9.1–2.9.9)</li> <li>Online portal for lodgement of documents related to metering equipment (clauses 6.18.1–6.18.5)</li> <li>Downloading data from certain metering equipment (clauses 6.19.1–6.19.5)</li> <li>Data sharing and services agreement with DPIE and NRAR (clauses 6.20.1–6.20.4).</li> </ul> <p>We understand that these clauses were developed in consultation with relevant stakeholders (i.e. Sydney Water, NRAR and DPIE). Failure to upload the revised Licence did not adversely impact WaterNSW's ability to operate in accordance with its Licence.</p>	<p><b>2021-01:</b> By 30 June 2022, WaterNSW must establish processes to ensure that documents to be made publicly on the website are current, uploaded in a timely manner and, where relevant, meet the date requirements in the Reporting Manual.</p>
2.1.1	WaterNSW must maintain a WQMS in accordance with clause 2.1.	 Non-compliant (non-material)	<p>We have assigned WaterNSW a Non-Compliant (Non-Material) grade for clause 2.1.1. This agrees with the auditor's findings.</p>	<p>Recommendations <b>2021-02</b>, <b>2021-03</b>, <b>2021-04</b> and <b>2021-05</b> apply to this clause.</p>
2.1.2	With respect to Declared Catchment Areas, Water NSW must maintain a Water Quality Management System that is consistent with either: <ol style="list-style-type: none"> <li>the Australian Drinking Water Guidelines;</li> <li>or</li> </ol>	 Compliant (minor shortcomings)	<p>We have assigned WaterNSW a Compliant (minor shortcomings) grade for clause 2.1.2. This agrees with the auditor's findings.</p> <p>WaterNSW demonstrated that it had a WQMS consistent with the 12 elements of the ADWG during the audit period.</p>	<p><b>2021-02:</b> By 31 August 2022, WaterNSW should review the process for updating the water quality contact list (including the version attached to the WQ Incident Response Protocols) to ensure that the list is current, this should include all stakeholders, not just those relevant to the JOG.</p>




Licence clause	Requirement	Compliance grade	Audit finding	Recommendations
	b) if NSW Health were to specify any amendment or addition to the Australian Drinking Water Guidelines that applies to Water NSW, the Australian Drinking Water Guidelines as amended or added to by NSW Health; or c) any other requirements specified or approved by NSW Health or IPART.		The WQMS detailed the procedures and processes to manage the Bulk Water Supply System within the Declared Catchment.  Some minor shortcomings were identified in the WQMS including: <ul style="list-style-type: none"> <li>• Water Quality Contact List does not adequately pick up all stakeholders</li> <li>• The process to schedule Catchment-to-Customer risk reviews is not formalised</li> <li>• The Prospect O&amp;M Manual is not current</li> <li>• The Incident Management Procedure is not current.</li> </ul>	<p><b>2021-03:</b> By 31 August 2022, WaterNSW should document the process and responsibility for scheduling major WQMS risk reviews.</p> <p><b>2021-04:</b> By 31 August 2022, WaterNSW should finalise the Operation &amp; Maintenance manuals for the dams in the Declared Catchment.</p> <p><b>2021-05:</b> By 31 August 2022, WaterNSW should ensure that the WaterNSW Incident Management Procedure (CD2017/180) has been updated and implemented.</p>
2.1.3	With respect to Non-Declared Catchment Areas from which Water NSW Supplies water, Water NSW must maintain Water Quality Management Systems that are consistent with: <ol style="list-style-type: none"> <li>in the case of water with the final end use as Drinking Water:                             <ol style="list-style-type: none"> <li>a relevant quality assurance program under section 25 of the Public Health Act 2010 (NSW);</li> <li>the Australian Drinking Water Guidelines; or</li> <li>any other requirements as specified or approved by NSW Health or IPART,</li> </ol> </li> <li>in the case of water that does not have a final end use as Drinking Water and that is not to be managed according to a Water Quality Management System that satisfies clause 2.1.3(a):                             <ol style="list-style-type: none"> <li>the Australian Guidelines for Water Recycling; or</li> <li>any other requirements as specified or approved by NSW Health or IPART.</li> </ol> </li> </ol>	 Non-compliant (non-material)	We have assigned WaterNSW a non-compliant (non-material) grade for clause 2.1.3. This agrees with the auditor's findings.  WaterNSW made considerable but incomplete progress against this recommendation.  WaterNSW provided evidence to meet the majority of the requirements of this clause and made considerable progress in addressing recommendations related to this clause. However, historical non-compliances extended throughout much of the audit period.  The auditor found deficiencies in the Operations and Maintenance Manual, including errors, missing key information and standard operating procedures.  Element 4 of the AGWR requires that operational and process control procedures be identified and documented. This requirement could not be established to be fully met.  Given the extensive work undertaken by WaterNSW during the audit period, and that water safety was not impacted by the deficiencies during the audit period, we assigned this clause a non-compliant (non-material) grade.	<p><b>2021-06:</b> By 31 August 2022, WaterNSW should update the Water Quality Data Review and Reporting Procedure to explicitly cover the Fish River Supply reporting requirements.</p> <p><b>2021-07:</b> By 31 August 2022, WaterNSW should document the process to revalidate treatment process when a change condition occurs, including defining triggers for when this would occur.</p> <p><b>2021-08:</b> By 31 August 2022, WaterNSW should document the requirement for chlorine analyser reagent levels for the chlorine analyser to be included in operational checks at Duckmaloi WTP.</p> <p>Recommendation <b>2021-05</b> also applies to this clause.</p>




Licence clause	Requirement	Compliance grade	Audit finding	Recommendations
2.1.4	Water NSW must ensure that the relevant WQMs are fully implemented and that all relevant activities are carried out in accordance with the relevant WQMS and to the satisfaction of NSW Health.	 Non-compliant (non-material)	<p>We have assigned WaterNSW a non-compliant (non-material) grade for clause 2.1.4. This agrees with the auditor's findings.</p> <p>Evidence was provided to meet the requirements of this recommendation however historical non-compliances extended throughout much of the audit period.</p> <p>In determining materiality, we have taken into account the extensive work that WaterNSW has undertaken.</p> <p>Given the extensive work undertaken by WaterNSW to complete actions noted during the audit period, and that public health was not impacted by the identified deficiencies and shortcomings, we assigned a non-compliant (non-material) grade.</p>	<p><b>2021-09:</b> By 31 August 2022, WaterNSW should develop processes to ensure that regulatory requirements associated with new or emerging obligations, are identified and documented within the compliance system.</p> <p><b>2021-10:</b> By 30 June 2022, WaterNSW should develop and implement a process (e.g. audit) to ensure that work orders for calibration of critical limit analysers are undertaken.</p> <p><b>2021-11:</b> By 30 June 2022, WaterNSW should review monitoring processes to ensure mandatory water quality awareness training is undertaken.</p> <p>Recommendation <b>2021-02</b> also applies to this clause.</p>
2.6.1	By the first quarter of 2021, Water NSW must engage a suitably qualified independent expert to: <ol style="list-style-type: none"> <li>review its modelling and procedures for calculating the System Yield to ensure that it reflects good industry practice;</li> <li>test the robustness of the modelling, the key assumptions used in the modelling, and the process for calculating the System Yield, including the appropriate frequency of yield recalculation and the appropriateness of the trigger events in clause 2.5.1; and</li> <li>advise Water NSW on whether it should recalculate the System Yield based on the findings of the test conducted under clause 2.6.1(b).</li> </ol>	 Non-compliant (non-material)	<p>We have assigned WaterNSW a non-compliant (non-material) grade for clause 2.6.1. This agrees with the auditor's findings.</p> <p>WaterNSW demonstrated that while it had commenced the procurement process to select a suitably qualified independent expert, it had not engaged the consultant by the first quarter of 2021.</p> <p>The short delay to engage the selected consultant did not materially impact WaterNSW's ability to estimate system yield.</p>	<p><b>2021-12:</b> By 30 September 2022, WaterNSW should conduct a lessons learned review for the system yield review project. The review should consider why consultants were not engaged in a timely manner.</p> <p>The outcomes of the lessons learned review should be documented and used to inform the approach for obtaining future reviews of System Yield.</p>



Licence clause	Requirement	Compliance grade	Audit finding	Recommendations
2.6.2	<p>Water NSW must consult with:</p> <ul style="list-style-type: none"> <li>a) Customers who are Supplied water from the Declared Catchment Area, including Sydney Water;</li> <li>b) stakeholders and regulators as agreed with, or directed by, IPART; and</li> <li>c) any other persons that Water NSW reasonably expects to have an interest in the review of the modelling under clause 2.6.1, regarding the review of the modelling under clause 2.6.1, and provide the results of the consultation to the suitably qualified independent expert.</li> </ul>	 Non-compliant (material)	<p>We have assigned WaterNSW a non-compliant (material) grade for clause 2.6.2. This agrees with the auditor's findings.</p> <p>The purpose of engaging with customers, stakeholders and interested parties is to gather different perspectives to determine the system yield. WaterNSW may not have considered the views of all potentially interested parties in its review of the system yield model.</p> <p>WaterNSW failed to meet its obligations under part (a) and (c) of this clause for the following reasons:</p> <ul style="list-style-type: none"> <li>• Part (a): WaterNSW consulted with Sydney Water but did not consult with minor customers (as it considered these to be immaterial), or other local water utilities (as it considered that the interests of the customers were represented by DPIE).</li> <li>• Part (c) WaterNSW did not identify stakeholders that may have been interested in the review of the system yield. It only consulted with those parties it had previously engaged with during the 2016 review (i.e. Sydney Water, IPART and DPIE).</li> </ul>	<p><b>2021-13:</b> By 30 September 2022, WaterNSW should undertake a stakeholder identification and engagement review to:</p> <ul style="list-style-type: none"> <li>a) identify stakeholders (to include broadly customers, stakeholders, regulators and interested parties)</li> <li>b) the appropriate level of engagement for each stakeholder for               <ul style="list-style-type: none"> <li>i) updating System Yield</li> <li>ii) use of System Yield</li> </ul> </li> <li>c) identify engagement strategies for the stakeholders for updating and using System Yield.</li> </ul>
2.6.3	<p>The review of the model for the System Yield must be completed by 30 June 2021 and reported to IPART in accordance with the Reporting Manual.</p>	 Non-compliant (non-material)	<p>We have assigned WaterNSW a non-compliant (non-material) grade for clause 2.6.3. This agrees with the auditor's findings.</p> <p>The Reporting Manual requires WaterNSW to submit a report on the independent review of the system yield model to us by 30 June 2021. WaterNSW finalised the review report on 20 July 2021 and sent the report to us on 9 August 2021.</p>	<p><b>2021-14:</b> By 30 September 2022, WaterNSW should conduct a lessons learned review for the System Yield review project to identify</p> <ul style="list-style-type: none"> <li>• What led to delays in meeting milestones and providing deliverables on time.</li> <li>• How to ensure that key deliverables include all the requirements of the project.</li> </ul> <p>The outcomes of the lessons learned review should be documented and used to inform the approach for obtaining and reporting on future reviews of System Yield. (We note that this review may be conducted in parallel with that for Recommendation <b>2020-12</b>).</p>



Licence clause	Requirement	Compliance grade	Audit finding	Recommendations
3.4.2	The LWU Register must include contact details for each Local Water Utility Customer, and the Water Source and approximate location from which the Local Water Utility Customer Extracts water.	 Compliant (minor shortcomings)	<p>The Reporting Manual also requires WaterNSW to "report publicly on the changes (including reasons for the changes)". WaterNSW reviewed and provided feedback (to the independent expert) on the draft report, however it did not publicly communicate its responses to the findings of the review.</p> <p>The short delay in the finalisation of the review report, and the lack of publicly commenting on the review did not materially impact WaterNSW's ability to estimate system yield.</p> <p>We have assigned WaterNSW a compliant (minor shortcomings) grade for clause 3.4.2. This agrees with the auditor's findings.</p> <p>WaterNSW demonstrated that it had maintained a Local Water Utility Register in accordance with clause 3.4.1. However, a shortcoming was noted with relation to some customer contact data in the register. The register is a Microsoft Excel document which includes correct contact details (in particular, phone numbers). WaterNSW seemed to use Excel's "drag" function to duplicate contact details across multiple rows. In doing so, contact phone numbers appeared to increase incrementally.</p>	<p><b>2021-15:</b> By 31 August 2022, WaterNSW should review processes for maintaining registers (maintained in excel) to ensure accuracy of contacts in the Local Water Utilities Contact Details spreadsheet (DOC13 29697).</p>
5.1.2	Water NSW must fully implement the Asset Management System and carry out all relevant activities in accordance with the Asset Management System.	 Compliant (minor shortcomings)	<p>We have assigned WaterNSW a compliant (minor shortcomings) grade for clause 5.1.2. This agrees with the auditor's findings.</p> <p>WaterNSW demonstrated that it continued to implement and conduct activities in line with its Asset Management System (AMS) during the audit period. However, there were minor shortcomings evident in the implementation of the maintenance function including:</p> <ul style="list-style-type: none"> <li>• Gaps in data</li> <li>• Inconsistencies in capturing field data</li> <li>• Inconsistent processes</li> <li>• Ineffective use of some information.</li> </ul>	<p><b>2021-16:</b> By 31 August 2022, WaterNSW should deliver the recommendations included in the asset maintenance internal audit report (D2021/117683) dated January 2021.</p>

Licence clause	Requirement	Compliance grade	Audit finding	Recommendations
			<p>We consider that these shortcomings were previously identified at an internal audit of WaterNSW's maintenance function.</p> <p>Despite these shortcomings, WaterNSW continues to implement its AMS and undertake continual improvement.</p>	
5.2.1	Water NSW must at all times maintain an Environmental Management System for carrying out the functions authorised under this Licence that is consistent with the Australian/New Zealand Standard AS/NZS ISO 14001:2016: Environmental management systems – Requirements with guidance for use or other standard approved by IPART, on request by Water NSW (the Environmental Management System).	 Compliant (minor shortcomings)	<p>We have assigned WaterNSW a compliant (minor shortcomings) grade for clause 5.2.1. This agrees with the auditor's findings.</p> <p>WaterNSW maintained its Environmental Management System (EMS), consistent with the relevant standard with the exception of a shortcoming identified in the Safety and Environment Compliance Obligations Register. The existing system for reviewing and updating legislative requirements is effective at maintaining those obligations already included in the register. However, it fails to capture new requirements that may emerge. As a result, the <i>NSW Fluoridation or Public Water Supplies Act (1957)</i> was not included in the register despite fluoride being observed at the Duckmaloi water treatment plant. We note that the plant is not yet operational or commissioned.</p>	<b>2021–17:</b> By 31 August 2022, WaterNSW should ensure the fluoridation requirements are included in the Safety and Environment compliance obligations register.
5.2.2	Water NSW must fully implement the Environmental Management System and carry out all relevant activities in accordance with the Environmental Management System.	 Compliant (minor shortcomings)	<p>We have assigned WaterNSW a compliant (minor shortcomings) grade for clause 5.2.2. This agrees with the auditor's findings.</p> <p>WaterNSW demonstrated that it implemented its EMS with the exception of the shortcoming.</p>	<b>2021–18:</b> Prior to operation of the fluoride plant at Duckmaloi WTP, WaterNSW must show satisfactory progress and completion of the actions from the Duckmaloi WTP Assurance report (D2020/60963) with regards to fluoridation.
6.1.2	WaterNSW must only Supply water to these Customers in accordance with the terms and conditions of these Customer Supply Agreements.	 Non-compliant (non-material)	We have assigned WaterNSW a non-compliant (non-material) grade for clause 6.1.2. This agrees with the auditor's findings.	We make no recommendations for this clause as WaterNSW came into compliance with this obligation on 19 July 2021.

Licence clause	Requirement	Compliance grade	Audit finding	Recommendations
6.6.2	<p>The Customer Advisory Group Charter must address all of the following issues:</p> <ul style="list-style-type: none"> <li>a) the role of the Customer Advisory Group;</li> <li>b) how members and the chair of the Customer Advisory Group will be appointed;</li> <li>c) the term for which members are appointed;</li> <li>d) information on how the Customer Advisory Group will operate;</li> <li>e) a description of the type of matters that will be referred to the Customer Advisory Group and how those matters will be referred;</li> <li>f) procedures for communicating the outcomes of the Customer Advisory Groups' work to the public;</li> <li>g) procedures for monitoring issues raised at meetings of the Customer Advisory Groups and ensuring appropriate follow-up of those issues;</li> <li>h) procedures for amending the charter; and</li> <li>i) funding and resourcing of the Customer Advisory Groups by Water NSW.</li> </ul>	 <p>Non-compliant (non-material)</p>	<p>We assigned WaterNSW a non-compliant grade against this obligation at the 2020 audit. This was due to WaterNSW not being able to demonstrate that it provides First River Supply Scheme Filtered customers water that complies with the <i>Australian Drinking Water Guidelines</i> (ADWG). The non-compliance was ongoing until the implementation of the updated <i>Supply of Water Minor Consumer Agreement (Filtered Water)</i> on 19 July 2021.</p> <p>We have assigned WaterNSW a non-compliant (non-material) grade for clause 6.6.2. This agrees with the auditor's findings.</p> <p>We assigned WaterNSW a non-compliant grade against part (e) of this obligation at the 2020 audit. This was due to a lack of:</p> <ul style="list-style-type: none"> <li>• Documentation around issues that should be referred to the Customer Advisory Group</li> <li>• Procedures for proposing and progressing amendments to the Charter.</li> </ul> <p>The non-compliance was ongoing in this audit period, until WaterNSW updated the Charter on 12 August 2021.</p>	<p>We make no recommendations for this clause as WaterNSW came into compliance with this obligation on 12 August 2021.</p>



Licence clause	Requirement	Compliance grade	Audit finding	Recommendations
6.8.2	<p>The Code of Practice on Payment Difficulties must:</p> <ul style="list-style-type: none"> <li>a) provide for a payment plan for Customers who are responsible for paying their Bills and who are, in WaterNSW's reasonable opinion, experiencing financial hardship;</li> <li>b) include procedures for identifying the circumstances under which WaterNSW may restrict the provision of services to a customer (including in respect of CSR Water and Supply water);</li> <li>c) include procedures for identifying the circumstances under which WaterNSW may suspend water access licences when a Customer has not paid its Bill and an overview of the process that must be followed prior to suspension; and</li> <li>d) include procedures for self-identification, identification by community welfare organisations and identification by WaterNSW of Customers experiencing financial hardship.</li> </ul>	 <p>Non-compliant (non-material)</p>	<p>We have assigned WaterNSW a non-compliant (non-material) grade for clause 6.8.2. This agrees with the auditor's findings.</p> <p>We assigned WaterNSW a non-compliant grade against part (c) of this obligation at the 2020 audit. The non-compliance was due to the Code of Practice not identifying the circumstances under which WaterNSW may restrict supply for customers other than a water licence holder (this includes minor/retail customers).</p> <p>The non-compliance was ongoing in this audit period, until WaterNSW implemented the updated Code of Practice on 12 July 2021.</p>	<p>We make no recommendations for this clause as WaterNSW came into compliance with this obligation on 12 July 2021.</p>
6.9.1	<p>WaterNSW must maintain a procedure for receiving, responding to and resolving Complaints, which is consistent with the Australian Standard AS/NZS 10002:2014: Guidelines for complaints management in organizations (AS/NZS 10002:2014) or other standard approved by IPART on request by WaterNSW (Internal Complaints Handling Procedure).</p>	 <p>Non-compliant (non-material)</p>	<p>We have assigned WaterNSW a non-compliant (non-material) grade for clause 6.9.1. This agrees with the auditor's findings.</p> <p>We assigned WaterNSW a non-compliant grade against this obligation at the 2020 audit. The non-compliance related to 2 shortcomings against the requirements of AS/NZS 10002:2014:</p> <ul style="list-style-type: none"> <li>• WaterNSW did not have a <i>Complaints Management Policy</i> that met the requirement of clause 6.3 of the standard.</li> <li>• WaterNSW's <i>Complaints Handling and Complements Procedure</i> did not meet the requirements under clauses 4.6, 5.3.1 and 5.3.3 of the standard.</li> </ul> <p>The non-compliance was ongoing in this audit period, until WaterNSW implemented its <i>Complaints Management Policy</i> and updated its procedure on 30 June 2021.</p>	<p>We make no recommendations for this clause as WaterNSW came into compliance with this obligation on 30 June 2021.</p>

Licence clause	Requirement	Compliance grade	Audit finding	Recommendations
6.18.3	Water NSW must ensure that certificates, reports and other documents lodged in the portal are retained.	 Non-compliant (material)	<p>We have assigned WaterNSW a non-compliant (material) grade for clause 6.18.3. This agrees with the auditor's findings.</p> <p>The auditor found that WaterNSW did not retain certificates, reports and other documents lodged in the portal in an acceptable manner.</p> <p>The auditor also noted that WaterNSW did not have a documented methodology for data retention. WaterNSW provided an informal explanatory note as evidence. The explanatory note provided some insight about how relevant certificates, reports and other documents lodged in the portal were retained, however the auditor considered it unfit for purpose. During the audit, the auditor observed inconsistencies in how long data and information had been retained for over the course of the audit.</p> <p>The auditor assigned this clause a non-compliant (material) grade and noted that the lack of adequate systems and processes to retain data impacts WaterNSW's ability to retain data in a way that is fit-for-purpose.</p>	<b>2021-19:</b> By 31 August 2022, WaterNSW should develop, document and implement a data retention protocol to ensure that certificates, reports and other documents lodged in the portal are protected against loss. The data retention protocol should be developed in consultation with the Department of Planning and Environment and the Natural Resource Access Regulator and be supported by a risk assessment.
7.2.1	Water NSW must comply with its reporting obligations set out in this Licence and in the Reporting Manual, including in relation to: <ol style="list-style-type: none"> <li>water source protection and conservation;</li> <li>Bulk Water storage and transmission;</li> <li>Performance Standards;</li> <li>organisational systems management;</li> <li>Customer and stakeholder relations; and</li> <li>performance monitoring and reporting including:               <ol style="list-style-type: none"> <li>IPART performance indicators; and</li> <li>the National Water Initiative Performance Indicators.</li> </ol> </li> </ol>	 Non-Compliant (Non-Material)	<p>We have assigned WaterNSW a Non-Compliant (Non-Material) grade for clause 7.2.1. This agrees with the auditor's findings.</p> <p>WaterNSW did not fully comply with the requirements of this clause as:</p> <ul style="list-style-type: none"> <li>Publicly available reports were not updated to WaterNSW's website by the dates specified in the Reporting Manual.</li> <li>The following reports did not include relevant details for content required in WaterNSW's Reporting Manual:           <ul style="list-style-type: none"> <li><i>Water Quality Management System Annual Report</i> for 2019-20 and 2020-21</li> <li><i>Annual Report on the Water Conservation Program</i></li> <li><i>Annual Performance Standards Report</i></li> </ul> </li> </ul>	Recommendation <b>2021-01</b> applies to this clause.

Licence clause	Requirement	Compliance grade	Audit finding	Recommendations
			<p>- <i>Compliance and Performance Report on the AMS.</i></p> <p>These deficiencies do not adversely impact on WaterNSW's ability to achieve its regulatory reporting obligations. The relevant data was collected, and relevant reports were submitted to the relevant regulatory agencies by the required dates.</p>	

Source: Atom Consulting, *WaterNSW 2021 Operational Audit*, March 2022.

### 3 Progress on previous audit findings

The previous audits identified areas where WaterNSW did not achieve full compliance with its Licence obligations. We made recommendations to address these issues.<sup>d</sup> Table 3 outlines WaterNSW's progress in implementing the recommended actions from the 2018, 2019 and 2020 audits.

Of the 19 recommendations from the 2020 operational audit, WaterNSW was required to complete 18 in the 2021 audit period. WaterNSW completed 17 of the 19 audit recommendations.






WaterNSW made considerable, but incomplete, progress against one recommendation (2020-02) related to the Fish River Water Supply Scheme Drinking Water Quality Management System; and one recommendation remains open related to the chlorine analysers at the Duckmaloi Water Treatment Plant (2020-09). We consider that WaterNSW had progressed these recommendations, despite not closing them out, during the audit period. We will review WaterNSW's progress against these recommendations at the 2022 audit.

WaterNSW also closed out 2 outstanding recommendations that were due for completion in 2019 (2018-20) and 2020 (2019-02).






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<sup>d</sup> IPART, *WaterNSW Operational audit 2020 – report to the Minister*, March 2021; *WaterNSW operational audit 2019 – report to the minister – compliance report*, December 2019; IPART, *WaterNSW operational audit 2018 – report to the Minister – compliance report*, February 2019.






Table 3 WaterNSW's progress in 2021 to address our recommendations from the previous audits

Licence clause	Compliance grade	Recommendation	Progress
6.16.1 Roles and Responsibilities with Department of Industry	 Compliant (minor shortcomings)	<b>2018-20:</b> By 31 December 2019, Water NSW should review the roles and responsibilities in the Deed of Business Transfer (or the most recent variation of the Deed) for the conduct of the Conferred Functions specified in Schedule A of the licence, to clarify and confirm the roles and responsibilities with the Department of Industry – Water, and ensure it remains current in light of changes to the conferred functions.	Complete
2.1.3 Water Quality Management System	 Compliant (minor shortcomings)	<b>2019-02:</b> By 30 September 2020, Water NSW should identify the minimum qualifications and competencies for personnel operating water treatment processes and incorporate these into the training processes such as the 'Mandatory Training Matrix'. The minimum qualifications and competencies should be based on industry standards such as Water Industry Operator Certification Scheme or a substantially similar scheme.	Complete
2.1.1 Water Quality Management System	 Non-compliant (material)	<b>2020-01:</b> By 30 June 2021, complete the review (and revision as appropriate) of the Water Quality Incident Response Protocol.	Complete
2.1.3 Water Quality Management System	 Non-compliant (material)	<b>2020-02:</b> By 31 July 2021, review and, where appropriate, amend the Fish River Water Supply Scheme Drinking Water Quality Management System against each of the 12 elements, 32 components and 76 actions of the Framework for Management of Drinking Water Quality. Water NSW should document reviews and internal audits in the updated system at intervals appropriate to ensure effective implementation of the system. Water NSW should review and update supporting documentation for currency, including: <ul style="list-style-type: none"> <li>Fish River Water Supply System operations and maintenance manual</li> <li>Operating Protocols for Fish River Water Supply (CD2017/173)</li> </ul> Fish River Water Supply Scheme Incident Management Plan (D2018/116921).	Partially complete  While WaterNSW has partially completed the requirements of this recommendation, we have updated the recommendation to address finalisation of the Fish River Water Supply System operations and maintenance manual including the supporting SOPs and maintenance requirements.
2.1.3 Water Quality Management System	 Non-compliant (material)	<b>2020-03:</b> By 30 June 2021, Water NSW should engage with NSW Health Local Health Department (LHD) to determine the appropriate mechanisms for stakeholder commitment and engagement with them, including: <ul style="list-style-type: none"> <li>Reporting on the annual review of the drinking water management system</li> <li>Routine reporting on the distribution system water quality</li> </ul> Notification requirements when water quality cannot be assured (including instrumentation failure).	Complete



Licence clause	Compliance grade	Recommendation	Progress
2.1.3 Water Quality Management System	 Non-compliant (material)	<b>2020-04:</b> By 30 September 2021, Water NSW should: <ul style="list-style-type: none"> <li>Review the Fish River Water Supply System verification monitoring program to align with the monitoring that is being undertaken in the field and the requirements of the Australian Drinking Water Guidelines. NSW Health should be consulted to confirm the verification program aligns with their advice.</li> <li>Review the implementation of the Fish River Water Supply System verification monitoring program to ensure that testing is undertaken in accordance with the monitoring plan.</li> <li>Establish review and reporting processes to confirm and report compliance with the monitoring program (e.g. reporting should verify the number of samples taken).</li> </ul>	Complete
3.2.1 Water Supply clause	 Compliant (minor shortcomings)		
2.1.4 Water Quality Management System	 Non-compliant (material)	<b>2020-05:</b> By 31 July 2021, Water NSW should undertake a risk and Critical Control Point (CCP) review workshop for the Fish River Water Supply Stage 1 system (using D2019/30124) with key stakeholders, including the NSW Health LHD, with outcomes reviewed by relevant senior executives. <ul style="list-style-type: none"> <li>The risk assessment should have a sound evidence base for the effectiveness of the preventive measures (including how effectively they are implemented).</li> <li>The risk assessment should explicitly consider the risk of contamination of the treated water by raw water leaking through the valves connecting Stage 1 and Stage 2.</li> </ul> For the CCPs, the risk assessment should consider: <ol style="list-style-type: none"> <li>The adequacy of the limits chosen</li> <li>Validation for the limits chosen</li> <li>The monitoring points</li> <li>Corrections and formalisation of procedures, and</li> <li>Communication triggers with the NSW Health LHD for non-conformance or CCP instrumentation failure.</li> </ol>	Complete
2.1.4 Water Quality Management System	 Non-compliant (material)	<b>2020-06:</b> By 30 June 2021, Water NSW should develop and implement change management processes for the CCP alarms. These processes should establish who has the authority to raise the alarms above the critical limit and the incident procedures to be enacted when this change is made.	Complete
2.1.4 Water Quality Management System	 Non-compliant (material)	<b>2020-07:</b> By 30 June 2021, Water NSW should clarify how targeted risk reviews are undertaken, if the C2C (Catchment to Consumer) process (D2019/30124) does not apply. If the C2C process does apply, ensure that the scope of the process is changed to make this clear.	Complete

Licence clause	Compliance grade	Recommendation	Progress
2.1.4 Water Quality Management System	 Non-compliant (material)	<b>2020-08:</b> By 30 June 2021, Water NSW should ensure that all relevant roles with responsibility for assembling inputs, collating outputs and contributing in a key manner to the water quality risk assessments, are trained in the requirements of process [Water NSW ref. D2019/30124] (all inputs, steps and outputs).	Complete
4.2.2 Water Supplied Performance Standards	 Compliant (minor shortcomings)	<b>2020-09:</b> By 30 June 2021, Water NSW should review the appropriateness of CCP analysers at Duckmaloi Water Treatment Plant to ensure that they provide a reliable measurement of turbidity and chlorine residual.	Ongoing  We consider that WaterNSW progressed this recommendation but did not close it out during the audit period as the work to resolve this recommendation was delayed by the COVID-19 travel restrictions imposed on the Greater Sydney and Hunter Valley local government areas. We will review WaterNSW's progress against this recommendation at the 2022 audit.
3.2.1 Water Supply	 Compliant (minor shortcomings)		
4.2.2 Water Supplied Performance Standards	 Compliant (minor shortcomings)	<b>2020-10:</b> By 30 June 2021, Water NSW should review and update operational forms at Duckmaloi Water Treatment Plant to improve record keeping of operational data, including the time of data sampling and any actions taken to manage operational issues at the plant.	Complete
4.3.2 CSR Water Performance Standards	 Non-compliant (non-material)	<b>2020-11:</b> By 30 June 2021, Water NSW should develop and implement procedures for reporting in line with CSR Water Performance standards under clause 4.3 of the Licence. These should (1) define the performance measure, (2) set out inclusions and exclusions and (3) include the process for reviewing, and, (4) where required, revising, the data for reporting against the performance standards, the overall calculation and any review and approval requirements	Complete
6.1.2 Customer Supply Agreements – Customers other than Sydney Water	 Non-compliant (material)	<b>2020-12:</b> By 30 June 2021, Water NSW should (1) consult with NSW Health to identify the most appropriate information in the Australian Drinking Water Guidelines that applies to the Fish River Filtered Water Supply and (2) amend the customer Supply Agreement to cover the obligations that have been agreed by consensus between Water NSW and NSW Health.	Complete
6.6.2 Customer Advisory Group Charter	 Non-compliant (non-material)	<b>2020-13:</b> By 30 June 2021, Water NSW should undertake a review of its Customer Advisory Group Charter to document matters that should be referred.	Complete
6.6.2 Customer Advisory Group Charter	 Non-compliant (non-material)	<b>2020-14:</b> By 30 June 2021, Water NSW should complete its review of Water NSW's Customer Advisory Group Charter to document procedures for proposing and progressing an amendment to the Charter.	Complete

Licence clause	Compliance grade	Recommendation	Progress
6.8.2 Code of Practice on Payment Difficulties	 Non-compliant (non-material)	<b>2020-15:</b> By 30 June 2021, Water NSW should amend its Code of Practice on Payment Difficulties to include procedures for identifying the circumstances under which Water NSW may restrict the provision of services to a customer including the minor/retail customers who are able to be disconnected for non-payment of services.	Complete
6.9.1 Internal Complaints Handling Procedure	 Non-compliant (non-material)	<b>2020-16:</b> By 30 June 2021, Water NSW should establish a Complaints Management Policy in accordance with the requirements.	Complete
6.9.1 Internal Complaints Handling Procedure	 Non-compliant (non-material)	<b>2020-17:</b> By 30 June 2021, Water NSW should undertake a review of its Complaints Handling and Compliments Procedure to ensure: <ul style="list-style-type: none"> <li>Water NSW manages complaints received through social media in line with the requirements of AS/NZS 10002:2014 Clause 4.6.</li> <li>Water NSW documents the behaviour expected of both its staff and complainants in line with the requirements of AS/NZS 10002:2014 clause 5.3.1.</li> </ul> Water NSW documents the process for managing complaints involving multiple parties in line with the requirements of AS/NZS 10002:2014 clause 5.3.3.	Complete
6.17.1 Memorandum of Understanding with Natural Resources Access Regulator	 Compliant (minor shortcomings)	<b>2020-18:</b> By 30 June 2021, Water NSW should review, revise and ratify the Terms of Reference for both the Strategic Group and the Operation Group, paying particular attention to areas such as frequency of meetings.	Complete
6.17.1 Memorandum of Understanding with Natural Resources Access Regulator	 Compliant (minor shortcomings)	<b>2020-19:</b> By 30 June 2021, Water NSW should update the document history of the Area Protocols with a formalised cycle of review, to ensure establishment of currency and accuracy.	Complete






Source: IPART, WaterNSW Operational Audit 2020 – Report to the Minister, March 2021 and Atom Consulting, *WaterNSW 2021 Operational Audit*, March 2022.

# Appendices

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## A Compliance grades

Table A.1 Current compliance grades

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

Source: IPART Audit Guideline Public Water Utilities, July 2019, Figure 2.1.



## B WaterNSW's statement of compliance

31 August 2021

Statement of compliance 2021

For 2020/2021

Submitted by WaterNSW

To:

The Chief Executive Officer  
Independent Pricing and Regulatory Tribunal of NSW  
PO Box K35  
Haymarket Post Shop NSW 1240

WaterNSW reports as follows:

1. This statement documents compliance during 2020-2021 with all obligations to which WaterNSW is subject by virtue of its operating licence.
2. This report has been prepared by WaterNSW with all due care and skill, including to ensure that all information provided is true and correct, in full knowledge of conditions to which WaterNSW is subject under the Water NSW Act 2014.
3. Schedule A provides information on all obligations with which WaterNSW did not comply during 2020-2021.
4. Other than the information provided in Schedule A, WaterNSW has complied with all conditions to which it is subject.
5. This compliance report has been approved by the Chief Executive Officer (or equivalent) and the Chairman of the Board of Directors of WaterNSW/ Duly authorised Board Member of WaterNSW.

DATE:



DATE:



Signed .....

Name: Andrew George Name: Anne McDonald

Designation: CEO Designation: Chair

## Schedule A: Non Compliances for WaterNSW

List of clauses breached	Description of non compliance
<p>Clause 1.5.1 Water NSW must make this Licence available free of charge on its website for downloading by any person.</p>	<p><b>PERIOD OF NON-COMPLIANCE 1 July 2020 – 11 November 2020</b> Making the Licence available was graded non-compliant non-material in March 2021 (WaterNSW Operational Audit 2019-2020 – Report to the Minister).</p> <p><b>Reason for non-compliance:</b> WaterNSW's amended Operating Licence came into effect 1 July 2020. WaterNSW did not make it available on WaterNSW's website until 12 November 2020.</p> <p><b>The following activity has been completed:</b></p> <ul style="list-style-type: none"> <li>• Amended Operating Licence made available on WaterNSW website.</li> </ul> <p><b>Date of full compliance:</b> 12 November 2020</p>
<p>Clause 2.1.1 Water NSW must maintain a Water Quality Management System in accordance with this clause 2.1.</p>	<p><b>PERIOD OF NON-COMPLIANCE 1 July 2020 – 30 June 2021</b> The Water Quality Management System (WQMS) was graded non-compliant material in March 2021 (WaterNSW Operational Audit 2019-2020 – Report to the Minister).</p> <p><b>Relevant 2019-2020 IPART Audit Recommendation:</b> Recommendation 1.</p> <p><b>Reason for non-compliance:</b> WaterNSW did not review the Water Quality Incident Response Protocol (WQIRP) by the required date and ensure currency.</p> <p><b>The following activities have been completed:</b></p> <ul style="list-style-type: none"> <li>• WQIRP approved on 30 June 2021 and published on 5 July 2021.</li> <li>• WaterNSW received feedback from NSW Health on CCP tables and notification requirements on 20 July 2021. Amendments to documentation made based on NSW Health feedback and documentation finalised 12 August 2021.</li> </ul>

List of clauses breached	Description of non compliance
	<p><b>Date of full compliance:</b> 1 July 2021</p>
<p>Clause 2.1.3 With respect to Non-Declared Catchment Areas from which Water NSW Supplies water, Water NSW must maintain Water Quality Management Systems that are consistent with:</p> <p>a) in the case of water with the final end use as Drinking Water:</p> <p>i) a relevant quality assurance program under section 25 of the Public Health Act 2010 (NSW);</p> <p>ii) the Australian Drinking Water Guidelines; or</p> <p>iii) any other requirements as specified or approved by NSW Health or IPART,</p> <p>b) in the case of water that does not have a final end use as Drinking Water and that is not to be managed according to a Water Quality Management System that satisfies clause 2.1.3(a):</p> <p>i) the Australian Guidelines for Water Recycling; or</p> <p>ii) any other requirements as specified or approved by NSW Health or IPART.</p>	<p><b>PERIOD OF NON-COMPLIANCE 1 July 2020 – 30 June 2021</b></p> <p>The WQMS for Non-Declared Catchment Areas was graded non-compliant material in March 2021 (WaterNSW Operational Audit 2019-2020 – Report to the Minister).</p> <p><b>Relevant 2019-2020 IPART Audit Recommendations:</b> Recommendation 2, 3 and 4.</p> <p><b>Reason for non-compliance:</b> Fish River Water Supply Scheme (FRWSS) Water Quality Management System (WQMS) was not consistent with the Australian Drinking Water Guidelines (ADWG) Framework.</p> <p><b>The following activities are in progress:</b></p> <ul style="list-style-type: none"> <li>• The WQMS and Fish River Drinking WQMS are in the process of being converted to an on-line platform (Modelpedia).</li> <li>• Fish River Water Supply System operations and maintenance manual update is being undertaken by Hunter H2O.</li> <li>• WaterNSW received feedback from NSW Health on CCP tables and notification requirements on 20 July 2021. Amendments to documentation made based on NSW Health feedback.</li> <li>• Annual reports on water quality performance in Fish River were provided to NSW Health. Monthly performance reports including distribution system water quality performance, have been provided to NSW Health for feedback on scope and format. No response from NSW Health on the content of the reports. The next Fish River Joint Operational Group (JOG) meeting is scheduled for 10 August 2021 and agenda</li> </ul>

List of clauses breached	Description of non compliance
	<p>items set to go through all of these actions at the meeting.</p> <p><b>The following activities are complete:</b></p> <ul style="list-style-type: none"> <li>• Notification requirements as per WQIRP discussed with NSW Health at the 11 May 2021 JOG meeting and captured in Critical Control Point (CCP) tables and WQIRP.</li> <li>• Fish River Water Supply Scheme (FRWSS) verification monitoring program was discussed with NSW Health at the 11 May 2021 JOG meeting and feedback incorporated.</li> <li>• Fish River system has been specifically mentioned under notification of events of public health significance in the revised draft Memorandum of Understanding (MoU).</li> <li>• Operating Protocols for Fish River Water Supply and Fish River Water Supply Scheme Incident Management Plan have been updated as appropriate.</li> </ul> <p><b>Anticipated date of full compliance:</b> 30 September 2021</p>
<p>Clause 2.1.4 WaterNSW must ensure that the relevant Water Quality Management Systems are fully implemented and that all relevant activities are carried out in accordance with the relevant Water Quality Management System and to the satisfaction of NSW Health.</p>	<p><b>PERIOD OF NON-COMPLIANCE 1 July 2020 – 30 June 2021</b> The implementation of the WQMS was graded non-compliant material in March 2021</p>

(WaterNSW Operational Audit 2019-2020 – Report to the Minister).

**Relevant 2019-2020 IPART Audit**

**Recommendations:**

Recommendation 5, 6, 7 and 8.

**Reason for non-compliance:**

Significant deficiencies in the implementation of the WQMS for the FRWSS (non-declared catchment areas).

**The following activities are in progress:**

- WaterNSW received feedback from NSW Health on CCP tables and notification requirements on 20 July 2021. Amendments to documentation underway based on NSW Health feedback.
- Catchment-to-Customer (C2C) Risk Assessment document is in the process of being converted to an on-line platform (Modelpedia).
- WQMS and Fish River Drinking WQMS are in the process of being converted to an on-line platform (Modelpedia).

**The following activities are complete:**

- Notification requirements as per WQIRP discussed with NSW Health at the 11 May 2021 JOG meeting and captured in Critical Control Point (CCP) tables and WQIRP.
- Fish River system has been specifically mentioned under notification of events of public health significance in the revised draft Memorandum of Understanding (MoU).
- At the start of each Risk assessment workshop WaterNSW goes over the procedure to ensure participants are familiar with the relevant steps. This requirement has been incorporated under the process as mapped in Modelpedia.

List of clauses breached	Description of non compliance
	<ul style="list-style-type: none"> <li>• Developed and implemented change management processes (SCADA &amp; Automation Configuration &amp; Change Management) for the CCP alarms. Documentation was updated in consultation with WQ team and this document was circulated to SCADA Telemetry Engineer team members to ensure they are aware of additional approvals for CCP alarm changes.</li> <li>• Manual process - The operators/ field staff or those who requests (via MyWaterNSW) the alarm change, the standard "SCADA Alarm" change option is used. The SCADA Telemetry Engineer manage this request (ticket) using the manual approval step (to WQ team) and advises the requestor to use the new CCP Alarms functionality for next time.</li> <li>• Automated process - The new CCP Alarms functionality was deployed on 16 July 2021 where the request will workflow automated of WQ team.</li> </ul> <p><b>Anticipated date of full compliance:</b> 30 August 2021</p>
<p>Clause 3.2.1 WaterNSW must ensure that any water Supplied to Customers is Supplied in accordance with a relevant Water Quality Management System, any relevant Customer Supply Agreement, and any relevant arrangements with Sydney Water established under section 25 of the Act.</p>	<p><b>PERIOD OF NON-COMPLIANCE October 2020 – May 2021</b></p> <p><b>Reason for non-compliance:</b> The availability of supply to Lithgow City Council was impacted due to a number of incidents. These service interruptions also resulted in the quality of water not meeting supply specifications.</p> <p><b>The following activities are complete:</b></p> <ul style="list-style-type: none"> <li>• Supply interruptions and water quality exceptions (i.e. manganese and chlorine residuals) were managed in line with agreed protocols, as well as reimbursement to Lithgow City Council.</li> </ul>



List of clauses breached	Description of non compliance
	<p><b>Date of full compliance:</b> 13 May 2021</p>
<p>Clause 4.2.2 WaterNSW must manage the quality of water Supplied to its Customers in accordance with the relevant Water Quality Management System required under clause 2.1.2 or 2.1.3.</p>	<p>See above Clause 3.2.1 – description of non-compliance.</p>
<p>Clause 4.2.3 WaterNSW must manage service interruptions in accordance with the Asset Management System required under clause 5.1.1.</p>	<p>See above Clause 3.2.1 – description of non-compliance.</p>
<p>Clause 4.3.2 WaterNSW must ensure that: a) 99% of Customers who place a Non-complying Water Order are contacted within one working day to rectify that order; and b) this is calculated as a percentage of all Non-complying Water Orders placed in the financial year.</p>	<p><b>PERIOD OF NON-COMPLIANCE 1 July 2020 – 30 June 2021</b> &lt;99% of Customers were contacted within one working day was graded non-compliant non-material in March 2021 (WaterNSW Operational Audit 2019-2020 – Report to the Minister).</p> <p><b>Relevant 2019-2020 IPART Audit Recommendations:</b> Recommendation 11</p> <p><b>Reason for non-compliance:</b> For 2018-2019, WaterNSW received 149 non-complying orders that required WaterNSW to contact the customer to rectify the order. WaterNSW contacted the customers for 147 of those orders within one working day, equating to 98.66% of customers, which is below the required 99%.</p> <p>For 2019-2020, WaterNSW received 143 non-complying orders that required WaterNSW to contact the customer to rectify the order. Of the customers WaterNSW contacted, five were outside the one business day key performance indicator. Three were on the second business day.</p> <p>WaterNSW contacted the customers for 138 of these orders within one working day, equating to 96.5% (non-complying as &lt; 99%) = 138/143.</p>

List of clauses breached	Description of non compliance
	<p><b>The following activities are complete:</b></p> <ul style="list-style-type: none"> <li>Developed a procedure for reporting in line with Capture Store Release Water Performance standards under clause 4.3 of the Operating Licence.</li> </ul> <p><b>Date of full compliance:</b> 1 July 2021</p>
<p>Clause 6.1.2 WaterNSW must only Supply water to these Customers in accordance with the terms and conditions of these Customer Supply Agreements.</p>	<p><b>PERIOD OF NON-COMPLIANCE 1 July 2020 – 30 June 2021</b> WaterNSW's supply of water to Customers in accordance with the Customer Supply Agreements was graded non-compliant material in March 2021 (WaterNSW Operational Audit 2019-2020 – Report to the Minister).</p> <p><b>Relevant 2019-2020 IPART Audit Recommendation:</b> Recommendation 12</p> <p><b>Reason for non-compliance:</b> WaterNSW was not able to demonstrate that the filtered water supplied met the water quality requirements of the Australian Drinking Water Guidelines (ADWG), as required in the customer supply agreements.</p> <p><b>The following activities are complete:</b></p> <ul style="list-style-type: none"> <li>WaterNSW consulted with NSW Health (Nepean Public Health Unit) and agreed on the amendments to the wordings that relate to FRWSS ADWG.</li> <li>WaterNSW legal team updated the Customer Supply Agreement (CSA) with the agreed wordings from NSW Health. The CSA was sent to the Billing and Revenue team and uploaded onto WaterNSW's website on 19 July 2021.</li> </ul> <p><b>Date of full compliance:</b> 19 July 2021</p>
<p>Clause 6.6.2</p>	<p><b>PERIOD OF NON-COMPLIANCE 1 July 2020 – 30 June 2021</b></p>

<b>List of clauses breached</b>	<b>Description of non compliance</b>
<p>The Customer Advisory Group Charter must address all of the following issues:</p> <p>a) the role of the Customer Advisory Group;</p> <p>b) how members and the chair of the Customer Advisory Group will be appointed;</p> <p>c) the term for which members are appointed;</p> <p>d) information on how the Customer Advisory Group will operate;</p> <p>e) a description of the type of matters that will be referred to the Customer Advisory Group and how those matters will be referred;</p> <p>f) procedures for communicating the outcomes of the Customer Advisory Groups' work to the public;</p> <p>g) procedures for monitoring issues raised at meetings of the Customer Advisory Groups and ensuring appropriate follow-up of those issues;</p> <p>h) procedures for amending the charter; and</p> <p>i) funding and resourcing of the Customer Advisory Groups by WaterNSW.</p>	<p>The Customer Advisory Group Charter was graded non-compliant non- material in March 2021 (WaterNSW Operational Audit 2019-2020 – Report to the Minister).</p> <p><b>Relevant 2019-2020 IPART Audit Recommendations:</b> Recommendation 13 and 14</p> <p><b>Reason for non-compliance:</b> The Customer Advisory Group (CAG) Charter did not include a description of the type of matters that are referred to the CAG and how these matters are referred. The CAG did not include procedures for amending the CAG Charter.</p> <p><b>The following activities are complete:</b></p> <ul style="list-style-type: none"> <li>Updated and approved Customer Advisory Group Charter outlines the procedures for proposing and progressing an amendment to the Charter, and includes a description of the type of matters that are referred to the CAG and how these matters are referred.</li> </ul> <p><b>Date of full compliance:</b> 12 August 2021</p>
<p>Clause 6.8.2 The Code of Practice on Payment Difficulties must:</p> <p>a) provide for a payment plan for Customers who are responsible for paying their bills and who are, in WaterNSW's reasonable opinion, experiencing financial hardship;</p> <p>b) include procedures for identifying the circumstances under which WaterNSW may restrict the provision of services to a customer (including in respect of CSR Water and Supply water);</p> <p>c) include procedures for identifying the circumstances under which WaterNSW may suspend water access licences when a Customer has not paid its Bill and an overview</p>	<p><b>PERIOD OF NON-COMPLIANCE 1 July 2020 – 30 June 2021</b></p> <p>The Code of Practice on Payment Difficulties was graded non-compliant non- material in March 2021 (WaterNSW Operational Audit 2019-2020 – Report to the Minister).</p> <p><b>Relevant 2019-2020 IPART Audit Recommendation:</b> Recommendation 15</p> <p><b>Reason for non-compliance:</b> The Code of Practice on Payment Difficulties did not identify circumstances under which WaterNSW may restrict the provision of services to customers that do not hold/require a water access licence (e.g. minor customers on a piped supply). The Code of Practice focuses on customers with water access licences only.</p>

List of clauses breached	Description of non compliance
<p>of the process that must be followed prior to suspension; and d) include procedures for self-identification, identification by community welfare organisations and identification by WaterNSW of Customers experiencing financial hardship.</p>	<p><b>The following activities are complete:</b></p> <ul style="list-style-type: none"> <li>The document was updated and approved at the June 2021 Board meeting. The document was published on WaterNSW's website on the 12 July 2021.</li> </ul> <p><b>Date of full compliance:</b> 12 July 2021</p>
<p>Clause 6.9.1 WaterNSW must maintain a procedure for receiving, responding to and resolving Complaints, which is consistent with the Australian Standard AS/NZS 10002:2014: <i>Guidelines for complaints management in organisations (AS/NZS 10002:2014)</i> or other standard approved by IPART on request by WaterNSW.</p>	<p><b>PERIOD OF NON-COMPLIANCE 1 July 2020 – 30 June 2021</b> The Complaints Management Policy was graded non-compliant non- material in March 2021 (WaterNSW Operational Audit 2019-2020 – Report to the Minister).</p> <p><b>Relevant 2019-2020 IPART Audit Recommendation:</b> Recommendation 16 and 17.</p> <p><b>Reason for non-compliance:</b> WaterNSW did not have a Complaints Management Policy setting out its commitment to the effective management of complaints, as required under clause 6.3 of AS/NZS 10002:2014.</p> <p>WaterNSW had a Complaints handling and Compliments Procedure which was generally consistent with the requirements of the AS/NZS 10002:2014 (the Standard), but it had some deficiencies.</p> <p><b>The following activities are complete:</b></p> <ul style="list-style-type: none"> <li>Policy updated and approved by Board in December 2020</li> <li>Complaints Handling and Compliments Procedure was updated and approved.</li> </ul> <p><b>Date of full compliance:</b> 30 June 2021</p>
<p>Clause 6.18.2 The portal must be operational by 1 December 2020.</p>	<p><b>PERIOD OF NON-COMPLIANCE 1 December 2020 – March 2021</b> The portal must be operational.</p>

List of clauses breached	Description of non compliance
	<p><b>Reason for non-compliance:</b></p> <p>The establishment of the online portal was delayed and became operational in mid-March 2021.</p> <p><b>The following activities are complete:</b></p> <ul style="list-style-type: none"> <li>• Online portal established and operational in mid-March 2021.</li> </ul> <p><b>Date of full compliance:</b></p> <p>March 2021</p>

## C Audit process

### C.1 Audit programme

We apply our Compliance and Enforcement Policy in developing the annual audit scopes.<sup>4</sup> The policy explains our risk-based regulatory model. Under the policy, we can:

- focus on allocating resources to areas of higher risk
- increase our efficiency in undertaking audits
- tailor our enforcement response.

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

We identify and document historical, current and emerging risks. This allows us to allocate resources proportionately to the risk and complexity of a regulated entity and its behaviours.

The audit process involves receiving and reviewing reports, undertaking and attending audit interviews with WaterNSW staff, and undertaking field verification to investigate how effectively the requirements of the licence are met in practice. This year, we conducted interviews remotely with in-person site visits.

### C.2 Scoping the 2021 audit

We do not audit all licence clauses annually. Instead we adopt a risk-based audit approach, which means we audit 'high risk' clauses more frequently and 'low risk' clauses less frequently. We conduct audits in accordance with our Public Water Utility Audit Guideline.<sup>5</sup>

The audit scope for WaterNSW's 2021 audit included obligations on:

- Licence Context and authorisation (part 1) – making copies of the Licence available.
- Water Source protection and conservation (part 2) – water quality management system, catchment management, catchment infrastructure works management, reviewing the model for system yield.
- Bulk Water storage and transmission (part 3) – water management works construction, maintenance and operation, water supply, CSR water, and bulk water released to Local Water Utilities for drinking water.
- Performance Standards (part 4) – quality of water supplied and management of service interruptions.
- Organisation systems management (part 5) – asset management and environmental systems.

- Customer and stakeholder relations (part 6) – supply water in accordance with customer supply agreements, accounting for water, customer advisory group charter, code of practice on payment difficulties, internal complaints handling procedure, code of conduct with WIC Act licensees, memoranda of understanding with NSW Health, EPA, DPE, DPI and NRAR, online portal for documents relating to metering equipment, and data sharing and services agreement with DPIE and NRAR.
- Performance monitoring and reporting (part 7) – operational audits, reporting in accordance with the Licence and Reporting Manual, provision of information to IPART and auditors.

The audit scope is in Appendix D.

We consulted with the Department of Planning, Industry and Environment (DPIE)<sup>e</sup>, Environmental Planning Agency (EPA), NSW Ministry of Health (NSW Health) and the Natural Resource Access Regulator (NRAR). We received submissions from the agencies. All submissions from stakeholder agencies indicated that they were generally satisfied that WaterNSW had met its obligations under the Licence relevant to their portfolio. However, NRAR identified some concerns related to:

- Clause 6.3.1 – NRAR identified a lag between when WaterNSW determines the volume of water extracted or supplied to its customers and the time it is entered into the Water Allocation System (WAS) database. We did not include this clause in the audit scope, as we consider this issue is better addressed as part of the Licence review.
- Clauses 6.18.1–6.18.5<sup>f</sup> – these clauses relate to an online portal that WaterNSW is responsible for developing and maintaining. NRAR explained that it needs access to certain data held in the portal to undertake its functions, however it couldn't not access all required data during the audit period.
- Clause 6.20.2<sup>g</sup> – NRAR noted that the Data Sharing Agreement between DPE, NRAR and WaterNSW was in early stages of implementation. However, NRAR raised some issues related to the Data Sharing Agreement.

We also sought public submissions to determine the audit scope. We received one anonymous submission related WaterNSW's ability to meet its obligations to report in accordance with the reporting manual (clause 7.2) and its ability to meet its data sharing requirements (clauses 2.9.6–2.9.9). We audited clause 7.2 as part of the audit, however we did not include clauses 2.9.6–2.9.9 in the audit scope as:

- DPIE did not raise concerns with the WaterNSW's performance against these requirements. DPIE confirmed that WaterNSW had complied with its obligations under these clauses during the audit period.<sup>h</sup>
- The 2020-21 WaterNSW audit scope was already substantially large. On balance, we could not justify the increased audit burden resulting in the inclusion of 3 additional clauses, given DPIE's agreement that WaterNSW had met the requirements under these clauses.
- We intend to audit these clauses during the 2022 operational audit.

<sup>e</sup> DPIE is now the Department of Planning and Environment.

<sup>f</sup> The Minister added this clause to the Licence on 1 July 2020.

<sup>g</sup> The Minister added clauses 6.20.1–6.20.4 to the Licence on 1 July 2020.

<sup>h</sup> Letter to IPART, Jim Betley, Department of Planning, Industry and Environment, ref: BN21/3622.



## Stakeholder feedback informed the audit scope

We amended the audit scope on 25 August 2021 to include clauses 6.18.1–6.18.5 and 6.20.1–6.20.4 in response to the issues identified in NRAR's submission.

On 1 March 2022, we removed clause 6.18.5 from the audit scope. Clause 6.18.5 requires WaterNSW to

“... provide DPIE and NRAR with access to the portal, all data held in the portal and any systems related to the portal.”

We identified that the clause, as drafted, does not appropriately capture the intent of the obligation (i.e. to require WaterNSW to provide NRAR with access to data relevant to NRAR's functions). On 25 February 2022, NRAR confirmed that it does not require access to all data or systems held by WaterNSW.<sup>i</sup> We consider that auditing WaterNSW's against this clause does not provide reasonable insight into its compliance against the intended outcome of licence condition. We intend to review the condition as part of our Interim Licence review.

## C.3 2021 audit plan

We engaged Paradigm Digital Pty Ltd, trading as Atom Consulting, in partnership with Cardno (QLD) Pty Ltd to undertake the 2021 WaterNSW audit.

We held a project start-up meeting with the auditor on 20 July 2021 to agree on the project milestones, audit timing, and outline our expectations. We participated in the audit inception meeting with WaterNSW and the auditor on the first day of the audit interviews, on 25 October 2021. At this meeting, we agreed on expectations and protocols for the conduct of the audit. All parties adhered to the agreed protocols throughout the audit.

We required the auditor to undertake the following tasks:

1. review stakeholder submissions
2. prepare an information request (questionnaire) setting out all the requirements for information and evidence, at least two weeks prior to the commencement of audit interviews (for this audit, the auditor issued the questionnaire 7 weeks before the audit interviews commenced)
3. review reports and documents provided by WaterNSW in response to the questionnaire
4. conduct interviews with WaterNSW staff as appropriate<sup>6</sup>
5. conduct field verification to assess the implementation of WaterNSW's systems and procedures
6. assess the level of compliance (in line with our compliance grades) WaterNSW achieved for each of the identified Licence obligations, and provide supporting evidence for this assessment

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<sup>i</sup> Phone call between NRAR IT Director and IPART Director, Regulation and Compliance.

7. assess and report on progress by WaterNSW in addressing any comments made by the relevant Minister and/or our recommendations from previous audits, providing supporting evidence for these assessments
8. verify the calculation of performance indicators associated with requirements of the relevant licence and assess trends in performance arising from these indicators
9. provide draft audit reports to us and address comments from WaterNSW and us regarding draft audit findings
10. prepare and submit a final report outlining audit findings (Appendix E).

The auditor adopted a methodology consistent with:

- ASAE 3100 (2017) *Compliance Engagements* issued by the Auditing and Assurance Standards Board
- ISO 19011:2018 *Guidelines for auditing management systems*
- AS/NZS ISO 9001:2016: *Quality management systems – Requirements*
- ISO 17021:2015 *Conformity Assessment – Requirements for bodies providing audit and certification of management systems* which includes principles and requirements for the competence, consistency and impartiality of the audit and certification of management systems of all types
- Aquamark asset management benchmarking tool (now referred to as AMCV).

The auditor also carried out the audit according to our Audit Guideline.<sup>7</sup> The auditor can make recommendations or suggest opportunities for improvement under the guideline.

Where we support an auditor's recommendation, we make a recommendation based on the auditor's recommendation. Our recommendations are summarised in Table 2 of this report.

Where the auditor suggests opportunities for improvement, WaterNSW can decide whether to implement these suggestions. This approach aims to balance improved performance with the investment required to achieve it, i.e. we want WaterNSW to first consider the pricing implications and value for money of continued improvement. Therefore, while we encourage WaterNSW to consider the auditor's suggestions, we do not follow these up. The auditor's suggested opportunities for improvement are included in the auditor's report in Appendix E.

The auditor conducted audit interviews from 25–29 October 2021 remotely using online video conferencing facilities. On 27 and 28 October, the auditor also undertook a site visit to the following locations:

- Prospect Reservoir (pump station, handover point and water entry valves)
- Fish River (Duckmaloi Water Treatment Plant, Lithgow handover point into Wallerawang reservoir and Wallerawang dosing pump station).

The auditor assessed WaterNSW's compliance with the relevant requirements of the Licence per the compliance grades outlined in Appendix A.

## D 2021 audit scope

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# 2021 operational audit scope Water NSW

## 2021 audit scope

This document sets out the 2021 operational audit scope for Water NSW. Auditors should note any directions in the comments column of Table 2.

## Audit period

The audit period is 1 September 2020 to 31 August 2021. We expect that audit interviews will be held in September 2021. However, this is subject to change depending on auditor availability.

## Outstanding audit recommendations

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

## Statement of compliance

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

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

## Interpretation

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

## Field verification locations

Table 4 lists the locations that we have visited in previous audits. Together with Water NSW, we will determine the locations that we will visit in the 2021 audits and advise the auditor before the field verification visits are scheduled to commence.

**Table 1 Key**

Requirement	Meaning
Audit/Internal IPART check	Audit/check clause in 2021 audit.
SC	Audit of this clause not required in the 2021 audit unless the utility's Statement of Compliance identifies a non-compliance or we become aware of other reasons to audit the clause.
NR	No requirement for audit.

**Table 2 2021 Audit scope for Water NSW**

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
1	Licence Context and authorisation		
1.1	Objectives of this Licence		
1.1.1	<p>This licence aims to:</p> <ul style="list-style-type: none"> <li>a) provide transparent and auditable terms and conditions for Water NSW to lawfully undertake its activities to industry good-practice;</li> <li>b) recognise the interests of stakeholders within its Area of Operations; and</li> <li>c) impose the minimum regulatory burden on Water NSW by avoiding duplication or conflict with other regulatory instruments.</li> </ul> <p><i>[Note: Consistent with the Act, the purpose of this Licence is to:</i></p> <ul style="list-style-type: none"> <li>a) <i>specify the listed functions and other functions conferred upon Water NSW to which this Licence relates;</i></li> <li>b) <i>authorise Water NSW to carry out the listed functions specified in this Licence and Conferred Functions;</i></li> <li>c) <i>specify the areas and circumstances in which Water NSW is authorised to carry out the specified Listed Functions and Conferred Functions;</i></li> <li>d) <i>set out the terms and conditions which apply to the conduct of the functions authorised by this Licence;</i></li> <li>e) <i>make provision for the preparation of Operational Audits;</i></li> <li>f) <i>include terms and conditions under which Water NSW is required to provide, construct, operate, manage and maintain efficient, co-ordinated and commercially viable systems and services to capture, store, release or supply water;</i></li> <li>g) <i>include terms and conditions under which Water NSW is required to ensure that the systems and services meet the Performance Standards specified in this Licence in relation to water delivery, water quality, service interruptions or any other matters set out in this Licence;</i></li> </ul>	NR	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
h)	<p><i>with respect to a Declared Catchment Area – include terms and conditions under which Water NSW is required to compile indicators of the direct impact of Water NSW’s activities (including, but not limited to, the impact of energy used and waste generated) on the environment so as to provide information about its performance and enable reports to be prepared; and</i></p>		
i)	<p><i>specify other requirements as required and allowed for under the Act</i></p>		
<p><i>In addition to sections 11 and 12 of the Act which specify matters that must be included in this Licence, sections 7, 15, 16, 21, 25, 31 and 60 of the Act provide for other terms and conditions to be included in the Licence</i></p>			
<p><i>This Licence does not reproduce Water NSW’s statutory obligations in full. Water NSW’s licence obligations may be subject to other laws including the Water Management Act 2000 (NSW) and the Water Act 1912 (NSW).]</i></p>			
1.2	Licence authorisations		
1.2.1	<p>Subject to any terms and conditions, areas and circumstances specified in this Licence, this Licence authorises Water NSW to undertake the following listed functions within its Area of Operations:</p> <ul style="list-style-type: none"> <li>a) to capture and store water and to release water: <ul style="list-style-type: none"> <li>i) to persons entitled to take the water, including release to regional towns; and</li> <li>ii) for any other lawful purpose, including the release of environmental water;</li> </ul> </li> <li>b) to supply water to Sydney Water;</li> <li>c) to supply water to water supply authorities and to local councils or county councils prescribed by the Regulations;</li> <li>d) to supply water to persons referred to in section 7(1)(d) of the Act;</li> <li>e) to supply water to other persons and bodies, but under terms and conditions that prevent the person or body concerned from supplying the water for consumption by others within the State unless the person or body is authorised to do so by or under an Act;</li> <li>f) to construct, maintain and operate Water Management Works (including providing or constructing systems or services for supplying water);</li> <li>g) to protect and enhance the quality and quantity of water in Declared Catchment Areas;</li> <li>h) to manage and protect Declared Catchment Areas and Water Management Works vested in or under the control of Water NSW that are used within or for the purposes of such areas;</li> <li>i) to undertake research on catchments generally, and in particular on the health of Declared Catchment Areas; and</li> </ul>	NR	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
	<p>j) to undertake an educative role within the community.</p> <p><i>[Note: Clause 1.2.1 authorises all of Water NSW's listed functions referred to in section 7(1) of the Act, except for its listed function under section 7(1)(i) of the Act: to undertake flood mitigation and management. As a consequence, Water NSW may undertake flood mitigation and management only if it is authorised to do so under a different operating licence, a provision of the Act other than section 7, or under any other Act or law.]</i></p>		
1.2.2	<p>Subject to any terms and conditions, areas and circumstances specified in this Licence, this Licence authorises Water NSW, within its Area of Operations to:</p> <p>a) provide facilities or services that are necessary, ancillary or incidental to its Listed Functions; and</p> <p>b) conduct any business or activity (whether or not related to its Listed Functions) that it considers will further its objectives.</p>	NR	
1.2.3	<p>Subject to any terms and conditions, areas and circumstances specified in this Licence, this Licence authorises Water NSW, within its Area of Operations, to undertake the Conferred Functions specified in Schedule A.</p>	NR	
1.2.4	<p>Subject to any terms and conditions, areas and circumstances specified in this Licence and to the maximum extent permissible by law, this Licence authorises Water NSW pursuant to section 15(4)(b) of the Act to exercise any function of a type referred to in section 15(2) of the Act, but only with the agreement of the Relevant Body.</p>	NR	
1.2.5	<p>Subject to any terms and conditions, areas and circumstances specified in this Licence, and to the maximum extent permissible by law, this Licence authorises Water NSW pursuant to section 31(1) of the Act, to exercise the functions set out in section 31(1) within its Area of Operations.</p>	NR	
1.2.6	<p>Despite anything in this clause 1.2, but subject to any terms and conditions, areas and circumstances specified elsewhere in this Licence, and to the maximum extent permissible by law, this Licence authorises Water NSW, pursuant to section 15(4)(a) of the Act, to carry out any of its functions outside of the State.</p>	NR	



Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor				
1.2.7	For the avoidance of any doubt, where this clause 1.2 authorises a function of Water NSW, that authorisation is intended to apply in respect of the Fish River Water Supply Scheme, to the maximum extent permissible by law. <i>[Note: The intention behind clause 1.2.7 is that clauses 2.1.3-2.1.5, 3.1.1, 3.2.1, 4.2.1-4.2.3, 5.1.1, 5.1.2, 5.2.1, 5.2.2, 6.1.1-6.1.3, 6.3.1, 6.3.2, 6.5.1-6.5.5, 6.6.1-6.6.4, 6.8.1-6.8.4, 6.9.1-6.9.4, 6.10.1 and 6.10.2 apply in respect of the Fish River Water Supply Scheme, to the maximum extent permissible by law. See section 293(2) of the Water Management Act 2000 (NSW).]</i>	NR					
1.3	Term of this Licence						
1.3.1	The term of this Licence is 5 years from the Commencement Date.	NR					
1.4	Non-exclusive Licence						
1.4.1	This Licence does not prohibit another person from providing Services in the Area of Operations that are the same as, or similar to, the services provided by Water NSW, if the person is lawfully entitled to do so.	NR					
1.5	Making copies of this Licence available						
1.5.1	Water NSW must make this Licence available free of charge on its website for downloading by any person.	Internal IPART check	This clause is not included in the auditor's scope.				
1.6	End of term review						
1.6.1	It is anticipated that a review of this Licence will commence in the first quarter of 2021 to investigate: a) whether this Licence is fulfilling its objectives; and b) any issues which have arisen during the term of this Licence, which may affect the effectiveness of this Licence, (End of Term Review)	NR					
1.6.2	Water NSW must provide to the person undertaking the End of Term Review such information as is reasonably required to enable the person to complete the End of Term Review. Water NSW must provide that person with such information within a reasonable time period of receiving a request for that information from that person.	NR					
1.7	Notices						
1.7.1	Any notice or other communication given under this Licence must be made in writing addressed to the intended recipient at the address shown below or the last address notified by the recipient.	NR					
	<table border="0"> <tr> <td style="border: 1px solid black; padding: 2px;">Water NSW</td> <td style="border: 1px solid black; padding: 2px;">IPART</td> </tr> <tr> <td style="padding: 2px;">The Chief Executive Officer Water NSW Level 14, 161-169 Macquarie St Parramatta NSW 2150</td> <td style="padding: 2px;">The Chief Executive Officer Independent Pricing and Regulatory Tribunal of NSW Level 15, 2-24 Rawson Place Sydney NSW 2000</td> </tr> </table>	Water NSW	IPART	The Chief Executive Officer Water NSW Level 14, 161-169 Macquarie St Parramatta NSW 2150	The Chief Executive Officer Independent Pricing and Regulatory Tribunal of NSW Level 15, 2-24 Rawson Place Sydney NSW 2000		
Water NSW	IPART						
The Chief Executive Officer Water NSW Level 14, 161-169 Macquarie St Parramatta NSW 2150	The Chief Executive Officer Independent Pricing and Regulatory Tribunal of NSW Level 15, 2-24 Rawson Place Sydney NSW 2000						

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
2	Water Source protection and conservation		
2.1	Water Quality Management System		
2.1.1	Water NSW must maintain a Water Quality Management System in accordance with this clause 2.1.	Audit	<p>We last audited this clause in 2020. We assigned a Non-Compliant (material) grade in that audit.</p> <p><b>We will seek NSW Health's comments</b> on Water NSW's performance against this clause.</p> <p>Auditor should consider the grades and recommendations (see below and Table 3) allocated to the remainder of clause 2.1 before grading this clause.</p> <p>– 2020-01</p> <p><b>We sought NSW Health's comments</b> on Water NSW's performance against this clause. Refer to NSW Health's submission, reference H21/141419.</p>
2.1.2	<p>With respect to Declared Catchment Areas, Water NSW must maintain a Water Quality Management System that is consistent with either:</p> <p>a) the Australian Drinking Water Guidelines; or</p> <p>b) if NSW Health were to specify any amendment or addition to the Australian Drinking Water Guidelines that applies to Water NSW, the Australian Drinking Water Guidelines as amended or added to by NSW Health; or</p> <p>c) any other requirements specified or approved by NSW Health or IPART.</p> <p>[Note: It is generally expected that for the Declared Catchment Areas Water NSW will develop a Water Quality Management System consistent with the Australian Drinking Water Guidelines. However, where NSW Health considers appropriate, the application of those Guidelines may be amended or added to, to take account of Water NSW's circumstances and/or policy and practices within New South Wales regarding Drinking Water quality.</p>	Audit	<p>We last audited this clause in 2020. We assigned a Compliant grade in that audit.</p> <p><b>We will seek NSW Health's comments</b> on Water NSW's performance against this clause.</p> <p><b>We sought NSW Health's comments</b> on Water NSW's performance against this clause. Refer to NSW Health's submission, reference H21/141419.</p>

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
	<p>It is generally expected that Water NSW will manage the Declared Catchment Areas and the associated Catchment Infrastructure Works in light of its knowledge of the whole system for the Supply of Drinking Water (including the Bulk Water Supply System associated with Declared Catchment Areas together with each system for treating, storing and supplying Drinking Water of each Customer to whom Water NSW Supplies water which is sourced from Declared Catchment Areas). That is, Water NSW should have adequate systems and processes in place to manage Bulk Water quality to its water Supply Customers, taking into account the implementation of planning and risk management across the whole Drinking Water Supply system.]</p>		
2.1.3	<p>With respect to Non-Declared Catchment Areas from which Water NSW Supplies water, Water NSW must maintain Water Quality Management Systems that are consistent with:</p> <ul style="list-style-type: none"> <li>a) in the case of water with the final end use as Drinking Water: <ul style="list-style-type: none"> <li>i. a relevant quality assurance program under section 25 of the Public Health Act 2010 (NSW);</li> <li>ii. the Australian Drinking Water Guidelines; or</li> <li>iii. any other requirements as specified or approved by NSW Health or IPART,</li> </ul> </li> <li>b) in the case of water that does not have a final end use as Drinking Water and that is not to be managed according to a Water Quality Management System that satisfies clause 2.1.3(a): <ul style="list-style-type: none"> <li>i. the Australian Guidelines for Water Recycling; or</li> <li>ii. any other requirements as specified or approved by NSW Health or IPART.</li> </ul> </li> </ul>	Audit	<p>We last audited this clause in 2020. We assigned a Non-compliant (material) grade in that audit.</p> <p><b>We will seek NSW Health's comments</b> on Water NSW's performance against this clause.</p> <p>Auditor should check the following recommendation relevant to this clause for completion (see Table 3):</p> <ul style="list-style-type: none"> <li>- 2019-02</li> <li>- 2020-02</li> <li>- 2020-03</li> <li>- 2020-04</li> </ul> <p><b>We sought NSW Health's comments</b> on Water NSW's performance against this clause. Refer to NSW Health's submission, reference H21/141419.</p>
2.1.4	<p>[Note: It is generally expected that Water NSW will manage the water under its control in light of its knowledge of the downstream water supply system, including that of its Customers. Therefore the Water Quality Management System should be developed in consultation with the relevant Customers to whom it Supplies water.]</p> <p>Water NSW must ensure that the relevant Water Quality Management Systems are fully implemented and that all relevant activities are carried out in accordance with the relevant Water Quality Management System and to the satisfaction of NSW Health.</p>	Audit	<p>We last audited this clause in 2020. We assigned a Non-compliant (material) grade in that audit.</p> <p><b>We will seek NSW Health's comments</b> on Water NSW's performance against this clause.</p>

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
			<p>Auditor should refer to the following recommendations relevant to this clause (see Table 3):</p> <ul style="list-style-type: none"> <li>- 2020-05</li> <li>- 2020-06</li> <li>- 2020-07</li> <li>- 2020-08</li> </ul> <p><b>We sought NSW Health's comments</b> on Water NSW's performance against this clause. Refer to NSW Health's submission, reference H21/141419.</p>
2.1.5	Water NSW must notify IPART and NSW Health, in accordance with the Reporting Manual, of any significant changes that it proposes to make to a Water Quality Management System.	SC	<p><b>IPART will contact NSW Health</b> to comment on Water NSW's performance against this clause.</p> <p><b>We sought NSW Health's comments</b> on Water NSW's performance against this clause. Refer to NSW Health's submission, reference H21/141419.</p>
2.2	Catchment management		
2.2.1	Water NSW must manage and protect the Declared Catchment Areas in a manner that is consistent with its objectives and functions under the Act, the Water Quality Management System required under Clause 2.1 of this Licence, the Asset Management System required under Clause 5.1 of this Licence, and the Environmental Management System required under Clause 5.2 of this Licence.	Audit	We last audited this clause in 2019. We assigned a Compliant grade in that audit.
2.3	Information on the Declared Catchment Areas		
2.3.1	Water NSW must: <ul style="list-style-type: none"> <li>a) reasonably cooperate with the Appointed Auditor;</li> <li>b) publish information collected by Water NSW on water quality relevant to Declared Catchment Areas in accordance with the Reporting Manual;</li> </ul>	SC	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
	<p>[Note: For the avoidance of doubt, the above reference to information collected in accordance with the Reporting Manual is a reference to Water NSW's obligations in respect of the IPART water quality H1 and H2 indicators and water quality monitoring reports in the Reporting Manual]</p> <p>c) provide data in relation to the Catchment Health Indicators to the Appointed Auditor, in accordance with the Reporting Manual;</p> <p>d) monitor, record and compile data on the Environmental Indicators relevant to Declared Catchment Areas; and</p> <p>e) report on the Environmental Indicators in accordance with the Reporting Manual.</p>		
2.4	Catchment Infrastructure Works management		
2.4.1	Water NSW must ensure that, in Declared Catchment Areas, the Catchment Infrastructure Works are operated and managed consistently with the Design Criteria and the Asset Management System referred to in clause 5.1.	Audit	
2.4.2	Water NSW must, in accordance with the Reporting Manual make the Design Criteria available to the public free of charge on its website for downloading by any person.	Internal IPART check	This clause is not included in the auditor's scope.
2.5	Calculating System Yield		
2.5.1	<p>Water NSW must recalculate the System Yield in respect of a Declared Catchment Area on the occurrence of any one or more of the following events:</p> <p>a) the conclusion of any drought event affecting the Declared Catchment Area;</p> <p>b) the commencement of any modification or augmentation to the Catchment Infrastructure Works or Customers' infrastructure, that will have a significant impact on Water NSW's Supply of water in respect of the Declared Catchment Area;</p> <p>c) any material change to the operating rules of the Catchment Infrastructure Works in respect of the Declared Catchment Area; or</p> <p>d) any material change to the Design Criteria in respect of the Declared Catchment Area.</p>	SC	
2.5.2	<p>In accordance with the Reporting Manual, Water NSW must advise the Minister:</p> <p>a) of any changes to the System Yield relative to the previous System Yield (including reasons for change) following a re-calculation under clause 2.5.1; or</p> <p>b) if Water NSW considers that future demand for Bulk Water may exceed the System Yield and when this exceedance might occur.</p>	SC	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
2.5.3	As soon as practicable after advising the Minister of any changes to the System Yield under clause 2.5.2, Water NSW must, in accordance with the Reporting Manual, make details of those changes and the reasons for those changes available free of charge on its website for downloading by any person.	SC	
<b>2.6 Reviewing the model for the System Yield</b>			
2.6.1	By the first quarter of 2021, Water NSW must engage a suitably qualified independent expert to: <ul style="list-style-type: none"> <li>a) review its modelling and procedures for calculating the System Yield to ensure that it reflects good industry practice;</li> <li>b) test the robustness of the modelling, the key assumptions used in the modelling, and the process for calculating the System Yield, including the appropriate frequency of yield re-calculation and the appropriateness of the trigger events in clause 2.5.1; and</li> <li>c) advise Water NSW on whether it should re-calculate the System Yield based on the findings of the test conducted under clause 2.6.1(b).</li> </ul>	Audit	
2.6.2	Water NSW must consult with: <ul style="list-style-type: none"> <li>a) Customers who are Supplied water from the Declared Catchment Area, including Sydney Water;</li> <li>b) stakeholders and regulators as agreed with, or directed by, IPART; and</li> <li>c) any other persons that Water NSW reasonably expects to have an interest in the review of the modelling under clause 2.6.1, regarding the review of the modelling under clause 2.6.1, and provide the results of the consultation to the suitably qualified independent expert.</li> </ul>	Audit	
2.6.3	The review of the model for the System Yield must be completed by 30 June 2021 and reported to IPART in accordance with the Reporting Manual.	Audit	The deadline falls in the 2021 audit period.
<b>2.7 Water conservation</b>			
2.7.1	By 1 November 2018, or by a later date as approved by IPART, Water NSW must submit to IPART, a report outlining Water NSW's water conservation strategy in relation to its operations under this Licence (Water Conservation Strategy).	NR	
2.7.2	The Water Conservation Strategy must include: <ul style="list-style-type: none"> <li>a) identification and documentation of existing water conservation activities;</li> <li>b) a process for identifying additional options for conserving water;</li> <li>c) a process for comparing these options; and</li> <li>d) a process for selecting options for implementation.</li> </ul>	NR	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
2.7.3	By 1 September 2019, or by a later date as approved by IPART, Water NSW must develop and submit to IPART a water conservation work program using the process set out in the Water Conservation Strategy	NR	
2.8	Research on catchments		
2.8.1	Water NSW must maintain a program of research for each Declared Catchment Area which: <ul style="list-style-type: none"> <li>a) relates to catchments within that Declared Catchment Area generally and in particular their health;</li> <li>b) is consistent with its objectives under section 6 of the Act; and</li> <li>c) assists Water NSW to discharge its functions under sections 7(1)(g) and 7(1)(h) of the Act.</li> </ul>	SC	
2.8.2	Water NSW must report on its research programs referred to in clause 2.8.1 in accordance with the Reporting Manual.	SC	
3	Bulk Water storage and transmission		
3.1	Construct, maintain and operate Water Management Works		
3.1.1	Water NSW must construct, maintain and operate its Water Management Works in accordance with its Asset Management System referred to in clause 5.1.	Audit	We last audit this clause in 2019. We assigned a Compliant grade in that audit.
3.2	Water Supply		
3.2.1	Water NSW must ensure that any water Supplied to Customers is Supplied in accordance with a relevant Water Quality Management System, any relevant Customer Supply Agreement, and any relevant arrangements with Sydney Water established under section 25 of the Act.	Audit	We last audit this clause in 2020. We assigned a Compliant (minor shortcomings) grade in that audit. Auditor should refer to the following recommendations relevant to this clause (see Table 3): <ul style="list-style-type: none"> <li>- 2020-04</li> <li>- 2020-09</li> </ul>
3.3	CSR Water		
3.3.1	For CSR Water, Water NSW must take all reasonable steps to: <ul style="list-style-type: none"> <li>a) process all Water Orders promptly and efficiently; and</li> <li>a) manage Water Orders to ensure water is Delivered to its Customers in a timely manner.</li> </ul>	Audit	We last audit this clause in 2019. We assigned a Compliant grade in that audit.
3.4	Bulk Water released to Local Water Utilities for Drinking Water purposes		
3.4.1	Water NSW must maintain a register of all Local Water Utilities: <ul style="list-style-type: none"> <li>a) for which Water NSW maintains a Water Allocation Account; and</li> <li>b) to which Water NSW releases water that will be used for the purposes of Drinking Water (<b>Local Water Utility Customers</b>),</li> </ul>	Audit	We last audit this clause in 2019. We assigned a Compliant grade in that audit.



Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
	<b>(LWU Register).</b>		
3.4.2	The LWU Register must include contact details for each Local Water Utility Customer, and the Water Source and approximate location from which the Local Water Utility Customer Extracts water.	Audit	We last audited this clause in 2019. We assigned a Compliant grade in that audit.
3.4.3	Water NSW must maintain and implement a procedure for providing information to Local Water Utilities (LWU Information Request Procedure). Water NSW must follow the LWU Information Request Procedure when any Local Water Utility requests information to inform that utility's Drinking Water quality assurance program. Water NSW must maintain the LWU Information Request Procedure during the term of this Licence.	Audit	We last audit this clause in 2019. We assigned a Compliant grade in that audit.
3.4.4	Water NSW's LWU Information Request Procedure must: <ul style="list-style-type: none"> <li>a) describe how a Local Water Utility is to request information;</li> <li>b) describe how Water NSW will respond to the request in a timely manner; and</li> <li>c) define any fees and charges that may be charged by Water NSW to recover reasonable costs incurred for responding to an information request, how these will be calculated, and how they are to be paid.</li> </ul>	Audit	We last audited this clause in 2019. We assigned a Compliant grade in that audit.
3.4.5	Water NSW must make details of the LWU Information Request Procedure available free of charge on its website for downloading by any person.	SC	
3.4.6	By 31 December 2018, Water NSW must, in consultation with NSW Health, the Local Water Utility Customers on the LWU Register and its customer advisory groups established under clause 6.5, complete a review of its water quality monitoring, of water released by Water NSW to Local Water Utilities.	NR	
3.4.7	By 30 June 2019, Water NSW must provide IPART with a report detailing the outcomes of the review referred to in clause 3.4.6. The report should describe measures that were identified and the timing by which they could be implemented. Any barriers to immediate implementation of identified measures, including limitations to funding, should be outlined in the report.  [Note: The purpose of clause 3.4 is to ensure that there are mechanisms in place for Water NSW to share information which it currently has, or is best placed to collect with interested Local Water Utilities, where that information could usefully inform a Local Water Utility's Drinking Water quality assurance program.]	NR	
4	Performance Standards		
4.1	Requirement to meet Performance Standards		
4.1.1	Water NSW is required to ensure that its systems and services meet the Performance Standards specified in this chapter.	SC	



Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
4.2	Water Supplied Performance Standards		
4.2.1	The Performance Standards set out in paragraphs 4.2.2 and 4.2.3 apply in respect of the Supply of water by Water NSW.	NR	
4.2.2	Water NSW must manage the quality of water Supplied to its Customers in accordance with the relevant Water Quality Management System required under clause 2.1.2 or 2.1.3 ( <b>Supply Water Quality Performance Standard</b> ).	Audit	We last audited this clause in 2020. We assigned a Compliant (minor shortcomings) grade in that audit. Auditor should refer to the following recommendations relevant to this clause (see Table 3): <ul style="list-style-type: none"> <li>- 2020-09</li> <li>- 2020-10</li> </ul>
4.2.3	Water NSW must manage service interruptions in accordance with the Asset Management System required under clause 5.1.1 ( <b>Supply Service Interruption Performance Standard</b> ).	Audit	We last audited this clause in 2019. We assigned a Compliant grade in that audit.
4.3	CSR Water Performance Standards		
4.3.1	The Performance Standards set out in clause 4.3.2 - 4.3.7 apply to Water NSW with respect to CSR Water.	NR	
4.3.2	<b>CSR Water Delivery Performance Standard A</b> Water NSW must ensure that: <ul style="list-style-type: none"> <li>a) 99% of Customers who place a Non-complying Water Order are contacted within one working day to rectify that order; and</li> <li>b) this is calculated as a percentage of all Non-complying Water Orders placed in the financial year.</li> </ul>	SC	
4.3.3	<b>CSR Water Delivery Performance Standard B</b> Water NSW must ensure that: <ul style="list-style-type: none"> <li>a) 99% of Water Orders are Delivered within one day of the scheduled day of Delivery; and</li> <li>b) this is calculated as a percentage of all complying Water Orders placed in the financial year.</li> </ul> <p>[Note: The scheduled day of Delivery takes into account the period of required notice specified in Water Management Work approvals, licences, or entitlements. This is measured by Complaints and/or if Water NSW identifies a Delivery delay, e.g. through its staff, systems or otherwise identifies or becomes aware of a Delivery delay.]</p>	SC	
4.3.4	<b>CSR Water Service Interruptions Performance Standard</b> Water NSW must ensure that: <ul style="list-style-type: none"> <li>a) 100% of Water Orders rescheduled, are rescheduled in consultation with an affected Customer within one working day of an expected water shortage, or other delivery delay; and</li> </ul>	SC	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
	b) this is calculated as a percentage of all Water Orders rescheduled in the financial year due to an expected shortage or Delivery delay.		
4.3.5	<b>CSR Water Account Processing Performance Standard A</b> Water NSW must ensure that no less than 90% of complying Temporary Trades within the State in the financial year are processed within five working days of Water NSW's receipt of a correct application and fee.	SC	
4.3.6	<b>CSR Water Account Processing Performance Standard B</b> Water NSW must ensure that no less than 90% of Interstate Temporary Trades (except to South Australia) in the financial year are processed within 10 working days of Water NSW's receipt of a correct application and fee.	SC	
4.3.7	<b>CSR Water Account Processing Performance Standard C</b> Water NSW must ensure that no less than 90% of Interstate Temporary Trades to South Australia in the financial year are processed within 20 working days of Water NSW's receipt of a correct application and fee.	SC	
5	Organisational systems management		
5.1	Asset Management System		
5.1.1	Water NSW must at all times maintain a Management System for carrying out its functions authorised under this Licence that is consistent with the Australian Standard AS ISO 55001:2014 Asset Management – Management systems – Requirements or other standard approved by IPART on request by Water NSW (the <b>Asset Management System</b> ).	Audit	We last audited this clause in 2020. We assigned a Compliant grade in that audit.
5.1.2	Water NSW must fully implement the Asset Management System and carry out all relevant activities in accordance with the Asset Management System.	Audit	We last audited this clause in 2020. We assigned a Compliant grade in that audit.
5.2	Environmental Management System		
5.2.1	Water NSW must at all times maintain an Environmental Management System for carrying out the functions authorised under this Licence that is consistent with the Australian/New Zealand Standard AS/NZS ISO 14001:2016: Environmental management systems – Requirements with guidance for use or other standard approved by IPART, on request by Water NSW (the <b>Environmental Management System</b> ).	Audit	We last audited this clause in 2019. We assigned a Compliant grade in that audit.
5.2.2	Water NSW must fully implement the Environmental Management System and carry out all relevant activities in accordance with the Environmental Management System.	Audit	We last audited this clause in 2019. We assigned a Compliant grade in that audit.

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
6	Customer and stakeholder relations		
6.1			
6.1.1	<p>Water NSW must establish and maintain agreements with each of its Customers to whom it Supplies water (except Sydney Water), which agreements must set out the terms and conditions for the Supply of water (Customer Supply Agreements).</p> <p>[Note: Under section 25 of the Act, Water NSW is required to enter into arrangements with Sydney Water regarding the Supply of water by Water NSW to Sydney Water. Therefore, this Licence does not regulate the Supply arrangements with Sydney Water under section 25 of the Act.]</p>	SC	
6.1.2	Water NSW must only Supply water to these Customers in accordance with the terms and conditions of these Customer Supply Agreements.	Audit	<p>We last audited this clause in 2020. We assigned a Non-compliant (material) grade in that audit. Auditor should refer to the following recommendation relevant to this clause (see Table 3):</p> <ul style="list-style-type: none"> <li>- 2020-12</li> </ul>
6.1.3	<p>The terms and conditions of the Customer Supply Agreements must, at a minimum, include provisions addressing:</p> <ol style="list-style-type: none"> <li>a) the standard of water quality Supplied by Water NSW;</li> <li>b) the continuity of the water Supplied by Water NSW (that is, provisions relating to interruptions, disconnections and reconnections to Supply);</li> <li>c) any metering arrangements;</li> <li>d) the fees and charges to be paid by the Customers for the Supply of water to them;</li> <li>e) dispute resolution and Complaints handling procedures; and</li> <li>f) in the case of a Customer Supply Agreement with a Customer referred to in clause 1.2.1(e), terms and conditions preventing the Customer concerned from supplying the water for consumption by others within the State unless the Customer is authorised to do so by or under an Act.</li> </ol>	SC	
6.2	Accounting for water		
6.2.1	Water NSW must maintain a Water Allocation Account for each Customer that holds a Water Licence.	Audit	We last audited this clause in 2019. We assigned a Compliant grade in that audit.

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
6.3	Water metering and monitoring		
6.3.1	Water NSW must determine the volume of water Extracted by, or Supplied to, each of its Customers, at least annually, for the purpose of accurate account management, billing and reporting.	SC	
6.3.2	Prior to Water NSW operating, replacing, repairing, maintaining, removing, connecting, disconnecting or otherwise modifying Metering Equipment it does not own, it must obtain the agreement of the owner of that equipment. [Note: In accordance with section 31(1) of the Act and clause 1.2.5 of this Licence, Water NSW is authorised to operate, replace, repair, maintain, remove, connect, disconnect or modify Metering Equipment that Water NSW does not own. Water NSW must only exercise this authority in accordance with this condition.].	SC	
6.4	Advance notification of changes to flow release patterns		
6.4.1	Water NSW must maintain an effective system to provide advance notification of any significant changes to flow release patterns from its Water Management Works to Customers and other stakeholders that have registered to be notified of such changes.	SC	
6.5	Customer advisory groups		
6.5.1	Water NSW must establish and maintain area-based advisory groups representing a broad cross-section of its Customers for those areas ( <b>Customer Advisory Group</b> ).	SC	
6.5.2	Water NSW must regularly consult with the area-based Customer Advisory Groups to enable Customer involvement in issues relevant to the performance of Water NSW's obligations to Customers under this Licence or the Customer Service Charter, obtain advice on the interests of Water NSW's Customers and such other key issues relating to Water NSW's planning and operations as Water NSW may determine consistent with the Customer Advisory Group Charter(s).	SC	
6.5.3	For each Customer Advisory Group, Water NSW must ensure that, at all times, the membership of the Customer Advisory Group is appointed and determined by Water NSW in accordance with the Customer Advisory Group Charter.	SC	
6.5.4	For each Customer Advisory Group, Water NSW must use its best endeavours to ensure that membership is representative of the Customers in that area and include at least one Customer representing each of the following categories (where there are Customers in this category for the area associated with the Customer Advisory Group): a) stock and domestic water users; b) Regulated River water users; c) Unregulated River water users; d) groundwater users;	SC	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
	<ul style="list-style-type: none"> <li>e) environmental water users;</li> <li>f) industrial and commercial water users;</li> <li>g) Local Water Utilities;</li> <li>h) Major Utilities;</li> <li>i) small water users based on their Water Licence volume;</li> <li>j) medium water users based on their Water Licence volume;</li> <li>k) large water users based on their Water Licence volume ; and</li> <li>l) Aboriginal cultural heritage water users.</li> </ul>		
6.5.5	Water NSW must provide the Customer Advisory Groups with adequate information within its possession or under its control necessary to enable the Customer Advisory Groups to discharge the tasks assigned to them other than information or documents that are confidential.	SC	
6.6	Customer Advisory Group Charter		
6.6.1	Water NSW, in consultation with Customers representing all of the categories in clause 6.5.4, must for the term of this Licence, establish and maintain a Customer advisory group charter in accordance with this clause 6.6 (Customer Advisory Group Charter). Water NSW may have one or more Customer Advisory Group Charters, for different Customer Advisory Groups, as it deems appropriate.	SC	
6.6.2	<p>The Customer Advisory Group Charter must address all of the following issues:</p> <ul style="list-style-type: none"> <li>a) the role of the Customer Advisory Group;</li> <li>b) how members and the chair of the Customer Advisory Group will be appointed;</li> <li>c) the term for which members are appointed;</li> <li>d) information on how the Customer Advisory Group will operate;</li> <li>e) a description of the type of matters that will be referred to the Customer Advisory Group and how those matters will be referred;</li> <li>f) procedures for communicating the outcomes of the Customer Advisory Groups' work to the public;</li> <li>g) procedures for monitoring issues raised at meetings of the Customer Advisory Groups and ensuring appropriate follow-up of those issues;</li> <li>h) procedures for amending the charter; and</li> <li>i) funding and resourcing of the Customer Advisory Groups by Water NSW.</li> </ul>	Audit	<p>In 2020 Water NSW was assigned Non-compliant (non-material) grade with sub-clause 6.6.2(e). Auditor should refer to the following recommendation relevant to this clause (see Table 3):</p> <ul style="list-style-type: none"> <li>- 2020-13</li> <li>- 2020-14</li> </ul>
6.6.3	Water NSW or any member of the Customer Advisory Groups may propose any amendments to the Customer Advisory Group Charter(s). However, such amendments will not be effective until they have been approved by the relevant Customer Advisory Group.	NR	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
6.6.4	Water NSW must make the Customer Advisory Group Charter available free of charge on its website for downloading by any person.	Internal IPART check	This clause is not included in the auditor's scope.
6.7	Customer Service Charter		
6.7.1	Water NSW must, in consultation with relevant Customers and/or Customer Advisory Groups, establish and maintain a Customer service charter (Customer Service Charter) in accordance with this clause 6.7. Water NSW may have one or more Customer Service Charters, for different categories of Customers, as it deems appropriate. Where Water NSW has established a Customer Supply Agreement with a Customer (or category of Customers), or where Water NSW has entered into an arrangement with Sydney Water under section 25 of the Act, a Customer Service Charter covering that Customer or category of Customers is not required.	SC	
6.7.2	The Customer Service Charter(s) must set out the mutual responsibilities of Water NSW and its Customers consistently with this Licence, the Act, the Water Management Act 2000 (NSW), the Water Act 1912 (NSW) and any other applicable law.	SC	
6.7.3	Water NSW must make the Customer Service Charter available free of charge on its website for downloading by any person.	SC	
6.8	Code of Practice on Payment Difficulties		
6.8.1	Water NSW must maintain and fully implement a code of practice that assists Customers experiencing financial hardship to better manage their current and future Bills ( <b>Code of Practice on Payment Difficulties</b> ) in accordance with this clause 6.8.	SC	
6.8.2	The Code of Practice on Payment Difficulties must: <ul style="list-style-type: none"> <li>a) provide for a payment plan for Customers who are responsible for paying their Bills and who are, in Water NSW's reasonable opinion, experiencing financial hardship;</li> <li>b) include procedures for identifying the circumstances under which Water NSW may restrict the provision of services to a customer (including in respect of CSR Water and Supply water);</li> <li>c) include procedures for identifying the circumstances under which Water NSW may suspend water access licences when a Customer has not paid its Bill and an overview of the process that must be followed prior to suspension; and</li> <li>d) include procedures for self-identification, identification by community welfare organisations and identification by Water NSW of Customers experiencing financial hardship.</li> </ul>	Audit	We last audited this clause in 2020. We assigned a Non-compliant (non-material) grade in that audit. Auditor should refer to the following recommendation relevant to this clause (see Table 3): <ul style="list-style-type: none"> <li>- 2020-15</li> </ul>

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
6.8.3	Water NSW must set out details of the Code of Practice on Payment Difficulties in the Customer Service Charter, or, where a Customer Supply Agreement is established in respect of a Customer, in that Customer Supply Agreement. [Note: This requirement does not apply to any arrangements with Sydney Water under section 25 of the Act.]	SC	
6.8.4	Water NSW must provide, free of charge, information on the Code of Practice on Payment Difficulties: <ul style="list-style-type: none"> <li>a) to Customers, except Sydney Water, at least once annually with their Bills; and</li> <li>b) to Customers whom Water NSW identifies as experiencing financial hardship on the date that Water NSW first identifies that the Customer is experiencing financial hardship; and</li> <li>c) on its website for downloading by any person.</li> </ul>	SC	
6.9	<b>Internal Complaints Handling Procedure</b>		
6.9.1	Water NSW must maintain a procedure for receiving, responding to and resolving Complaints, which is consistent with the Australian Standard AS/NZS 10002:2014: Guidelines for complaints management in organizations (AS/NZS 10002:2014) or other standard approved by IPART on request by Water NSW ( <b>Internal Complaints Handling Procedure</b> ).	Audit	We last audited this clause in 2020. We assigned a Non-compliant (non-material) grade in that audit. Auditor should refer to the following recommendation relevant to this clause (see Table 3): <ul style="list-style-type: none"> <li>- 2020-16</li> <li>- 2020-17</li> </ul>
6.9.2	Water NSW must ensure that the Internal Complaints Handling Procedure is fully implemented and that all relevant activities are carried out in accordance with the Internal Complaints Handling Procedure.	SC	
6.9.3	Water NSW must provide to Customers, at least annually with their Bills, information concerning internal Complaints handling, which explains how to make a Complaint and how Water NSW will receive, respond to and resolve Complaints.	SC	
6.9.4	Water NSW must make the information concerning internal Complaints handling referred to in clause 6.9.3 available to any person, free of charge, on its website for downloading.	Internal IPART check	This clause is not included in the auditor's scope.
6.10	<b>External dispute resolution scheme</b>		
6.10.1	Water NSW must be a member of the Energy and Water Ombudsman of NSW to facilitate the resolution, by a dispute resolution body, of disputes between Water NSW and its Customers.	SC	



Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
6.10.2	Water NSW must: <ul style="list-style-type: none"> <li>a) prepare information that explains the dispute resolution service provided by the Energy and Water Ombudsman of NSW, including any right to have a Complaint or dispute referred to the Energy and Water Ombudsman of NSW and how such a Complaint or dispute can be assessed;</li> <li>b) provide the information prepared under clause 6.10.2(a), free of charge to Customers at least once a year with their Bills; and</li> <li>c) make the information prepared under clause 6.10.2(a) available to any person, free of charge, on its website for downloading.</li> </ul>	Internal IPART check	This clause is not included in the auditor's scope.
6.11	Educative role		
6.11.1	Water NSW must undertake an educative role in the community on its activities and functions in Declared Catchment Areas consistent with its objectives under section 6(1)(c) of Act, and report on its activities in accordance with the Reporting Manual.	SC	
6.12	Code of Conduct with WIC Act Licensees		
6.12.1	Water NSW must use reasonable endeavours to cooperate with any WIC Act Licensee that seeks to establish with Water NSW a code of conduct required under a licence under the WIC Act.	Audit	This is the first audit of this clause in this licence period.
6.12.2	Where the Minister administering the WIC Act has established a code of conduct under clause 25 of the WIC Regulation, Water NSW will be taken to have satisfied its obligation under clause 6.12.1 by applying the water industry code of conduct established by the Minister to the relevant WIC Act Licensee.	NR	
6.13	Memorandum of Understanding with NSW Health		
6.13.1	Water NSW must: <ul style="list-style-type: none"> <li>a) maintain a memorandum of understanding with the Secretary of the Ministry of Health entered into under section 21(1) of the Act; and</li> <li>b) comply with the memorandum of understanding maintained under clause 6.13.1(a).</li> </ul> <p>[Note: Clause 6.13.1 does not limit the persons with whom Water NSW may enter into a memorandum of understanding.]</p>	Audit	This is the first audit of this clause in this licence period. <b>IPART will contact NSW Health</b> to comment on Water NSW's performance against this clause.  <b>We sought NSW Health's comments</b> on Water NSW's performance against this clause. Refer to NSW Health's submission, reference H21/141419.



Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
6.13.2	The purpose of the memorandum of understanding referred to in clause 6.13.1 is to form the basis for cooperative relationships between the parties to the memorandum of understanding and particularly to recognise the role of NSW Health in providing advice to the NSW Government in relation to water quality standards and public health, with respect to CSR Water and the Supply of water by Water NSW.	NR	
6.13.3	The memorandum of understanding referred to in clause 6.13.1 must include arrangements for Water NSW to report to NSW Health information on any events, in relation to Water NSW's systems or service that might impact on public health. [Note: Clause 6.13.2 does not limit the matters which may be included in the memorandum of understanding with NSW Health.]	Audit	This is the first audit of this clause in this licence period. <b>IPART will contact NSW Health</b> to comment on Water NSW's performance against this clause.  <b>We sought NSW Health's comments</b> on Water NSW's performance against this clause. Refer to NSW Health's submission, reference H21/141419.
6.13.4	Water NSW must publish on its website for downloading by any person, the memorandum of understanding maintained with NSW Health under clause 6.13.1(a).	SC	
6.14	Memorandum of Understanding with Environment Protection Authority		
6.14.1	Water NSW must: <ul style="list-style-type: none"> <li>a) maintain the memorandum of understanding with the Environment Protection Authority entered into under section 21(1) of the Act; and</li> <li>b) comply with the memorandum of understanding maintained under clause 6.14.1(a).</li> </ul> [Note: Clause 6.14.1 does not limit the persons with whom Water NSW may enter into a memorandum of understanding.]	Audit	<b>IPART will contact EPA</b> to comment on Water NSW's performance against this clause.  <b>We sought and received EPA's comments</b> on Water NSW's performance against this clause. Refer to EPA's submission, dated 9 July 2021.
6.14.2	The purpose of the memorandum of understanding referred to in clause 6.14.2 is to form the basis for cooperative relationships between the parties to the memorandum of understanding and particularly to recognise the role of the Environment Protection Authority as the environment regulator of New South Wales. [Note: Clause 6.14.2 does not limit the matters which may be included in the memorandum of understanding with the Environmental Protection Agency.]	NR	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
6.14.3	Water NSW must publish on its website, for downloading by any person, the memorandum of understanding maintained with the Environmental Protection Authority under clause 6.14.1(a).	Internal IPART check	
6.15	Memorandum of Understanding with Department of Planning and Environment		
6.15.1	<p>Water NSW must:</p> <p>a) use its best endeavours to establish and maintain a memorandum of understanding with the Department of Planning and Environment; and</p> <p>b) comply with the memorandum of understanding maintained under clause 6.15.1(a).</p> <p>[Note: Clause 6.15.1 does not limit the persons with whom Water NSW may enter into a memorandum of understanding.]</p>	SC	<p><b>IPART will contact Department of Planning Industry and Environment (DPIE)</b> to check that Water NSW continues to comply with the MoU as per clause 6.15.1(b).</p> <p><b>We sought and received DPIE's comments</b> on Water NSW's performance against this clause. Refer to DPIE's submission, reference BN21/3622.</p>
6.15.2	<p>The purpose of the memorandum of understanding referred to in clause 6.15.1 is to form the basis for a cooperative relationship between the parties to the memorandum regarding the role of Water NSW for the review and implementation of the Metropolitan Water Plan.</p> <p>[Note: Clause 6.15.2 does not limit the matters which may be included in the memorandum of understanding with the Department of Planning and Environment.]</p>	NR	
6.16	Roles and Responsibilities with Department of Industry		
6.16.1	<p>Water NSW must:</p> <p>a) agree in writing with the Department of Industry the roles and responsibilities regarding the conduct of Conferred Functions specified in Schedule A of this Licence; and</p> <p>b) comply with the agreement established under clause 6.16.1(a).</p> <p>[Note: Clause 6.16.1 does not limit the persons with whom Water NSW may enter into an agreement or the matters which may be contained in the agreement.]</p>	SC	
6.16.2	<p>By 30 June 2018, Water NSW must publish on its website, for downloading by any person, a statement setting out the roles and responsibilities required under clause 6.16.1(a).</p> <p>[Note: The statement may also include roles and responsibilities agreed with the Water Administration Ministerial Corporation or any other relevant Government departments or agencies.]</p>	SC	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
6.17	Memorandum of Understanding with Natural Resources Access Regulator		
6.17.1	<p>Water NSW must:</p> <ul style="list-style-type: none"> <li>a) use its best endeavours to establish and maintain a memorandum of understanding with the Natural Resources Access Regulator; and</li> <li>b) comply with the memorandum of understanding maintained under clause 6.17.1(a).</li> </ul> <p>[Note: Clause 6.17.1 does not limit the persons with whom Water NSW may enter into a memorandum of understanding.]</p>	Audit	<p>We last audited this clause in 2020. We assigned a Compliant (minor shortcomings) grade in that audit.</p> <p><b>IPART will contact the Natural Resources Access Regulator to comment on Water NSW's performance against this clause.</b></p> <p>Auditor should refer to the following recommendation relevant to this clause (see Table 3):</p> <ul style="list-style-type: none"> <li>- 2020-18</li> <li>- 2020-19</li> </ul> <p><b>We sought NRAR's comments on Water NSW's performance against this clause. Refer to NRAR's submission, reference OUT21/9066.</b></p>
6.17.2	<p>The purpose of the memorandum of understanding referred to in clause 6.17.1 is to form the basis for an ongoing cooperative relationship between the parties to the memorandum to assist in meeting their joint responsibilities and principal objectives of water supply and compliance and enforcement.</p> <p>[Note: Clause 6.17.2 does not limit the matters which may be included in the memorandum of understanding with the Natural Resources Access Regulator.]</p>	NR	
6.18	Online portal for lodgement of documents relating to metering equipment		
6.18.1	<p>Water NSW must develop, operate and maintain an on-line portal to allow for the electronic lodgement of the following:</p> <ul style="list-style-type: none"> <li>a) a certificate provided under clause 237(1) or (2) of the <i>Water Management (General) Regulation 2018</i>, as required by clause 238(2) of that Regulation,</li> <li>b) a report by a person who intends to rely on clause 8 of Schedule 8 of the <i>Water Management (General) Regulation 2018</i> setting out the steps taken in relation to the metering equipment, as required by clause 8(3) of that Regulation,</li> <li>c) written certification as to the matter set out in clause 9(2)(b) of Schedule 8 of the <i>Water Management (General) Regulation 2018</i>,</li> </ul>	Audit	<p><b>We have added this clause to the 2021 audit scope upon receiving NRAR's comments.</b> Refer to NRAR's submission, reference OUT21/9066.</p>

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
	d) a report from a person who intends to rely on clause 9 of Schedule 8 of the <i>Water Management (General) Regulation 2018</i> , setting out the steps taken in relation to the metering equipment, as required by clause 9(5) of that Regulation.		
6.18.2	The portal must be operational by 1 December 2020.	Audit	<b>We have added this clause to the 2021 audit scope upon receiving NRAR's comments.</b> Refer to NRAR's submission, reference OUT21/9066.
6.18.3	Water NSW must ensure that certificates, reports and other documents lodged in the portal are retained.	Audit	<b>We have added this clause to the 2021 audit scope upon receiving NRAR's comments.</b> Refer to NRAR's submission, reference OUT21/9066.
6.18.4	Water NSW must ensure that all holders of a current authority and all duly qualified persons have access to the portal. In this subclause, "authority" has the same meaning as in Part 10 of the <i>Water Management (General) Regulation 2018</i> and "duly qualified person" has the same meaning as in the <i>Water Management Act 2000</i> .	Audit	<b>We have added this clause to the 2021 audit scope upon receiving NRAR's comments.</b> Refer to NRAR's submission, reference OUT21/9066.
6.18.5	Water NSW must provide DPIE and NRAR with access to the portal, all data held in the portal and any systems related to the portal.	Audit	<b>We have added this clause to the 2021 audit scope upon receiving NRAR's comments.</b> Refer to NRAR's submission, reference OUT21/9066.
6.19	Downloading of data from certain metering equipment		
6.19.1	This clause applies to any metering equipment used in connection with the works described in clause 6(2) of Schedule 8 of the <i>Water Management (General) Regulation 2018</i> .	NR	
6.19.2	Water NSW must, at least once a year, download all data from the metering equipment to which this clause applies.	NR	
6.19.3	All such data must be entered into and retained in Water NSW's data systems.	NR	
6.19.4	Prior to 1 December 2021, Water NSW, DPIE and NRAR are to agree on protocols for requests for data to which this clause applies.	NR	
6.19.4	All such data must be made available to DPIE and NRAR on request, provided such requests are made in accordance with the protocols agreed between Water NSW, DPIE and NRAR.	NR	
6.19.5	The obligations imposed by this clause take effect from 1 December 2021.	NR	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
6.20	Data sharing and services agreement with DPIE and NRAR – NSW non-urban water metering framework		
6.20.1	Water NSW must use its best endeavours to develop and enter into a data sharing and services agreement with DPIE and NRAR as soon as practicable after 1 July 2020 or by a date approved by the Minister in writing (the Metering Data Sharing and Services Agreement). If such an agreement has been entered into before 1 July 2020, this subclause does not apply.  <i>[Note: The Metering Data Sharing and Services Agreement is in addition to the MWP Data Sharing Agreement described in clause 2.9.6.]</i>	Audit	<b>We have added this clause to the 2021 audit scope upon receiving NRAR's comments.</b> Refer to NRAR's submission, reference OUT21/9066.
6.20.2	The Metering Data Sharing and Services Agreement is to record the terms and conditions on which Water NSW will provide access to the data and services relating to the NSW non-urban water metering framework to DPIE and to the NRAR.	Audit	<b>We have added this clause to the 2021 audit scope upon receiving NRAR's comments.</b> Refer to NRAR's submission, reference OUT21/9066.
6.20.3	Once Water NSW has entered into the Metering Data Sharing and Services Agreement, Water NSW must: <ul style="list-style-type: none"> <li>a) provide access to the data and services under that Agreement to DPIE and NRAR, in accordance with that Agreement, and</li> <li>b) comply with any cure plan that applies to Water NSW under that Agreement.</li> </ul>	Audit	
6.20.4	If by 1 July 2020, Water NSW, DPIE and NRAR have entered into an agreement as required by this clause, clause 6.20.3 applies to that agreement.	Audit	
7	Performance monitoring and reporting		
7.1	Operational Audits		
7.1.1	IPART may annually, or from time to time as occasion requires, undertake, or may appoint an Auditor to undertake, an audit on Water NSW's compliance with: <ul style="list-style-type: none"> <li>a) this Licence;</li> <li>b) the Reporting Manual; or</li> <li>c) any other matters required by the Minister.</li> </ul> <b>(Operational Audit).</b>	NR	
7.1.2	Water NSW must provide to IPART or the Auditor all information in Water NSW's possession, or under Water NSW's custody or control, which is necessary or convenient for the conduct of the Operational Audit.	Internal IPART check	This clause is not included in the auditor's scope.
7.1.3	Without limiting clause 7.1.2, Water NSW must provide to IPART or the Auditor any information necessary or convenient for the conduct of the Operational Audit which IPART or the Auditor requests in writing, within any reasonable period of time specified by IPART or the Auditor in writing.	Internal IPART check	This clause is not included in the auditor's scope.
7.1.4	For the purpose of any Operational Audit or verifying a report on an Operational Audit, Water NSW must, within a reasonable period of time from receiving a request from IPART or the Auditor, permit IPART or the Auditor to:	Internal IPART check	This clause is not included in the auditor's scope.

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
	<p>a) access any Works, premises or offices occupied by Water NSW;</p> <p>b) carry out inspections, measurements and tests on, or in relation to, any such Works, premises or offices;</p> <p>c) take on to any such premises, Works or offices any person or equipment necessary for the purpose of performing the Operational Audit or verifying any report on the Operational Audit;</p> <p>d) inspect and make copies of, and take extracts from, any books and records of Water NSW that are maintained in relation to the performance of Water NSW's obligations under this Licence (including the Reporting Manual); and</p> <p>e) discuss matters relevant to the Operational Audit or any report on the Operational Audit with Water NSW, including Water NSW's officers and employees.</p> <p>[Note: Water NSW is required under section 60 of the Act to pay to the Treasurer the cost (as certified by IPART) involved in and in connection with carrying out the Operational Audit of Water NSW.]</p>		
<b>7.2</b>	<b>Reporting in accordance with this Licence and the Reporting Manual</b>		
7.2.1	<p>Water NSW must comply with its reporting obligations set out in this Licence and in the Reporting Manual, including in relation to:</p> <p>a) water source protection and conservation;</p> <p>b) Bulk Water storage and transmission;</p> <p>c) Performance Standards;</p> <p>d) organisational systems management;</p> <p>e) Customer and stakeholder relations; and</p> <p>f) performance monitoring and reporting including:</p> <p>i. IPART performance indicators; and</p> <p>ii. the National Water Initiative Performance Indicators.</p>	Audit	We last audited this clause in 2019. We assigned a Compliant grade in that audit.
7.2.2	Water NSW must maintain sufficient record systems that enable it to report accurately in accordance with clause 7.2.1.	Audit	We last audited this clause in 2019. We assigned a Compliant grade in that audit.
7.2.3	<p>In the case of any ambiguity in the interpretation or application of any requirements in the Reporting Manual, IPART's interpretation or assessment will prevail.</p> <p>[Note: The Reporting Manual identifies the details of when, what, to whom and how Water NSW must report to IPART and NSW Health. The Reporting Manual also specifies what and how reports and other information must be made publicly available.]</p>	NR	

Licence clause	Operating Licence obligation	2021 audit requirement	Comments for the auditor
7.3	Provision of information to IPART and Auditor		
7.3.1	Water NSW must provide IPART or an Auditor with information relating to the performance of any of Water NSW's obligations under clause 7.2 (including providing IPART with physical and electronic access to the records required to be kept under clause 7.2) within a reasonable period of time from Water NSW receiving a request from IPART for that information.	Internal IPART check	This clause is not included in the auditor's scope.
7.3.2	Water NSW must provide IPART or an Auditor with such information as is reasonably required to enable IPART or an Auditor to conduct any review or investigation of Water NSW's obligations under this Licence within a reasonable period of time from Water NSW receiving a request from IPART for that information.	Internal IPART check	This clause is not included in the auditor's scope.
7.3.3	If Water NSW contracts out any of its activities to any person (including a subsidiary), it must take all reasonable steps to ensure that, if required by IPART, or any Auditor, any such persons provide information and do the things specified in this clause 7.3 as if that person were Water NSW.	Internal IPART check	This clause is not included in the auditor's scope.
7.3.4	Where this Licence requires Water NSW to provide information to IPART or an Auditor that is information to which: <ul style="list-style-type: none"> <li>a) section 24FF of the IPART Act applies; or</li> <li>b) section 24FF of the IPART Act does not apply but IPART or the Auditor has agreed to treat the information as though section 24FF of the IPART Act applies to that information,</li> </ul> Water NSW must, to the maximum extent permitted by the law, provide that information even if it is confidential.	Internal IPART check	This clause is not included in the auditor's scope.

**Source:** IPART, Water NSW Operational Audit 2018 - Report to the Minister – Compliance Report, February 2019, IPART, Water NSW Operational Audit 2019 – Report to the Minister – Compliance Report, December 2019 and IPART, Water NSW Operational Audit 2020 – Report to the Minister, March 2021.



**Table 3 Recommendations / outstanding items from previous audits**

<b>Recommendation number</b>	<b>Operational issue (licence reference where applicable)</b>	<b>IPART's recommendation to the Minister</b>	<b>Audit findings (Status will be reported by Water NSW in audit recommendations update on 7 June 2021<sup>a</sup>)</b>	<b>Guidance for 2021 audit</b>
2018-20	Roles and Responsibilities with Department on Industry clause 6.16.1	By 31 December 2019, Water NSW should review the roles and responsibilities in the Deed of Business Transfer (or the most recent variation of the Deed) for the conduct of the Conferred Functions specified in Schedule A of the licence, to clarify and confirm the roles and responsibilities with the Department of Industry – Water, and ensure it remains current in light of changes to the conferred functions.	In the 2020 audit, the auditor was satisfied with Water NSW's efforts, but due to water reform being undertaken at a state level this recommendation is not yet closed. The most recent Deed of Business Transfer is still in force.	Auditor to check for completion.
2019-02	Water Quality Management System clause 2.1.3	By 30 September 2020, Water NSW should identify the minimum qualifications and competencies for personnel operating water treatment processes and incorporate these into the training processes such as the 'Mandatory Training Matrix'. The minimum qualifications and competencies should be based on industry standards such as Water Industry Operator Certification Scheme or a substantially similar scheme.	In the 2020 audit, the auditor considered that Water NSW's approach to use DPI's minimum qualifications and competencies and fluoridation training was sound. Water NSW noted that it was in the final stages of completing this recommendation where it was incorporating the training into its internal "myLearning" system.	Auditor to check for completion or progress.
2020-01	Water Quality Management System clause 2.1.1	By 30 June 2021, complete the review (and revision as appropriate) of the Water Quality Incident Response Protocol.	New recommendation in 2020.	Auditor to check for completion.



Recommendation number	Operational issue (licence reference where applicable)	IPART's recommendation to the Minister	Audit findings (Status will be reported by Water NSW in audit recommendations update on 7 June 2021 <sup>a</sup> )	Guidance for 2021 audit
2020-02	Water Quality Management System clause 2.1.3	By 31 July 2021, review and, where appropriate, amend the Fish River Water Supply Scheme Drinking Water Quality Management System against each of the 12 elements, 32 components and 76 actions of the Framework for Management of Drinking Water Quality. Water NSW should document reviews and internal audits in the updated system at intervals appropriate to ensure effective implementation of the system. Water NSW should review and update supporting documentation for currency, including: <ul style="list-style-type: none"> <li>- Fish River Water Supply System operations and maintenance manual</li> <li>- Operating Protocols for Fish River Water Supply (CD2017/173)</li> <li>- Fish River Water Supply Scheme Incident Management Plan (D2018/116921).</li> </ul>	New recommendation in 2020.	Auditor to check for completion.
2020-03	Water Quality Management System clause 2.1.3	By 30 June 2021, Water NSW should engage with NSW Health Local Health Department (LHD) to determine the appropriate mechanisms for stakeholder commitment and engagement with them, including: <ul style="list-style-type: none"> <li>- Reporting on the annual review of the drinking water management system</li> <li>- Routine reporting on the distribution system water quality</li> <li>- Notification requirements when water quality cannot be assured (including instrumentation failure).</li> </ul>	New recommendation in 2020.	Auditor to check for completion.

Recommendation number	Operational issue (licence reference where applicable)	IPART's recommendation to the Minister	Audit findings (Status will be reported by Water NSW in audit recommendations update on 7 June 2021 <sup>a</sup> )	Guidance for 2021 audit
2020-04	Water Quality Management System clause 2.1.3 Water Supply clause 3.2.1	<p>By 30 September 2021, Water NSW should:</p> <ul style="list-style-type: none"> <li>- Review the Fish River Water Supply System verification monitoring program to align with the monitoring that is being undertaken in the field and the requirements of the Australian Drinking Water Guidelines. NSW Health should be consulted to confirm the verification program aligns with their advice.</li> <li>- Review the implementation of the Fish River Water Supply System verification monitoring program to ensure that testing is undertaken in accordance with the monitoring plan.</li> <li>- Establish review and reporting processes to confirm and report compliance with the monitoring program (e.g. reporting should verify the number of samples taken).</li> </ul>	New recommendation in 2020.	Auditor to check for completion or progress.

Recommendation number	Operational issue (licence reference where applicable)	IPART's recommendation to the Minister	Audit findings (Status will be reported by Water NSW in audit recommendations update on 7 June 2021 <sup>a</sup> )	Guidance for 2021 audit
2020-05	Water Quality Management System clause 2.1.4	<p>By 31 July 2021, Water NSW should undertake a risk and Critical Control Point (CCP) review workshop for the Fish River Water Supply Stage 1 system (using D2019/30124) with key stakeholders, including the NSW Health LHD, with outcomes reviewed by relevant senior executives.</p> <ul style="list-style-type: none"> <li>- The risk assessment should have a sound evidence base for the effectiveness of the preventive measures (including how effectively they are implemented).</li> <li>- The risk assessment should explicitly consider the risk of contamination of the treated water by raw water leaking through the valves connecting Stage 1 and Stage 2.</li> <li>- For the CCPs, the risk assessment should consider (1) the adequacy of the limits chosen, (2) validation for the limits chosen, (3) the monitoring points, (4) corrections and formalisation of procedures and (5) communication triggers with the NSW Health LHD for non-conformance or CCP instrumentation failure.</li> </ul>	New recommendation in 2020.	Auditor to check for completion.
2020-06	Water Quality Management System clause 2.1.4	<p>By 30 June 2021, Water NSW should develop and implement change management processes for the CCP alarms. These processes should establish who has the authority to raise the alarms above the critical limit and the incident procedures to be enacted when this change is made.</p>	New recommendation in 2020.	Auditor to check for completion.

<b>Recommendation number</b>	<b>Operational issue (licence reference where applicable)</b>	<b>IPART's recommendation to the Minister</b>	<b>Audit findings (Status will be reported by Water NSW in audit recommendations update on 7 June 2021<sup>a</sup>)</b>	<b>Guidance for 2021 audit</b>
2020-07	Water Quality Management System clause 2.1.4	By 30 June 2021, Water NSW should clarify how targeted risk reviews are undertaken, if the C2C (Catchment to Consumer) process (D2019/30124) does not apply. If the C2C process does apply, ensure that the scope of the process is changed to make this clear.	New recommendation in 2020.	Auditor to check for completion.
2020-08	Water Quality Management System clause 2.1.4	By 30 June 2021, Water NSW should ensure that all relevant roles with responsibility for assembling inputs, collating outputs and contributing in a key manner to the water quality risk assessments, are trained in the requirements of process [Water NSW ref. D2019/30124] (all inputs, steps and outputs).	New recommendation in 2020.	Auditor to check for completion.
2020-09	Water Supplied Performance Standards 4.2.2 Water Supply 3.2.1	By 30 June 2021, Water NSW should review the appropriateness of CCP analysers at Duckmaloi Water Treatment Plant to ensure that they provide a reliable measurement of turbidity and chlorine residual.	New recommendation in 2020.	Auditor to check for completion.
2020-10	Water Supplied Performance Standards 4.2.2	By 30 June 2021, Water NSW should review and update operational forms at Duckmaloi Water Treatment Plant to improve record keeping of operational data, including the time of data sampling and any actions taken to manage operational issues at the plant.	New recommendation in 2020.	Auditor to check for completion.

Recommendation number	Operational issue (licence reference where applicable)	IPART's recommendation to the Minister	Audit findings (Status will be reported by Water NSW in audit recommendations update on 7 June 2021 <sup>a</sup> )	Guidance for 2021 audit
2020-11	CSR Water Performance Standard A clause 4.3.2	By 30 June 2021, Water NSW should develop and implement procedures for reporting in line with CSR Water Performance standards under clause 4.3 of the Licence. These should (1) define the performance measure, (2) set out inclusions and exclusions and (3) include the process for reviewing, and, (4) where required, revising, the data for reporting against the performance standards, the overall calculation and any review and approval requirements	New recommendation in 2020.	Auditor to check for completion.
2020-12	Customer Supply Agreements – Customers other than Sydney Water clause 6.1.2	By 30 June 2021, Water NSW should (1) consult with NSW Health to identify the most appropriate information in the Australian Drinking Water Guidelines that applies to the Fish River Filtered Water Supply and (2) amend the customer Supply Agreement to cover the obligations that have been agreed by consensus between Water NSW and NSW Health.	New recommendation in 2020.	Auditor to check for completion.
2020-13	Customer Advisory Group Charter clause 6.6.2	By 30 June 2021, Water NSW should undertake a review of its Customer Advisory Group Charter to document matters that should be referred	New recommendation in 2020.	Auditor to check for completion.
2020-14	Customer Advisory Group Charter clause 6.6.2	By 30 June 2021, Water NSW should complete its review of Water NSW's Customer Advisory Group Charter to document procedures for proposing and progressing an amendment to the Charter.	New recommendation in 2020.	Auditor to check for completion.

Recommendation number	Operational issue (licence reference where applicable)	IPART's recommendation to the Minister	Audit findings (Status will be reported by Water NSW in audit recommendations update on 7 June 2021 <sup>a</sup> )	Guidance for 2021 audit
2020-15	Code of Practice on Payment Difficulties clause 6.8.2	By 30 June 2021, Water NSW should amend its Code of Practice on Payment Difficulties to include procedures for identifying the circumstances under which Water NSW may restrict the provision of services to a customer including the minor/retail customers who are able to be disconnected for non-payment of services.	New recommendation in 2020.	Auditor to check for completion.
2020-16	Internal Complaints Handling Procedure clause 6.9.1	By 30 June 2021, Water NSW should establish a Complaints Management Policy in accordance with the requirements	New recommendation in 2020.	Auditor to check for completion.
2020-17	Internal Complaints Handling Procedure clause 6.9.1	By 30 June 2021, Water NSW should undertake a review of its Complaints Handling and Compliments Procedure to ensure: <ul style="list-style-type: none"> <li>- Water NSW manages complaints received through social media in line with the requirements of AS/NZS 10002:2014 Clause 4.6.</li> <li>- Water NSW documents the behaviour expected of both its staff and complainants in line with the requirements of AS/NZS 10002:2014 clause 5.3.1.</li> <li>- Water NSW documents the process for managing complaints involving multiple parties in line with the requirements of AS/NZS 10002:2014 clause 5.3.3.</li> </ul>	New recommendation in 2020.	Auditor to check for completion.
2020-18	Memorandum of Understanding with Natural Resources Access Regulator clause 6.17.1	By 30 June 2021, Water NSW should review, revise and ratify the Terms of Reference for both the Strategic Group and the Operation Group, paying particular attention to areas such as frequency of meetings.	New recommendation in 2020.	Auditor to check for completion.

Recommendation number	Operational issue (licence reference where applicable)	IPART's recommendation to the Minister	Audit findings (Status will be reported by Water NSW in audit recommendations update on 7 June 2021 <sup>a</sup> )	Guidance for 2021 audit
2020-19	Memorandum of Understanding with Natural Resources Access Regulator clause 6.17.1	By 30 June 2021, Water NSW should update the document history of the Area Protocols with a formalised cycle of review, to ensure establishment of currency and accuracy.	New recommendation in 2020.	Auditor to check for completion.

**a** Water NSW is required to provide a report on progress by 31 March 2021 or a later date agreed by IPART. Due to the timing of the audit, the Tribunal has agreed to a later date of 7 June 2021 for Water NSW to report on its progress with the audit recommendations

**Note:** Licence references are to the Water NSW's Operating Licence 2017-2022 unless otherwise stated.

**Source:** IPART, Water NSW Operational Audit 2020 – Report to the Minister, March 2021.

**Table 4 Previous field verification locations for Water NSW**

Audit year	Location	Facility
2020	Warragamba Dam	Warragamba Dam and W5 fire trail to the north of the dam
	Duckmaloi	Water treatment plant
In 2020, audit interviews were conducted remotely using online video conferencing, and site visits were made to two facilities.		
2019	Farrer Memorial Agricultural high School, Calala	Metering site
	Chaffey Dam	Dam
In 2019, we planned visits to Woronora Dam and Lake Woronora catchments. We cancelled these due to heavy rainfall and closure of the catchment. Water NSW provided a briefing in their offices instead.		
2018	Burrawang	Pump station
	Nepean	Dam
	Corrimal No. 3 shaft and associated transformer yard	Declared catchment area
<b>Water NSW (State Water Corporation) Operating Licence 2013-2018</b>		
2016-17	Griffith - Murrumbidgee, Beavers Creek, Tombullen Creek	Weirs, Outlet
2015-16	Burrinjuck Dam	Infrastructure
2014-15	Fish River	Water Supply
2013-14	Warren	Marebone Weir fishway
	Dubbo	Burrendong Dam floating curtain
Previous Licence		
2012-13	Dubbo	Burrendong Dam
	Macquarie River near Dubbo	Metering sites
2011-12	Fish River	Water Supply
	Duckmaloi	Water Treatment Plant
<b>Water NSW (Sydney Catchment Authority) Operating Licence 2012-2017</b>		
2016-17	Nepean	Catchment Areas
2015-16	Brayton	Catchment Areas
	Goulburn	Bradley Street Sewage Pumping Station
2014-15	Leura Falls	Catchment works
2013-14	Cataract Dam	Chemical dosing facility
		Outlet works
	Broughton's Pass	Weir
	Prospect Reservoir	Warragamba Pipeline Outlet Works
		Prospect RWPS (WP0903)



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<b>Audit year</b>	<b>Location</b>	<b>Facility</b>
2012-13	Broughton's Pass to Prospect Reservoir	Upper Canal
	Prospect Reservoir	Prospect Reservoir

## E Auditor's report



WaterNSW

# 2021 OPERATIONAL AUDIT

**IPART**

March 2022

3.01

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# Executive Summary

## Auditor's declaration

This report presents the findings of the audit of WaterNSW operations against the WaterNSW Operating Licence 2017-2022 and the Water NSW Act 2014 (NSW), consistent with audit requirements set out in IPART's Audit Guideline Public Water Utilities (July 2019) for the period 1 September 2020 to 31 August 2021.

The auditors confirm that:

- We have seen sufficient evidence on which to base our conclusions.
- Our audit findings accurately reflect the professional opinions of the auditors.
- We have conducted the audit, determined audit findings and prepared the report consistent with audit requirements set out in IPART's Audit Guideline Public Water Utilities (July 2019) and IPART's Request for Quote.
- Our audit findings have not been unduly influenced by the utility and/or any of its associates.

## Major findings

A summary of major audit findings for the 2020-21 audit period is shown in Table 1.

**Table 1. Summary of audit findings against audited licence obligations**

Section	Clause	Sub clauses	Audit findings
2 Water Source protection and conservation	2.1 - Water Quality Management System	2.1.1	Non-compliant (non-material)
		2.1.2	Compliant (minor shortcomings)
		2.1.3	Non-compliant (non-material)
		2.1.4	Non-compliant (non-material)
	2.2 - Catchment management	2.2.1	Compliant
	2.4 - Catchment Infrastructure Works management	2.4.1	Compliant
	2.6 - Reviewing the model for the system yield	2.6.1	Non-compliant (non-material)
2.6.2		Non-compliant (material)	
2.6.3		Non-compliant (non-material)	
3 Bulk Water storage and transmission	3.1 - Construct, maintain and operate Water Management Works	3.1.1	Compliant
		3.2 - Water Supply	3.2.1
	3.3 - CSR water	3.3.1	Compliant
	3.4 - Bulk water released to Local Water Utilities for Drinking Water Purposes	3.4.1	Compliant
		3.4.2	Compliant (minor shortcomings)
		3.4.3	Compliant
		3.4.4	Compliant
4 Performance Standards	4.2 - Water Supplied Performance Standards	4.2.2	Compliant
		4.2.3	Compliant
5 Organisational systems management	5.1 - Asset Management System	5.1.1	Compliant
		5.1.2	Compliant (minor shortcomings)
	5.2 - Environmental Management systems	5.2.1	Compliant (minor shortcomings)
		5.2.2	Compliant (minor shortcomings)
6 Customer and stakeholder relations	6.1 - Customer Supply Agreements - Customers other than Sydney Water	6.1.2	Non-compliant (non-material)
		6.2 - Accounting for water	6.2.1
	6.6 - Customer Advisory Group Charter	6.6.2	Non-compliant (non-material)
	6.8 - Code of Practice on Payment Difficulties	6.8.2	Non-compliant (non-material)
	6.9 - Internal Complaints Handling Procedure	6.9.1	Non-compliant (non-material)
	6.12 - Code of Conduct with WIC Act Licences	6.12.1	No Requirement
	6.13 - Memorandum of Understanding with NSW Health	6.13.1	Compliant
		6.13.3	Compliant
	6.14 - Memorandum of Understanding with Environment Protection Authority	6.14.1	Compliant
	6.17 - Memorandum of Understanding with Natural Resources Access Regulator	6.17.1	Compliant
	6.18 - Online portal for lodgement of documents relating to metering equipment	6.18.1	Compliant
		6.18.2	Compliant
		6.18.3	Non-compliant (material)
		6.18.4	Compliant
6.20 - Data sharing and services agreement with DPIE and NRAR -	6.20.1	Compliant	
	6.20.2	Compliant	

Section	Clause	Sub clauses	Audit findings
	NSW non-urban water metering framework	6.20.3	Compliant
		6.20.4	No Requirement
7 Performance monitoring	7.2 - Reporting in accordance with this License and the Reporting Manual	7.2.1	Non-compliant (non-material)
		7.2.2	Compliant

## Recommendations

Recommendations arising from the WaterNSW 2021 Operational Audit are shown in Table 2 and a summary of the risks of non-compliance.

**Table 2. Operational audit 2020/21 recommendations and risks of non compliance**

Section	Sub clauses	Risk of non compliance	Recommendations
2 Water Source protection and conservation	2.1.1	Without an appropriately maintained Water Quality Management System, the risk posed to public health from non-compliance could be significant.	Recommendations for this clause are made in Clause 2.1.2 and 2.1.3
	2.1.2	Without an appropriately maintained Water Quality Management System, the risk posed to public health from non-compliance could be significant.	<p>Recommendation 2.1.2-1: By 30 June 2022, WaterNSW should review the process for updating the water quality contact list (including the version attached to the WQ Incident Response Protocols) to ensure that the list is current, including for stakeholders not relevant to the JOG.</p> <p>Recommendation 2.1.2-2: By 30 June 2022, WaterNSW should document the process and responsibility for scheduling major risk reviews.</p> <p>Recommendation 2.1.2-3: By 30 September 2022, WaterNSW should finalise the Operation &amp; Maintenance manuals for the dams in the Declared Catchment.</p> <p>Recommendation 2.1.2-4: By 30 September 2022, WaterNSW should ensure that the Incident Management Procedure has been updated and implemented.</p> <p>Recommendation 7.2.1-1 in clause 7.2.1 also applies to this clause.</p>

Section	Sub clauses	Risk of non compliance	Recommendations
	2.1.3	Without an appropriately maintained Water Quality Management System, the risk posed to public health from non-compliance could be significant.	<p>Recommendations 2.1.3-1: By 30 June 2022, WaterNSW should update the Water Quality Data Review and Reporting Procedure to explicitly cover the Fish River Supply reporting requirements.</p> <p>Recommendations 2.1.3-2: By 30 June 2022, WaterNSW should document the process to revalidate treatment process when a change condition occurs, including defining triggers for when this would occur.</p> <p>Recommendation 2.1.3-3: By 30 June 2022, WaterNSW should document the requirement for chlorine analyser reagent levels for the chlorine analyser to be included in operational checks at Duckmaloi WTP.</p> <p>Recommendations 2.1.2-4, 7.2.1-1 and 7.2.1-2 are also relevant to this clause.</p>
	2.1.4	Without an appropriately implemented Water Quality Management System the risk posed to public health from non-compliance could be significant.	<p>Recommendation 2.1.4-1: By 30 June 2022, WaterNSW should develop processes to ensure that regulatory requirements associated with new or emerging obligations, including for example the design and operation of a fluoridation system are identified and documented within the compliance system.</p> <p>Recommendation 2.1.4-2: By 30 June 2022, WaterNSW should develop and implement a process (e.g. audit) to ensure that work orders for calibration of critical limit analysers are undertaken.</p> <p>Recommendation 2.1.4-3: By 30 June 2022, WaterNSW should review monitoring processes to ensure mandatory water quality awareness training is undertaken.</p> <p>Refer also to Recommendation 2.1.2-1</p>
	2.6.1	Failure to comply with this clause may result in the model for System Yield not being updated (if required) to be consistent with good industry practices in a timely manner which could then undermine supply-demand planning.	<p>Recommendation 2.6.1-1: By 30 September 2022, WaterNSW should conduct a lessons learned review regarding the circumstances that led to it not complying with the requirement of this clause relating to timing. The outcomes of the lessons learned review should be documented and used to inform the approach for obtaining future reviews of System Yield.</p>
	2.6.2	Failure to comply with this clause would result in stakeholder needs and inputs not being considered as part of the	<p>Recommendation 2.6.2-1: By 30 September 2022, WaterNSW should undertake a stakeholder identification and engagement exercise to a) identify stakeholders (to include broadly customers, stakeholders, regulators and</p>



Section	Sub clauses	Risk of non compliance	Recommendations
		review of the modelling under clause 2.6.1.	interested parties) b) the appropriate level of engagement for each stakeholder for i) updating System Yield ii) use of System Yield c) identify engagement strategies for the stakeholders for updating and using System Yield.
	2.6.3	Failure to comply with this clause would result in Sydney's water supply system being planned, managed and operated in accordance with outdated, incorrect or inaccurate yield assumptions.	Recommendation 2.6.3-1: By 30 September 2022, WaterNSW should conduct a lessons learned review regarding the circumstances that led to it not complying with the requirement of this clause relating to timing. The lessons learned review should also consider how WaterNSW can comply with the requirement of this clause to report publicly on its response to the findings of the model review. The outcomes of the lessons learned review should be documented and used to inform the approach for obtaining and reporting on future reviews of System Yield. (We note that this review may be conducted in parallel with that for Recommendation 2.6.1-1)
3 Bulk Water storage and transmission	3.4.2	WaterNSW must maintain the Local Water Utility Customer Register to ensure that communications can be made promptly during water quality events that threaten the public health of their customers.	Recommendation 3.4.2-1: By 30 June 2022, WaterNSW should review processes to ensure accuracy of contacts in the Local Water Utilities Contact Details spreadsheet (DOC13 29697).
5 Organisational systems management	5.1.2	Failure to implement the Asset Management System presents a high risk of reduced levels of service, higher operating risk and costs not minimised across their lifecycle. WaterNSW's assets include assets with a high consequence of failure such as dams and asset vital to water quality. Therefore, non-compliance with this clause presents a high risk.	Recommendation 5.1.2-1: By 30 June 2022, WaterNSW should deliver the recommendations included in the internal audit (D2021/117683) on maintenance dated January 2021.
	5.2.1	Without adequate Environmental Management Systems there is a risk that WaterNSW will have a negative impact on the environment.	Recommendation 5.2.1-1: By 30 June 2022, WaterNSW should ensure the fluoridation requirements are included in the Safety and Environment compliance obligations register.
	5.2.2	If the Environmental Management System is	Recommendation 5.2.2-1: Prior to operation of the fluoride plant at Duckmaloi WTP, WaterNSW

Section	Sub clauses	Risk of non compliance	Recommendations
		not implemented fully there is a risk that WaterNSW will have a negative impact on the environment.	must show satisfactory progress and completion of the actions from the Duckmaloi WTP Assurance report (D2020/60963) in regards to fluoridation.
6 Customer and stakeholder relations	6.18.1	Accurate and timely data collection, storage and retrieval is essential to properly monitor water use by license holders. If data cannot be collected, securely stored or reliably retrieved total water take may be underestimated, overextraction may not be identified, action may not be able to be taken against non-compliant license holders or compliant license holders could be unjustly prosecuted, with consequent liability to government.	There are no recommendations for this clause.
	6.18.3	If certificates, reports and other documents lodged in the portal are not retained, regulation of license holders is impacted. Regulatory action may not be able to be taken against non-compliant license holders or compliant license holders could be unjustly prosecuted, with consequent liability to government.	<p>Recommendation 6.18.3-1: By 31 July 2022, WaterNSW shall develop, document and implement a data protection methodology to ensure that certificates, reports and other documents lodged in the portal are discoverable, verifiable and protected against alteration or loss. In developing this methodology, WaterNSW shall conduct and document a formal risk assessment to:</p> <ul style="list-style-type: none"> <li>• identify their obligations arising from state and federal legislation and policy on data storage and protection</li> <li>• identify the risks to data posed by operating the DQP portal in the cloud, including but not limited to, the failure modes which impact data stored in the cloud, the risk of accidental or deliberate deletion of data, cyber risks, insider risks, third party risks, and how these can be effectively mitigated</li> <li>• quantify the risk to government of WaterNSW or other regulatory agencies taking legal enforcement action based on incomplete, incorrect or unverifiable data</li> </ul>
7 Performance monitoring	7.2.1	Without accurate and timely information, there is a risk that the	Recommendation 7.2.1-1: By 1 September 2022, WaterNSW must ensure that the Annual Water

Section	Sub clauses	Risk of non compliance	Recommendations
		<p>performance of WaterNSW against its Operating Licence requirements will not be known.</p>	<p>Quality Management Report meets the requirements of the Reporting Manual.                      Recommendation 7.2.1-2: By 1 September 2022, WaterNSW must ensure that the Annual Report on the Water Conservation Program meets the requirements of the Reporting Manual.                      Recommendation 7.2.1-3: By 1 September 2022, WaterNSW must ensure that the Annual Performance Standards Report meets the requirements of the Reporting Manual.                      Recommendation 7.2.1-4: By 1 September 2022, WaterNSW must ensure that the Compliance and Performance Report on the AMS meets the requirements of the Reporting Manual.                      Recommendation 7.2.1-5: By 30 June 2022, WaterNSW must establish processes to ensure that documents to be made publicly on the website meet the dates requirements in Appendix A of the Reporting Manual.</p>

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## Glossary

Item	Detail
ACSC	Australian Cyber Security Centre
ADWG	NHMRC, NRMCC (2011) Australian Drinking Water Guidelines Paper 6 National Water Quality Management Strategy. National Health and Medical Research Council, National Resource Management Ministerial Council, Commonwealth of Australia, Canberra. ISBN Online: 1864965118
AMCV	Asset Management Customer Value
AMS	Asset Management System
AS	Australian Standard
ASAE 3100	Standard on Assurance Engagements ASAE 3100 Compliance Engagements
AS/NZS 10002:2014	Guidelines for complaints management in organizations
AS ISO 19600:2015	Compliance management systems – Guidelines
ISO 19011:2018	Guidelines for auditing management systems
AS/NZ ISO 9001:2016	Quality Management Systems – Requirements (the Quality Management System)
ARK	Records management system
AS/NZS 4020:2018	Australian and New Zealand Standards for testing of products for use in contact with drinking water
AS 4747:2013	Australian Standard, Meters for non-urban water supply – In-service compliance for non-urban water meters
Audit Guideline	IPART Public Water Utility Audit Guideline (July 2019)
Audit Period	The dates of 1 September 2020 to 31 August 2021 over which WaterNSW compliance is checked against certain clauses of its Operating Licence (as determined by IPART)
BLOB	(Binary Large Object) A type of data storage used in Microsoft cloud systems
C2C	Catchment to Consumer
CAG	Customer Advisory Group
CCP	Critical control point
CEMP	Construction Environmental Management Plan
CIMS	Consolidated information management system
CMMS	Computerised maintenance management system
Component	Either refers to the Element components of the ADWG Framework for the Management of Drinking Water Quality or WaterNSW WQMS component depending upon the context
CSO	Customer Service Officer
DBPs	Disinfection by-products
DAS	Data acquisition system
DCA	Declared Catchment Area

Item	Detail
DoI	NSW Department of Industry
DPI	NSW Department of Primary Industries (now DPIE)
DPIE	NSW Department of Planning, Industry and the Environment
DQP	Duly Qualified Person (has the same meaning as in the Water Management Act 2000)
DWQMS	Drinking Water Quality Management System
Element	Elements of the ADWG Framework for the Management of Drinking Water Quality
EMS	Environment management system
EAMS	Enterprise asset management system
ESOP	Environmental Standard Operating Procedure
EWON	Energy & Water Ombudsman NSW
fDOM	Fluorescent Dissolved Organic Matter
Framework	Framework for Management of Drinking Water Quality
FRWS	Fish River Water Supply
HSE	Health Safety and Environment
ICT	Information and communications technology
IMT	Incident Management Team
IPART	Independent Pricing and Regulatory Tribunal of NSW
ISO	International Standards Organisation
ISO 14001:2015	Environmental management systems – Requirements with guidance for use
ISO 55000:2014	Asset management – Overview, principles and terminology
ISO 55001:2014	Asset management – Management systems – Requirements
JOG	Joint Operations Group
KPI	Key performance indicator
LCC	Lithgow City Council
Licence	WaterNSW Operating Licence 2017-2022
LMS	Learning Management System
LOS	Levels of Service
MoU	Memorandum of Understanding
MSC	Meter service charging
NOCTSO	Notification of Change to System Operation
NRAR	Natural Resources Access Regulator
NSW Health	NSW Ministry of Health
PSAT	Pollution Source Assessment Tool
QAP	Quality assurance plan
RACS	Risk Assurance and Compliance System

Item	Detail
Reporting Manual	WaterNSW Reporting Manual Operating Licence 2017-2022 (IPART July 2017)
RFQ	Request for Quote
SASPoM	Special Areas Strategic Plan of Management
SCA	Sydney Catchment Authority
SCADA	System Control and Data Acquisition
SLG	Strategic Liaison Group
SOP	Standard operating procedure
SQL	Structured Query Language
SWC	Sydney Water (Corporation)
SWIRL	Sydney Water Incident Recording and Learning System
TRIM (ARK)	WaterNSW's electronic document and record management system
VPS	VEMCO Positioning System
WAMC	Water Administration Ministerial Corporation
WAS	Water Accounting System
WaterNSW / Water NSW	Unless specified in the Water NSW Act or licence WaterNSW is used.
WNSW	WaterNSW
WQMS	Water Quality Management System
WRAP	Water Reform Action Plan
WSC	Wingecarribee Shire Council

# 1 Introduction

## 1.1 Objectives

The objective of this engagement was to conduct an audit of WaterNSW's performance against its operating licence (as defined in the audit scope) and other Ministerially-imposed requirements for the period from 1 September 2020 to 31 August 2021, including:

- WaterNSW Operating licence 2017-2022
- WaterNSW Reporting Manual – Operating Licence 2017-2022
- IPART's Audit Guideline Public Water Utilities (July 2019)
- IPART's WaterNSW Operational Audit 2019 - Report to the Minister.

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

## 1.2 Audit method

### Audit scope

The scope of the audit was:

- The operational licence clauses listed in Table 3. These clauses have been selected by IPART on a risk basis.
- Recommendation 2018-20: Roles and Responsibilities with Department on Industry clause 6.16.1
- Recommendation 2019-02: Water Quality Management System clause 2.1.3
- Recommendation 2020-01: Water Quality Management System clause 2.1.1
- Recommendation 2020-02: Water Quality Management System clause 2.1.3
- Recommendation 2020-03: Water Quality Management System clause 2.1.3
- Recommendation 2020-04: Water Quality Management System clause 2.1.3, Water Supply clause 3.2.1
- Recommendation 2020-05: Water Quality Management System clause 2.1.4
- Recommendation 2020-06: Water Quality Management System clause 2.1.4
- Recommendation 2020-07: Water Quality Management System clause 2.1.4
- Recommendation 2020-08: Water Quality Management System clause 2.1.4
- Recommendation 2020-09: Water Supplied Performance Standards clause 4.2.2, Water Supply clause 3.2.1
- Recommendation 2020-10: Water Supplied Performance Standards clause 4.2.2
- Recommendation 2020-11: CSR Water Performance Standard A clause 4.3.2
- Recommendation 2020-12: Customer Supply Agreements –Customers other than Sydney Water clause 6.1.2
- Recommendation 2020-13: Customer Advisory Group Charter clause 6.6.2
- Recommendation 2020-14: Customer Advisory Group Charter clause 6.6.2
- Recommendation 2020-15: Code of Practice on Payment Difficulties clause 6.8.2

- Recommendation 2020-16: Internal Complaints Handling Procedure clause 6.9.1
- Recommendation 2020-17: Internal Complaints Handling Procedure clause 6.9.1
- Recommendation 2020-18: Memorandum of Understanding with Natural Resources Access Regulator clause 6.17.1
- Recommendation 2020-19: Memorandum of Understanding with Natural Resources Access Regulator clause 6.17.1

The audit covers the period from 31 August 2020 to 31 August 2021.

**Table 3. Licence sections within the 2020-21 audit scope**

Section	Clause	Sub clauses
2. Water Source protection and conservation	2.1 – Water Quality Management System	2.1.1, 2.1.2, 2.1.3, 2.1.4
	2.2 – Catchment management	2.2.1
	2.4 – Catchment Infrastructure Works management	2.4.1
	2.6 – Review the model for System Yield	2.6.1, 2.6.2, 2.6.3
3. Bulk Water storage and transmission	3.1 – Construct, maintain and operate Water Management Works	3.1.1
	3.2 – Water Supply	3.2.1
	3.3 – CSR water	3.3.1
	3.4 – Bulk water released to Local Water Utilities for Drinking Water	3.4.1, 3.4.2, 3.4.3, 3.4.4
4. Performance Standards	4.2 – Water Supplied Performance Standards	4.2.2, 4.2.3
5. Organisational systems management	5.1 – Asset Management System	5.1.1, 5.1.2
	5.2 – Environmental Management Systems	5.2.1, 5.2.2
6. Customer and stakeholder relations	6.1 – Customer Supply Agreements – Customers other than Sydney Water	6.1.2
	6.2 – Accounting for water	6.2.1
	6.6 – Customer Advisory Group Charter	6.6.2
	6.8 – Code of Practice on Payment Difficulties	6.8.2
	6.9 – Internal Complaints Handling Procedure	6.9.1
	6.12 – Code of conduct with WIC Act Licensees	6.12.1
	6.13 – Memorandum of Understanding with NSW Health	6.13.1, 6.13.3
	6.14 – Memorandum of Understanding with Environment Protection Authority	6.14.1

Section	Clause	Sub clauses
	6.17 – Internal Complaints Handling Procedure	6.17.1
	6.18 – Online portal for lodgement of documents relating to metering equipment	6.18.1, 6.18.2, 6.18.3, 6.18.4
	6.20 – Data sharing and services agreement with DPIE and NRAR – NSW non-urban water metering framework	6.20.1, 6.20.2, 6.20.3, 6.20.4
7 Performance monitoring and reporting	7.2 – Reporting in accordance with this License and the Reporting Manual	7.2.1, 7.2.2

## Audit standard

In conducting the audit, the auditors are following IPART's Audit Guideline Public Water Utilities (July 2019).

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

- ASAE 3100 (2017) Compliance Engagements issued by the Auditing and Assurance Standards Board
- ISO 19011:2018 Guidelines for auditing management systems
- AS/NZS ISO 9001:2016: Quality management systems – Requirements
- ISO 17021:2015 Conformity Assessment – Requirements for bodies providing audit and certification of management systems (contains principles and requirements for the competence, consistency and impartiality of the audit and certification of management systems of all types)
- Aquamark asset management benchmarking tool (now referred to as Asset Management Customer Value (AMCV)).

## Audit steps

The audit process was conducted as described in the IPART's Audit Guideline Public Water Utilities (July 2019).

## Audit team

The audit team and audit qualifications are provided in Table 4.

**Table 4. Audit team members and their qualifications**

Team Member	Details
Dr Annalisa Contos Atom Consulting	<p>Dr Annalisa Contos holds the following auditor qualifications:</p> <ul style="list-style-type: none"> <li>• A registered Exemplar Global lead auditor (Certificate No. 113465): <ul style="list-style-type: none"> <li>– Exemplar Global -DW (Drinking Water)</li> <li>– Exemplar Global -RW (Recycled Water)</li> <li>– Exemplar Global TL-AU (Lead Auditor)</li> <li>– Skill Examiner</li> </ul> </li> <li>• NSW IPART (Independent Pricing and Regulatory Tribunal) qualified: <ul style="list-style-type: none"> <li>– Lead Auditor Licence and Regulatory Compliance</li> <li>– Lead Auditor Infrastructure Performance</li> <li>– Lead Auditor Drinking Water Quality</li> <li>– Lead Auditor Recycled Water Quality</li> <li>– Lead Auditor Sewage Management</li> </ul> </li> </ul>
Natalie Crawford Atom Consulting	<p>Natalie Crawford holds the following auditor qualifications:</p> <ul style="list-style-type: none"> <li>• A registered Exemplar Global lead auditor (Certificate No. 130608): <ul style="list-style-type: none"> <li>– Exemplar Global -DW (Drinking Water)</li> <li>– Exemplar Global -RW (Recycled Water)</li> <li>– Exemplar Global TL-AU (Lead Auditor)</li> </ul> </li> <li>• NSW IPART (Independent Pricing and Regulatory Tribunal) qualified: <ul style="list-style-type: none"> <li>– Auditor Licence and Regulatory Compliance</li> <li>– Auditor Drinking Water Quality</li> <li>– Auditor Recycled Water Quality</li> </ul> </li> </ul>
Stephen Walker Cardno	<p>Mr Stephen Walker holds the following auditor qualifications:</p> <ul style="list-style-type: none"> <li>• World Partners in Asset Management Certified Asset Management Assessor No. 59 (<a href="http://www.wpiam.com">www.wpiam.com</a>). This accreditation demonstrates compliance with ISO 17021-5 Competence requirements for auditing and certification of asset management system.</li> <li>• A registered Exemplar Global lead auditor (Certificate No. 638040): <ul style="list-style-type: none"> <li>– Exemplar Global TL-AU (Lead Auditor)</li> <li>– Exemplar Global -DW (Drinking Water)</li> </ul> </li> <li>• NSW IPART (Independent Pricing and Regulatory Tribunal): <ul style="list-style-type: none"> <li>– Lead Auditor Infrastructure Performance</li> <li>– Lead Auditor Licence and Regulatory Compliance</li> <li>– Lead Auditor Retail Supply</li> </ul> </li> </ul>
Steven Contos Atom Consulting	<p>Steven Contos holds the following auditor qualifications</p> <ul style="list-style-type: none"> <li>• Exemplar Global -DW (Drinking Water)</li> <li>• Exemplar Global -RW (Recycled Water)</li> <li>• Exemplar Global -AU (Auditor)</li> </ul> <p>Steven Contos holds the following fluoride qualification:</p> <ul style="list-style-type: none"> <li>• Fluoride plant operators' certificate (NSW Health)</li> </ul>
Lucy Parsons Atom Consulting	<p>Lucy Parsons holds the following auditor qualifications</p> <ul style="list-style-type: none"> <li>• Exemplar Global TL-AU (Lead Auditor)</li> </ul> <p>Lucy Parsons holds the following fluoride qualification:</p> <ul style="list-style-type: none"> <li>• Fluoride plant operators' certificate (NSW Health)</li> </ul>
Daniel Rawsthorne	<p>Daniel Rawsthorne holds the following qualifications:</p> <ul style="list-style-type: none"> <li>• Bachelor of Engineering (Mechanical) (Honours)</li> <li>• Bachelor of Commerce (Management)</li> </ul>
Ella Hingston	<p>Ella Hingston holds the following qualifications:</p> <ul style="list-style-type: none"> <li>• Bachelor of Engineering (Civil) (Honours)</li> </ul>



## Audit grades

The audit grade definitions used in assessing the auditee's performance against the requirements are set out in Table 5.

**Table 5. Audit grades**

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

Source: Audit Guideline Public Water Utilities (July 2019).

## 1.3 Regulatory regime

WaterNSW operates largely in a NSW context but must also have regard to matters outside of that jurisdiction, where those matters may affect how it does business. A summary of the key legal and regulatory instruments for WaterNSW is provided in Table 6.<sup>1</sup>

**Table 6. Key legal and formal instruments relevant to WaterNSW's operating licence<sup>2</sup>**

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

<sup>1</sup> Intended to be illustrative, not exhaustive, for the purposes of this report.

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

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

## 1.4 Quality assurance process

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

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

## 2 Site visit report

Site visits to four locations were undertaken as part of the audit scope. Prospect Reservoir was inspected on 27/10/2021 and Fish River facilities were inspected on 28/10/2021.

### Prospect reservoir

At the Prospect Reservoir an inspection was conducted of the pumps station, hand-over point and water entry valves, and discussions were held with WaterNSW staff. The pump station displayed good housekeeping with only minor exceptions. Appropriate labelling and asset identification were evident. Operators and maintainers had access to operating manuals and diagrams onsite.

We viewed the turbidity meter and noted inconsistencies in the turbidity analyser asset numbers labelled onsite (WQM1201 and WQM1300) against the analyser number referenced on critical control point (CCP) documentation (CCP3 Prospect Reservoir Isolation, WQM02 Turbidity\_AF). This was adequately explained in the audit interviews. Refer to clause 2.1.2 Element 3 Critical control points.

We observed that planned maintenance work was being conducted onsite during the inspection and relevant work management processes were observed including the final inspection report from specialised external contractors. Minor asset defects were observed onsite that were all captured in the asset management information system and being processed. We queried operational staff regarding known equipment reliability issues and found that the staff had a good understanding of reliability and that they were able to articulate larger projects encompassing solutions to these issues.

### Fish River

At the Fish River facilities an inspection was conducted of the Duckmaloi Water Treatment Plant, Lithgow handover point into Wallerawang Reservoir and Wallerawang Dosing Pump Station

The Duckmaloi Water Treatment Plant process area displayed sound housekeeping and appropriate labelling and asset identification were evident. We queried operational staff and found that they had a good understanding of the plant and maintenance requirements. Minor asset defects were observed onsite that were all captured in the asset management information system and being processed.

Record keeping practices were discussed with the Duckmaloi WTP operator. We observed completed sampling sheets, when queried, staff advised that these sheets replaced the "How to Guide". We were shown records of operational monitoring data, both in hardcopy and the electronic operational monitoring spreadsheet. We noted that not all information recorded on the hardcopy sheet was entered into spreadsheet with some information being lost in the transfer. For example, online readings of analysers taken at the time of the grab samples to compare differences were not entered into the

spreadsheets. Areas for improvement were noted in the spreadsheet around trending of data and conditional formatting for exceedances. This is discussed further in Clause 2.1.4 Element 4 Operational Monitoring.

We viewed the System Control and Data Acquisition (SCADA) and confirmed that critical limits were unable to be modified and that CCP alarms were set consistently with CCP documentation. We viewed data for the turbidity (March 2021) and C.t (July 2021) critical limits at Duckmaloi WTP. This is discussed further in Clause 2.1.4 Element 3 Critical Control Points.

We viewed the new fluoride room, observing while yet to be commissioned, fluoride chemical was present on site. We were unable to establish onsite how environmental impacts were managed and further evidence was requested. This is discussed in Clause 5.2.2.

The following Policies were displayed in the Duckmaloi WTP office area:

- Asset Management Policy, due for review in August 2022
- Water Quality Policy, due for review December 2021
- Work, Health and Safety Policy, due for review August 2022
- Environmental Policy, due for review September 2022.

Evidence was observed during the inspections of compliance inspections on:

- pressure vessels evident by in date stamped inspection plate and certificate
- first aid kits evident by in date inspection stickers
- fire extinguishers evident by in date stamped inspection plates
- crane inspections by external specialist evident by onsite observation.

It is a requirement of Australian Standard AS4775-2007 - Emergency Eyewash and Shower Equipment that plumbed emergency showers and eyewash units are inspected, activated and tested every week. AS4775-2007 also requires all shower and eyewash units to be inspected, tested and tagged for compliance at least once a year. It was observed that weekly inspections were recorded by operators in weekly operational check sheets. It was observed that the Fluoridation room safety shower tag was last inspected 22/5/2019 and the Wallerawang Dosing Station safety shower did not have a tag. Both of these showers are subsequently not compliant to AS4775-2007. Further evidence was provided by WaterNSW of work order instructions specifying that safety showers are to be tagged. Whilst the inspection processes are in place with suitable instructions further review and correction is required to ensure correct tags are placed as per AS4775-2007 and WaterNSW's own requirements.

Asset management practices were discussed with staff members on both days of the inspections. When the personnel were questioned there was an understanding of the functions and role responsibilities for maintaining, planning and scheduling, and performance tracking. Key management personnel understood asset management practices and were pursuing improvements with mobile work execution applications and tracking performance.

# Clause 2.1 – Water Quality Management System

## Clause 2.1.1

**Table 7. Clause 2.1.1 compliance grade**

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

### Summary of reasons for grade

WaterNSW had two WQMS documents in place during the audit period. An overarching WQMS document (CD2013/56, v4, 2018) and a Fish River Water Supply Drinking Water Quality Management System (Fish River DWQMS, CD2019/129). WaterNSW reviewed and combined these documents into an on-line Modelpedia format (Modelpedia WQMS). This online system came into force on the 31 August 2021.

The WQMS documents and the Modelpedia system are consistent with the 12 elements of the Australian Drinking Water Guidelines (ADWG) Framework for Management of Drinking Water Quality. The WQMS is supported by documents and processes that apply across the organisation as well as processes that may be specific to the Declared or Non-Declared Catchment.

A non-compliance was identified in the previous audit for the Fish River Drinking Water Quality Management System (DWQMS). The previous audit found that the WQMS for the Fish River Water Supply Scheme had material deficiencies across a number of areas and was not consistent with the ADWG Framework. These areas included failure to maintain appropriate systems associated with the CCPs, inadequate O&M documentation and improvement processes. As the updated Fish River DWQMS (Modelpedia WQMS) was not in force until the 31 August 2021 the non-compliance was ongoing until the Modelpedia WQMS was released.

Since the tabling of the 2020 audit report on 31 March 2021, WaterNSW has made considerable efforts to address this non-compliance. Due to the improvements seen throughout the audit period, we have graded the non-compliance non-material. We consider that the Modelpedia WQMS is a significant improvement on the previous WQMS formats.

There was an ongoing deficiency relating to documenting procedures and processes for the FRWS. A further deficiency observed this audit was the lack of a specification for fluoride for the fluoride bags present in the fluoride room. These deficiencies are discussed in clause 2.1.3.

Shortcomings were also identified. These are discussed in clauses 2.1.2 and 2.1.3.

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

## Discussion and notes

This clause requires WaterNSW to maintain its Water Management System (WQMS) in accordance with Clause 2.1. Therefore clause 2.1.1 requires us to audit the maintenance of the WQMS in Clause 2.1.2 (Declared Catchment) and 2.1.3 (Non-Declared Catchment) and its consistency with the ADWG.

WaterNSW had two WQMS documents in place during the audit period. An overarching WQMS document (CD2013/56, v4, 2018) and a Fish River Water Supply Drinking Water Quality Management System (Fish River DWQMS, CD2019/129). WaterNSW undertook a review of its overarching WQMS and the Fish River DWQMS, with both being combined into the on-line Modelpedia format. This system was released for testing to select employees on the 5 August 2021 and became the WQMS in force on the 31 August 2021. The auditors were provided external access to the system.

We consider that the Modelpedia system developed is a considerable improvement to the WQMS, particularly in terms of document currency and accessibility of staff to the WQMS. WaterNSW advised that when new versions of a document are uploaded, this automatically applies to all references within the Modelpedia WQMS. Multiple versions of the Water Monitoring Program (CD2011/179, v6 and v7) were provided in evidence as relevant to different timings in the audit period. We viewed a demonstration of Modelpedia and confirmed that the most current version of the document (v7) was brought up.

We have given consideration to the new Modelpedia system, but have not audited the system in full as it was only current for one day of the audit period. The overarching WQMS (CD2013/56) and the Fish River DWQMS (CD2019/129) were the systems current for the majority of the audit period. In considering the 'maintain' requirement of this clause, we have primarily audited the documents referenced in the WQMS (CD2013/56) and Modelpedia against the requirements of the ADWG Framework for Management of Drinking Water Quality (the Framework) and tested where documents have been maintained (i.e. that they remain current).

A non-compliance with this clause was identified in the previous audit and was ongoing until the implementation of the Modelpedia WQMS for Fish River on the 31 August 2021. During the audit period WaterNSW has made considerable efforts to address the non-conformance. Due to the improvements seen we have graded the non-compliance non-material.

Table 8 outlines the categories relating to drinking and raw water (supplied to a customer for treatment) in the overarching WQMS document scope page, considered under clause 2.1. The drinking water management systems for water supplied to the picnic areas or houses and offices in rural WaterNSW dams were not in scope for the Operational Licence Audit.

**Table 8. Water categories covered by the WQMS**

Category	Supply	Relevant licence clause under 2.1	In audit scope
Drinking water	Fish River Stage 1 Supply	2.1.3a	Yes
	Drinking water supplied to picnic areas in the Declared Catchment	2.1.2	No
	Direct private supply to houses and offices from rural WaterNSW dams	2.1.3a	No
Raw water Supplied for treatment in Declared Catchment Area	Raw water supplied to Sydney Water, Wingecarribee Shire Council, Shoalhaven City Council for Kangaroo Valley, supplementary raw water supply to Goulburn Mulwaree Council from Wingecarribee Reservoir	2.1.2	Yes
Raw water Supplied for treatment in Non-Declared Catchment areas	Raw water supply from Fish River to Oberon Council	2.1.3a	Yes

The audit scope was Elements 1 to 12 of the Framework.

## Recommendations

Recommendations for this clause are made in Clause 2.1.2 and 2.1.3.

## Opportunities for improvement

Refer to Clause 2.1.2 and 2.1.3.

## Clause 2.1.2

**Table 9. Clause 2.1.2 compliance grade**

Subclause	Requirement	Compliance grade
2.1.2	<p>With respect to Declared Catchment Areas, Water NSW must maintain a Water Quality Management System that is consistent with either:</p> <ul style="list-style-type: none"> <li>a) the Australian Drinking Water Guidelines; or</li> <li>b) if NSW Health were to specify any amendment or addition to the Australian Drinking Water Guidelines that applies to Water NSW, the Australian Drinking Water Guidelines as amended or added to by NSW Health; or</li> <li>c) any other requirements specified or approved by NSW Health or IPART.</li> </ul> <p>[Note: It is generally expected that for the Declared Catchment Areas Water NSW will develop a Water Quality Management System consistent with the Australian Drinking Water Guidelines. However, where NSW Health considers appropriate, the application of those Guidelines may be amended or added to, to take account of Water NSW's circumstances and/or policy and</p>	Compliant (minor shortcomings)



Subclause	Requirement	Compliance grade
	practices within New South Wales regarding Drinking Water quality. It is generally expected that Water NSW will manage the Declared Catchment Areas and the associated Catchment Infrastructure Works in light of its knowledge of the whole system for the Supply of Drinking Water (including the Bulk Water Supply System associated with Declared Catchment Areas together with each system for treating, storing and supplying Drinking Water of each Customer to whom Water NSW Supplies water which is sourced from Declared Catchment Areas). That is, Water NSW should have adequate systems and processes in place to manage Bulk Water quality to its water Supply Customers, taking into account the implementation of planning and risk management across the whole Drinking Water Supply system.]	
<b>Risk</b>	<b>Target for full compliance</b>	
Without a Water Quality Management System, the risk posed to public health from non-compliance with this clause could be significant.	Evidence that a Water Quality Management System is maintained and kept up to date for the Declared Catchment Areas, that it is consistent with the ADWG, or as specified by NSW Health or IPART.	

## Summary of reasons for grade

WaterNSW has established a WQMS that is consistent with the ADWG. The WQMS covers the 12 elements. The WQMS detailed the procedures and processes to manage the Bulk Water Supply System within the Declared Catchment.

WaterNSW overarching WQMS document (CD2013/56, v4, 2018) was reviewed in the audit period and upgraded into an on-line Modelpedia WQMS format. This online system came into force on the 31 August 2021 as discussed in Clause 2.1.1.

Identified shortcomings include:

- Element 1 - The process to update the WaterNSW Water Quality Contact List (D2013/94543) does not adequately pick up all stakeholders
- Element 2 - The process to schedule C2C risk reviews is not formalised in the WQMS
- Element 4 - The Prospect O&M Manual (CD2001/115, v1) is not current
- Element 6 - The Incident Management Procedure (CD2017/180, v1) is not current

This clause is considered Compliant (minor shortcomings).

## Discussion and notes

The overarching structure of the WaterNSW WQMS was discussed in clause 2.1.1. The audit scope was Elements 1 to 12 of the ADWG Framework.

### Element 1 Commitment to drinking water quality management

#### Drinking water quality policy

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to formulate a drinking water quality policy, endorsed by senior



executive, to be implemented throughout the organisation and ensure that the policy is visible and is communicated, understood and implemented by employees.

WaterNSW has a current water quality policy in place (CD2014/5, v5), dated 20 November 2019 (with a two-year review cycle) approved by the Chief Executive Officer and Board of WaterNSW. The policy states WaterNSW's commitment to managing the declared areas and supplying water that complies with appropriate water quality guidelines or standards to minimise risk to public health. The Policy also list actions that WaterNSW commits to and accountability for employees, contractors and managers. An abbreviated version of the water quality policy is included on the WaterNSW website listing the commitment and actions.

The two-year review cycle is documented in Modelpedia to be led by the Water Quality Systems Officer.

The WQMS documents that the Policy is on display in WaterNSW offices, available on intranet and is described in the mandatory Water Quality Awareness training (which is to be completed by all new staff and repeated every 2 years).

### Regulatory and formal requirements

WaterNSW has provided sufficient evidence to demonstrate it has processes to maintain the ADWG requirements to identify and document all relevant regulatory and formal requirements, ensure responsibilities are understood and communicated to employees and review requirements periodically to reflect any changes.

Modelpedia documents that WaterNSW maintains a Compliance Management Framework (CD2018/13) to provide a defined structure to ensure that WaterNSW is able to meet its externally imposed regulatory compliance obligations.

Accountabilities have been defined - the accountable executive for the register is the Executive Manager Legal Governance and Risk, and the Compliance Manager has responsibility for coordinating updates. The Compliance Management Framework has a three-year review cycle.

The Compliance Management Framework (CD2018/13) satisfies the process for identifying and documenting regulatory and formal requirements. Legislation, government policies and standards are covered in obligation registers. The Compliance Management Framework adequately outlines how the obligations register is kept current.

An internal audit of the regulatory Compliance Management Framework was undertaken by an external consultant in November 2020. The result of this was a high-level road map consisting of key management actions to be completed:

- Phase 1 – Define (to confirm and articulate the scope and roles and responsibilities) by 31 March 2021
- Phase 2 – Uplift (to have a revised approved Compliance Management Policy and Procedure, and an Implementation Plan and a Communication and Training Plan developed) by 30 September 2021.

We were provided with evidence that supported the on-going work to implement the roadmap including:

- the paper (D2021/54315) and presentation (D2021/54319) to the Board Committee on Audit and Risk on 17 May 2021
- the paper, draft Compliance Management policy (D2021/92180) and draft Compliance Management procedure (D2021/92181) presented to the WaterNSW Board on 25 August 2021.

The business also maintains a Legal and Other Requirements Register which is updated every six months to ensure ongoing compliance and to capture any new requirements. The Head of Risk and Compliance is accountable for this register, and the Compliance Manager has responsibility for coordinating updates.

Component 1.2 of Modelpedia WQMS documents that the processes for obtaining and updating information includes subscriptions to relevant information services, membership of professional groups, receiving information from relevant regulators and seminars and arrangements with legal advisors.

### Engaging stakeholders

WaterNSW has demonstrated it has met the requirements of its WQMS to identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier, develop appropriate mechanisms and documentation for stakeholder commitment and involvement and regularly update the list of relevant agencies with the exception of a shortcoming identified in the process to update the contact list.

Contact information is recorded in the WaterNSW Water Quality Contact List (D2013/94543). The WQMS notes that the contact list is updated when changes are identified during the Joint Operations Group (JOG) meetings. In the questionnaire, WaterNSW advised that there is a standing item on the agenda to discuss changes to guidelines, regulations and stakeholders and provided the minutes from the 10 August 2021 meeting (D2021/90342) as evidence. We do not consider that this process would adequately pick up all stakeholders on the contact list (e.g. NSW Department of Planning, Industry and the Environment (DPIE) and Origin Energy). Recommendation 2.1.2-1 has been made to address this shortcoming.

## Element 2 Assessment of the drinking water supply system

### Water supply system analysis

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to maintain a system to assemble a team with appropriate knowledge and expertise, construct a flow diagram of the water supply system from catchment to consumer, assemble pertinent information and document key characteristics of the water supply system to be considered and periodically review the water supply system analysis.

WaterNSW established a procedure in the audit period to develop process flow diagrams (D2021/103279 - How to guide – developing and maintaining schematics). This procedure is consistent with the requirements in the ADWG, including that the diagram should outline all steps and processes; summarise the basic characteristics of each

component; make explicit any characteristics that are unique to the system and be verified by field audits. Evidence that this procedure was in use was assessed in Clause 2.1.4. We noted that this document has yet to become a controlled document in ARK, WaterNSW advised that this was because it was still being trialled. This is considered appropriate.

Evidence was provided of updates in the audit period of the Warragamba to Prospect Supply Schematic (D2021/78515, 23/2/2021), Blue Mountains Supply Schematic (D2021/78516, 23/2/2021), Shoalhaven Water Supply Schematic (D2021/78517, 23/2/2021), Upper Nepean Supply Schematic (D2021/78518, 23/2/2021) and Woronora Supply Schematic (D2021/78521, 23/2/2021). Pertinent system information is now included on the process flow diagrams, including catchment. Process flow diagrams are consistent with the procedure. Key system characteristics including catchment maps, source descriptions (including land uses and catchment size) were included on the diagram.

The Conduct Catchment-to-Customer (C2C) Risk Assessments (CD2021/92) procedure identifies risk review workshop members (in the sections 'Identify Risk Review Workshop Members' and Appendix B), including that NSW Health must be invited to participate in any water quality risk assessment. This is consistent with ADWG requirements.

#### Assessment of water quality data

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to maintain a system to assemble historical data, list and examine exceedances and assess data using tools such as control charts and trends analysis to identify trends and potential problems.

WaterNSW has a process in place for assembling historical water quality data (CD2012/130 Water Quality Data Review and Reporting Procedure v5). It was current in the audit period. Exceedances are logged in the Risk Assurance and Compliance System (RACS), with the process documented in the Water Quality Incident Response Protocol (CD2004/183). Water quality trends are reported on in the Annual Water Quality Monitoring Report.

#### Hazard identification and risk assessment

Evidence was provided that demonstrated WaterNSW has met the ADWG requirements to maintain a system:

- to define the approach and methodology to be used for hazard identification and risk assessment;
- identify and document hazards, sources and hazardous events for each component of the water supply system;
- estimate the level of risk for each identified hazard or hazardous event; evaluate the major sources of uncertainty associated with each hazard and hazardous event and consider actions to reduce uncertainty;
- determine significant risks and document priorities for risk management; periodically

- review and update the hazard identification and risk assessment to incorporate any changes.

However, shortcomings were identified with documentation of the process to periodically review major risk events.

WaterNSW has procedures in place to conduct (CD2021/92 Conduct Catchment-to-Customer (C2C) Risk Assessments) and approve (CD2021/94 Approve Catchment-to-Customer (C2C) Risk Assessments) risk assessments. The approval date for Approve Catchment-to-Customer (C2C) Risk Assessments (CD2021/94) was sighted in ARK as the 9 August 2021. These processes are consistent with the requirements of the ADWG.

WaterNSW advised that procedure Document C2C (Catchment to Consumer Process) (D2019/30124) is no longer in use, we confirmed that it was marked as obsolete in their system. This document was incorrectly referenced as a supporting procedure to conduct and approve risk assessments on Modelpedia and should be removed.

The Conduct Catchment-to-Customer (C2C) Risk Assessments (CD2021/92) states that “full Catchment 2 Customer risk assessments should be conducted periodically or if there is a significant change to the risk assessment process or to the supply system”. WaterNSW advised in the audit interviews that the scheduling of the major C2C risk reviews has yet to be determined and that the JOG’s Catchment to Customer (C2C) Risk Working Group sets the schedules for risk reviews. The Management Committee on Water Quality, Health and Catchment Protection Agenda (D2021/46283, April 2021, Agenda Item 3.1.4) states that the C2C risk review process has been changed from a 5-yearly review to an ongoing assessment as new issues arise. WaterNSW provided evidence that the JOG’s Catchment to Customer (C2C) Risk Working Group (which includes representatives from WaterNSW, Sydney Water and NSW Health) developed workplans for risk reviews. We were provided a forward plan in the Strategic Liaison Group – Agenda Item 4.1 Catchment to Customer Annual Update prepared for SLG (D2020/105494, dated 10 September 2020). A shortcoming in documenting the process and responsibility for the scheduling of risk reviews is noted in the WQMS (Recommendation 2.1.2-2).

WaterNSW made changes to the risk assessment methodology in the audit period. The risk assessment matrix was converted from a 5x4 matrix to a 6x6 risk matrix to align with Sydney Water’s risk matrix and a criterion to assess and record uncertainty was added. Uncertainty is referenced in the Conduct Catchment-to-Customer (C2C) Risk Assessments (CD2021/92). This is consistent with the requirements of the ADWG. Evidence was provided that the need for updates to the risk matrix was discussed at the September 2020 Strategic Liaison Group (SLG) meeting (D2020/134805). The rationale for the change is documented in the C2C 5 yearly report (D2021/98447, final dated September 2021 outside the scope of the audit report). WaterNSW provided the C2C Risk register as evidence of a methodology to assess uncertainty.

## Element 3 Preventative measures for drinking water quality management

### Preventive measures and multiple barriers

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems to meet the ADWG requirements to identify existing preventive measures from catchment to consumer for each significant hazard or hazardous event and estimate the residual risk, evaluate alternative or additional preventive measures where improvement is required and document the preventive measures and strategies into a plan addressing each significant risk.

Appropriate controls and multiple barriers are in place. We were provided as evidence the C2C risk register (D2021/106575, Rev E 23/8/2021) and confirmed for the Prospect system that controls were identified for each significant risk. Controls were tested during the site visit including in Row 405a Prospect 03 Raw Water Delivery '24/7 alarm monitoring & response'. This register was current and had been maintained in the audit period (Rev B September 2020 through to Rev E dates 23/8/2021). We were provided with evidence that controls identified during the audit period (C2C Issues register, D2020/71259) were transferred into the C2C risk register in September 2021 through the review by the Working Group (outside the audit scope). The risk assessment methodology includes a step for assessing residual risk (with the controls in place). The risk assessment includes identification of residual risk. Uncertainty has been added to the risk register.

A process is in place to capture additional controls where the residual risk is considered unacceptable. See Element 12 Improvement Plan of this clause.

The Source Water Protection Strategy (D2021/27596) sets out six priority areas and associated goals for source water protection. Catchment management actions are documented in Catchment Protection Work Programs. There is a current procedure to prepare these plans (Prepare Catchment Protection Work Program (CD2019/30)).

Catchment protection preventative measures are discussed further in clause 2.2 Catchment Management.

### Critical control points

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to assess preventive measures from catchment to consumer to identify CCPs, establish mechanisms for operational control and document the CCPs, critical limits and target criteria.

WaterNSW has assessed the preventive measures in the raw water supply to identify CCPs. CCPs are documented in Critical Control Points for Raw Water Supply to WFPs (D2021/52341). The document includes justification for targets and critical limits and operator's action for exceeding the target criteria and critical limits. The turbidity meter number referenced on the CCP3 Prospect Reservoir Isolation (WQM02 Turbidity\_AF) and the turbidity analyser asset numbers viewed during the site visit (WQM1201 and WQM1300) were noted to be different. WaterNSW advised that the analysers on site are labelled with the asset number from the original asset drawings, with a different numbering system required for use in SCADA. This was considered a satisfactory

explanation. We viewed SCADA and verified that the meter numbers in the CCP3 Prospect Reservoir Isolation tables (D2021/52341) matched those in SCADA. An opportunity for improvement is noted around onsite labelling of CCP analysers (OFI 2.2-2).

## Element 4 Operational procedures and process control

### Operational procedures

We found a shortcoming in the currency of the O&M Manual for Prospect Dam. WaterNSW was updating the O&M Manuals in response to a 2018 recommendation. These were scheduled for completion in July 2021. Other than this shortcoming, WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to identify procedures required for processes and activities from catchment to consumer and document all procedures and compile them into an operations manual.

This action requires WaterNSW to “Identify procedures required for processes and activities from catchment to consumer and Document all procedures and compile into an operations manual.”

The WQMS document (CD2013/56, V4, 2018), records that operations and maintenance manuals have been developed for each major part of the water supply infrastructure, while the Modelpedia system notes that manuals are prepared for each storage and for drinking water treatment systems. There were additional protocols (e.g. Raw Water Supply Protocols) that were not explicitly referenced in Modelpedia. WaterNSW should consider if the wording in Modelpedia covers all of the required operations (e.g. Upper Canal and Warragamba Pipeline) (OFI 2.1.2-1).

The Modelpedia system records that key processes are noted as controls for each hazardous event in the Catchment to Customer Risk Spreadsheets. While this was confirmed as part of the audit, the key processes and existing controls recorded are not linked to procedures and processes. If WaterNSW explicitly linked the controls with the supporting processes this would be strong evidence for meeting this requirement (OFI 2.1.2-3).

We requested the O&M Manual for Prospect. The current version (CD2001/115, v1) does not meet the requirements of the ADWG. This shortcoming was noted in the 2018 audit and the following recommendation was made:

By 31 December 2019, Water NSW should review the operational and process control procedures underpinning its Water Quality Management System and:

- a) identify the required operational procedures from catchment to consumer for processes and activities under its control
- b) develop a plan to compile this information
- c) commence implementation of the plan and document operational procedures for all processes and activities (eg, preventive measures, operational monitoring and verification procedures and maintenance requirements)

In 2020, WaterNSW provided a Project Plan showing the schedule for the development of the O&M Manuals for the Declared Catchment storages with a projected completion



date of 30 July 2021. We were provided with the draft updated O&M Manual which had comments from multiple staff. We consider that WaterNSW has been progressing the development of the O&M Manual. We make a recommendation that the documents are finalised before the next audit (Recommendation 2.1.2-3).

WaterNSW has a range of procedures and or a requirement to develop protocols that support their operations in the declared catchment including:

- Procedures and Processes for Managing Water Quality (D2019/30924)
- Raw Water Supply Operating Protocols with Sydney Water (CD2007/2)
- NOCTSO (D2021/82421)
- The Greater Sydney Water Supply System Configuration Plan (D2015/23218)
- Raw Water Supply Agreement with Shoalhaven City Council (CD2013/17)
- Raw Water Supply Agreement Wingecarribee Shire Council (D2020/80599)
- Water Monitoring Program (CD2011/179).

We tested the process for managing water quality in pipelines. WaterNSW advised that the standard operating protocol is to flush pipelines that have been offline for periods of time. For example, the Raw Water Supply Operating Protocols with Sydney Water (CD2007/2) specify flushing of the raw water mains for the Prospect RWPS, Upper Canal and Fish River Pipeline (to Cascades Dam). The Greater Sydney Water Supply System Configuration Plan (D2015/23218) states that recommissioning of a pipeline or canal may require flushing prior to using for supply to manage poor quality, anoxic water or where material may have collected in canals. The Plan contains details for flushing Warragamba Dam outlet #4 into Prospect Reservoir prior to use. The document is silent on the flushing details of the other outlets when they are brought into use. WaterNSW could consider flushing of the other outlets should be formalised (OFI 2.1.2-5).

### Operational monitoring

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to develop monitoring protocols for operational performance of the water supply system, including the selection of operational parameters and criteria, and the routine analysis of results and to document monitoring protocols into an operational monitoring plan.

Modelpedia records that CCPs with on-line instrumentation (SCADA) have alarms set at multiple levels to alert staff when water quality is trending towards critical limits. The alarms must be acknowledged or will escalate to the Duty Officer. CCPs for raw water turbidity are to be reported daily and any exceedances notified to the customer.

WaterNSW also collects on-line information such as turbidity and temperature from telemetered sites in catchments and storages. Some storages have vertical profilers or lake diagnostic systems at strategic locations to provide information on stratification and lake circulation and can be used to predict lake behaviour or impacts of inflow events. Operational monitoring is documented in Water Monitoring Program (CD2011/179).

There were references in this component of the WQMS document that are not explicit in the Modelpedia system including the analytical service contracts. This is an opportunity for improvement (OFI 2.1.2-1).

WaterNSW uses telemetered instruments, field sampling and analysis to inform operational responses which include offtake and source configuration. The combination of operational monitoring and response is recognised by WaterNSW. These processes are recognised as being critical during inflow events to track and avoid turbid inflow plumes.

### Corrective action

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to establish and document procedures for corrective action to control excursions in operational parameters and establish rapid communication systems to deal with unexpected events.

WaterNSW specifies corrective actions in Critical and Operational Control Point tables (D2021/52341) and in the Water Quality Incident Response Protocol (CD2004/183). The operational monitoring is used to inform changes to the system e.g. storages with multi-level offtakes can be configured to draw from lower in the water column if there is algae in the lake.

WaterNSW utilises a Notification of Change to System Operations (NOCTSO) process to negotiate and record operational changes. Operational changes may be classified as planned, unplanned or emergency actions. This process describes the proposed change, reason and water quality implications. These documents satisfy the requirements of this component.

### Equipment capability and maintenance

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to establish programs for regular inspection and maintenance of all equipment including monitoring equipment in relation to the water monitoring equipment.

Modelpedia records that WaterNSW:

- maintains a Strategic Asset Management Plan
- uses Asset Class Standards to defines requirements, risks and criticalities for different categories of assets
- establishes that maintenance frequencies for all asset types are based on asset object criticality ratings
- schedules maintenance activities at the specified frequencies using Enterprise Asset Management System (EAMS) which enables tracking of preventive and corrective maintenance orders.

The asset management system was audited as part of clause 5.1.

In transitioning from the WQMS document to the Modelpedia system, inspection and maintenance of monitoring equipment is not explicit in the management system. The WQMS document, which was replaced by Modelpedia noted "WaterNSW has a program for routine calibration and renewal of water monitoring devices, delivered via the Field Services contracts. Calibration of instruments at each station is in accordance with the relevant national standards. Within the Water Monitoring Program, sites have been assigned criticality ratings based on risk and require investigation of faults within



specified timeframes.” The recorded assurance was, “Install, maintain and calibrate water monitoring equipment according to contract specifications and hydrometric renewals program” and the document included a reference to the Hydrometric Quality Management System Manual (CD2017/16). References to these processes are not included in Modelpedia (OFI 2.1.2-1).

WaterNSW maintains an endorsed instrument list (D2017/100972) which demonstrates that it has considered the ADWG requirements to ensure monitoring equipment is sufficiently accurate and sensitive to perform at the levels required.

### Materials and chemicals

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to ensure that only approved materials and chemicals are used and has establish documented procedures for evaluating chemicals, materials and suppliers.

Modelpedia notes that WaterNSW conducts risk assessments for any projects or activities that may involve work in contact with drinking water or raw water to be supplied for treatment as drinking water. The Materials and Chemicals in Contact with Drinking Water Procedure (CD2019/36) provides guidance on specific activities where materials or chemicals must be managed to protect water quality. The WaterNSW Procurement Framework requires any high-risk procurement activities to be referred to the Water Quality Services team for review. A training module has also been developed to provide guidance to staff in this procedure.

We reviewed the Materials and Chemicals in Contact with Drinking Water Supplies procedure (CD2019/36 versions 1 and 2). The procedure had been updated in the audited period. The update incorporated revisions to the eProcurement processes that procurement potentially involving contact with Drinking Water Supply infrastructure was considered high risk and must be Procurement-led as well as the previous requirement that a member of the Water Quality Services Team should be invited to advise on the risk assessment and approve a risk control plan.

Both versions of the procedure required the Technical Specification for projects to require that “any materials purchased for works in contact with water Supplies intended for drinking are to be marked as having WaterMark certification or meeting having been tested to AS/NZS 4020:2018. Chemicals should be suitable for use in food processing industry applications and maintained at concentrations that will not exceed ADWG.”

In the questionnaire we tested how “high risk” procurement was assessed. WaterNSW advised that high risk procurement was identified by completion of a procurement risk questionnaire in the WaterNSW eProcurement Portal. The questionnaire screens for potential risk in the proposed procurement including for works on or near drinking water supplies or including chemicals that may come into contact with drinking water. We were provided with a screenshot of the procurement risk questionnaire on the WaterNSW SpendWise eProcurement Portal (D2021/106294) which supported this statement.

Modelpedia also requires that records of stored chemicals are maintained including Safety Data Sheets, application and usage instructions, quantities stored on site, storage method and life and supplier details.

## Element 5 Verification of drinking water quality

### Drinking water quality monitoring

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to determine the characteristics to be monitored in the distribution system and in water as supplied to the consumer, establish and document a sampling plan for each characteristic, including the location and frequency of sampling and ensure monitoring data are representative and reliable.

The water sampling program for the Declared Catchment is documented in the Water Monitoring Program (CD2011/179, v6, June 2019). The program documents the characteristics to be monitored, the monitoring location and the monitoring frequency. The program includes parameters important for short term decisions and understanding long term changes in the catchment. Version 6 was the version current in the audit period. The monitoring plan was reviewed and updated during the audit period. Version 7 which includes the output of the review was approved in September 2021 outside the audit period.

The Water Quality Data Review and Reporting Procedure (CD2012/130, v6) outlines the process for reviewing, analysing and reporting on water quality data. This procedure outlines the appropriate steps to prepare routine water quality reports. Evidence was provided that the document was updated during the audit period.

The Water Quality Incident Response Protocol (CD2004/183, v4, June 2021) discussed in Element 6 meets the requirements for the corrective actions.

### Consumer satisfaction

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to establish a consumer complaint and response program, including appropriate training of employees.

The 'contact us' page on WaterNSW's website links to a customer enquiries phone number (1300 662 077), contact email address and a 'Contact us' form. The website has a description of the feedback and complaints policy and a link to the customer feedback and complaints form. The broader system is audited in clause 6.9.

The Modelpedia WQMS links to operating protocols, raw water supply protocols and raw water agreements as relevant. We confirmed that the WaterNSW and Lithgow City Council Operating protocols for the Fish River Water Supply (CD2017/173) and the Raw Water Supply Protocols for Sydney Water (CD2007/2) include mechanisms for resolving customer satisfaction. Details of complaints are provided to the JOG meetings.

Training of Customer Contact Centre staff is discussed under element 7 of this clause.

### Short-term evaluation of results

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to establish procedures for the daily review of drinking water quality monitoring data and consumer satisfaction and develop reporting mechanisms internally, and externally, where required.

Data is reviewed in accordance with the Water Quality Data Review and Reporting Procedure (cD2012/130, v6). Roles and responsibilities for reviewing data is outlined, including that the Water Quality Advisors are responsible for reviewing water quality data and preparing reports. Responsibilities are also included for document review, forwarding of reports and process for requesting additional monitoring data.

#### Corrective action

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to establish and document procedures for corrective action in response to non-conformance or consumer feedback and establish rapid communication systems to deal with unexpected events.

Corrective actions are noted in CCP documentations and the Water Quality Incident Response Protocol (CD2004/183, v4, June 2021) provides guidance on required corrective actions and investigations. Additional mechanisms for corrective actions were discussions in element 4.

### Element 6 Management of incidents and emergencies

#### Communication

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to define communication protocols with the involvement of relevant agencies and prepare a contact list of key people, agencies and businesses and develop a public and media communications strategy.

WaterNSW has established communication protocols, documented in Section 4.2 Water Quality Incident Communications of the Water Quality Incident Response Protocol (CD2004/183, v4, June 2021).

Communications protocols and guidelines are jointly developed by WaterNSW, Sydney Water and NSW Health to ensure consistent messaging during incidents. The protocols include agreed messaging, responsibilities for issue of communications and sign off.

Evidence was sighted to confirm that the WaterNSW Quality Contact List was updated during the audit period (D2021/105029, ARK Screen Shot, updates sighted on the 8 June and 6 July 2021).

The Raw Water Supply Protocols (CD2007/02, 8/12/2016) documents the protocols between Sydney Water and WaterNSW and their actions when providing information, advice or direction in the supply involved in the delivery of raw and treated water. The “WSP 01 Communication” protocol in the Raw Water Supply Protocols defines communication type and contact details.

#### Incident and emergency response protocols

A shortcoming is noted in relation to currency of the Incident Management Procedure (CD2017/180, v1). WaterNSW has otherwise provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to define potential incidents and emergencies and document procedures and response plans with the involvement of relevant agencies; train employees and regularly test

emergency response plans and investigate any incidents or emergencies and revise protocols as necessary.

A Water Quality Incident Response Protocol (CD2004/183, v4, June 2021) is in place, which covers all of WaterNSW's area of operations. Communication with NSW Health is maintained through various committees. Evidence was sighted that the document was reviewed in the audit period, including that the document was provided and reviewed with NSW Health (D2021/75958 Water Quality Incident Response Protocol – minutes of meeting with NSW Health, 30/6/2021). The process states that relevant staff are made aware of this protocol through an eLearning module. The module was provided as evidence and we verified that the protocol was referenced. Further discussion on incident training is provided in element 7 of this clause.

The WaterNSW Incident Management Procedure (CD2017/180, v1) includes incident closure and debrief requirements. The Incident Management Procedure is noted as being “under review” and due for review in November 2018. WaterNSW advised that the document is currently under review and provided a summary of activities as evidence that a comprehensive review of the Incident Management Framework (including the Incident Management Procedure) was ongoing (Incident Mgt\_Evidence (D2021/117688, 2/11/2021)) during the audit period:

- Targeted Workshop No #3 Incident Management Plan Refresh (25 November 2020)
- February 2021: IMP External review (TigerTail). IMP Review Report and draft Incident Management Plan provided with tracked changes
- August 2021: Commencement of Incident Management Procedure Framework Review (Internal Audit Terms of Reference) – to assess the adequacy and effectiveness of the Incident Management procedure and practices.

While the Incident Management Procedure itself was not maintained, evidence was provided that a review of incident management documentation was being undertaken (with internal and external reviews) and that a program is in place to progress the review. Recommendation 2.1.2-4 has been added to address this shortcoming.

## Element 7 Employee awareness and training

### Employee awareness and involvement

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to develop mechanisms and communication procedures to increase employees' awareness of and participation in drinking water quality management.

There is a requirement in the Modelpedia WQMS for mandatory water quality awareness training is for all WaterNSW staff with refreshers to be conducted every 2 years. Modelpedia Notes that the training module includes a description of the water quality policy, along with its application and responsibilities and where to find it. Awareness training is delivered through the myLearning system. This process is consistent with the ADWG guidelines.

### Employee training

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to ensure that employees, including contractors, maintain the appropriate experience and qualifications, identify training needs and ensure resources are available to support training programs and document training and maintain records of all employee training.

Modelpedia documents additional training for staff who may have a role in responding to or managing water quality incidents. This training module is mandatory for those positions in the organisational structure who may be expected to identify, assess or respond to potential water quality incidents. Further training is provided for staff who may participate in incident management teams and incident scenario exercises are used as an opportunity to involve additional staff members.

A further training module has been developed for handling materials and chemicals in contact with drinking water required for roles that may procure or use these materials or chemicals.

Modelpedia links to three e-learning modules:

- Water Quality Awareness
- Water Quality Incident Response
- Materials and Chemicals in contact with Drinking Water.

The E-learning module Water Quality Incident Response (E7-C71~1.EML) was provided as evidence. The module is suitable for the requirements of element 6. The module was endorsed on 19 July 2018. We would suggest the training material is reviewed and updated to reflect the use of Modelpedia as the WQMS (OFI 2.1.2-4).

Modelpedia states that water quality awareness information is also included in the Asset Maintenance Awareness module for contractors.

Modelpedia notes that the organisation has a training matrix which includes qualifications and certification requirements. This was not sampled in the audit.

The WQMS documents that training records are maintained through the myLearning system and managers have visibility through the myLearning system of all mandatory training that is due or that has been booked or completed. Overall completion of mandatory water quality training modules is reported in Quarterly Water Quality Management System Trend Analysis reports. This data is extracted from the myLearning system quarterly. These processes meet the ADWG requirements.

WaterNSW staff advised that Customer Contact Centre staff have to complete 2 training activities, a WaterNSW Water Quality Awareness (online learning module) every 2 years and a Customer Contact Centre Customer and Stakeholder Relations Training delivered as part of staff induction training. The Customer and Stakeholder Relations training presentation was provided as evidence (D2021/103874) and meets the requirements of Element 5.

## Element 8 Community involvement and awareness

### Community consultation

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to assess requirements for effective community involvement and develop a comprehensive strategy for community consultation.

The WQMS on Modelpedia documents general community engagement through the Deliver Education Program, Warragamba Dam Visitor Centre, website and social media and targeted community consultation for long projects. WaterNSW has developed short and long form templates to develop programs for these projects. WaterNSW advised that the short-term engagement plan template is used for less complex projects with a smaller number of stakeholders and lower community impact to provide a succinct way of capturing the key engagement requirements for smaller projects. The long form template is used for more complex projects with a larger number of stakeholders and greater community impact where more extensive engagement is required.

In the questionnaire, WaterNSW advised that decisions around effective community involvement are made with reference to the [International Association for Public Participation spectrum of engagement](#) and informed by the degree of community impact or interest on any given project or policy change. The Community Engagement team makes this assessment in consultation with the project team and external stakeholders.

Modelpedia states that catchment landholder engagement is delivered through the [WaterNSW website](#) and through the Catchment Protection program. The Catchment Protection program is discussed further in clause 2.2.

### Communication

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to develop an active two-way communication program to inform consumers and promote awareness of drinking water quality issues.

The Modelpedia WQMS states that customer feedback is monitored, investigated and resolved or escalated according to the Customer Complaints and Compliments handling procedure. Customer Service Centre staff are trained in the procedure. Clause 6.9 has further commentary. Customer interface meetings and advisory groups are held that also fulfill this requirement.

WaterNSW advised that it promotes its education program through:

- website presence
- responding to individual questions via the Customer Service Centre
- school excursions that can be booked via website and demand has always outweighed booking availability
- social media posts sharing resources and directing to our website for further resources
- attendance at regional events e.g. Wingecarribee Schools Environment Day
- local tourism advertising of the visitor centre.



WaterNSW advised that the HSC Chemistry and Biology resource websites are not active, due to changes to the National Curriculum and NSW syllabus which made links to other curriculum areas more easily applicable to WaterNSW (e.g. Stage 4 Geography).

In the questionnaire WaterNSW advised that meetings are held with all major customers for each supply region in the Greater Sydney area. There are raw water supply protocols with Sydney Water, Shoalhaven City Council and Wingecarribee Shire Council.

The Water Monitoring Program (CD2011/179) captures the monitoring required for the Customer Supply Agreements. The current arrangements with Sydney Water are documented in the Raw Water Supply Agreement (D2013/101721). When this agreement is reviewed, a member of the Water Quality team is involved to ensure any changes to water quality requirements are captured and reflected in the Modelpedia. This is captured in OFI 2.1.2-1.

## Element 9 Research and development

### Investigative studies and research monitoring

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to establish programs to increase understanding of the water supply system and use information to improve management of the water supply system.

The Modelpedia WQMS documents development of a Science Program covering:

- catchment management,
- water quality management,
- knowledge gaps,
- assessment emerging risks,
- management of extreme events.

It states that planned activities are listed in annual catchment protection work plans and outcomes are reported in annual catchment management reports. Research activities under the Science Program are managed as projects with a client involved in setting objectives and reviewing outcomes.

Evidence of Science Program for fire research was provided (Water Quality Program Fire Research Strategy 2021-2025 (D2021/64678)). WaterNSW had identified the following research needs as part of that program:

- Stakeholder consultation
- Internal fire and water quality investigation
- New South Wales natural disaster inquiries.

The strategy included a project portfolio in Appendix A, with a description of how each program met the required research objective, project aim and WaterNSW project manager or delivery partner.

WaterNSW provided evidence of the Catchments Protection Work Program for 2022 (D2021/25494) as maintenance of this component in the audit period. Programs are set around defined programs. The 'Priority 1 Scientific Approach' goal is to 'Undertake scientific research into water quality risks and emerging issues in the catchment'.

## Validation of processes

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to validate processes and procedures to ensure that they are effective in controlling hazards and revalidate processes periodically or when variations in conditions occur.

The Modelpedia WQMS states that the C2C risk review process triggers a review of risks and effectiveness of controls in case of any new hazards, hazardous events and processes. CCP documents include validation requirements as a separate table. We were provided as evidence Critical Control Points for Raw Water Supply to WFPs (D2021/52341). These tables include validation monitoring parameters for each CCP and the characteristics to be used to ascertain ongoing proof of performance. The Modelpedia WQMS states that revalidation will occur of the critical and operation control points and comment to be sought from NSW Health. Modelpedia notes these are undertaken through the routine review operational targets, critical limits and validation table. It also notes that the effectiveness of Critical Control Points and operational processes is reviewed as part of Catchment to Customer risk assessments. The triggers for re-validation (time or events) are not clear in Modelpedia. The WQMS document (CD2013/56, v4, 2018) noted additional references and responsibilities that supported this component.

## Design of equipment

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to validate the selection and design of new equipment and infrastructure to ensure continuing reliability.

The Modelpedia WQMS states that processes involved in the design of new equipment are undertaken under the Purchasing and Procurement Framework (CD2016/77) and through use of the Asset Change Request procedure. As the Purchasing and Procurement Framework was marked 'obsolete', we viewed the ARK system to confirm that this was the version current in the audit period.

The Modelpedia WQMS includes the requirements to perform studies, tests and proving trials as part of assessments of the suitability of new equipment and infrastructure, as well as consultation with NSW Health during the commissioning phase prior to using new equipment or infrastructure which may impact on water quality.

## Element 10 Documentation and reporting

### Management of documentation and records

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to:

- document information pertinent to all aspects of drinking water quality management
- develop a document control system to ensure current versions are in use
- establish a records management system and ensure that employees are trained to fill out records
- periodically review documentation and revise as necessary.



All document updates including the Compliance Management Framework (CD2018/13) are controlled by the Controlled Documents Framework (CD2019/123). This sets the minimum review frequency based on risk ranking but WaterNSW advised that reviews can occur before their scheduled time following other events such as process changes, organisational changes, legislative change and audit recommendations.

WaterNSW utilise ARK as its Records Management System (HP Trim). WaterNSW advised that when a new version of a document is created and actioned for review, it is labelled in ARK as 'UNDER REVIEW' and placed in a container for draft documents. It is actioned to the reviewer and not published on the intranet until it is approved. When the new version of the document is approved, the old document is labelled 'OBSOLETE' and moved to a secure container. The new version will then be published to the intranet. We viewed a demonstration of ARK in the audit interviews and tested record currency, for example, CD2012/130 Water Quality Data Review and Reporting Procedure, v5 was confirmed as the version current in the audit period. Currency of documentation is discussed throughout clause 2.1.1, 2.1.2 and 2.1.3.

### Reporting

WaterNSW has provided evidence to demonstrate that it has maintained systems to establish procedures for effective external reporting and produce an annual report to be made available to consumers, regulatory authorities. Deficiencies against the Water NSW Reporting Manual are audited under clause 7.2.1.

WaterNSW produces weekly, monthly, quarterly and annual reports to a variety of external and internal stakeholders. The WaterNSW Reporting Manual specifies external reporting requirements. Routine water quality reports are developed in accordance with the Water Quality Data Review and Reporting Procedure (CD2012/130).

WaterNSW state on Modelpedia that the Annual Water Quality Monitoring Report sent to NSW Health, IPART and published on its website satisfies the requirement to produce an annual report to be made available to consumers, regulatory authorities and stakeholders.

The ADWG requires that the annual report should:

- summarise drinking water quality performance
- summarise any system failures and the action taken to resolve them;
- specify to whom the drinking water supplier is accountable, statutory or legislative requirements, and minimum reporting requirements;
- indicate whether monitoring was carried out in accordance with the principles of risk management set out in the Australian Drinking Water Guidelines, standards set by the regulator and any requirements contained in agreed LOS.

The 2019/2020 Annual Water Quality Monitoring Report provided satisfies these requirements.

We address deficiencies related to reporting in accordance with the WaterNSW Reporting Manual under clause 7.2.1.

## Element 11 Evaluation and audit

### Long term evaluation of results

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to collect and evaluate long-term data to assess performance and identify problems and document and report results.

Long term trend review of WaterNSW systems listed in Modelpedia include the Catchment to Customer risk assessment, quarterly data reports, annual reporting on water quality data that every second year will include a review of the previous ten years' data. These process for long term data review are adequate. WaterNSW advised that the long term data review can be used to inform decisions and identify problems as required by the ADWG.

### Audit of drinking water quality management

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to establish processes for internal and external audits and document and communicate audit results.

Modelpedia states that WaterNSW maintains an annual program of system health checks with proposed health checks prioritised based on risk. The WQMS Audit Program (D2017/87415) presented as evidence, demonstrated clear audit tracking with planned audit dates and details of deferred/cancelled audits with notes on reasoning. Recommendations arising from audits, health checks and risk assessments are transferred to the Water Quality Improvement Plan with status reported quarterly and in the Annual System Effectiveness and Health Check report and Annual WQMS report to IPART. The procedure for this transfer was provided as evidence (CD2021/95) and found to be in date, covering the necessary content.

## Element 12 Review and continual improvement

### Review by senior executive

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to have senior executive review of the effectiveness of the management system and evaluate the need for change.

The Modelpedia WQMS documents that review by senior executives is undertaken through the following mechanisms:

- Board Committee on Health, Water Quality and Catchment Protection meets quarterly and reviews the Quarterly Water Quality Management System Trend Analysis reports on the effectiveness of the WQMS plus an Annual System Health Check, which includes review of targets and outcomes and proposed targets and outcomes for the following year.
- The Board Committee is supported by a management committee comprising relevant management staff to review materials submitted to the Board Committee.
- The full Board receives monthly Water Quality Dashboard reports
- The Executive review all reports provided to the Board.

The Water Quality Management System Annual Review and Continuous Improvement Cycle (D2021/50060) identifies a high-level schedule of reporting requirements (including the Water Quality Improvement Plan, Annual WQMS reports and the Operational licence audit). Details of the annual review process and responsibilities are included.

### Drinking water quality management improvement plan

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to develop a drinking water quality management improvement plan and ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.

There is an overarching Water Quality Improvement Plan (D2019/53719) that is maintained. The Modelpedia WQMS lists the supporting processes to add recommendations to the improvement plan, including the Add Recommendations to Water Quality Improvement Plan procedure (CD2019/95). The procedure documents that actions are allocated to staff via RACS. There was evidence of action tracking and maintenance of the plan through dates and status recorded against action items. The procedure documents that current actions relating to water quality improvement are entered into the Water Quality Improvement Plan spreadsheet (D2019/53719). There are processes in place to ensure that the plan is communicated and implemented for the provision of monthly, quarterly and annual reports to Executive and Board.

### Recommendation

Recommendation 2.1.2-1: By 30 June 2022, WaterNSW should review the process for updating the water quality contact list (including the version attached to the WQ Incident Response Protocols) to ensure that the list is current, including for stakeholders not relevant to the JOG.

Recommendation 2.1.2-2: By 30 June 2022, WaterNSW should document the process and responsibility for scheduling major risk reviews.

Recommendation 2.1.2-3: By 30 September 2022, WaterNSW should finalise the Operation & Maintenance manuals for the dams in the Declared Catchment.

Recommendation 2.1.2-4: By 30 September 2022, WaterNSW should ensure that the Incident Management Procedure has been updated and implemented.

Recommendation 7.2.1-1 in clause 7.2.1 also applies to this clause.

### Opportunities for improvement

OFI 2.1.2-1: Review Modelpedia to ensure that it captures the breadth of supporting documents and process. Ensure that incorrect reference to obsolete documents are removed.

OFI 2.1.2-2: Add labels to onsite CCP online analyser equipment to match analyser numbers recorded in the CCP tables, such as the Prospect turbidity meters.

OFI 2.1.2-3: To demonstrate that WaterNSW has identified the procedures and required process (Element 4 Operational Procedures), develop a list of that document the procedures that support each identified control in the C2C risk assessment register.

OFI 2.1.2-4: Review the Water Quality Incident Response training material to reflect the use of Modelpedia as the WQMS.

OFI 2.1.2-5: Consider if flushing requirements for the other dam outlets when they are brought into use should be formally documented.

## Clause 2.1.3

**Table 10. Clause 2.1.3 compliance grade**

Subclause	Requirement	Compliance grade
2.1.3	<p>With respect to Non-Declared Catchment Areas from which Water NSW Supplies water, Water NSW must maintain Water Quality Management Systems that are consistent with:</p> <p>a) in the case of water with the final end use as Drinking Water:</p> <p>i) a relevant quality assurance program under section 25 of the Public Health Act 2010 (NSW);</p> <p>ii) the Australian Drinking Water Guidelines; or</p> <p>iii) any other requirements as specified or approved by NSW Health or IPART,</p> <p>b) in the case of water that does not have a final end use as Drinking Water and that is not to be managed according to a Water Quality Management System that satisfies clause 2.1.3(a):</p> <p>i) the Australian Guidelines for Water Recycling; or</p> <p>ii) any other requirements as specified or approved by NSW Health or IPART.</p> <p>[Note: It is generally expected that Water NSW will manage the water under its control in light of its knowledge of the downstream water supply system, including that of its Customers. Therefore the Water Quality Management System should be developed in consultation with the relevant Customers to whom it Supplies water.]</p>	Non-compliant (non-material)
<b>Risk</b>	<b>Target for full compliance</b>	
Without a Water Quality Management System, the risk posed to public health from non-compliance with this clause could be significant.	Evidence that a Water Quality Management System is maintained and kept up to date for the Non-Declared Catchment Areas, that it is consistent with the ADWG, or as specified by NSW Health or IPART.	

## Summary of reasons for grade

The previous audit identified a material non-compliance, with significant deficiencies with the Fish River DWQMS. These deficiencies included:

- limitations in risk assessment process,
- failure to maintain appropriate systems associated with the CCPs
- process monitoring and reporting
- issues with currency of documentation
- inadequate operations and maintenance documentation

- inadequate improvement processes.

WaterNSW has made considerable progress updating the Fish River DWQMS since the audit findings last year. The updates include:

- migrating from a detailed plan to the Modelpedia WQMS format
- developing an O&M Manual
- developing the How to guide – developing and maintaining schematic flow and updates to the Fish River Process flow schematic in line with this guide
- reviewed and updated Monitoring Program
- undertaking risk assessments workshops.

As the historical non-compliance extended through much of the audit period (with Modelpedia coming on-line on the last day of the audit) we have found the clause non-compliant. In determining materiality, we have taken into account the extensive work that WaterNSW has undertaken during the audit period, since the ministerial recommendations in the previous audit report. In writing up the detail of this audit clause we have not focused on the on-going non-compliance but consider shortcomings and deficiencies that may impact future audit grades.

A deficiency was noted in Element 4. While an O&M Manual had been developed and approved in the audit period, it contained errors and was missing key information including standard operating procedures (SOPs). In the audit period we did not find that water safety had been impacted by a lack of formalised procedures so we consider this non-material.

Noted shortcomings include:

- Element 2 - Water Quality Data Review and Reporting Procedure does not explicitly cover the reporting requirements for the Fish River system
- Element 4 - requirement for checking reagents for CCP analysers is not part of the routine inspection checklist
- Element 9 - the WQMS process is insufficiently documented in regards to the triggers for revalidation of treatment processes when a change condition occurs and how this is defined.

There are additional shortcomings for common aspects of the WQMS that were identified in clause 2.1.2 that apply here but have not been repeated

- Element 2 - The process to schedule C2C risk reviews is not formalised in the WQMS
- Element 6 - The Incident Management Procedure (CD2017/180, v1) is not current.

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

## Discussion and notes

In the discussion, we have not detailed the non-compliances that extended from the previous audit period.

## Element 1 Commitment to drinking water quality management

### Drinking water quality policy

With the update to the Fish River Water Supply (FRWS) WQMS, the water quality policy and supporting activities are common for clause 2.1.2 and clause 2.1.3. Therefore, WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to formulate a drinking water quality policy, endorsed by senior executive, to be implemented throughout the organisation and ensure that the policy is visible and is communicated, understood and implemented by employees (see discussion under clause 2.1.2 element 1).

### Regulatory and formal requirements

With the update to the FRWS WQMS, the processes to identify the regulatory and formal requirements are common for clause 2.1.2 and clause 2.1.3. WaterNSW has demonstrated that the updated WQMS has the processes to maintain the ADWG requirements to identify and document all relevant regulatory and formal requirements, ensure responsibilities are understood and communicated to employees and establish processes to review requirements periodically to reflect any changes (see discussion under clause 2.1.2 element 1).

### Engaging stakeholders

With the update to the FRWS WQMS WaterNSW has demonstrated it has met the requirements to identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier, develop appropriate mechanisms and documentation for stakeholder commitment and involvement and regularly update the list of relevant agencies (see discussion under clause 2.1.2 element 1).

In the questionnaire, WaterNSW advised that The Greater Sydney Operations team run a monthly forum for major customers (of the Fish River Scheme (Oberon Council, LCC and Energy Australia). The agenda provided (D2021/22411, 2/3/2021) shows that there was an opportunity for the customers to provide updates.

## Element 2 Assessment of the drinking water supply system

### Water supply system analysis

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to maintain a system to assemble a team with appropriate knowledge and expertise, construct a flow diagram of the water supply system from catchment to consumer, assemble pertinent information and document key characteristics of the water supply system to be considered and periodically review the water supply system analysis. Opportunities for improvement are noted.

A process flow diagram for the Fish River Water Supply (D2021/52068, Rev 2.15, 25/5/2021) was consistent with the How to guide – developing and maintaining schematic (D2021/103279). Evidence was provided of updates demonstrating maintenance of currency (Fish River Supply, Rev 2.15, 25/5/21 and Duckmaloi WFP, Rev 2.14, 4/5/2021).



A process is in place for compiling and trending water quality data for risk assessments and assembling a team with appropriate knowledge and expertise, this is discussed in clause 2.1.2 Element 2 Water supply system analysis.

Pertinent system information is included on the process flow diagrams. The ADWG describes pertinent information (where appropriate) as consideration of the catchment area, source water, groundwater system, reservoirs and raw water transport, treatment systems, distribution system and consumers. Key system characteristics on the Fish River Supply schematic includes source descriptions (including land uses and catchment size) and raw water supplies. Some information (such as catchment maps) included in the FRWS DWQMS (CD2019/129) document are not referenced in the Modelpedia WQMS. An opportunity for improvement is noted that this additional information, including catchment maps be referenced within the WQMS (OFI 2.1.2-1).

### Assessment of water quality data

WaterNSW provided sufficient evidence to demonstrate it has met the ADWG requirements to maintain a system to assemble historical data, list and examine exceedances and assess data using tools such as control charts and trends analysis to identify trends and potential problems, however a shortcoming is noted in the Water Quality Data Review and Reporting Procedure for Fish River.

WaterNSW has a process in place for assembling historical water quality data (Water Quality Data Review and Reporting Procedure, CD2012/130, v5). We confirmed that this procedure was current in the audit period. WaterNSW advised that the Water Quality Data Review and Reporting Procedure covered the FRWS routine water quality reports, a shortcoming is noted that the procedure does not explicitly state this, only referencing that these requirements apply to routine lake sampling events. Some of the requirements however do reference the drinking water supply to Lithgow. Incidents for Fish River are included in the annual drinking water quality report. Recommendation 2.1.3-1 has been made to address this shortcoming.

### Hazard identification and risk assessment

Shortcomings were identified with evidence provided to demonstrate WaterNSW has met the ADWG requirements to maintain a system to define the approach and methodology to be used for hazard identification and risk assessment; identify and document hazards, sources and hazardous events for each component of the water supply system; estimate the level of risk for each identified hazard or hazardous event; evaluate the major sources of uncertainty associated with each hazard and hazardous event and consider actions to reduce uncertainty; determine significant risks and document priorities for risk management; periodically review and update the hazard identification and risk assessment to incorporate any changes. This shortcoming is discussed in clause 2.1.2.

Adequacy of the conduct (CD2021/92 Conduct Catchment-to-Customer (C2C) Risk Assessments) and approve (CD2021/94 Approve Catchment-to-Customer (C2C) Risk Assessments) risk assessments is discussed in clauses 2.1.2 Element 2 Hazard identification and risk assessment. A shortcoming in documenting the process and

responsibility for the scheduling of risk reviews is noted in the WQMS (Recommendation 2.1.2-2).

WaterNSW made changes to the risk assessment methodology in the audit period, including to the risk matrix and addition of assessment of uncertainty (as discussed in clause 2.1.2 element 2 Hazard identification and risk assessment). Evidence that the drafts of these documents were trialled throughout the audit period, in the November 2020 and May 2021 FRWS risk assessment is discussed in clause 2.1.2 Element 2 Hazard identification and risk assessment.

### Element 3 Preventative measures for drinking water quality management

#### Preventive measures and multiple barriers

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to identify existing preventive measures from catchment to consumer for each significant hazard or hazardous event and estimate the residual risk, evaluate alternative or additional preventive measures where improvement is required and document the preventive measures and strategies into a plan addressing each significant risk.

We were provided as evidence the C2C 5 Year Review Lithgow and Oberon Risk Register (D2021/80906) and confirmed for the FRWS system that controls were identified for each significant risk. This register was current and had been maintained in the audit period (November 2020 and May 2021 Risk Reviews). The risk assessment methodology includes a step for assessing residual risk (with the controls in place). The risk assessment includes identification of residual risk. Uncertainty has been added to the risk register in November 2020. We note that 'Overdose of fluoride at treatment plant results in elevated fluoride in treated water supply' is identified as a hazardous event, with controls identified including a flow switch, online monitoring with alarms to operations staff available 24 hours and operator training.

#### Critical control points

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to assess preventive measures from catchment to consumer to identify CCPs, establish mechanisms for operational control and document the CCPs, critical limits and target criteria.

WaterNSW has assessed the preventive measures in the Fish River system, to identify CCPs. Fish River CCPs were reviewed in a workshop in May 2021 (D2021/58547, 11/5/2021).

CCPs are documented in the Critical and Operational Control Points for Fish River Water Supply System (D2021/52340). The document includes justification for targets and critical limits and operators' action for exceeding the target criteria and critical limits. We verified that the turbidity meter number referenced on the CCP8 Membrane filtration was consistent with that verified during the site visit.

FRWS CCP tables are also included on the process flow schematic (D2021/52068).



## Element 4 Operational procedures and process control

### Operational procedures

There was an ongoing deficiency for this component relating to SOPs for Duckmaloi WTP. WaterNSW advised in the questionnaire that there is no dedicated FRWS O&M manual for the entire system. We were unable to establish that the Framework requirement to identify and document procedures from catchment to consumer had been met.

An O&M Manual (CD2021/107) had been prepared in the audit period and became a controlled document on 30 August 2021 (the ARK record of the review was sighted during interview). The O&M Manual was specific to the operation of Duckmaloi WTP and did not meet the Framework requirements to identify and document procedures. Appendix A noted “No structured SOP documents were identified onsite”.

In the O&M Manual, we also noted:

- obsolete information (references to a 5-year service contract with Vivendi)
- inconsistencies between the manual (Table 4.3) and the monitoring program (CD2011/179[v7])
- references to the Duckmaloi WTP Operators Manual (with no document control information)
- maintenance schedules that did not align with current practice.

Recommendation 2020-02 address this deficiency, which is still considered open.

There are operational checklists however these did not include the requirement to check analyser reagents, the implication of this shortcoming is discussed in clause 2.1.4. Recommendation 2.1.3-3 has been made to address this shortcoming.

WaterNSW developed a guidance document during the audit period to provide more detailed information on methods and best practice for preventing microbiological contamination during pipe installation and/or repairs (D2021/90735 Guidance document: Good Practices for the Installation and Emergency Repairs of Water Mains – Preventing Microbial Contamination). Prior to the development of this guidance the general process for pipe repairs was provided under the Fish River Water Supply Scheme Incident Management Plan.

O&M Manuals were also provided for:

- Rydal Chlorinator (D2021/106377)
- Wallerawang Re-Chlorination (D2021/106376).

WaterNSW has a range of procedures and protocols that support their operations in the non-declared catchment including:

- CD2021/83 Fish River Incident Management Plan
- D2019/30924 Procedures and Processes for Managing Water Quality
- D2021/52340 Critical Control Points – CCP – Fish River Water Supply System
- D2021/52068 Fish River Supply and Duckmaloi Water Filtration Plant Schematic
- CD2017/173 Operating Protocols with Lithgow City Council
- CD2011/179 [V6/7] Water Monitoring program manual.

### Operational monitoring

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to develop monitoring protocols for operational performance of the water supply system, including the selection of operational parameters and criteria, and the routine analysis of results and document monitoring protocols into an operational monitoring plan.

The operational monitoring parameters are documented in the Water Monitoring Program (CD2011/179). Version 6 was current for the audit period. Version 7 was being updated during the audit period with increased manganese sampling. The sampling program was implemented for FRWS prior to becoming a controlled document. The monitoring parameters are suitable to monitor the operational performance of the plant. The 27 October 2021 Daily Data Sheet was viewed during the site visit to Duckmaloi WTP (mistakenly written as November on the sheet). The monitoring requirements on the sheet was tested against the requirements in the monitoring program (v7) and found to be consistent.

Testing protocols for manganese and iron were observed during the site visit in the WTP laboratory.

### Corrective action

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to establish and document procedures for corrective action to control excursions in operational parameters and establish rapid communication systems to deal with unexpected events.

Corrective actions are managed in a similar manner to those documented in clause 2.1.1, CCPs for the FRWS System are documented in D2021/52340. The operating protocols for the FRWS (CD2017/173) document the use of the NOCTSO process in section WSP03 and a template for this notification has been established (D2017/84625).

### Equipment capability and maintenance

We found shortcomings in the documentation of processes to establish programs for regular inspection and maintenance of all equipment including monitoring equipment.

The equipment capability and maintenance section of the WQMS for clause 2.1.2 also applies to clause 2.1.3 (see discussion under clause 2.1.2 element 4).

Chapter 14 of the Duckmaloi WTP O&M Manual (CD2021/107) had maintenance schedules for the equipment including the membranes and air compressor. When we questioned this schedule during the site visit, we were advised these schedules were not being followed. Therefore, we consider this a shortcoming. Recommendation 2020-02 addresses this deficiency.

### Materials and chemicals

WaterNSW has provided sufficient evidence to demonstrate it has generally met the ADWG requirements to ensure that only approved materials and chemicals are used and establish documented procedures for evaluating chemicals, materials and suppliers.

The materials and chemicals section of the WQMS for clause 2.1.2 also applies to clause 2.1.3 (see discussion under clause 2.1.2 element 4). There is an additional requirement that applies to the FRWS which is the Purchasing Procedure for Private Water Supply chlorination facilities (CD2015/38). This procedure documents the requirements for purchasing the sodium hypochlorite used for secondary chlorination in the distribution system. We note that the Header for the provided procedure matched the Modelpedia reference, however the procedure was titled Hypochlorite Purchasing Procedure for Drinking Water Supply Chlorination Facilities. This title reflects the application of the procedure to the FRWS as well as the private water supplies. WaterNSW should update the Modelpedia references and document procedure header to reflect the updated title (OFI 2.1.2-1).

While the fluoridation plant at Duckmaloi was not yet operational, bags of sodium fluoride were in the fluoride room. WaterNSW provided evidence of the chemical analysis of the sodium fluoride chemical that is on site from their supplier (D2202/3316). As the purchase occurred before the audit period, compliance with the procurement aspects of the DWMS is out of date scope for this audit. WaterNSW have advised that specification and supplier requirements will be maintained once fluoride dosing commences. An OFI has been made for WaterNSW to develop a fluoridation specification consistent with the requirements of the ADWG (OFI 2.1.3-2).

### Element 5 Verification of drinking water quality

#### Drinking water quality monitoring

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to determine the characteristics to be monitored in the distribution system and in water as supplied to the consumer, establish and document a sampling plan for each characteristic, including the location and frequency of sampling and ensure monitoring data are representative and reliable.

The water sampling program for the Fish River supply is documented in the Water Monitoring Program (CD2011/179, v6). The program documents the characteristics to be monitored, the monitoring location and the monitoring frequency. The program includes parameters important for short term decisions and understanding long term changes in the catchment. Version 6 was the version current in the audit period. The monitoring plan for Fish River was reviewed in the audit period and implemented in August 2021. The review of the Fish River verification monitoring is recorded in the Proposed microbiological verification monitoring program frequencies (D2021/54925) paper. The updates to the monitoring plan are documented in Version 7 (dated September 2021 outside the audit period).

#### Consumer satisfaction

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to establish a consumer complaint and response program, including appropriate training of employees.

The broader consumer satisfaction system is discussed in clause 2.1.2 (Element 5 Consumer satisfaction) and clause 6.9. For FRWS system, details of communication

pathways for varying issues or triggers are detailed in the Operating Protocols with Lithgow City Council (CD2017/173, v2). Issues are also discussed at the Fish River JOG meetings.

### Short-term evaluation of results

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to establish procedures for the daily review of drinking water quality monitoring data and consumer satisfaction and develop reporting mechanisms internally, and externally, where required. A shortcoming is noted in relation the Water Quality Data Review and Reporting Procedure (CD2012/130, v6) discussed under Element 2.

The Water Quality Data Review and Reporting Procedure (CD2012/130, v6) outlines the process for reviewing, analysing and reporting on water quality data. This procedure outlines the appropriate steps to prepare routine water quality reports. Evidence was provided that the document was updated during the audit period. As discussed in Element 2 a shortcoming is noted that the procedure does not explicitly refer to the Fish River system.

### Corrective action

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to establish and document procedures for corrective action in response to non-conformance or consumer feedback and establish rapid communication systems to deal with unexpected events.

The Water Quality Incident Response Protocol (CD2004/183, v4) provides guidance on required corrective actions and investigations.

## Element 6 Management of incidents and emergencies

### Communication

WaterNSW has provided sufficient evidence to demonstrate it has met the ADWG requirements to define communication protocols with the involvement of relevant agencies and prepare a contact list of key people, agencies and businesses, and develop a public and media communications strategy.

The Fish River Water Supply Scheme Incident Management Plan (D2018/116921, v1.7) was updated during the audit period and outlines internal and external reporting mechanisms.

Evidence was provided that the Operating Protocols for Fish River Water Supply (CD2017/173, v2) were current, with an update made during the audit period. The "WSP 01 Communications" protocol defines contact points, types of contacts and actions and responsibilities. This document includes contact detail for WaterNSW, LCC and NSW Health. Evidence of maintenance of the contact list included changes to contacts noted during JOG Meeting NSW Health, WNSW, LCC and Oberon Council – Minutes (D2021/90342, 10/8/2021).

WaterNSW uses the RACS systems to maintain the incident records including notification to NSW Health, additional water quality sampling data and actions.

### Incident and emergency response protocols

A shortcoming is discussed under clause 2.1.2 with currency of the Incident Management Procedure (CD2017/180, v1). Recommendation 2.1.2-4 has been added to address this shortcoming. WaterNSW has otherwise provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to define potential incidents and emergencies and document procedures and response plans with the involvement of relevant agencies; train employees and regularly test emergency response plans and investigate any incidents or emergencies and revise protocols as necessary.

The Fish River Water Supply Scheme Incident Management Plan (D2018/116921, v1.7) was updated during the audit period following the October 2020 Fish River incident (refer to clause 2.1.4) and we sighted evidence of the update in the ARK document control system (dated 29 June 2021). WaterNSW advised that key changes to the document included alignment with water quality incident response protocol.

Training material (D2020/122624) for the Fish River Water Supply Scheme Incident Management Plan was provided as evidence of the training process.

### Element 7 Employee awareness and training

#### Employee awareness and involvement

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to develop mechanisms and communication procedures to increase employees' awareness of and participation in drinking water quality management (see clause 2.1.2 element 7 for discussion).

#### Employee training

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to ensure that employees, including contractors, maintain the appropriate experience and qualifications, identify training needs and ensure resources are available to support training programs and document training and maintain records of all employee training.

Common training elements were discussed in clause 2.1.2.

Modelpedia documents additional training requirements for the FRWS. This requirement is that staff involved in operating Duckmaloi WTP attain operator certification requirements as provided by DPIE.

### Element 8 Community involvement and awareness

#### Community consultation

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to assess requirements for effective community involvement and develop a comprehensive strategy for community consultation (see discussion under clause 2.1.2 element 8).

## Communication

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to develop an active two-way communication program to inform consumers and promote awareness of drinking water quality issues (see discussion under clause 2.1.2 element 8).

WaterNSW advised that Fish River Water Supply Operations Forum meetings and customer interface meetings are held with all major customers to discuss operational issues.

## Element 9 Research and development

### Investigative studies and research monitoring

WaterNSW has provided sufficient evidence demonstrate it has maintained systems that meet the ADWG requirements to establish programs to increase understanding of the water supply system and use information to improve management of the water supply system.

The Water Monitoring Program (CD2011/179) provides examples of investigative monitoring for events such as the turnover of Lake Oberon. The outcomes of the investigative research in the annual DWQMS report and add relevant recommendations to the water quality improvement plan. There is an opportunity for improvement (2.1.3-1) to develop a water quality hydraulic model for the FRWS to improve the management of chlorine residuals with the network.

### Validation of processes

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to validate processes and procedures to ensure that they are effective in controlling hazards. A shortcoming is noted in the process to revalidate periodically or when variations in conditions occur.

The Modelpedia WQMS states that the C2C risk review process triggers a review of risks and effectiveness of controls in case of any new hazards, hazardous events and processes. CCP documents include validation requirements as a separate table. We were provided as evidence Critical and Operational Control Points for Fish River Water Supply System (D2021/52340). These tables include validation monitoring parameters for each CCP and the characteristics to be used to ascertain ongoing proof of performance. WaterNSW advised that CCP performance statistics have been added to Fish River Supply monthly reports from August 2021.

The Modelpedia WQMS states that revalidation of the critical and operation control points will occur and comment to be sought from NSW Health. A shortcoming is noted in the process for Fish River as described in the WQMS in silent in regards to the triggers for revalidation of treatment processes when a change condition occurs and how this is defined. Recommendation 2.1.3-2 has been made to address this shortcoming.



## Design of equipment

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to validate the selection and design of new equipment and infrastructure to ensure continuing reliability.

Auditing of the requirements under this component is described in clause 2.1.2 Element 9 Design of equipment.

## Element 10 Documentation and reporting

### Management of documentation and records

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to:

- document information pertinent to all aspects of drinking water quality management, develop a document control system to ensure current versions are in use
- establish a records management system and ensure that employees are trained to fill out records
- periodically review documentation and revise as necessary.

WaterNSW utilise the ARK records management system to manage records. Records management is discussed under clause 2.1.2 Element 10 Management of Documentation and Records. We viewed a demonstration of the ARK system in the audit and sighted the information relevant to the Fish River system, for example CD2012/130 Water Quality Data Review and Reporting Procedure, v5, was confirmed as the version current in the audit period.

### Reporting

Evidence has been provided of the maintenance of systems to establish procedures for effective external reporting and produce an annual report to be made available to consumers and regulatory authorities. Deficiencies against the Water NSW Reporting Manual are audited under clause 7.2.1.

WaterNSW produces monthly and annual reports for the FRWS. The WaterNSW Reporting Manual specifies external reporting requirements.

Monthly water quality reports are developed in accordance with the Water Quality Data Review and Reporting Procedure (CD2012/130). A shortcoming in relation to this procedure is discussed in Element 2 of this clause.

WaterNSW state in the Modelpedia WQMS that the Fish River Water Annual Review report satisfies the requirement to produce an annual report. WaterNSW advised that the format and content of the report was determined in consultation with the Local Health District. We tested the requirements specified in the ADWG for an annual report against the Fish River Water Supply Annual Review of the Drinking Water Quality Management System 2019-2020 (D2020/102644) and found it to satisfy these the requirements.

## Element 11 Evaluation and audit

### Long term evaluation of results

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to collect and evaluate long-term data to assess performance and identify problems and document and report results.

Long term trend review of WaterNSW systems listed in Modelpedia include the Catchment to Customer risk assessment, quarterly data reports and annual reporting on the FRWS. These processes for long term data review are adequate. WaterNSW advised that the long-term data review can be used to inform decisions and identify problems as required by the ADWG.

### Audit of drinking water quality management

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to establish processes for internal and external audits and document and communicate audit results (see clause 2.1.2 element 11 for discussion).

The schedule for Water Quality Management System Process Health Checks is included in the WQMS Audit Program (D2017/87415). The FRWS System audits in the schedule were reviewed. The Fish River annual report was planned for October 2021 and an Incident Management and CCP responses review is scheduled for January 2022. The process for scheduling internal audits in the Fish River Scheme is appropriate for the requirements of this WQMS element.

## Element 12 Review and continual improvement

### Review by senior executive

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to have senior executive review of the effectiveness of the management system and evaluate the need for change.

Evidence of adequacy is discussed in clause 2.1.2 element 12 Review by Senior Executive.

### Drinking water quality management improvement plan

WaterNSW has provided sufficient evidence to demonstrate it has maintained systems that meet the ADWG requirements to develop a drinking water quality management improvement plan and ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.

A Water Quality Improvement Plan (D2019/53719) is in place which satisfies the requirements of this component. There are processes in place to ensure that the plan is communicated and implemented for the provision of monthly, quarterly and annual reports to Executive and Board. Refer to clause 2.1.2 Element 12 Drinking Water quality management improvement plan for details.



## Recommendation

Recommendations 2.1.3-1: By 30 June 2022, WaterNSW should update the Water Quality Data Review and Reporting Procedure to explicitly cover the Fish River Supply reporting requirements.

Recommendations 2.1.3-2: By 30 June 2022, WaterNSW should document the process to revalidate treatment process when a change condition occurs, including defining triggers for when this would occur.

Recommendation 2.1.3-3: By 30 June 2022, WaterNSW should document the requirement for chlorine analyser reagent levels for the chlorine analyser to be included in operational checks at Duckmaloi WTP.

Recommendations 2.1.2-4, 7.2.1-1 and 7.2.1-2 are also relevant to this clause.

## Opportunities for improvement

OFI 2.1.3-1: Develop a water quality hydraulic model for the FRWS to improve the management of chlorine residuals with the network.

OFI 2.1.3-2: WaterNSW should develop a fluoridation specification consistent with the requirements of the ADWG.

Refer to opportunities for improvement in clause 2.1.2.

## Clause 2.1.4

**Table 11. Clause 2.1.4 compliance grade**

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

## Summary of reasons for grade

WaterNSW has made considerable progress in implementing the Fish River WQMS since the audit findings last year. As the historical non-compliance extended into the audit period, we have found the clause non-compliant. In determining materiality, we have taken into account the extensive work that WaterNSW has undertaken to complete actions noted during the previous audit.

A further non-material deficiency was noted in relation to the calibration of critical analysers (Element 4) as this deficiency was not considered to have adversely impacted public health.

Noted shortcomings include:

- Element 1 - The absence of the Fluoride Act in the Legal and Other Requirements Register, indicates a shortcoming in how emerging regulatory requirements are identified and discrepancies in Water Quality Management Contact lists
- Element 7 - implementation of mandatory water quality awareness training.

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

## Discussion and notes

### Element 1 Commitment to drinking water quality management

#### Drinking water quality policy

WaterNSW has provided sufficient evidence of implementation of the drinking water quality policy throughout the organisation and that the policy was visible and is communicated, understood and implemented by employees.

We tested the WQMS requirements that the Policy is on display in WaterNSW offices, and is described in the mandatory Water Quality Awareness training. A screenshot of the Water Quality policy in the training was provided as evidence (D2020/89947). We confirmed the Water Quality Policy was on display at Duckmaloi WTP. As the audit interviews were conducted remotely, we could not confirm the policy was on display at Head Office. See Element 7 for further discussion on the Water Quality Awareness Training.

The communication of water quality responsibilities was tested and confirmed by reviewing position descriptions. For example, the asset custodian position description (D2020/91412) has an accountability to "Operate valves, intake structures, gates and piped/pumped and treated systems to deliver the right quantity and quality of water to customers and mitigate floods."

#### Regulatory and formal requirements

A shortcoming was identified against the requirement to demonstrate full implementation against the requirements of the WaterNSW WQMS to identify and document all relevant regulatory and formal requirements, ensure responsibilities are understood and communicated to employees and review requirements periodically to reflect any changes.

The WQMS WaterNSW advised that the Legal and Other Requirements Register (CD2013/26, v3) underwent a " cursory review" by the legal team as a complete review is scheduled for the third quarter for the 2022 financial year. The WQMS requires 6 monthly reviews. When the register, which is now linked to Modelpedia, was sighted during the interviews, we checked to see if the NSW Fluoridation of Public Water Supplies Act (1957) was present and it was not. This Act is relevant to the design, approval and operations of the fluoridation system at Duckmaloi Treatment Plant. The

absence of this Act in the register, indicates a shortcoming in how emerging regulatory requirements are identified.

During the interviews, WaterNSW advised that legal and other requirements come in through legal updates, these updates would be reviewed and communicated to staff and incorporated to the register when they become active requirements.

Recommendation 2.1.4-1 has been made to address this shortcoming.

Evidence of an update on regulatory obligations being communicated to the business was requested in the interviews and a legal alert email from 30/6/2021 was provided (D2021/116463). The email included a summary of the amendments to the Water Management (General) Amendment (Water Supply Authorities) Regulation (2021) and outlined the implications for the business. This demonstrates implementation of the requirement to ensure responsibilities are communicated to employees.

### Engaging stakeholders

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS to identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier, develop appropriate mechanisms and documentation for stakeholder commitment and involvement. We identified a shortcoming in updating the list of relevant agencies.

The WQMS states that contact list (D2013/94543) is updated when changes are identified during the JOG meetings. In the questionnaire, WaterNSW advised that there is a standing item on the agenda to discuss changes to guidelines/ regulation/ stakeholders and provided the minutes from the 10 August 2021 meeting (D2021/90342) as evidence. In the interviews WaterNSW provided an example of a key change to the list which was when Sydney Water restructured, in this circumstance Sydney Water sent through an updated contact list for WaterNSW to use.

We found that there were discrepancies between the NSW Health contacts in D2013/94543 and the Water Quality Management Contact list maintained between NSW Health, Sydney Water and Water NSW, which was last updated in June 2021 (Email NSW Health/2021). There were also discrepancies in Water Quality Management Contact list between WaterNSW versions as discussed under element 6. This shortcoming would be addressed by Recommendation 2.1.2-1

When questioned about the discrepancy between their contact list and the current NSW Health Water Unit team, WaterNSW stated that the on call number was used and their staff were aware that key contacts were currently seconded to the COVID Team.

We also observed a delay in adding Sydney Water's Head of Water Quality to the contact list. WaterNSW advised that some key contacts such as the NSW Health use standard work numbers that do not change when personnel do. A screenshot of the latest version notes on the contact list on ARK documented the changes to the Sydney Water contacts discussed in the interviews.

In the questionnaire, WaterNSW advised that The Greater Sydney Operations team run a monthly forum for major customers (of the Fish River Scheme (Oberon Council, LCC and Energy Australia). The March meeting agenda was provided (D2021/22411, 2 March

2021) and shows that there is an opportunity for the customers to provide updates. The minutes of the March 2021 forum (D2021/22663) did not capture any contact updates. This provides evidence that supports the implementation of this component.

## Element 2 Assessment of the drinking water supply system

### Water supply system analysis

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS to assemble a team with appropriate knowledge and expertise, construct a flow diagram of the water supply system from catchment to consumer, assemble pertinent information and document key characteristics of the water supply system to be considered and periodically review the water supply system analysis. Opportunities for improvement are noted.

We tested components of the flow diagrams for the Warragamba to Prospect and Duckmaloi WFP Schematics (D2021/52068, rev 2.28, 23/9/21) schematic and during the site visit. No inconsistencies were noted.

Risk assessment workshops were held for the FRWS in November 2020 and May 2021. Evidence was provided that the Fish River process flow schematic was provided to workshop participants prior to the risk assessment (D2021/21018, email Fish River System C2C Risk Assessment, 26/5/2021). The process flow diagram includes catchment description and land uses, treatment processes and other pertinent system information. An opportunity for improvement is noted in clause 2.1.2 that catchment maps be referenced and other supporting documents be referenced in Modelpedia (OFI 2.1.2-1). The information supplied for the risk assessment was consistent with the Conduct Catchment-to-Customer (C2C) Risk Assessments (CD2021/92) procedure.

Risk assessment team attendees are noted in the risk assessment workshop meeting minutes (D2021/89413, 31/5/2021), including WaterNSW staff, regulators (NSW Health) and end users (LCC and Oberon Council). A list of qualifications of WaterNSW water quality team members was provided as compiled for the audit. An opportunity (OFI 2.1.4-1) is noted for recording of the role of the workshop participant including details of participant expertise.

### Assessment of water quality data

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS to maintain a system to assemble historical data, list and examine exceedances and assess data using tools such as control charts and trends analysis to identify trends and potential problems. Issues with data presented in the monthly reports is discussed under Element 5 of this clause.

We were provided with monthly reports for Fish River Supply (D2021/50417 December 2020, D2021/50424 February 2021, D2021/50425 March 2021 and D2021/81887 June 2021 and for Prospect (D2020/133316 December 2020, D2020/15020 February 2021, D2020/27128 March 2021, D2021/70631 June 2021 and D2021/80176 July 2021). Refer to Element 10 Reporting of this clause for discussion on consistency the Water Quality Data Review and Reporting Procedure (CD2012/130).

The 2019-2020 Annual Water Quality Monitoring report (D2021/103278 email reports to IPART, 30/11/2020) was provided for the Sydney catchment area and includes and assessment of water quality performance.

We were provided with evidence that water quality trends were reported to workshop participants in the Fish River May 2021 risk assessment (D2021/89413, 31/5/2021). WaterNSW advised in the audit interviews that this was verbal update. An opportunity for improvement is noted around records of water quality data presented at risk assessment reviews (for example inclusion of presentation material) (OFI 2.1.4-2).

#### Hazard identification and risk assessment

WaterNSW has provided sufficient evidence to demonstrate that it has implemented the procedures and processes in the WQMS to maintain a system to define the approach and methodology to be used for hazard identification and risk assessment; identify and document hazards, sources and hazardous events for each component of the water supply system; estimate the level of risk for each identified hazard or hazardous event; evaluate the major sources of uncertainty associated with each hazard and hazardous event and consider actions to reduce uncertainty; determine significant risks and document priorities for risk management; periodically review and update the hazard identification and risk assessment to incorporate any changes.

The WaterNSW Conduct Catchment-to-Customer (C2C) Risk Assessments (CD2021/92) procedures states “Full Catchment 2 Customer risk assessments should be conducted periodically or if there is a significant change to the risk assessment process or to the supply system” (see clause 2.1.2). The Catchment to Customer Five Year Summary Report 2021 (D2021/98477, September 2021) is outside the audit period but is considered in respect to activities reported relevant to the audit period. The report states that the five-year major C2C risk review that should have been carried out in 2020 (as a series of focused workshops over a year) was not undertaken due to resourcing issues (associated with COVID, bushfires and floods). Instead, the activities compiled in the Catchment to Customer Five-Year Report 2021 (D2021/98447) fulfill the commitment of the major C2C review.

The C2C issues register (D2020/71259) was provided as evidence of ongoing risk review. WaterNSW advised that the register is used to identify new or changing risks or controls, and identify any areas of uncertainty. These risks are then transferred to the C2C risk register following agreement at C2C Working Group. We viewed that hazardous events were added into the issues register for Warragamba storage, including bushfires in the catchment followed by sufficient rain to mobilise ash (dated 1/3/2021). Evidence was provided of this occurring, but it was outside the audit period (29/9/2021). We note that the C2C Working Group includes representatives of NSW Health and Sydney Water.

Two risk assessments were held for the FRSW in November 2020 and May 2021. Evidence was provided that these workshops were held in accordance with the Conduct Catchment-to-Customer (C2C) Risk Assessments (CD2021/92) was utilised during these workshops (D2021/21018, email Fish River System C2C Risk Assessment, 26/5/2021 and D2021/89413 Fish River C2C Risk Assessment Workshop – minutes, 31/5/2021). The procedure was provided to workshop participants. The risk register showed evidence that the new risk matrix was used and uncertainty was considered.

The Cyanobacterial Annual Risk to Drinking Water Forecast 2020- 2021 (D2020/104266, 27/10/2020) was provided as evidence of a risk review. This was presented to the Management Committee on Water Quality, Health and Catchment Protection on 27 October 2020 (D2020/109176).

### Element 3 Preventative measures for drinking water quality management

#### Preventive measures and multiple barriers

WaterNSW has provided sufficient evidence to demonstrate it has met the requirements of its WQMS to identify existing preventive measures from catchment to consumer for each significant hazard or hazardous event and estimate the residual risk, evaluate alternative or additional preventive measures where improvement is required and document the preventive measures and strategies into a plan addressing each significant risk.

We tested preventive measures and multiple barriers listed in the risk assessment (D2021/80906) during the site visit at Duckmaloi WTP. The Fish River C2C risk assessment identified one of the controls for Reservoir Breaches as 'Reservoir Integrity' and 'Animal-proofing.' We saw evidence of bird proofing and did not see any visible gaps in the clear water tank roof.

We visited the valve between the stage 1 and stage 2 FRWS pipelines. The cover was locked but there was not marking to indicate that this valve was a critical valve and opening it could allow untreated water into the treated water system (OFI 2.1.4-3).

Preventative measures in the declared catchments are discussed in clause 2.2.

#### Critical control points

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS to assess preventive measures from catchment to consumer to identify CCPs, establish mechanisms for operational control and document the CCPs, critical limits and target criteria.

The water quality reports for Prospect were reviewed as evidence for CCP implementation. Refer to element 5 of this clause for further discussion on these reports.

For Fish River we reviewed data in the SCADA system during the site visit at Duckmaloi WTP. We observed that the CCP alarms for the SCADA system were set consistently with the CCP documentation for the FRWS (High High alarm of 0.15 NTU and a High alarm at 0.1 NTU). We viewed data in the SCADA system for the turbidity critical limit for March 2021 with no data above 0.1 NTU (CCP8). We viewed SCADA data for the chlorination critical limit in July 2021; on the 5 July 2021 chlorine contact time was below the critical limit at 0.12 mg.min/L (CCP9). We viewed the RACS item (#1759) for this event which stated that the low value was because of issues with the reagent rather than a critical limit breach. This was reported in the July 2021 Fish River monthly report (D2021/94636).



## Element 4 Operational procedures and process control

### Operational procedures

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS in relation to procedures required for processes and activities from catchment to consumer and the operations manual.

During the site visit we observed the implementation of these procedures.

WaterNSW advised it is a standard operating protocol to flush outlets at Warragamba Dam prior to bringing it online. While we could not find a specific requirement for this, the Greater Sydney Water Supply System Configuration Plan (D2015/23218) notes that recommissioning a pipeline may require flushing. A NOCTSO (D2021/82421) was provided as evidence that flushing was planned for a change to outlet #3 on 20 July 2021.

A NOCTSO (D2021/49972) from WaterNSW to LCC was provided as evidence of the implementation of this Operating Protocols for the Fish River Water Supply (CD2017/173).

### Operational monitoring

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS in relation to monitoring protocols for operational performance of the water supply system, including the selection of operational parameters and criteria, and the routine analysis of results and document monitoring protocols into an operational monitoring plan.

We discussed the operational monitoring practices with the Duckmaloi WTP operator. We were shown records of operational monitoring data, both in hardcopy and the electronic operational monitoring spreadsheet. We noted that not all information recorded on the hardcopy sheet was entered into spreadsheet with some information was being lost in the transfer. For example, online readings of analysers at the time of the grab sample to compare differences were not entered into the spreadsheets.

We make the following suggestions to improve the data visibility (OFI 2.1.4-4):

- develop graphs for key parameters such as chlorine and manganese so the operators can see trends
- set conditional formatting on cells to change colour when the parameter is outside the limits. This may also detect the transposition of data.
- Include the online instrument readings so the draft between instruments is monitored.

We viewed the SCADA at the WTP and confirmed that the operators could not adjust the CCPs.

The Water Monitoring Program Manual (CD2011/179, v6) states that routine lake sampling is conducted at the mid-lake (RPR1) on a monthly basis. The Prospect Reservoir Water Quality Report (D2021/70631, 16 June 2021) was provided as evidence of this monitoring and found to be satisfactory.

Evidence of exceptions arising from the operation monitoring were recorded in the spreadsheet (D2021/106283) exceptions tab.

### Corrective action

WaterNSW has provided sufficient evidence to demonstrate it has implemented the WQMS requirements in relation to procedures for corrective action to control excursions in operational parameters and rapid communication systems to deal with unexpected events.

We were provided completed NOCTSO forms for both Warragamba and FRWS which demonstrates that the corrective action procedures are being followed.

Incidents and events from 2019-20 were discussed in the Annual Water Quality Monitoring Report (D2021/124885), this included commentary on corrective action and reporting with Sydney Water and NSW Health as relevant.

Further discussion on corrective action implementation during incidents and emergencies is included in Element 6 of this clause.

### Equipment capability and maintenance

We found deficiencies in the implementation of WaterNSW's WQMS processes to establish programs for regular inspection and maintenance of all equipment including monitoring equipment in relation to the water monitoring equipment.

The sensor HPR3 at Prospect is maintained by WaterNSW Assets Team, calibration is included as part of the routine maintenance schedule. WaterNSW provided a maintenance schedule (D2021/107904), it was unclear how the schedule related to the work orders in the EAMS process. Following a request for evidence of the Prospect turbidity analyser, WaterNSW advised that in reviewing their records it became evident that the calibration in July was not undertaken and not correctly reported at the time. WaterNSW subsequently advised us they have now escalated and recorded this as an incident. We note a deficiency in the process for ensuring that calibrations of critical equipment are completed (Recommendation 2.1.4-2). Evidence (D2021/117806) was provided of a comparison graph of turbidity grab samples versus SCADA data for sensor HPR3 which showed similar results, the deficiency is therefore not considered to have adversely impacted public health for the analyser found not to be calibrated.

We observed on the site visit to FRWS that the tapping point for the turbidity analyser for the CCP has been moved from after the clearwater tank to a more appropriate location between the membranes and the clearwater tank. The staff reported that the change in monitoring point has improved the turbidity results. Given the challenges that have been encountered with manganese in the raw water, it was likely the post clearwater turbidity was increasing due to manganese oxidation by chlorine.

The July 2021 Fish River Drinking Water Quality Report (D2021/100475) noted two instances where the reagent ran low for the chlorine analyser. The report noted that checking reagent levels is part of routine inspections and should be undertaken daily. The Daily Operations – Duckmaloi Treatment Plant checklist for the week beginning 28 June 2021 was viewed onsite and the daily reagent check was not included. We could not establish the documentation of this requirements from the evidence provided. Recommendation 2.1.3-3 has been made to address this shortcoming.

Implementation of the asset management system is further discussed in clause 5.1.



## Materials and chemicals

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS to ensure that only approved materials and chemicals are used and in relation to documented procedures for evaluating chemicals, materials and suppliers.

A reservoir integrity health check was conducted on Cullen Bullen, Glen Davis and Duckmaloi CWT (D2021/99762). The health check noted that the 12.5 L container of sodium hypochlorite at Glen Davis had the active constituent and concentration clearly marked “125 g/L available Cl - no stabiliser added”. We checked the calcium hypochlorite tablets stored at Wallerawang. These were 690 g available chlorine per kg which also meets the requirements of the chlorine purchasing procedure (CD2015/38).

## Element 5 Verification of drinking water quality

### Drinking water quality monitoring

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS in relation to the implementation of a sampling plan for each characteristic in the distribution system and water as supplied to the customer (including the location and frequency of sampling) and ensure monitoring data are representative and reliable.

We tested requirements documented in the Water Monitoring Program (CD2011/179, v6) with those reported in the Monthly Reports for Prospect and the Fish River Supply.

We viewed the following monthly reports for the Fish River Supply. We tested requirements documented in the Water Monitoring Program (CD2011/179, v6) and found no issues with the following reports:

- December 2020 (D2021/50417)
- February 2021 (D2021/50424)
- March 2021 (D2021/50425)
- June 2021 (D2021/107335).

WaterNSW advised that the new monitoring program for Fish River commenced in August 2021 (D2021/100788). We reviewed the August 2021 report against the updated Water Monitoring Program (CD2011/179, v7). Total copper was not reported as required in the monitoring plan. WaterNSW advised that an administrative error meant copper was missed in the implementation of the new chemicals program from August 2021 and that this was rectified by the 5 October 2021 (D2021/117646). No recommendation is made as this issue was rectified prior to the audit interviews when the issue was raised.

We were provided with Fish River Network Sampling Schedule (D2021/116473) which documents which monitoring is required on a weekly basis from the week commencing the 5 July 2021. We confirmed that the date reported in the August 2021 Fish River Monthly Report ‘Reticulation samples undertaken during August’ section was consistent with the monitoring set out in this schedule.

We viewed the following monthly reports for Prospect:

- December 2020 (D2020/133316)
- February 2021 (D2020/15020)

- March 2021 (D2020/27128)
- June 2021 (D2021/70631)
- July 2021 (D2021/80176)

The 'Turbidity at Prospect Reservoir' graph was not current from February 2021. WaterNSW advised that the turbidity data was still collected and this was an error in the graphs and they had picked this up in subsequent monitoring reports (October 2021 Prospect Monthly Water Quality Report, sighted in the audit interviews). As this was resolved by WaterNSW prior to the audit interviews we make no recommendation for this issue.

### Consumer satisfaction

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS in relation to its consumer complaint and response program, including appropriate training of employees.

We confirmed the implementation of WaterNSW customer complaints and response program through the following pieces of evidence. We discussed at the interviews records identified in the FRWS Complaints 2020-21 (D2021/103325) database.

### Short-term evaluation of results

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS in relation to implementation of procedures for the daily review of drinking water quality monitoring data and consumer satisfaction and reporting mechanisms internally, and externally, where required.

Processes were implemented for the short-term analysis of results. We confirmed that Fish River and Prospect monitoring reports (evidence noted in Element 10 Drinking water quality monitoring of this clause) were reported in accordance Water Quality Data Review and Reporting Procedure (CD2012/130, v6).

### Corrective action

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS in relation to procedures for corrective action in response to non-conformance or consumer feedback and rapid communication systems to deal with unexpected events.

We tested the corrective actions undertaken in response to water quality complaints in the Fish River supply. Evidence was provided of a request for additional monitoring to identify the cause of water quality complaints (D2020/115382, October 2020). Evidence of the Fish River Network Verification Data (D2021/106293)

See Element 4 for additional commentary on corrective actions.

## Element 6 Management of incidents and emergencies

### Communication

WaterNSW has provided evidence to demonstrate it has implemented the requirements of its WQMS in relation to defined communication protocols with the involvement of relevant agencies and develop a public and media communications strategy.

Shortcomings are noted in the requirement to prepare a contact list of key people, agencies and businesses.

We reviewed the Water Quality Contact List (D2013/94543) and the Water Quality Contact List in the WQ Incident Response Protocols (CD2004/183, v4). We noted a number of inconsistencies across the two lists. While the Incident Protocols references the document D2013/94543 for current contact details, a number of contacts were more current in the WQ Incident Response Protocols (CD2004/183, v4), for example with the NSW Public Health Unit Dubbo Office contact (Rec 2.1.2-1).

Communication protocols had been implemented for incidents and emergencies during the audit period for the FRWS. Refer to clause 4.2.2 for further details on the incident.

Evidence was provided that information on ‘Discoloured water within Fish River Supply Scheme’ included on WaterNSW website (D2021/116582, 2/11/2020) in regards to manganese issues (<https://www.watarnsw.com.au/customer-service/service-and-help/fish-river-supply-scheme>)

### Incident and emergency response protocols

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS in relation to defined potential incidents and emergencies and documented procedures and response plans with the involvement of relevant agencies; train employees and regularly test emergency response plans and investigate any incidents or emergencies and revise protocols as necessary.

A pipe break occurred near Sodwalls impacting the supply of drinking water supply to LCC and WaterNSW Customers of Portland, Wallerawang, Rydal, Cullen Bullen, Glen Davis. We viewed the RACS summary for the incident (#1426 FRWS Stage 1 Pipe Break and Supply Interruption). Immediate corrective actions included notifications to LCC and NSW Health. An incident management team (IMT) was set up. We viewed the Microsoft Teams channel that was set up for the IMT (the backup used instead of an incident control room). We viewed records on SharePoint during the audit interviews. Refer to clause 4.2.2 for a discussion on the evidence viewed.

We were provided as evidence the Fish River Water Supply Scheme Incident Management Plan (D2018/116921, October 2020) in force at the time of the incident. The incident would be categorised as a Major Incident according to the plan pipe break Pipe Break (> 48-hour repair time on stage 1 and unable to connect to Lithgow Supply). We confirmed that the incident was logged in RACS (item 1426) and was logged as a Level 2 Major Incident. We viewed the RACS Summary (D2021/10812), Item 1535 ‘Manganese above health guidelines in FRWS at Portland’ for manganese above ADWG levels in the reticulation.

Discussion on how dairy spill notifications were managed in the March 2021 Rainfall event is included in clause 2.2 Catchment Management.

Ongoing implementation was seen with the update of the Fish River Water Supply Scheme Incident Management Plan (CD2021/83) following the incident.

## Element 7 Employee awareness and training

### Employee awareness and involvement

There is a shortcoming in the requirements of WaterNSW's WQMS to implement mechanisms and communication procedures to increase employees' awareness of and participation in drinking water quality management.

Currency of mandatory training is reported to the WaterNSW Board in quarterly performance and trend analysis reports. WaterNSW has a target that 95% of staff have completed water quality awareness training. This data is extracted from the myLearning system quarterly.

The WQ Catchment Protection Mandatory Training Report (D2021/107430, 20/9/2021) was provided to show tracking of which staff had completed each training module and when they were due to undertake the refresher. Fourteen percent of staff in the Water and Catchment Protection Unit were not recorded as having completed the water quality awareness training (WQ Catchment Protection Mandatory Training Report (D2021/107430). Recommendation 2.1.4-3 has been made to address this shortcoming.

We analysed the training report to understand the materiality of the gap between the target for the water quality awareness training and the number who had completed it. We observed in the audit interview that the Chief Executive Officer was not recorded as having completed the training. WaterNSW advised that water quality awareness training to the executive team was delivered on 19 May 2021. The CEO and four board directors attended the training. The minutes and presentation were provided as evidence (D2021/55168, D2021/116985). The training presentation adequately covered the water quality awareness requirements of the WQMS. This training had not been recorded in myLearning.

### Employee training

WaterNSW has provided evidence to demonstrate it has implemented the requirements of its WQMS to ensure that employees, including contractors, maintain the appropriate experience and qualifications, identify training needs and ensure resources are available to support training programs and document training and maintain records of all employee training.

We analysed a training report that covered the training modules discussed in clause 2.1.2 and 2.1.3. (WQ Catchment Protection Mandatory Training Report, D2021/107430, 20/9/2021). We discussed in the interview that some staff training modules do not have an expiry date, WaterNSW advised that new staff do not have expiry dates as the expiry date is two years after the first training. The training report (D2021/107430) showed that 99% of staff had completed the Water Quality Incident Response training and 91% had completed the Materials and Chemicals modules from the Drinking Water training.

## Element 8 Community involvement and awareness

### Community consultation

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS in relation to assessed requirements for effective community involvement and developed comprehensive strategy for community consultation.

The WQMS on Modelpedia states that general community engagement is achieved through the Deliver Education Program, Warragamba Dam Visitor Centre and the website. The education programs available and a virtual tour of the Warragamba Dam Visitor Centre available on the WaterNSW [website](#) were checked and found to be adequate.

Catchment landholder engagement on the [WaterNSW website](#) was checked. The webpage was found to include advice on land and soil management, stormwater considerations for during and after construction and advice for onsite systems maintenance, satisfying the requirement of this item.

### Communication

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS in the implementation of an active two-way communication program to inform consumers and promote awareness of drinking water quality issues.

Modelpedia states that customer feedback is monitored, investigated and resolved or escalated according to the Customer Complaints and Compliments handling procedure. Customer Service Centre staff are trained in the procedure. Customer interface meetings and advisory groups are held to fulfill this requirement.

WaterNSW promotes its education program through school excursions booked via the website. The [webpage](#) with details of the excursion program was reviewed and found to contain options for excursions to many of the Dams around NSW as well as Warragamba Dam, with teacher and student resources provided. This evidence demonstrates that the requirement to promote awareness of drinking water quality issues to customers is being met.

## Element 9 Research and development

### Investigative studies and research monitoring

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS and established programs that increase understanding of the water supply system and use this information to improve management of the water supply system.

We were provided evidence of a monthly report to the board (June 2021, D2021/81473). The report provides project status updates for each Science Program project and activity as well as a dashboard of status, theme, delivery mode and delivery partners.

Evidence was provided of two activities undertaken in the audit period:

- Warragamba Geosmin Event June 2020, Taste and Odour investigation (D2020/109756, October 2020)

- Alternative and Innovative Methods for Cyanobacteria Monitoring (D2021/31545, 13/5/2021): WaterNSW undertook a review of cyanobacteria monitoring methodology and recommended two trials.

WaterNSW also advised they were developing modelling systems for catchments, reservoirs and the supply system to model the potential impact of system changes, system outages, inflows and water quality.

### Validation of processes

WaterNSW has provided evidence to demonstrate it has implemented the requirements of its WQMS to validate processes and procedures to ensure that they are effective in controlling hazards and revalidate processes periodically or when variations in conditions occur.

A review of CCP data was undertaken in clause 2.1.4 element 3 Critical control points. CCP performance is reported in annual Fish River review reports and in quarterly and annual reporting to the Board (refer to clause 2.1.4 element 10)

### Design of equipment

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS to validate the selection and design of new equipment and infrastructure to ensure continuing reliability.

WaterNSW provided the following evidence for this clause for new equipment that has been selected for the Duckmaloi WTP:

- Duckmaloi Analyser proposal from Hunter H2O (D2021/106378).
- Duckmaloi WFP Analyser Replacement - RITM0259658 (D2021/108728). This document includes applicable legislation, Australian Standards and WaterNSW standards confirmatory Testing requirements

Evidence was provided of a business case for the Prospect Reservoir Vertical Positioning System (VPS) Upgrade (Short Form ATS, D2021/30438). The business case includes the requirement for programming, testing and telemetry commissioning at time of installation.

## Element 10 Documentation and reporting

### Management of documentation and reporting

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS to document information pertinent to all aspects of drinking water quality management, develop and implement a document control system to ensure current versions are in use, establish a records management system and ensure that employees are trained to fill out records and periodically review documentation and revise as necessary.

WaterNSW utilise ARK as its Records Management System (HP Trim). The document management processes were discussed throughout the audit interviews. We viewed a demonstration of ARK in the audit interviews and tested document currency, for example CD2019/30 Water Quality Data and Review Procedure, v3, 4/2/2020 was



confirmed as the version current in the audit period. Currency of documentation is discussed throughout clause 2.1.1, 2.1.2 and 2.1.3.

### Reporting

WaterNSW has provided sufficient evidence to demonstrate it has implemented the requirements of its WQMS in relation to established procedures for effective internal and external reporting. We found shortcomings when auditing the implementation of WaterNSW Reporting manual (discussed in clause 7.2.2).

We viewed the monthly reports for the Fish River Supply (D2021/50417 December 2020, D2021/50424 February 2021, D2021/50425 March 2021 and D2021/107335 June 2021 and for Prospect (D2020/133316 December 2020, D2020/133316 February 2021, D2020/133316 March 2021, D2021/70631 June 2021 and D2021/70631 July 2021). These were consistent with the requirements of Water Quality Data Review and Reporting Procedure (CD2012/130). Issues with data presented (e.g. Turbidity data not correctly displaying), were resolved in future monitoring reports as discussed under Element 5 Drinking Water Quality Monitoring of this clause. For the Prospect graphs we tested and confirmed that when data was not presented for the inlet to the Water Filtration Plant water was not being supplied. Evidence of provision of monthly reports to stakeholders included:

- Email (D2021/80178, 12/7/2021) of the June 2021 Prospect Water Quality Report sent to Sydney Water and SUEZ
- Email of the Fish River Supply June 2021 Water Quality Report (D2021/107335, 19/07/2021) being send to LCC and NSW Health.

We were provided with the Fish River Water Supply Annual Report 2019-2020 that was provided to NSW Health (D2021/107956, email dated 28/9/2020) in accordance with the WQMS. Auditing of the reporting requirements against the WaterNSW Reporting Manual is covered in clause 7.2.1.

A reservoir integrity health check was provided for Cullen Bullen, Glen Davis and Duckmaloi CWT (D2021/99762). We note that the electronic sign off was recorded but not dated.

We were provided evidence of internal reporting including:

- Water Quality Dashboard Report – December & January 2020/2021, WaterNSW Executive meeting: 10 February 2021 (D2021/113985)
- Monthly Water Quality Dashboard Report – July 2021, WaterNSW Executive meeting: 10 August 2021 (D2021/86488)
- Water Quality Management System Trend Analysis, May 2021, Board Committee on Water Quality, Health and Catchment Protection: 19 May 2021(D2021/46502)
- Annual Cyanobacteria Risk Forecast for 2020-2021, Management Committee on Water Quality, Health and Catchment Protection: 27 October 2020 (D2020/109176)

## Element 11 Evaluation and audit

### Long term evaluation of results

WaterNSW has provided evidence to demonstrate it has implemented the requirements of its WQMS to collect and evaluate long-term data to assess performance and identify problems and document and report results.

WaterNSW use quarterly and annual WQMS reports to evaluate long term data, assess performance. The Quarterly Water Quality Management System Trend Analysis (May 2021 (D2021/47936) was provided as evidence of the quarterly water quality performance review and documentation and found to be satisfactory.

Modelpedia states that water system performance is reported on annually. Evidence of this provided included the Annual System Effectiveness and Health Check report (D2021/47937) and Annual WQMS report to IPART (D2021/82173). These reports include water quality improvement plan actions status reporting and objectives and targets reporting and are consistent with the WQMS requirements.

The ADWG requires that the utility assess performance and use the data to identify problems. The following examples of this were provided:

- Increased level of organics especially at the Nepean catchment was identified through the data review processes. To respond to this, a number of science projects were implemented; fDom sensors were included at Nepean Dam and an AI project for NOM prediction was initiated. The Data Analytics Raw Water Treatability Scope (D2021/107752) and evidence of the smart monitoring outcomes (D2021/104284) were provided.
- Increased risk of algal blooms was identified as a risk. To respond to this, a technology review of available monitoring options was undertaken and trial of Chlorophyll-a sensors to improve real time monitoring of algal indicators at Warragamba Dam is underway. Additional work was undertaken to evaluate cyanobacteria mitigation strategies during drought. An [AWA article](#) on Alternative Cyanobacteria Management Approaches was provided as evidence.

This evidence demonstrates implementation of the ADWG requirement.

To allow improve evaluation of complex trends and assessment of water quality outcomes related to long term changes in the catchment, WaterNSW is developing modelling systems for GS catchment, reservoirs and the supply system to model the long-term impact of the programs and mitigation solutions to manage the risk to water quality and quantity using scenario assessments. The draft project methodology was provided as evidence (D2021/81330).

### Audit of drinking water quality management

WaterNSW has provided evidence to demonstrate it has implemented the requirements of its WQMS in relation to established processes for internal and external audits and documentation and communication of audit results.

WaterNSW maintains an annual program of system health checks with proposed health checks prioritised based on risk. The Reservoir integrity system health check (Fish River) - Jun 2021 (D2021/99762) was provided as evidence of the WQMS Audit Program



(D2017/87415) implementation. Fish River Reservoir integrity system Health check matched the date in the schedule and included clear observations with photographic evidence provided. This evidence adequately demonstrates implementation of this WQMS requirement.

Modelpedia states that recommendations arising from audits, health checks and risk assessments are transferred to the Water Quality Improvement Plan with status reported quarterly and in the Annual System Effectiveness and Health Check report and Annual WQMS report to IPART. The Water Quality Improvement Plan was provided as evidence of the Reservoir integrity system health check actions being transferred (D2019/53719). The Quarterly Water Quality Management System Trend Analysis (May 2021 (D2021/47936) was provided as evidence of the quarterly status reporting. The Annual System Effectiveness and Health Check report (D2021/47937) and Annual WQMS report to IPART (D2021/82173) were provided as evidence of annual audit performance tracking. These documents show that this WQMS requirement is being implemented appropriately.

## Element 12 Review and continual improvement

### Review by senior executive

WaterNSW has provided evidence to demonstrate it has implemented the requirements of its WQMS to have senior executive review of the effectiveness of the management system and evaluate the need for change.

Evidence of monthly reports, included the July 2021 monthly dashboard report presented to the Executive Steerco (Monthly Water Quality Dashboard Report – July 2021, WaterNSW Executive meeting: 10 August 2021, D2021/86488) that includes a Water Quality Management System Highlight and performance against key performance indicators (KPIs) and performance standards. We were provided with evidence of the reporting on the review of the WQMS (Committee on Water Quality, Health and Catchment Protection, 29 July 2021, Annual Report to IPART on the Water Quality Management System – item 5.3.4 D2021/82173).

### Drinking water quality management improvement plan

WaterNSW has provided evidence to demonstrate it has implemented the requirements of its WQMS to develop a drinking water quality management improvement plan and ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.

We were provided with the Water Quality Improvement Plan (D2019/53719). We confirmed that action 3 from the May 2021 Risk Assessment Meeting minutes (D2021/89413) (WaterNSW to undertake further review of the efficacy of permanganate dosing relative to aeration) was included in the improvement plan. Improvement Plan Action 3.2.8 Arrange and install Critical Control Point identification signage at Duckmaloi WTP, was marked as complete; we viewed during the site visit that this had occurred.

Evidence of communication and monitoring of the improvement plan internally included:

- Board Committee on Water Quality, Health and Catchment Protection - 19 May 2021 - Annual System Health Check - Water Quality Management - Item 6.3 (D2021/52872) – reported no overdue actions as at 19 April 2021 and included the improvement plan actions as an Annexure 1
- Board Meeting 30 June 2021 – Fish River Improvement Plan Dashboard Report - Item 12.4 (D2021/70966) – reported on progress of Fish River actions
- Board Meeting 28 August 2021 – Fish River Improvement Plan Dashboard Report – Item 11.4 (D2021/91748) - reported on progress of Fish River actions.

## Recommendation

Recommendation 2.1.4-1: By 30 June 2022, WaterNSW should develop processes to ensure that regulatory requirements associated with new or emerging obligations, including for example the design and operation of a fluoridation system are identified and documented within the compliance system.

Recommendation 2.1.4-2: By 30 June 2022, WaterNSW should develop and implement a process (e.g. audit) to ensure that work orders for calibration of critical limit analysers are undertaken.

Recommendation 2.1.4-3: By 30 June 2022, WaterNSW should review monitoring processes to ensure mandatory water quality awareness training is undertaken.

Refer also to Recommendation 2.1.2-1.

## Opportunities for improvement

OFI 2.1.4-1: Formally record the role of risk assessment workshop participants, for example including participants area of expertise.

OFI 2.1.4-2: Capture the water quality data utilised within the risk assessment as briefing material or as a presentation.

OFI 2.1.4-3: Signage to be installed at the valve between the stage 1 and stage 2 FRWS pipelines to indicate that this is a critical valve and opening it could allow untreated water into the treated water system.

OFI 2.1.4-4: Consider improvement to the Duckmaloi WTP operational monitoring spreadsheet:

- develop graphs for key parameters such as chlorine and manganese so the operators can see trends
- set conditional formatting on cells to change colour when the parameter is outside the limits. This may also detect the transposition of data.
- Include the online instrument readings so the drift between instruments is monitored.

## Clause 2.2 – Catchment management

### Clause 2.2.1

**Table 12. Clause 2.2.1 compliance grade**

Subclause	Requirement	Compliance grade
2.2.1	Water NSW must manage and protect the Declared Catchment Areas in a manner that is consistent with its objectives and functions under the Act, the Water Quality Management System required under Clause 2.1 of this Licence, the Asset Management System required under Clause 5.1 of this Licence, and the Environmental Management System required under Clause 5.2 of this Licence.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Not understanding and managing its obligations under this clause presents a risk to appropriate management of the Declared Catchment Areas according to WaterNSW's water quality, asset and environmental management obligations and functions.	Demonstration that the Declared Catchment Areas were operated and managed consistent with the functions under the Act, Water Quality Management System, Asset Management System and Environmental Management System during the audit period.	

### Summary of reasons for grade

This clause requires WaterNSW to manage and protect the Declared Catchment Areas consistent with their Water Quality Management System (WQMS) (clause 2.1), Environmental Management System (EMS) (clause 5.2) and an Asset Management System (AMS) (clause 5.1) under the functions of the Act.

This clause is graded Compliant.

### Discussion and notes

This clause requires WaterNSW to manage and protect the Declared Catchment Areas consistent with their Water Quality Management System (WQMS) (clause 2.1), Environmental Management System (EMS) (clause 5.2) and an AMS (clause 5.1). The objectives and functions under the Water NSW Act 2014 are covered in Sections 6 and 7 respectively. The objectives and functions are also outlined on the WaterNSW website (<https://www.waternsw.com.au/about/legislation/water-nsw-act-2014>).

WaterNSW advised that key internal policies that are part of the WQMS, EMS and AMS that inform management and protection of the Declared Catchment Area, include:

- Water Quality Policy (CD2014/5, v5, 20/11/2019)
- State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011
- Environmental Policy (CD2015/593, 30/8/2017)
- Asset Management Policy (CD2015/488, v4, August 2019)
- Risk Management Procedure (CD2020/63) and supporting tools
- Mining Principles (D2021/004087)

## Water quality management system

In clause 2.1.1, 2.1.2 and 2.1.4 we discussed our findings on the Water Quality Management System for the Declared Catchments.

WaterNSW has systems in place to manage catchment protection in the Declared Catchment. WaterNSW Source Water Protection Strategy (D2021/27596) sets priorities and goals for source water protection.

The Board and Management Committees - Water Quality, Health and Catchment Protection provides an oversight function for catchment management activities receiving regular updates on key subject matter areas including:

- water quality improvement plans
- catchment audit recommendations
- the science program particularly findings of new science and emerging issues that could impact WaterNSW
- implementation of the Source Water Protection Strategy
- NSW Bushfire Inquiry Recommendations.

We were provided with the Source Water Protection Report (D2021/81062) reporting on catchment programs, catchment compliance, mining advocacy and action, land programs undertaken in the 2020/2021 financial year.

WaterNSW prepares and publishes an Annual Catchment Protection Works Program. The Annual Catchment Works Program Procedure (CD2019/30) sets out how Annual Catchment Works Program are developed.

We were provided with the Catchment Protection Work Program 2021 in place in the order period (D2020/1704) and the Catchment Protection Work Program 2022 developed in the audit period (D2021/25494). The six broad initiatives in Catchment Protection Work Program 2021 were:

- improved practices
- land management
- water quality science
- enforcement and surveillance
- land use planning
- engaged Communities.

Element 2 and 3 of Modelpedia covers assessments of the Declared Catchment Area including the Pollution Source Assessment Tool (PSAT) (D2015/98663), Source Water Protection Strategy (D2021/27596) and the Catchment to Customer Risk Assessment. The Oberon PSAT (D2017/84621) and the Annual Catchment to Customer Risk Review (D2021/46289) were provided as evidence of implementation of the element. Element 6 of Modelpedia identifies key potential catchment incidents and incident response procedures including contingency plans for algae and heavy rain. Element 9 covers investigations into the catchment management improvement.

WaterNSW advised in the questionnaire that the Science Program provides a platform for the evaluation of the effectiveness of catchment programs and identification of emerging issues and technologies. We were provided the Water Quality Programs Fire Research Strategy (D2021/107534) as evidence of program development and evidence

of implementation in Bushfire Strategy Project Status Summary (D2021/117574) which demonstrates satisfactory progress of the projects.

During the interviews we reviewed the implementation of planned activities for fire management. WaterNSW advised that hazard reduction burns (HRBs) and fire management in the catchment are operated separately to the Bushfire recovery program. Annual HRBs are planned in each year based on a schedule from a 5-year plan. Implementation of the planned burns is dependent on weather. Priority burns are undertaken when the weather conditions are appropriate. We requested the prioritised list of HRBs and were provided with the Planned Hazard Reductions (D2021/116588, email dated 27/10/21) and the 2021 Annual Prescribed Burning Program (D2021/116588) which were found to be adequate.

Evidence was provided of progress on the Warragamba Bushfire recovery (D2020/18100). We tested progress on repair of water monitoring and SCADA telemetry sites destroyed in the fires and were satisfied that progress was made. We viewed evidence of the live SCADA data from a repaired site. It was noted that two monitoring site repairs were delayed due to access restraints as a result of COVID Public Health Order restrictions, which we considered reasonable.

During the interviews the dairy register was discussed to test notifications of dairy spills in the March 2021 rainfall event in the Warragamba catchment. WaterNSW advised that when rainfall events with potential to impact water quality are identified an IMT will be established and the water quality incident response plan followed. There is a GIS layer with dairies and on this there are three dairies in Warragamba and one in Nepean within the Declared Catchment Area. If rain is forecast, farmers are contacted by the team and directed to irrigate their farms before the rain. If needed, farmers will be contacted to determine condition of effluent ponds. In the March 2021 rainfall event, the IMT contacted the Catchment Team. WaterNSW has contacted the dairies and offered assistance to upgrade effluent storage. Those who accepted the help will have storage adequate for a 1-in-10 year event. We requested evidence of the farmer contact IMT request and capture of information and evidence of the dairy upgrades. WaterNSW provided information including a screenshot of the dairy effluent pond register (D2021/116511) and details of communications that:

- at least one dairy pond in the Kangaroo Valley was overflowing on 23 March 2021 (D2021/116508)
- the only dairy pond in the Nepean Catchment had been emptied in advance and would not be overflowing on 24 August 2021 (D2021/116509)
- 17 out of 24 sewer pumping stations were overflowing on 21 March 2021 (D2021/116510).

In the questionnaire WaterNSW advised that they audit use of the NorBE assessment tool by all councils in the Sydney Drinking Water Catchment. Training in this tool was tested during the audit interviews. WaterNSW advised that training is scheduled following a major system upgrade or when councils notify about staff turnover without existing staff to deliver peer-to-peer training. Works required may be identified through inspections by catchment officers (recently limited due to COVID) or triggered by Council. Council is the regulatory authority but WaterNSW bears the impact. To get

conditions on the ground, the WaterNSW Compliance Team will work with the local councils who are the regulatory responsibility bearer to make sure the necessary work is being done.

WaterNSW was questioned in the interviews about the Pollution Source Assessment Tool (PSAT) which was last updated in 2016. WaterNSW advised that a dedicated team had been developed to build an integrated water model which models from the catchment, through the storages to the Sydney Water delivery point. The three-year program to develop this model is due to complete in 2022. Improvements of understanding are expected to be part of this.

### Asset management system

WaterNSW advised during the audit interviews that the AMS manages lands owned by WaterNSW in the Declared Catchment Area as assets.

The Strategic Asset Management Plan (CD2015/436) states that the asset inventory managed by the AMS includes Declared Catchment land including Special Area land and controlled land with evidence measured through the state of the Special Areas Reports on a three-yearly basis. WaterNSW advised that the Special Areas Strategic Plan of Management sets out the strategic objectives for managing Special Areas.

Refer to clause 5.1.1. where we discuss our findings on the WaterNSW AMS.

### Environmental management system

Environmental risks are reviewed as part of the EMS on an annual basis. Actions emerging from these assessments are progressed through the Objectives and Targets monitoring and reported detailed in clause 5.2.2.

In the Quarterly EMS Report (D2021/107345) the target to 'Develop a Climate Change Adaption Strategy' was marked as in progress on 9 June 2021 with it noted to be completed by September 2021. In the interviews WaterNSW advised that the climate change strategy is still being developed and that they are carrying out benchmarking and stakeholder engagement including with NSW DPIE. It was advised that the Climate Change Adoption Strategy will capture processes already underway as part of the catchment management including the bushfire management strategy and catchment management strategy.

In clause 5.2.1. we discussed our findings on the WaterNSW Environment Management System (EMS).

### Recommendation

No recommendations are made for this clause

### Opportunities for improvement

There are no opportunities for improvement for this clause.



# Clause 2.4 – Catchment Infrastructure Works management

## Clause 2.4.1

**Table 13. Clause 2.4.1 compliance grade**

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

### Summary of reasons for grade

WaterNSW demonstrated that it had operated and managed the Catchment Infrastructure Works consistently with the Design Criteria and in accordance with the AMS during the audit period. The Design Criteria are reflected in scheduling tools that have been developed using the WATHNET system model. Following the breaking of the drought, the Design Criteria were not triggered during the audit period.

Under clause 2.4.1, WaterNSW must also manage the Catchment Infrastructure Works in accordance with the AMS. WaterNSW has demonstrated the alignment between its corporate and asset management objectives and how this allows its Catchment Infrastructure Works to be operated and managed consistently in accordance with its AMS.

This clause is graded Compliant.

### Discussion and notes

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

- a. water storages, water mains, or connected or associated works, or
- b. monitoring devices in, under, over or near any works referred to in paragraph (a), or
- c. any works ancillary or antecedent to any works referred to in paragraph (a) or (b), or
- d. hydro-electric plants or associated infrastructure or works,

- e. and includes anything prescribed by the regulations as being within this definition, but excludes anything prescribed by the regulations as being outside this definition.

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

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

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

Unlike last year, storage levels remained well above any major drought/contingency triggers during the audit period.

WaterNSW manages the Catchment Infrastructure Works in accordance with the Design Criteria through the application of operating rules developed by the WATHNET system model.

The WATHNET model is a monthly time-step model for system optimisation. The operating rules, in the form of a system nomograph, as implemented in the Master Schedule planning tool, are used to guide decision making around source selection in addition to considering water quality constraints, availability of assets and drought triggers as detailed in the Water Sharing Plan. The operating rules seek to maintain supply security at each supply point, meet water sharing requirements and prevent spilling from the storages.

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

Previously WaterNSW was working jointly with Sydney Water on drought operational response measures. This responsibility has been handed solely to Sydney Water during the audit period. The draft Greater Sydney Water Strategy was also released in September 2021 and when finalised, may have an impact on how WaterNSW manages its infrastructure to meet the Design Criteria.

Under clause 2.4.1, WaterNSW also has to manage the Catchment Infrastructure Works in accordance with the AMS. The requirement for this system is specified under clause 5.1.1 of this licence and discussion on this obligation is included under the section of this report relating to clause 5.1.1.



Fundamental to an AMS is the concept of alignment (ISO55000:2014, clause 2.4.2) so that it is evident how whole of organisation objectives are translated into technical and financial decisions, plans and activities.

Operation and management of the system (Catchment Infrastructure) in accordance with the Design Criteria is identified as one of WaterNSW's asset management objectives (Asset Management Objective 8) in WaterNSW's Strategic Asset Management Plan. Compliance with the Design Criteria is also identified in the Strategic Asset Management Plan as a key aspect of meeting the stakeholder requirements of Sydney Water, WaterNSW's principal customer within the Declared Catchment Area. In addition, the management and protection of the Declared Catchment Area is one of WaterNSW's asset management objectives included in its Strategic Asset Management Plan (Asset Management Objective 9).

With respect to planning under the AMS, Asset Class Strategies are important documents as these specify planning guidelines and asset requirements for related sets of assets. They consolidate technical knowledge regarding the long-term care of the relevant type of equipment and systems.

As detailed in this audit report under clause 5.1.2, although Asset Class Strategies have not yet been prepared for all asset classes relating to water supply, with 12 outstanding, WaterNSW has used a prioritisation process that means that most strategy documents for critical assets have been prepared and WaterNSW is now moving into developing the technical specifications to implement the strategies. At the end of the audit period, WaterNSW has prepared Asset Class Strategies for 25 asset classes. In the audit period Asset Class Strategies were prepared for:

- weirs
- HV variable speed drives
- Gates, stoplogs, baulks and Bulkheads
- Valves

The Asset Class Strategies guide asset management activities for the assets within the scope of each.

### **Recommendation**

There are no recommendations for this clause.

### **Opportunities for improvement**

There are no opportunities for improvement for this clause.

## Clause 2.6 – Reviewing the model for the system yield

### Clause 2.6.1

Table 14. Clause 2.6.1 compliance grade

Subclause	Requirement	Compliance grade
2.6.1	By the first quarter of 2021, Water NSW must engage a suitably qualified independent expert to: <ol style="list-style-type: none"> <li>review its modelling and procedures for calculating the System Yield to ensure that it reflects good industry practice;</li> <li>test the robustness of the modelling, the key assumptions used in the modelling, and the process for calculating the System Yield, including the appropriate frequency of yield recalculation and the appropriateness of the trigger events in clause 2.5.1; and</li> <li>advise Water NSW on whether it should recalculate the System Yield based on the findings of the test conducted under clause 2.6.1(b).</li> </ol>	Non-compliant (non-material)
<b>Risk</b>	<b>Target for full compliance</b>	
Failure to comply with this clause may result in the model for System Yield not being updated (if required) to be consistent with good industry practices in a timely manner which could then undermine supply-demand planning.	Evidence that WaterNSW has undertaken an appropriate procurement process to select a suitably qualified independent expert to complete the review required by this clause. Evidence that WaterNSW has engaged the selected consultant by the first quarter of 2021.	

### Summary of reasons for grade

WaterNSW demonstrated that it undertook an appropriate procurement process to select a suitably qualified independent expert to complete the review required by this clause. However, WaterNSW was not able to demonstrate that it engaged the selected consultant by the first quarter of 2021. We consider this non-compliance to be non-material as a short delay in the engagement of the selected consultant does not have a material impact on WaterNSW's ability to estimate yield.

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

### Discussion and notes

#### Introduction

This clause requires that WaterNSW engage a suitably qualified independent expert to:

- review its modelling and procedures for calculating the System Yield to ensure that it reflects good industry practice
- test the robustness of the modelling, the key assumptions used in the modelling, and the process for calculating the System Yield, including the appropriate

frequency of yield recalculation and the appropriateness of the trigger events in clause 2.5.1

- advise WaterNSW on whether it should recalculate the System Yield based on the findings of the test conducted under clause 2.6.1(b).

WaterNSW is required to complete the above actions by the first quarter of 2021.

### Request for quote and scope of review

WaterNSW uses WATHNET, a water supply simulation model, to estimate yield for Sydney's water supply system. On 16 March 2021, WaterNSW issued a Request for Quote (RFQ) to a shortlist of suppliers to undertake an independent review of the WATHNET model (Request for Quotation (RFQ): W0000230 WATHNET Model Independent Review 2021). The scope of work detailed within the Request for Quote is separated into two main components:

- A detailed review of the WATHNET model, undertaken by the selected consultant, to ensure the correctness of all configuration and input data
- A peer review of the WATHNET model and associated modelling activities, undertaken by an independent expert panel consisting of four Australian-based industry leaders.

According to the RFQ, the purpose of the second component of work (the peer review) is to:

- review the application of the WATHNET model to Sydney's water supply system and the assumptions made
- review the overall yield assessment methodology and recommend improvements.

The RFQ also notes that "one of the objectives of the peer review is to ensure that the adopted yield assessment methodology complies with industry best practice and is amended when appropriate to take advantage of developments in hydrology, climate science and numerical modelling."

All requirements of this operating licence clause are also replicated within the "Applicable Regulations, Codes, Standards and WaterNSW Policies and Procedures" section of the RFQ. However, we note that the requirement to test the appropriateness of recalculation triggers does not appear to be explicitly integrated into the scope of work or explicitly addressed by the review report. In response to our query regarding how this requirement has been addressed, WaterNSW advised that the review focused on the appropriateness of the yield assessment methodology itself, as requested by stakeholders. WaterNSW further advised that the adopted review approach assumes current recalculation triggers to be appropriate.

We consider that explicit integration and addressing of the above operating licence requirement is an opportunity of improvement for WaterNSW. This would assist WaterNSW in demonstrating that it has met all requirements of clause 2.6.1 of the operating licence. We have raised this as an opportunity for improvement (OFI 2.6.1-1).

### Selection and engagement of consultant

The Request for Quote (RFQ) was issued to four suppliers. Under the RFQ, responses from suppliers were required by 29 March 2021. Three of the invited suppliers (HARC,

WMAwater and Jacobs) notified WaterNSW that they did not have the capacity to undertake the scope of work. WMAwater also indicated a potential conflict of interest, with a contracted staff member being responsible for the development of WATHNET. WREMA was the only supplier who submitted a proposal. As such, WREMA was selected as the consultant for the review. The selected consultant (WREMA) had previously undertaken peer reviews of the WATHNET models for the Sydney, Hunter and Central Coast water supply systems. As evidence of the responses received for the RFQ, WaterNSW provided to us WREMA's proposal as well as the notifications received from the three other suppliers.

Within the documents received, we did not sight evidence of the selected consultant being engaged by the first quarter of 2021 (31 March 2021). In response to our request for evidence of engagement (e.g., a countersigned contract), WaterNSW directed us to WREMA's proposal, which includes the signature of the supplier's representative within the returnable schedules. However, we note that the submission of a proposal alone does not constitute an engagement between two parties. Therefore, the selected consultant was not engaged by the first quarter of 2021, and we consider this clause to be non-compliant (non-material). We consider this non-compliance to be non-material as a short delay in the engagement of the selected consultant does not have a material impact on WaterNSW's ability to estimate yield. Recommendation 2.6.1-1 is made to minimise the recurrence of this non-compliance in future audit periods.

### **Recommendation**

Recommendation 2.6.1-1: By 30 September 2022, WaterNSW should conduct a lessons learned review regarding the circumstances that led to it not complying with the requirement of this clause relating to timing. The outcomes of the lessons learned review should be documented and used to inform the approach for obtaining future reviews of System Yield.

### **Opportunities for improvement**

OFI 2.6.1-1: Explicitly integrate the requirement to test the appropriateness of recalculation triggers into the scope of works for the model review. We also suggest that WaterNSW ensure this requirement is explicitly addressed by the review report.

## Clause 2.6.2

**Table 15. Clause 2.6.2 compliance grade**

Subclause	Requirement	Compliance grade
2.6.2	Water NSW must consult with: a) Customers who are Supplied water from the Declared Catchment Area, including Sydney Water; b) stakeholders and regulators as agreed with, or directed by, IPART; and c) any other persons that Water NSW reasonably expects to have an interest in the review of the modelling under clause 2.6.1, regarding the review of the modelling under clause 2.6.1, and provide the results of the consultation to the suitably qualified independent expert.	Non-compliant (material)
<b>Risk</b>	<b>Target for full compliance</b>	
Failure to comply with this clause would result in stakeholder needs and inputs not being considered as part of the review of the modelling under clause 2.6.1.	Evidence that WaterNSW has identified and consulted with each of the following: <ul style="list-style-type: none"> <li>Customers who are Supplied water from the Declared Catchment Area, including Sydney Water</li> <li>Stakeholders and regulators as agreed with, or directed by, IPART</li> <li>Any other persons that Water NSW reasonably expects to have an interest in the review of the modelling under clause 2.6.1, regarding the review of the modelling under clause 2.6.1.</li> </ul>	

### Summary of reasons for grade

This clause requires that WaterNSW must consult with:

- Customers
- Stakeholders and regulators agreed with or directed by IPART
- Any other persons that might be reasonably interested.

WaterNSW consulted with Sydney Water but did not consult with other customers including minor customers (because it considered these to be immaterial) and larger local water utilities (because it considered that the interests of these customers were represented by DPIE). Therefore, we consider that WaterNSW did not comply with the requirements of part (a) of this clause.

WaterNSW did not seek to identify stakeholders that may have been interested in the review of system yield; it only consulted with parties that it had engaged with in the previous (2016) review being Sydney Water, IPART and DPIE. Therefore, WaterNSW has not complied with the requirement of part (c) of this clause.

The purpose of engaging with customers, stakeholders and interested parties is to gain different perspectives and insight into the determination of System Yield. As WaterNSW only involved a narrow range of parties and did not identify the full scope of potentially interested customers, stakeholders and interested parties, the update of the System

Yield has not been able to account for a potentially wider range of input. Therefore, we consider that the non-compliance is material.

This clause is graded Non-compliant (material).

## Discussion and notes

This clause requires that WaterNSW consult with the following stakeholders regarding the review of the modelling under clause 2.6.1:

- Customers who are Supplied water from the Declared Catchment Area, including Sydney Water
- Stakeholders and regulators as agreed with, or directed by, IPART
- Any other persons that WaterNSW reasonably expects to have an interest in the review of the modelling under clause 2.6.1.

WaterNSW must also provide the results of the consultation to the suitably qualified independent expert.

## Stakeholder and review workshops

The following two workshops were held throughout the review to inform and consult with stakeholders:

- stakeholder workshop held on 23 April 2021. The purpose of this workshop was to outline the context of the review and facilitate the discussion of issues to be addressed in the review. The workshop was attended by WaterNSW, DPIE, IPART, Sydney Water and the selected consultant (WREMA).
- review workshop held on 29 June 2021. The purpose of this workshop was to summarise and discuss the findings of the review. The workshop was attended by the independent expert panel, WaterNSW, Sydney Water, IPART, DPIE, and the selected consultant. We discuss this workshop in further detail against clause 2.6.3.

As evidence of the above two workshops, WaterNSW provided to us the PowerPoint presentations for the workshops and the workshop minutes (April workshop, D2021/104626 and June workshop, D2021/104618).

## Stakeholder identification

This clause requires that WaterNSW must consult with:

- a) Customers including Sydney Water
- b) Stakeholders and regulators agreed with or directed by IPART
- c) Any other persons that might be reasonably interested.

As noted above, the stakeholder and review workshops were attended by the independent expert panel, WaterNSW, Sydney Water, IPART, DPIE, and the selected consultant (WREMA). In a letter from the Executive Manager, Water and Catchment Protection, WaterNSW to the Chief Executive Officer, IPART on 14 April 2021, WaterNSW “would welcome IPARTs [sic] suggestions on any other stakeholders or regulators who should be invited”. WaterNSW advised that it did not receive a direction from IPART to consult with specific stakeholders.

Part (a) in full requires WaterNSW to consult with “Customers who are Supplied water from the Declared Catchment Area, including Sydney Water”. While Sydney Water was present at the review no other customers were directly represented. WaterNSW advised that it considers that the demands of minor customers and direct customers of the Warragamba Pipeline and Upper Canal are too small, with respect to the accuracy threshold of the model, for these customers to be considered as stakeholders. WaterNSW also advised that it considers that stakeholders such as Shoalhaven City Council are consulted with by DPIE as part of the Water Sharing Plan and therefore DPIE could be considered to be representing these customers.

The clause does not establish a materiality threshold for customer consultation. Regarding the larger customers, DPIE's primary role is as the water resource regulator. The larger customers have interests which are unlikely to be well known to DPIE such as patterns of use and the community impact of restrictions. We consider that the absence of minor customers and the notion that DPIE represents the other larger customers (local water utilities) means that the requirement of this part (a) of the sub-clause have not been met.

Regarding part (b) of the clause, there has been no direction or agreement regarding stakeholder involvement from IPART and therefore we consider that this part of the sub-clause has been complied with by WaterNSW.

Part (c) requires in full that WaterNSW consults with "any other persons that Water NSW reasonably expects to have an interest in the review of the modelling under clause 2.6.1". We queried WaterNSW as to how it had identified the stakeholders relevant to this review. WaterNSW advised that it invited the stakeholders present at the workshops for the 2016 review, as there had been “no significant changes”.

This part of the clause requires that WaterNSW identify stakeholders and assess their potential interest in the review of system yield. There is no evidence that WaterNSW identified stakeholders or their potential interest in the review of system yield. Instead, WaterNSW limited its consultation to those involved in 2016. In line with good practice, we would expect to see stakeholder identification and categorisation in line with IAP2 principles and processes or an equivalent. Therefore, we consider that WaterNSW has not complied with the requirements of part (c) of this clause.

While the absence of stakeholder identification and assessment of their potential interest is, in our opinion, sufficient to demonstrate that WaterNSW has not met the requirements of part (c) of this clause, we provide the following examples to illustrate where greater stakeholder consultation may have been expected and/or may have improved the review of system yield:

- The System Yield Review Final Report discusses extensively (particularly in the paper "How adequate is the yield approach in a nonstationary system?") that yield is not a static concept but is dynamic and should be strongly considered alongside level of service which in turn means the impact on end users (who are stakeholders). The report also discusses that end user impacts of restrictions and supply shortages are likely to be difficult to grasp by end users (who are stakeholders).



- At the 25 June 2021 workshop, a Sydney Water representative asked whether stakeholder expectations had been documented. This query is not addressed in the workshop minutes.
- WSAA occasional paper 29 on Urban water planning framework and guidelines (March 2014) discusses extensively regarding stakeholder engagement at various points. While it may be argued that stakeholders (particularly residential customers) may not be explicitly interested in the intricacies of calculating system yield, this would take away from potential positive stakeholder outcomes such as increased buy in to levels of service, increased understanding of alternative supply options and increased appreciation of water security / cost trade-offs.

Recommendation 2.6.2-1 is made to minimise the recurrence of this non-compliance in future audit periods.

## Recommendation

Recommendation 2.6.2-1: By 30 September 2022, WaterNSW should undertake a stakeholder identification and engagement exercise to a) identify stakeholders (to include broadly customers, stakeholders, regulators and interested parties) b) the appropriate level of engagement for each stakeholder for i) updating System Yield ii) use of System Yield c) identify engagement strategies for the stakeholders for updating and using System Yield.

## Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 2.6.3

Table 16. Clause 2.6.3 compliance grade

Subclause	Requirement	Compliance grade
2.6.3	The review of the model for the System Yield must be completed by 30 June 2021 and reported to IPART in accordance with the Reporting Manual.	Non-compliant (non-material)
<b>Risk</b>	<b>Target for full compliance</b>	
Failure to comply with this clause would result in Sydney's water supply system being planned, managed and operated in accordance with outdated, incorrect or inaccurate yield assumptions.	Evidence that WaterNSW has submitted the report on the review of the model for the System Yield to IPART by 30 June 2021. Evidence that the review report includes WaterNSW's response to the findings of the review.	

## Summary of reasons for grade

The Reporting Manual requires that WaterNSW submit to IPART a report on the independent review of the modelling and procedures for calculating the System Yield by 30 June 2021. WaterNSW submitted the review report to IPART on 9 August 2021. We consider this to be a non-material non-compliance as a short delay in the finalisation of

the review report does not have a material impact on WaterNSW's ability to estimate yield.

The Reporting Manual also requires that WaterNSW reports publicly on the report, and that the report includes the independent expert's findings of the review and WaterNSW's response to those findings. While WaterNSW reviewed and provided feedback on the draft review report, WaterNSW's response to the findings of the review were not made publicly available. We consider this to be a non-material non-compliance.

As we consider both non-compliances to be non-material, this overall clause is graded Non-compliant (non-material).

## Discussion and notes

This clause requires that WaterNSW ensure that the review of the model for the System Yield is completed by 30 June 2021. WaterNSW must also ensure that the review is reported to IPART in accordance with the Reporting Manual.

On 29 June 2021, a review workshop was held between the independent expert panel, the selected consultant (WREMA), WaterNSW, Sydney Water, IPART, and DPIE. The aims of the workshop were to:

- Summarise the conclusions and recommendations of the review
- Summarise the confirmed yield estimates
- Discuss climate change and drought management
- Discuss the suitability of the yield assessment methodology
- Discuss any other matters raised.

As evidence of the review workshop held, WaterNSW provided to us the PowerPoint presentation for the workshop, workshop minutes, and briefing notes provided to the independent expert panel to inform their review (D2021/104618, 8/7/2021). While the review workshop was held prior to 30 June 2021, we note that the review report was finalised on 20 July 2021. The review report was then issued to IPART on 9 August 2021. The Reporting Manual requires that WaterNSW submit to IPART a report on the independent review of the modelling and procedures for calculating the System Yield by 30 June 2021. Therefore, we consider this to be a non-material non-compliance. We consider this non-compliance to be non-material as a short delay in the finalisation of the review report does not have a material impact on WaterNSW's ability to estimate yield. Recommendation 2.6.3-1 is made to minimise the recurrence of this non-compliance in future audit periods.

The Reporting Manual also requires that the report includes WaterNSW's response to the findings of the review. As evidence of WaterNSW's response being incorporated into the review report, WaterNSW provided to us an e-mail from WaterNSW to WREMA outlining WaterNSW's feedback on the draft review report (D2021/117348, 15/7/2021). We reviewed the final review report and confirmed that WaterNSW's feedback had been addressed.

However, the requirement of the Reporting Manual is that WaterNSW reports publicly on the report, and that the report includes the independent expert's findings of the review and WaterNSW's response to those findings. While WaterNSW reviewed and

provided feedback on the draft review report, the report does not publicly communicate WaterNSW's response to the findings of the review. We consider that this is also a non-material non-compliance. Recommendation 2.6.3-1 is made to minimise the recurrence of this non-compliance in future audit periods.

As we have identified two non-material non-compliances with the requirements of the Reporting Manual, we consider this overall clause to be non-compliant (non-material).

### **Recommendation**

Recommendation 2.6.3-1: By 30 September 2022, WaterNSW should conduct a lessons learned review regarding the circumstances that led to it not complying with the requirement of this clause relating to timing. The lessons learned review should also consider how WaterNSW can comply with the requirement of this clause to report publicly on its response to the findings of the model review. The outcomes of the lessons learned review should be documented and used to inform the approach for obtaining and reporting on future reviews of System Yield. (We note that this review may be conducted in parallel with that for Recommendation 2.6.1-1).

### **Opportunities for improvement**

There are no opportunities for improvement for this clause.

# Clause 3.1 – Construct, maintain and operate Water Management Works

## Clause 3.1.1

**Table 17. Clause 3.1.1 compliance grade**

Subclause	Requirement	Compliance grade
3.1.1	WaterNSW must construct, maintain and operate its Water Management Works in accordance with its Asset Management System referred to in clause 5.1.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
This clause represents a high risk. Effective management of Water Management Works throughout their lifecycle is required to maintain service, minimise lifecycle costs and manage risk to an acceptable level.	Evidence that the Water Management Works are effectively managed throughout their lifecycle under the asset management system.	

### Summary of reasons for grade

Based on the evidence provided we are satisfied that WaterNSW constructed, maintained and operated its Water Management Works in accordance with its AMS during the audit period.

This clause is graded as Compliant.

### Discussion and notes

Water Infrastructure Works are defined in the Water Management Act 2000 as:

“a water supply work, a drainage work or a flood work, and includes any part of such a work”.

It further defines a “water supply work”, which are applicable to WaterNSW, as:

- (a) “without limiting paragraphs (b)–(g), a work (such as a water pump or water bore) for the purpose of taking water from a water source, or
- (b) a work (such as a tank or dam) for the purpose of capturing or storing water, or
- (c) a work (such as a water pipe or irrigation channel) for the purpose of conveying water to the point at which it is to be used, or
- (d) any work (such as a bank or levee) that has, or could have, the effect of diverting water flowing to or from a water source, or
- (e) any work (such as a weir) that has, or could have, the effect of impounding water in a water source,

including a reticulated system of such works, and includes all associated pipes, sluices, valves, metering equipment and other equipment, but does not include:

- (f) any work (other than a water supply work under the control or management of the Sydney Water Corporation, the Hunter Water Corporation or a local water

utility) that receives water from a water supply work under the control or management of the Sydney Water Corporation, the Hunter Water Corporation or a local water utility, or

- (g) any work declared by the regulations not to be a water supply work.”

## Overview

The requirement for WaterNSW to have in place a management system for asset management is specified under clause 5.1.1 of the operating licence and the primary discussion on this obligation is included under the section of this report relating to clause 5.1.1.

The framework for WaterNSW's AMS is shown in Figure 1. As a system, the interrelated parts are intended to work together to achieve the system objectives. Each of the framework elements are described in the Strategic Asset Management Plan. This includes outlining the arrangements for the construction, maintenance and operation of its assets at an overall strategic level.

Within the Strategic Asset Management Plan (CD2015/436), WaterNSW has defined the scope of the AMS. The scope has been refined over time to include:

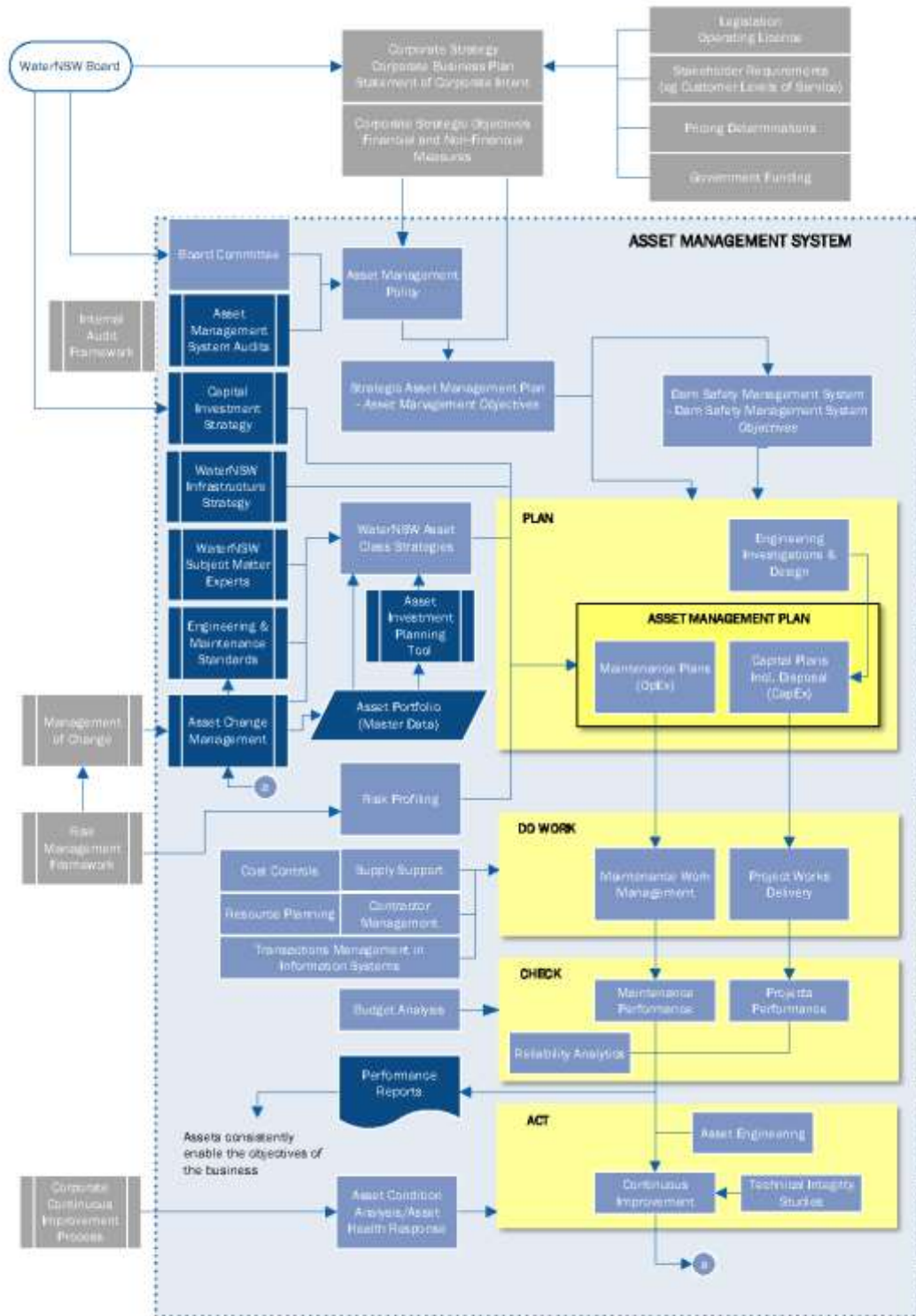
- bulk water supply infrastructure including dams & weirs, pumping stations, pipelines and canals, dosing facilities, metering;
- catchment land including special area land and controlled land;
- support infrastructure including supervisory control and data acquisition (SCADA) systems, workshops and equipment, and other assets utilised by WaterNSW to deliver the services;
- fleet assets including light vehicles and mobile equipment;
- information, communication and technology (ICT) systems;
- property, buildings and associated services; and
- recreation areas.

Water Management Works fall within this scope, primarily as bulk water infrastructure items such as storage and supply infrastructure.

The Strategic Asset Management Plan sets out WaterNSW's asset management objectives. These objectives, which are aligned to its overall corporate objectives, also define the planning, construction, operation and maintenance activities that WaterNSW undertakes to achieve the objectives, as well as the measures used to record and report on performance.

More detailed information relating to construction, operation and maintenance of WaterNSW's assets is provided in the portfolio of Asset Class Strategies that have been developed.

Figure 1. AMS framework



Source: ARK Ref: CD2015/436[v9]

## Construction

Asset Management Objective 4, included in WaterNSW's Strategic Asset Management Plan is "Provide raw water supply infrastructure solution options to address identified risks and opportunities for current and future demands." This objective is applicable to the construction of Water Management Works.

This objective is supported by:

- the 20 Year Infrastructure Options Study for Rural Valleys, which provides a strategic level qualitative assessment of potential infrastructure options to meet long term LOS objectives in the regulated river water supply areas across NSW (excluding Greater Sydney)
- the 2017 Metropolitan Water Plan for infrastructure in the Greater Sydney area. However, this has been superseded by development of Greater Sydney Drought Response Plan and just after the audit period, publication of the draft Greater Sydney Water Strategy.
- WaterNSW's Annual Capital Investment Plans, which include a ten year outlook.

The replacement of the 2017 Metropolitan Water Plan with the Greater Sydney Water Strategy that was developed between WaterNSW, Sydney Water and the Department of Primary Industry & Environment – Water is expected to have some impacts on infrastructure requirements into the future. The draft Strategy was published in September 2021.

However, a significant development during the audit period is that responsibility for constructing new infrastructure has moved away from WaterNSW to Water Infrastructure NSW which is an agency with DPIE. This occurred on 25 November 2020. Therefore, the "construct" part of this sub-clause is no longer the responsibility of WaterNSW and WaterNSW advised that it did not construct any new works during the audit period. Therefore, we did not review any new works constructed during the audit period.

## Maintenance

Asset Management Objective 6, included in WaterNSW's Strategic Asset Management Plan is "Work management processes are consistently delivered and monitored."

This objective is supported by:

- Asset Maintenance Plans
- Asset Reliability and Maintenance Manual.

WaterNSW delivers the objective for the work management processes for its Water Management Works through its EAMS, Work orders and work order management processes and its Maintain Capability Capex Renewals program. Asset maintenance plans have been developed and are implemented using the maintenance management component of the AMS.

Since 2016, WaterNSW has undertaken considerable work to implement a standard approach and structure for the maintenance plan across the business and increasing



functionality within its computerised maintenance management system (CMMS). WaterNSW has identified the following benefits from these activities:

- Increased footprint of the EAMS
- EAMS mobility solution development
- Enhancing data capture within EAMS to facilitate better asset decision making
- Improvements in Work order prioritisation that help drive improved decision-making in scheduling of maintenance

WaterNSW advised that the functionality of the CMMS is fully operational with only minor improvements being made.

WaterNSW monitors its performance against the objective through weekly and monthly maintenance completion reporting, monthly capital performance reporting, monthly reporting through the Assets Leadership team and the Management Committee on Assets and asset health and performance reporting.

We queried the extent that WaterNSW has applied criticality considerations to its water monitoring asset class. WaterNSW responded that it uses its corporate wide provided for Asset Criticality Assessment (CD2015/331) for all asset classes and that the resulting criticality is used to prioritise both maintenance and renewals in capital works. WaterNSW is in the process of migrating Water Monitoring assets into its CMMS. An initial pilot program of Water Monitoring Assets was migrated to establish the Work Order process. Currently more Water Monitoring assets are being migrated into the system along with their criticality. This demonstrates that WaterNSW is improving its approach to managing its assets and in particular, the operate and maintain requirements under this clause.

We confirmed that the criticality of the asset is recorded against each asset and that WaterNSW uses this information as a factor in the frequency and the type of maintenance. Criticality is scored in accordance with the Asset Criticality Assessment Procedure.

The operations staff that were interviewed at audit meetings and at the site visit displayed a sound awareness of maintenance requirements and the use of the CMMS.

In addition to planned and corrective maintenance activities, whole-of-life maintenance of the asset portfolio also involves renewal of assets as necessary to maintain capability. WaterNSW implements a Maintain Capability Capex Renewals program to ensure the ongoing performance of its assets.

WaterNSW uses the condition and criticality data recorded against each asset in its EAMS as the source data for the development of its renewals program. This is complimented by information provided in internal and external specialist study reports and also issues identified by the asset maintenance team. The information is collated and consolidated before being workshopped to validate the issues and develop options. The renewals process is prioritised based on condition, criticality, useful life and intervention costs.

WaterNSW demonstrated how it uses its PowerPlan tool to identify and assess candidates for its asset renewals. The system uses data from the EAMS to identify the

point at which intervention is required based on deterioration curves to look at when an asset may need to be replaced. The Net Present Value and risk cost are the main comparators and this allows WaterNSW to develop a high-level risk prioritised renewals program. The process is iterative, with more detailed inspections/studies completed on the assets identified for renewal, with this updated information then being used in the next iteration of the development of the program. We reviewed a number of examples of candidate assets for inclusion in WaterNSW's renewals program and consider, although the process is maturing, that it allows WaterNSW to develop its renewals program based on asset condition and performance data, while also accounting for risk and costs.

Based on our discussions with WaterNSW and the evidence that was presented and provided, we consider that its Water Management Works have been maintained consistently in accordance with its AMS during the audit period.

## Operations

Asset Management Objective 7, included in WaterNSW's Strategic Asset Management Plan is "Water Service to customer is delivered in accordance with their requirements."

This Objective is supported by:

- Customer Supply Agreements
- Work Approvals.

Operation of the Water Management Works requires daily operation of the water delivery systems in accordance with the relevant Customer Supply Agreements, Raw Water Supply Agreements, Work Approvals and Operating Protocols (as appropriate) in consultation and communication with Customers.

For the Declared Catchment Area, Objective 7 is also supported by WaterNSW's Asset Management Objective 8, "System is operated and managed in accordance with Design Criteria." We have provided details of how WaterNSW achieves this under clause 2.4.1

In addition, we have addressed the requirement for WaterNSW to supply water to its customers in accordance with the terms and conditions of the relevant Customer Supply Agreements under clause 6.1.2.

We queried WaterNSW how Covid-19 had impacted its approach to operations. WaterNSW advised that protocols have been established for undertaking field work with considerations for mitigating Covid-19 related risks and that it has updated its Business Continuity Planning to incorporate Covid-19 risks. WaterNSW advised that routine operating and maintenance activities continued with minor modifications and there was no material change to routine operation and maintenance programs as a result of Covid-19.

We also queried WaterNSW as to whether any extreme weather events had impacted operations during the audit period. WaterNSW advised that the only extreme weather event was an extreme wet weather event in March 2021. During this event Warragamba Dam was managed according to established protocols with the H14 gate opening sequence. Water supply assets were managed to minimise risk to water quality. This

included changes to outlet configuration, reconfiguring the Warragamba pipelines, diversion of the Upper Canal and utilisation of Prospect RWPS.

WaterNSW advised that it implemented standard protocols (CD2014/914) to prepare for a major rain event when the Bureau of Meteorology forecast indicated the potential for heavy rain. An IMT was established in accordance with the requirements of the WaterNSW Flood Management Procedure (CD2019/173) to manage both flood operations and water quality. WaterNSW advised that an independent review of the response to this event identified a number of improvement opportunities which WaterNSW is acting on. This also provides assurance that WaterNSW is seeking to improve its approach to operating its assets and in this instance, maintaining business continuity.

Based on our discussions with WaterNSW and the evidence that was presented and provided, we consider that its Water Management Works have been operated consistently in accordance with its AMS during the audit period.

### **Recommendation**

There are no recommendations for this clause.

### **Opportunities for improvement**

There are no opportunities for improvement for this clause.

## Clause 3.2 – Water supply

### Clause 3.2.1

**Table 18. Clause 3.2.1 compliance grade**

Subclause	Requirement	Compliance grade
3.2.1	WaterNSW must ensure that any water Supplied to Customers is Supplied in accordance with a relevant Water Quality Management System, any relevant Customer Supply Agreement, and any relevant arrangements with Sydney Water established under section 25 of the Act.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
If WaterNSW breaches its licence, contractual agreements or supplies water then this may impact public health.	Evidence that water supplied meets all the customer agreements, any relevant arrangement with Sydney Water (including the protocol and agreement) and the WQMS.	

### Summary of reasons for grade

WaterNSW reported a non-compliance for this clause for the availability of supply to LCC October 2020 to March 2021 (2020-2021 Statement of Compliance). WaterNSW also noted that this service interruption resulted in the quality of water not meeting supply specifications.

There are no specific water quality targets in the Customer Supply Agreement for LCC. While we note the manganese non-conformance in the FRWS treated water system, this is considered to have been managed in accordance with WaterNSW's WQMS.

Based on the evidence provided, we are satisfied that WaterNSW has supplied water in accordance with the relevant arrangements established with Sydney Water.

This clause is graded Compliant.

### Discussion and notes

This clause requires that WaterNSW ensure that any water Supplied to Customers is Supplied in accordance with a relevant WQMS, any relevant Customer Supply Agreement, and any relevant arrangements with Sydney Water established under section 25 of the Act.

WaterNSW's obligations for supplying water under clause 3.2.1 are achieved through Asset Management Objective 7 included in its Strategic Asset Management Plan: "Water Service to customer is delivered in accordance with their requirements."

This Objective is supported by:

- Customer Supply Agreements
- Work Approvals.

Operation of the Water Management Works requires daily operation of the water delivery systems in accordance with the relevant Customer Supply Agreements, Raw

Water Supply Agreements, Work Approvals and Operating Protocols in consultation and communication with Customers.

The scope of water Supplied to Customers under this clause considered in this audit is shown in Table 19.

**Table 19 Water supplied scope**

Supply	Requirement
Raw water supplied to Sydney Water	Water Quality Management System and relevant arrangements with Sydney Water established under section 25 of the Act.
Raw water supplied to Wingecarribee Shire Council, Shoalhaven City Council for Kangaroo Valley, and Oberon Council, and supplementary raw water supply to Goulburn Mulwaree Council from Wingecarribee Reservoir	Water Quality Management System and any relevant Customer Supply Agreement
Raw water supplied to Upper Canal and Warragamba Pipeline customers	Relevant Customer Supply Agreement
Raw water supplied to FRWS Scheme customers	
Drinking water supplied to FRWS Scheme customers	

### Supply in accordance with arrangements with Sydney Water

Under Section 25 of the Water NSW Act 2014, WaterNSW is required to enter into arrangements with Sydney Water, including arrangements that address:

- (a) the standard of quality of the water supplied
- (b) the continuity of water supply
- (c) the maintenance of adequate reserves of water by WaterNSW.

The commercial arrangements between WaterNSW and Sydney Water regarding the supply of water are established in the Raw Water Supply Agreement. WaterNSW provided to us the countersigned Raw Water Supply Agreement (signed on 14 October 2013).

The Raw Water Supply Protocols (version 2, last revised on 8 December 2016) provide a framework for WaterNSW and Sydney Water to adhere to the Raw Water Supply Agreement and to work together “in the interests of providing the best quality water to consumers”. The protocols establish communication requirements, including requirements for formal meetings, planning, day-to-day operations and incident management. The protocols include Communication (WSP 001), Incident Management (WSP 002), Raw Water Quality Management (WSP 003), Flow Meters (WSP 004), Information Management (WSP 005), Operational Changes (WSP 006), Access to Assets and Land (WSP 007), System Configuration (WSP 008), Strategic Asset Planning (WSP 009), and Joint Annual Maintenance Planning (WSP 010).

In order to monitor its performance with regard to supplying water to Sydney Water in accordance with the Raw Water Supply Agreement and Raw Water Supply Protocols, WaterNSW maintains a Water Monitoring Program (version 7, last revised in August 2021). Site-specific standards as set in the Raw Water Supply Agreement are described

in the Water Monitoring Program. WaterNSW advised that Sydney Water is invited to comment on each review of the Water Monitoring Program. In addition, the Raw Water Supply Protocols specify requirements for the provision of information in addition to that required under the Raw Water Supply Agreement, including requirements for additional data and monitoring information during incidents.

WaterNSW confirmed that there has been no change to the Raw Water Supply Agreement or Raw Water Supply Protocols during the audit period.

Evidence was provided that confirmed WaterNSW had supplied water in accordance with the Raw Water Supply Agreement and Raw Water Supply Protocols.

WaterNSW provided to us the Management Committee on Water Quality, Health and Catchment Protection 29 July 2021: Annual Report to IPART on the Water Quality Management System (D2021/82173). As stated in this report, WaterNSW's performance (which is flow weighted) against the Raw Water Supply Agreement was 98.35% compared to its target of 95%. During the audit period, non-compliances were reported at Kangaroo Valley raw water (algal ASU), Prospect raw water (algal ASU), Cascade raw water (algal ASU) and Warragamba raw water (alkalinity). As an example of the process implemented by WaterNSW to record non-compliances in its compliance management system (Risk, Assurance and Compliance System [RACS]), WaterNSW provided to us screenshots of the Prospect Water Filtration Plant non-compliances in RACS (3.2.1 - D2021/106289 - RACS Screenshot #1636 Prospect WFP alkalinity and ASU.DOCX).

Monthly water quality reports for (twice monthly for Warragamba) are also provided, summarising the latest water quality information, observations, prognoses and recommendations for operational improvements. Evidence of monthly water quality reports for Prospect are described in clause 2.1.4 element 5.

The Raw Water Supply Protocols specify a process for making operational changes to the raw water supply system (such as supply source or blend, or offtake levels). Any change proposed by WaterNSW is documented in a NOCTSO. Following the process ensures that both parties are in agreement on any system changes that may impact on water quality and are aware of any risks.

Evidence was provided for the Supply from Warragamba Pipelines 18 March 2021 due to major rain event forecast with potential to impact water quality (D2021/30512 NOCTSO).

### Water Quality Management System

The implementation of the WQMS is discussed in detail under clause 2.1.4. Of relevance to this clause is the discussion on water quality supplied to LCC in clause 2.1.4, Element 6 Incident and Emergencies.

WaterNSW reported a non-compliance for this clause for the availability of supply to LCC October 2020 to March 2021 (2020-2021 Statement of Compliance) noting that this service interruption also resulted in the quality of water not meeting supply specifications. The Water Quality Monitoring Plan (CD2011/179, v6, in force during the incident, Table 1B) requires for the health-related water quality characteristics highlighted yellow (that includes manganese) must not exceed Australian Drinking



Water Guidelines (NHMRC, 2011) in treated waters”. WaterNSW reported manganese exceeded the health guideline in the treated clear water tank at Duckmaloi WTP (D2021/82173 and D2021/50417). The WQMS requires water quality incidents be managed in accordance with the Water Quality Incident Response Protocols. Evidence that incident was managed in accordance with the protocols is discussed in clause 4.2.2. While we note the manganese non-conformances, this is considered to have been managed in accordance with the WQMS.

### Customer Supply Agreements

The supply of water in accordance with relevant Customer Supply Agreements is further discussed in clause 6.1.2.

The role of Customer Supply Agreements is noted in Section 1.2 of the Strategic Asset Management Plan: Asset Management System Manual (ARK Reference CD2015/436). Among other performance measures, Appendix E sets out performance measures and types of evidence for the implementation of the supply agreements, including the line-of-sight between the performance measures and the corporate and asset management objectives. The version of the Strategic Asset Management Plan in effect during the audit period (version 8) was revised in June 2020.

Changes to the requirements of Customer Supply Agreements are not managed through the AMS but are instead managed through the Customer Supply Agreement Procedure (ARK Reference CD2019/112), which requires consultation with Subject Matter Experts from the System Operations, Water and Catchment Protection, Assets, and Customer and Community Business Units for the preparation and review of Customer Supply Agreements.

WaterNSW advised that if changes to Customer Supply Agreements require, in turn, a change in the AMS, these changes are identified through consultation between Subject Matter Experts. WaterNSW further advised that a member of the Water Quality team is involved in the review of Raw Water Supply Agreements to ensure that any changes to water quality requirements are captured and reflected in the WQMS.

WaterNSW advised that one supply agreement has been revised in the audit period. This Raw Water Supply Agreement (version 1, issued in July 2020) is between WaterNSW and Goulburn Mulwaree Council, and it sets out the terms and conditions for the supply of untreated raw water by WaterNSW to Goulburn Mulwaree Council. Although this supply agreement was issued in July 2020, it commenced on 1 September 2020. WaterNSW provided to us the countersigned agreement, which was signed on 23 September 2020 by WaterNSW and on 9 September 2020 by Goulburn Mulwaree Council. WaterNSW also provided to us the Executive Approval Request Form (contract review form) completed by its General Counsel on 21 September 2020, an endorsement e-mail from Water and Catchment Protection (19 August 2020), and an endorsement e-mail from Water System Operations (3 September 2020).

For Major customers, water quality targets for the raw water supplied have been agreed to by the Board, and although they are internal operational targets, they have also been agreed to by WaterNSW's customers.



Similar to the arrangements for the Sydney Water raw water supply, monthly water quality reports for each storage are provided to customers and stakeholders summarising the latest water quality information, observations, prognoses and recommendations for operational improvements.

Non-conformances, either with supply agreements or water quality event management protocols, are recorded in RACS as required.

For Minor customers receiving a raw water supply from WaterNSW, the supply agreements inform customers that the water is raw untreated water; is not intended for personal, domestic or household use; and is not a potable supply suitable for drinking. The agreements do not include any specific water quality characteristics and target values. WaterNSW monitors complaints from these customers to ensure it is meeting its obligations.

### **Recommendation**

There are no recommendations for this clause.

### **Opportunities for improvement**

There are no opportunities for improvement for this clause.

## Clause 3.3 – CSR Water

### Clause 3.3.1

**Table 20. Clause 3.3.1 compliance grade**

Subclause	Requirement	Compliance grade
3.3.1	For CSR Water, Water NSW must take all reasonable steps to: a) process all Water Orders promptly and efficiently; and a) manage Water Orders to ensure water is Delivered to its Customers in a timely manner.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Failure to comply with this clause would inhibit the timely delivery of water to water users and thereby impact on end uses and also negatively impact on WaterNSW's reputation.	<p>Evidence that WaterNSW has appropriate information systems and processes in place to enable the processing and management of Water Orders.</p> <p>Evidence that WaterNSW has taken all reasonable steps to process all Water Orders promptly and efficiently.</p> <p>Evidence that WaterNSW has managed Water Orders to ensure water is Delivered to its Customers in a timely manner.</p>	

### Summary of reasons for grade

WaterNSW demonstrated that it has in place appropriate information systems and processes to help to ensure that all reasonable steps are taken to process water orders promptly and efficiently and manage water orders to ensure water is delivered to its customers in a timely manner. The great majority of Water Orders are made through the iWAS system which has inbuilt checks that facilitates efficient processing of Water Orders.

This clause is graded Compliant.

### Discussion and notes

#### Introduction

This clause requires that WaterNSW take all reasonable steps to process all capture, store and release (CSR) Water Orders promptly and efficiently and manage these Water Orders to ensure water is Delivered to its Customers in a timely manner.

#### Process for managing water orders and delivery

Water orders are lodged by customers through the following methods:

- Registering for an account on iWAS, WaterNSW's water accounting system (WAS), and submitting a water order through iWAS
- Completing a hard copy water order form and e-mailing the relevant WaterNSW area (North Area, Central Area or South Area). The completed form can also be faxed to a central fax number, with the form subsequently converted to an e-mail by Telstra Faxbank services and distributed to the relevant e-mail address.
- Verbally requesting a water order through the designated water order phone number (1300 662 077).

WaterNSW has in place a Water Ordering Procedure (CD2015/312). This procedure documents the process for:

- Receiving, processing, opening, checking and assigning water orders
- Dealing with non-complying orders
- Processing complying orders.

The procedure sets out the following guidelines for the timeframes to process water orders:

- North Area – Water orders received by 8:00 am are entered by 9:00 am on the same day. Orders received after 8:00 am are treated as received on the next day.
- Central Area – As per the North Area
- South Area – Orders are entered as received.

To assist in meeting the above timeframes, the procedure imposes the following responsibilities on Customer Service Officers (CSOs), who are responsible for receiving and processing water orders:

- Each mailbox has a designated CSO who is responsible for entering the water orders received from that area within the specified timeframes. The designated CSO will notify their supervisor if the deadlines cannot be met so that additional resources can be allocated. The supervisor should also be notified as soon as possible of any absence.
- It is the responsibility of all CSOs to check the Customer Helpdesk Ticketing System regularly and process any unassigned water orders as they are received. Water orders take priority over other types of requests. Received water order requests should be assigned to a CSO in the Customer Helpdesk Ticketing System and entered into the WAS as soon as possible.

The Water Ordering Procedure also specifies the implementation officer and relevant staff, relevant internal documents, and relevant legal and other requirements. This procedure was last reviewed in July 2020 and is due to be reviewed in July 2022. The procedure is supported by a Water Order Checklist. We consider that WaterNSW has sound processes in place for receiving and processing Water Orders. The main procedure was updated just prior to the audit period.

For WaterNSW's systems, delivery is inherently considered while auditing. Delivery to customers is by watercourses which carry baseline flows as well as customer deliveries. For an order not to be delivered, there would be exceptional circumstances where the watercourse did not have sufficient volume in its baseline flows and customer delivery flows to meet the requirements of the user. WaterNSW shared with us monitoring that it undertakes of watercourse levels (and flowrates) which helps demonstrate that its systems have sufficient supply to meet orders.

### **Internal audits and compliance**

WaterNSW advised that the Customer Experience Service Improvement Specialist internally audits compliance with this clause and the CSR performance standards (clause 4.3 of the operating licence) on a monthly basis through two reporting mechanisms:

- Business Unit Report: Ensuring that 100% of orders have been entered by CSOs only
- Monthly Water Order Report: Monitoring performance against the CSR performance standards.

WaterNSW advised that any identified non-compliances are raised in regular meetings between the Contact Centre Manager and the Customer Experience Service Improvement Specialist. WaterNSW advised that, with the exception of clause 4.3.2, all CSR performance standards were deemed to be compliant. Additionally, WaterNSW advised that there were no complaints relating to water delivery for the 2020/21 financial year (noting that the audit period is 1 September 2020 to 31 August 2021).

With regards to clause 4.3.2, WaterNSW advised in its Statement of Compliance that for the 2020/21 financial year 96.5% of customers who placed a non-complying water order were contacted within one working day. This represents 138 out of 143 non-complying water orders, where the total number of water orders submitted (complying and non-complying) was 4,009. As the operating licence requires 99% of these customers to be contacted within one working day, WaterNSW self-identified a non-compliance for clause 4.3.2. While WaterNSW has failed to meet this service standard, we don't consider that this means that WaterNSW has failed to take reasonable steps to process Water Orders promptly and efficiently as require by part a) this clause. That is because:

- The number of customers that were not contacted within one day (5), is a very low proportion of all Water Orders (4,009) – 0.1%
- For these customers, a non-complying Water Order was made in the first instance.

Based on the following:

- The sound processes and procedures in place
- WaterNSW's use of a robust information system (iWAS) to capture the majority of Water Orders and process them
- WaterNSW's internal monitoring and reporting
- That only 0.1% of Water Orders were not processed or the customer contacted within one day where the Order was non-complying
- No customer complaints being received during 2020/21 relating to Water Orders

we consider that WaterNSW has demonstrated that it has taken all reasonable steps to process and deliver Water Orders promptly and efficiently. Therefore, we consider this clause to be compliant.

## Recommendation

There are no recommendations for this clause.

## Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 3.4 – Bulk water released to Local Water Utilities for Drinking Water Purposes

### Clause 3.4.1

**Table 21. Clause 3.4.1 compliance grade**

Subclause	Requirement	Compliance grade
3.4.1	Water NSW must maintain a register of all Local Water Utilities: a) for which Water NSW maintains a Water Allocation Account; and b) to which Water NSW releases water that will be used for the purposes of Drinking Water (Local Water Utility Customers), (LWU Register).	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
WaterNSW must maintain the Local Water Utility Customer register to ensure that those necessary are notified during a water quality incident.	A Local Water Utility register that is up to date and includes all Water Allocation Account and Local Water Utility customers.	

### Summary of reasons for grade

WaterNSW demonstrated that the Local Water Utilities register is maintained and up to date, capturing the Water Allocation Account and Local Water Utility customers through an annual download from their WAS.

This clause is graded Compliant.

### Discussion and notes

The register is maintained through the periodic production of a report from the WAS. WAS is the portal that maintains customer water account. A report is run annually from the WAS that captures those customers that hold local water utility licences or are categorised as Town Water Supply licences. We sampled the register and are satisfied that the LWUs with a Water Allocation Account and to which WaterNSW release water for drinking are recorded in the register.

Some of the local water utilities names listed in the Access Licence Holder Name and Work Approval Holder Name Columns have been superseded, for example, Dubbo City Council and the Council of the Shire of Wellington are now Dubbo Regional Council. This was discussed during the interview and WaterNSW advised that the water utility listed is taken from the original licence, WaterNSW noted that it is the responsibility of the licence holder to notify WaterNSW of any changes. This observation does not impact the accuracy of the contact details stored in the spreadsheet.

The Local Water Utilities Contact Details spreadsheet (DOC13 29697) had the annual WAS report updated in June 2021.

## Recommendation

There are no recommendations for this clause.

## Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 3.4.2

**Table 22. Clause 3.4.2 compliance grade**

Subclause	Requirement	Compliance grade
3.4.2	The LWU Register must include contact details for each Local Water Utility Customer, and the Water Source and approximate location from which the Local Water Utility Customer Extracts water.	Compliant (minor shortcomings)
<b>Risk</b>	<b>Target for full compliance</b>	
WaterNSW must maintain the Local Water Utility Customer Register to ensure that communications can be made promptly during water quality events that threat the public health of their customers.	A Local Water Utility Register that is up to date and includes contact details and extraction locations for all Water Allocation Account and Local Water Utility customers.	

## Summary of reasons for grade

WaterNSW has maintained a Local Water Utility (LWU) Register that includes up to date locations and contacts for each of their customers in accordance with clause 3.4.1. A shortcoming was noted with data errors for some contacts that may result in the incorrect contact being displayed when the list is filtered.

This clause is graded Compliant (minor shortcomings).

## Discussion and notes

The LWU Register identifies the water source, river section and latitude and longitude co-ordinates (where held) for the extraction point for each customer. Contact details for each LWU customer captured in the spreadsheet include contact name, office and mobile numbers and email.

The officer responsible for maintaining the contact details in the Register has a RACS action assigned each May. The officer follows the procedure Maintaining the LWU Register Contact Details (CD2021/106) which was sighted during the audit. This procedure is managed under the controlled document framework.

An email is sent each June to ask the previous contact to confirm. Where there was no response, follow up is made via a phone call to the general council phone number or email address. Phone call confirmations are captured in the comments section of the Register (column AT) and emails responses retained. Evidence of three June emails to

Mid-Western Regional Council (D2021/97073), Warren Shire Council (D2021/97065) and Bega Valley Shire Council (D2021/97075) were provided as evidence.

Data errors were observed in the LWU Register. This register is a Microsoft Excel file and these errors were likely due to dragging down contact numbers which caused them to increase incrementally rather than copy. The correct numbers are included within the list, but not for all row entries. If the spreadsheet is filtered by extraction point or source water, incorrect contact details may be displayed. Recommendation 3.4.2-1 has been made to address this shortcoming.

The LWU customer's source water and extraction location details are maintained through the periodic production of a report from the WAS. A report is run annually from the WAS that captures those customers that own LWU licences or are categorised as Town Water Supply licences. If an extraction point is changed it will be updated in WAS and brought across as part of the annual report.

## Recommendation

Recommendation 3.4.2-1: By 30 June 2022, WaterNSW should review processes to ensure accuracy of contacts in the Local Water Utilities Contact Details spreadsheet (DOC13 29697).

## Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 3.4.3

Table 23. Clause 3.4.3 compliance grade

Subclause	Requirement	Compliance grade
3.4.3	Water NSW must maintain and implement a procedure for providing information to Local Water Utilities (LWU Information Request Procedure). Water NSW must follow the LWU Information Request Procedure when any Local Water Utility requests information to inform that utility's Drinking Water quality assurance program. Water NSW must maintain the LWU Information Request Procedure during the term of this Licence.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Local Water Utilities cannot understand their water quality risk without access to water quality data from WaterNSW.	WaterNSW should have a clear procedure that is implemented when local water utilities request data to ensure that the data required is provided.	

## Summary of reasons for grade

WaterNSW have maintained a procedure for providing information to Local Water Utilities through the audit period. They have made the procedure publicly available for the LWUs to access. WaterNSW was not able to implement the procedure for providing information as there were no formal requests lodged using LWU Information Request Procedure 2021 (CD2021/86) during the period.



## — Clause 3.4 – Bulk water released to Local Water Utilities for Drinking Water Purposes

This clause is graded Compliant.

### Discussion and notes

WaterNSW have provided sufficient evidence to demonstrate that the LWU Information Request Procedure 2021 (CD2021/86, 23 July 2019) was maintained through the audit period including evidence that the document was reviewed within the previous 3 years and a link to the document on the WaterNSW website:

[https://www.waternsw.com.au/\\_data/assets/pdf\\_file/0005/126716/LWU-information-request-procedure.pdf](https://www.waternsw.com.au/_data/assets/pdf_file/0005/126716/LWU-information-request-procedure.pdf)

To manage the implementation of this procedure, WaterNSW use a Procedure for Managing Information Requests from Local Water Utilities (CD2021/97, August 2021). Requests for water data can be made over the phone or via email to the Customer Helpdesk. As there were no formal data requests by Local Water Utilities (LWU) recorded in the audit period through this process, this part of the clause could not be audited.

### Observation

Parties requesting data on behalf of LWUs to inform that utility's Drinking Water quality assurance program are not currently managed by the established processes. An OFI (OFI 3.4.3-1) has been included to address this gap.

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

OFI 3.4.3-1: Procedures for processing data requests from independent parties representing LWUs should be considered in the Procedure for Managing Information Requests from Local Water Utilities (CD2021/97).

## Clause 3.4.4

**Table 24. Clause 3.4.4 compliance grade**

Subclause	Requirement	Compliance grade
3.4.4	Water NSW's LWU Information Request Procedure must: <ul style="list-style-type: none"> <li>a) describe how a Local Water Utility is to request information;</li> <li>b) describe how Water NSW will respond to the request in a timely manner; and</li> <li>c) define any fees and charges that may be charged by Water NSW to recover reasonable costs incurred for responding to an information request, how these will be calculated, and how they are to be paid.</li> </ul>	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
If Local Water Utilities cannot access water quality data to assess their water risks there is a possible public health risk due to incorrect treatment and risk assessment.	A clear LWU information request procedure that covers all required content.	

### Summary of reasons for grade

WaterNSW has demonstrated adequately that the requirements of this clause have been satisfied. The WaterNSW LWU Information Request Procedure (CD2021/86, 23/7/2021) contains a description of the request procedure, how WaterNSW will respond in a timely manner and outlines that there will be no fees.

This clause is graded Compliant.

### Discussion and notes

WaterNSW has demonstrated adequately that the requirements of this clause have been satisfied. The LWU Information Request Procedure 2021 (CD2021/86, 23/7/2021) is publicly available on the WaterNSW website at the following address:

[https://www.waternsw.com.au/\\_data/assets/pdf\\_file/0005/126716/LWU-information-request-procedure.pdf](https://www.waternsw.com.au/_data/assets/pdf_file/0005/126716/LWU-information-request-procedure.pdf) The LWU Information Request Procedure 2021 (CD2021/86, 23/7/2021) is available on the WaterNSW website at the following address:

[https://www.waternsw.com.au/\\_data/assets/pdf\\_file/0005/126716/LWU-information-request-procedure.pdf](https://www.waternsw.com.au/_data/assets/pdf_file/0005/126716/LWU-information-request-procedure.pdf)

The document outlines:

- The email address to direct information requests to
- The content to be included in data requests
- The timeline for WaterNSW to acknowledge the request
- The timeline for WaterNSW to fulfil the information request
- The fees and charges that will be incurred
- How procedure delivery will be monitored
- How frequently the document should be reviewed

No additional information regarding the calculation and payment of fees and charges for the data request as the procedure requests no payment.

## ■ Clause 3.4 – Bulk water released to Local Water Utilities for Drinking Water Purposes

LWU Information Request Procedure 2021 (CD2021/86) satisfies the requirements of this clause.

### **Recommendation**

There are no recommendations for this clause.

### **Opportunities for improvement**

There are no opportunities for improvement for this clause.

## Clause 4.2 – Water supplied performance standards

### Clause 4.2.2

**Table 25. Clause 4.2.2 compliance grade**

Subclause	Requirement	Compliance grade
4.2.2	Water NSW must manage the quality of water Supplied to its Customers in accordance with the relevant Water Quality Management System required under clause 2.1.2 or 2.1.3 (Supply Water Quality Performance Standard).	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
If the WaterNSW is not effectively managing water quality in accordance with the Water Quality Management System, there is potential for a high risk to public health.	Evidence that the quality of the water supplied is in accordance with the Water Quality Management System for Declared Catchment or Non-Declared Catchment from which WaterNSW supplies water.	

### Summary of reasons for grade

We were satisfied that WaterNSW had managed the quality of the water supplied to its customers in accordance with the preventive measures in the relevant WQMS for the Declared Catchment.

WaterNSW reported a non-compliance for this clause for the availability of supply to LCC October 2020 to March 2021 (2020-2021 Statement of Compliance). WaterNSW also noted that this service interruption also resulted in the quality of water not meeting supply specifications. While we note the manganese non-conformances in the FRWS treated water system, this is considered to have been managed in accordance with their Fish River Incident Management Plan and Fish River Incident Response Protocol.

This clause is graded Compliant.

### Discussion and notes

WaterNSW provided to us the Management Committee on Water Quality, Health and Catchment Protection 29 July 2021: Annual Report to IPART on the Water Quality Management System (D2021/82173). As stated in this report, WaterNSW's performance (which is flow weighted) against the Raw Water Supply Agreement was 98.35% compared to its target of 95%. During the audit period, non-compliances were reported at Kangaroo Valley raw water (algal ASU), Prospect raw water (algal ASU), Cascade raw water (algal ASU) and Warragamba raw water (alkalinity). As an example of the process implemented by WaterNSW to record non-compliances in its compliance management system (Risk, Assurance and Compliance System [RACS]), WaterNSW provided to us screenshots of the Prospect Water Filtration Plant non-compliances in RACS (3.2.1 - D2021/106289 - RACS Screenshot #1636 Prospect WFP alkalinity and ASU.DOCX). This included records of notification to the Shoalhaven Water in January 2021 in response to elevated algal.

During the audit, the management of these events were discussed. The evidence reviewed included RACS, routine water quality reports, emails and information stored on Teams.

WaterNSW reported a non-compliance for this clause for the availability of supply to LCC October 2020 to March 2021 (2020-2021 Statement of Compliance). WaterNSW also noted that this service interruption also resulted in the quality of water not meeting supply specifications. An exceedance of ADWG health guideline for manganese in the Fish River treated water supply occurred in October 2020. We viewed the RACS Summary (D2021/10812).

WaterNSW advised that they notified LCC and NSW Health of the manganese exceedance. WaterNSW was initially notified by LCC of a number of customer complaints. We Viewed the Teams channel for the manganese issue (this was the same Teams channel at the Sodwalls pipe break incident). We viewed the following evidence associated with the incident:

- Incident controller channel
- Incident Checklist FRWS WQ
- Emails in Teams of notifications to NSW Health and LCC
- Meeting minutes from 27 October 2021, with attendance of Public Health and LCC (noted as attendees)
- Information was available on the website during the incident on manganese issues (email D2021/116582)
- Internal email with the Customer Service team, including questions to ask customers ringing in regards to the discoloured water (D2021/116534) and references to the website information regarding manganese (D2021/116582, email dated 2/11/2021)

A RACS records (Item 1535) 'Manganese above health guidelines in FRWS at Portland was also recorded on 22/12/2020. Recording a manganese result of 0.591 mg/L (above the health guideline of 0.5 mg/L) in the reticulation. It was reported that this was associated with a change in hydraulics that most likely resulted in the resuspension of manganese from within the pipe.

We consider that incident notifications were managed in accordance with the Fish River Incident Management Plan (D2018/11692) and the Water Quality Incident Response protocol (CD2004/183). The Fish River Incident Management Plan (CD2021/83) was updated by WaterNSW following the incident with a number of improvements.

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 4.2.3

**Table 26. Clause 4.2.3 compliance grade**

Subclause	Requirement	Compliance grade
4.2.3	Water NSW must manage service interruptions in accordance with the Asset Management System required under clause 5.1.1 (Supply Service Interruption Performance Standard).	Compliant
<b>Risk</b>	Failure to comply with this clause would result in customer levels of service not being met, as well as potential impacts on public health and the environment.	<b>Target for full compliance</b> Evidence that WaterNSW has appropriate information systems and processes in place to enable the recording, response to and recovery from service interruption incidents. Evidence that WaterNSW has managed service interruptions in the audit period in accordance with its documented systems and processes.

### Summary of reasons for grade

WaterNSW demonstrated that it has in place appropriate information systems and processes to record, respond to and recover from service interruption incidents. WaterNSW demonstrated that it managed service interruptions in accordance with its documented systems and processes.

This clause is graded Compliant.

### Discussion and notes

#### Introduction

This clause requires that WaterNSW manage service interruptions in accordance with the AMS required under clause 5.1.1. This is defined as the Supply Service Interruption Performance Standard.

#### Requirements and approach for managing interruptions

As noted against clause 3.2, WaterNSW's obligations for supplying water (including the management of outages and service interruptions) are achieved through Asset Management Objective 7 included in its Strategic Asset Management Plan: Asset Management System Manual (ARK Reference CD2015/436): "Water Service to customer is delivered in accordance with their requirements."

Service interruptions are managed in accordance with:

- Operating Protocols
- Incident Management Procedures
- Protocol for Managing Supply Interruptions in Greater Sydney.

In Appendix E of the Strategic Asset Management Plan: Asset Management System Manual, WaterNSW has set a performance measure of "Supply is managed in accordance with individual supply agreements (includes outages and service interruptions)". Within Appendix E, it is stated that this performance measure is measured through monthly compliance reports against the Raw Water Supply

Agreements. The line-of-sight between this performance measure and the corporate and asset management objectives is delineated within Appendix E.

WaterNSW advised that performance is also monitored and reported on through regular operational forums with customers, and that supply interruptions are also recorded in RACS. As evidence of supply interruptions being recorded in RACS, WaterNSW provided to us an extract of incident data from RACS (4.2.3 - D2021/108012 - RACS Summary.XLSX). Additionally, WaterNSW advised that significant service interruptions are investigated and reported on through, for example, Incident Cause Analysis (ICAM) Investigation Reports.

The Protocol for Managing Supply Interruptions in Greater Sydney (ARK Reference CD2019/140, version 1) describes, at a high level, the LOS and arrangements for managing planned and unplanned outages for each customer or class of customers in the Greater Sydney Area of Operations. Where relevant, this document references other internal documents that set out customer requirements in greater detail, such as Raw Water Supply Agreements, Raw Water Supply Protocols, and the Incident Management Procedure. We discuss the Raw Water Supply Agreements and Raw Water Supply Protocols against clauses 3.2 and 6.1.

The Protocol for Managing Supply Interruptions in Greater Sydney also specifies the implementation officer and relevant staff, relevant internal documents, and relevant legal and other requirements. We note that this document does not appear to contain some document control information, such as a version date, change history, or document author/reviewer/approver.

The Incident Management Procedure (ARK Reference CD2017/180) “outline[s] the structured approach for responding to and recovering from incidents safely and effectively”. This procedure defines three incident levels (minor, major and crisis/critical), with some requirements of the incident management approach applying to all incidents regardless of level and other requirements varying by incident level. The procedure also sets out requirements for reviewing and improving the incident management approach. The procedure was approved by the Executive Manager People, Capability and Transformation. We discuss the Incident Management Procedure in further detail against clause 3.2.

### Interruptions in 2020-21

WaterNSW advised that five service interruptions occurred during 2020-21. These five interruptions are summarised in Table 27.

**Table 27. Service interruptions**

Customer/customer class	Number of interruptions	Reason
Stage 1 – LCC	4	Main break – Sodwalls Poor water quality – Manganese Pipe leak – Sodwalls Leaking valve - Portland
Upper Canal – Retail Customers	1	Unplanned outage in December 2020 – Bridge inspection
<b>Total</b>	<b>5</b>	



With regards to the unplanned outage for Upper Canal – Retail Customers in December 2020, WaterNSW advised that this outage was required to facilitate the inspection of a road bridge. The road bridge was inspected due to concerns relating to structural integrity and potential increases in traffic. WaterNSW advised that the Customer and Community team facilitated a mail-out to Upper Canal – Retail Customers upon notification of these works. Additionally, WaterNSW advised that opportunistic inspections and maintenance were undertaken while the canal was offline.

With regards to the Stage 1 FRWS interruptions to LCC, WaterNSW advised that notification of these interruptions was managed through Operating Protocols and associated procedures. As evidence of these interruptions being recorded in RACS, WaterNSW provided to us an extract of the corresponding records in RACS. We also trailed the main break at Sodwalls to RACS at audit. We queried WaterNSW as to why a repair time of three days had been estimated within RACS for this break. WaterNSW responded that the estimated repair time was a “best estimate based on multiple years of experience” and that it reflected the ground type (hard rock), resulting excavation difficulty, and difficulty finding a contractor with the required excavation equipment.

When reviewing the corresponding record in RACS, we sighted the incident level classification and immediate corrective action. The incident was classified as a Level 2 (major) incident, and the implemented immediate corrective action included isolating the main, involving the Water Quality Services team, facilitating communications with customers, and liaising with NSW Health and LCC.

In addition to the record in RACS, WaterNSW provided to us a criticality schedule for the Stage 1 FRWS pipeline (3.2.1 D2021/116587 Fish River object criticality.xlsx). We reviewed these criticalities and observed that the majority of the assets had been assigned with criticalities of “moderate” or “major”. The classification of the incident as a Level 2 (major) incident appears to reflect the assigned criticalities.

While other pipe breaks also occurred in the FRWS, WaterNSW advised that these were smaller breaks that could be isolated, with supply maintained by back feed from reservoirs. As a result, these breaks did not result in interruptions.

## Recommendation

There are no recommendations for this clause.

## Opportunities for improvement

There are no opportunities for improvement for this clause.

# Clause 5.1 – Asset Management System

## Clause 5.1.1

**Table 28. Clause 5.1.1 compliance grade**

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

### Summary of reasons for grade

WaterNSW continued to maintain an AMS consistent with ISO 55001 during the audit period. The Strategic Asset Management Plan was updated during the audit period to Version 9. A third-party surveillance audit conducted in 2021 identified no major non-conformances. The audit observed no non-conformances and two opportunities for improvement.

We consider that WaterNSW has demonstrated that the AMS has been maintained during the audit period.

This clause is graded Compliant

### Discussion and notes

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

WaterNSW has in place a management system for asset management that was most recently certified against the standard ISO 55001:2014 Asset management – Management systems – Requirements on 10 January 2020.

Third party surveillance audits are carried out annually to ensure WaterNSW's compliance with the standard and that activities are being carried out in accordance with the AMS. The 2021 external surveillance audit identified no non-conformances (major or minor) Two opportunities for improvement were identified.

The scope of the WaterNSW's AMS includes all of the functions covered by the 2017-2022 Operating Licence including the operation and management of all infrastructure

required to provide water supply to regional towns, irrigators, Sydney Water and other licensed authorities, retail suppliers and councils

WaterNSW's overarching Asset Management Policy provides a commitment that "WaterNSW is committed to providing effective asset management in order to achieve its legislated and strategic business objectives" and also states that "...WaterNSW will apply the Asset Management System to all physical assets".

WaterNSW's Strategic Asset Management Plan defines the management system, stating that the scope of the AMS is "physical assets utilised by the organisation to deliver its services including infrastructure, water quality management, catchment protection and internal support". The Strategic Asset Management Plan essentially acts as a system manual in that its structure is consistent with the requirements of the ISO55001:2014 standard and, therefore, it provides a reference for how the elements of the standard are addressed. The Strategic Asset Management Plan was updated just after the audit period to Version 9.

The AMS framework provided in the Strategic Asset Management Plan also sets out how stakeholders influence and provide information and feedback into the different elements of the overall system, including input into the asset management objectives, the Asset Management Plan lifecycle processes, performance measurement and continuous improvement activities.

A separate AMS document framework is used to specify and govern the system. Stakeholders are informed of these documents through the Strategic Asset Management Plan.

Leadership support with regard to its AMS is evidenced by WaterNSW progressing the development and implementation of the ISO55001:2014 accredited AMS and formally in the asset management policy which forms part of the system. Asset Management leadership is also evident in the organisational chart with a General Manager for Assets being part of the Executive Leadership Team.

The Asset Capability team has ownership of the AMS and there is a dedicated role within the team for the ongoing maintenance and improvement of the AMS (Position number 40218 – Asset Management System Specialist role as identified on the organisational chart).

## **Recommendation**

There are no recommendations for this clause.

## **Opportunities for improvement**

There are no opportunities for improvement for this clause.

## Clause 5.1.2

**Table 29. Clause 5.1.2 compliance grade**

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

### Summary of reasons for grade

Based on observations during the field verification visits and the discussion presented in respect of this obligation and clauses 2.4.1 and 3.1.1, WaterNSW demonstrated that it had continued to implement and carry out its activities in accordance with its AMS during the audit period.

However, there are minor shortcomings evident in the implementation of the maintenance function. These include data gaps, inconsistencies in capture of data in the field, inconsistent processes and ineffective use of some information. Considering that the implementation of the overall system is robust and with obvious continual improvement, we have awarded a grading of Compliant (minor shortcomings).

### Discussion and notes

In addition to the comments included in this section against clause 5.1.2, we have also discussed the maintenance of an AMS under clause 5.1.1 and the implementation of the system under clause 2.4.1 (Catchment Infrastructure Works management) and clause 3.1.1 (Construct, maintain and operate Water Management Works).

As noted under clause 5.1.1, WaterNSW has maintained certification during the audit period and undertakes annual third party surveillance audits to ensure compliance with the standard and that activities are being carried out in accordance with the AMS.

### Strategic Asset Management Plan

WaterNSW's Strategic Asset Management Plan provides the alignment between the Asset Management Objectives, Corporate Objectives and the Asset Management Policy. A total of eleven asset management objectives have been defined to support the corporate objectives and to guide the asset management policy principles. Each of WaterNSW's asset management objectives has specific asset management measures that support achieving the objectives.

Version 8 of the Strategic Asset Management Plan was in place during the audit period and Version 9 was introduced just after the audit period in September 2021.

WaterNSW uses two key planning documents to achieve its asset management objectives, the Asset Management Plan and a series of Asset Class Strategies.

### Asset Management Plan

WaterNSW defines a single asset management plan for all of its operations (Greater Sydney and rural). The Asset Management Plan includes a register of the tasks required to achieve the asset management objectives, and this provides details of activities and projects, timescales and budgets and is implemented through the CMMS. In effect this makes the asset management plan a work plan covering the operation and maintenance activities and the capital projects required to deliver service from the assets to meet the objectives. The asset management plan is implemented through the EAMS.

### Asset Class Strategies

The asset class strategies provide high-level strategic direction for each asset class for how the assets within a class should be managed throughout their life cycle to optimise risk, performance and cost. Through the process of determining the risk, performance and cost trade-offs for each asset class, the asset class strategies then provide important input into WaterNSW's expenditure proposals, assisting prudent and efficient proposals to be developed. In addition, the information in the asset class strategies subsequently feeds into the development of the asset management plan.

For this year's audit we reviewed the Asset Class Strategies for WaterNSW's Canals, channels and cutting (D2019/74884) and tunnels (D2020/53) asset classes. We confirmed that the documents provide details of the overall intent of the strategies for facilitating the decision-making processes for the asset categories, with performance-based outcomes being used to develop investment plans, operational strategies, maintenance requirements, renewal options and disposal considerations. The Asset Class Strategies also specify the processes used by WaterNSW to plan and coordinate the relevant asset portfolio maintenance and renewals over the short and longer term.

WaterNSW has now developed 26 asset class strategies. It approached the development of the documents on a prioritised basis, starting with the most critical classes and those for the predominant assets in the overall portfolio. The Asset Class Strategies prepared to date and those still to be prepared are summarised in Table 30.

**Table 30. Summary of Asset Class Strategies**

Document Number	Description	Approval Date
D2016/141934	Greater Sydney Hydrometric Asset Class Standard 2016 - 2020	Dec-16
CD2017/166	Dam Safety Management System Manual (Dam Structures)	Sep-17
CD2019/45	Asset Class Strategy - Lands	Jun-19
D2019/74884	WNSW-CNL-AS-001 Canals Channels Cuttings Asset Class Strategy Rev 0	Jul-19
D2019/102840	WNSW-GEN-GR-001 Asset Class Strategy Improvement Initiatives General Register	Sep-19

Document Number	Description	Approval Date
D2019/81198	Asset Class Strategy   Fish River Pipeline System	Sep-19
D2019/91861	Warragamba Pipeline	Sep-19
CD2021/8	WNSW-DIS-AS-001 Low Voltage Power Distribution Asset Class Strategy C	Oct-19
CD2019/224	WNSW-FWY-AS-001 Fishway Asset Class Strategy 0B	Feb-20
CD2019/225	WNSW-VLV-AS-001 End of Line Control Valves Asset Class Strategy	Feb-20
CD2019/226	WNSW-PPE-AS-001 Major Water Supply Pipelines Asset Class Strategy	Feb-20
CD2019/227	Asset Class Strategy - Upper Canal	Feb-20
CD2019/228	WNSW-TRF-AS-001 HV Power Transformers Asset Class Strategy	Feb-20
CD2020/50	WNSW-WAL-AS-001 Retaining Wall Asset Class Strategy	May-20
CD2020/51	WNSW-ROA-AS-001 Roads Asset Class Strategy Rev 0	May-20
CD2020/52	WNSW-WER-AS-001 Unregulated Weirs Asset Class Strategy	May-20
CD2020/53	WNSW-TUN-AS-001 Tunnels Asset Class Strategy	May-20
CD2020/58	WNSW-BDG-AS-001 Bridges Asset Class Strategy	May-20
CD2020/49	WNSW-SCA-AS-001 HV Distribution Switchgear and Associated Cables Asset Class Strategy	Jul-20
CD2020/110	WNSW-VLV-AS-002 Valves (Isolation, Non-Return, Relief, In-Line Control) and Pressure Regulators Asset Class Strategy	Oct-20
CD2021/1	WNSW-GAT-AS-001 Gates, Stoplogs, Baulks and Bulkheads Asset Class Strategy 0	Jan-21
CD2021/44	WNSW-VSD-AS-001 HV Variable Speed Drives & Motors Asset Class Strategy A	Mar-21
CD2021/99	WNSW-WER-AS-002 Weirs Asset Class Strategy	Aug-21
D2021/63004	WNSW-WME-AS-001 Non-Urban Water Meters Asset Class Strategy D	
	Culverts	
	Cranes and Lifts	
	SCADA and Process Control	
	Instrumentation   Dam Monitoring & Control	
	Pumps and Pumping Stations	
	Water Treatment Systems	
	Fluidpower Systems   Hydraulic, Air	
	Building Management Systems   Building Structures, Services (Sewage, Water, Fire & HVAC), Security and Fencing, Fire Services.	
	Plant & Equipment	
	Information Communication Technology	
	HV Protection and Metering	
	LV Systems   Dams Motor Control, motors and VSD's	

## Asset Creation/Renewal

Asset creation/renewal in accordance with the Project Delivery Framework is discussed under clause 3.1.1.

A major change during the audit period is that Water Infrastructure NSW, an agency within DPIE, has taken on responsibility for design and delivery of all major water projects. WaterNSW remains responsible for asset renewals but it has built no new works during the audit period. This is a considerable change in the scope of WaterNSW's activities under the AMS but our assessment is that the existing AMS (as maintained and continually improved) remains appropriate. WaterNSW will generally take responsibility for works constructed by Water Infrastructure NSW. We questioned WaterNSW regarding the asset handover process with Water Infrastructure NSW as this presents a future risk to WaterNSW being able to successfully implement its AMS. WaterNSW responded that it was well aware of this risk and had been working closely with Water Infrastructure NSW to establish guiding principles for asset handover. We were provided with, and reviewed, the Guiding Principles (D2021/115253) and note that they do consider a high-level asset transfer.

We note that there will be value in testing the asset handover process from Water Infrastructure NSW to WaterNSW in future audits of the Operating Licence under this sub-clause.

WaterNSW implements a Maintain Capability Capex Renewals program to ensure the ongoing performance of its assets. WaterNSW uses the condition and criticality data recorded against each asset in its EAMS as the source data for the development of its renewals program. WaterNSW demonstrated how it uses its PowerPlan tool to identify and assess candidates for its asset renewals. We reviewed a number of examples of candidate assets for inclusion in WaterNSW's renewals program and consider, although the process is maturing, that it allows WaterNSW to develop its renewals program based on asset condition and performance data, while also accounting for risk and costs.

## Operations

The requirement for WaterNSW to supply water to its customers in accordance with the terms and conditions of the relevant Customer Supply Agreements is under clause 6.1.2.

Non-conformances, either with supply agreements or water quality event management protocols are recorded in WaterNSW's RACS as required.

We queried WaterNSW how COVID-19 had impacted its approach to operations during the audit period. WaterNSW advised that protocols has been established for undertaking field work with considerations for mitigating COVID-19 related risks and that it has updated its Business Continuity Planning to incorporate COVID-19 risks. WaterNSW advised that routine operating and maintenance activities continued with minor modifications and there was no material change to routine operation and maintenance programs as a result of COVID-19.



## Maintenance Management

WaterNSW delivers the objective for the work management processes for its Water Management Works through its EAMS, work orders and work order management processes and its Maintain Capability Capex Renewals program. Asset maintenance plans have been developed and are implemented using the maintenance management component of the AMS.

A sample of maintenance records for tasks completed at the Duckmaloi WTP, Warragamba Dam drum gate and the Wallerawang WTP were sighted as evidence that maintenance programs continue to be implemented.

We were also provided with an internal audit report (D2021/117683) on the maintenance function that is dated January 2021. The audit rating from the report was “Need improvement” which is between the “unsatisfactory” and “effective” categories. The rating was based on the following observations:

- Some key data gaps and reliance on staff knowledge
- Inconsistencies in data capture from the field
- Inconsistent processes within the maintenance function
- Information that is captured cannot always be used effectively.

The internal audit report made the following key recommendations:

- Verify asset records to provide a high-level of confidence that all assets have been captured within EAMS [Target 31 May 2021]
- Review the current approach to close the current data gaps across asset and site-specific information to support planning and scheduling efficiency [Target 31 May 2021]
- Review the current maintenance plans to understand whether further granularity/specificity for asset types will be of value. This may require outlining different tasks specific to the maintenance requirements of the asset [Target 30 June 2021]
- Define information standards for [the] work execution procedure (specifically in relation to safety and compliance requirements) [Target 31 July 2021]
- Establish a consistent approach to respond to [key performance indicators] and develop an action plan to address root causes in a timely manner [Target 31 March 2021].

We also found when testing the maintenance of assets at the Prospect Reservoir that WaterNSW had not completed routine maintenance of the HPR3 turbidimeter (a CCP) as planned. WaterNSW notes that it did not identify any discrepancies resulting from this oversight. However, this is an important piece of equipment which relies on calibration to be effective.

While this is only one isolated incident, this aligns with the internal audit findings. The internal audit findings are also consistent with our general findings. We have been provided with sufficient evidence that the asset management system is implemented and does not impact on WaterNSW's ability to meet its objectives. Therefore, we consider that this constitutes a grading of Compliance but with minor shortcomings. WaterNSW has identified through its internal audit report the improvements needed to be undertaken for the maintenance function. Recommendation 5.1.2-1 is made to

ensure the recommendations outlined in the internal audit report on maintenance are delivered.

### Competence

Ongoing training is required to ensure that competence in asset management practices is developed and maintained. AMS awareness training material is available to all staff and information available in a presentation format has now been developed into an online e-Learning module within WaterNSW's MyLearning training management system and we were provided with an extract from the training (D2021/35936).

The AMS is owned, maintained and implemented across WaterNSW by the Assets Capability team. There is a dedicated role within the team for the ongoing maintenance and improvement of the AMS (Position number 40218 – Asset Management System Specialist role as identified on the organisational chart (D2020/102629)). Mandatory training requirements are identified and documented in WaterNSW's Mandatory Training Matrix which identifies training requirements by role/position.

A weekly newsletter is also produced by the Assets team. This provides information on safety issues, updates of work that have been carried out on assets, continual improvement activities and details of incidents that have been recorded in RACS. We were provided with two examples of the Assets Weekly Newsletter:

- D2021/102597 dated 22 June 2001 which includes discussion of the integrated management systems surveillance audit
- D2021/102598 - Assets dated 28 June 2021 which discusses the impacts of Covid-19 on WaterNSW's operations.

### Management Review

Ongoing asset management activities are included in regular management and Board reports. Water quality performance against relevant standards is reported to the WaterNSW Board and Executive in monthly and quarterly reports described under element 10.2 of the WQMS (more details are provided under clause 6.1.2). System Yield changes are reported to the Board for approval prior to reporting to the Minister (more details are provided under clause 2.5). Incidents are also included in management and Board reports.

WaterNSW produces an annual Asset Performance and Health Report (D2020/97949) which is used to inform the Infrastructure and Operations subcommittee of the Board. We were provided the October 2020 Asset Performance and Health Report and note that this report includes the following:

- an asset health summary statement
- an asset facility profile that provides an overview of critical facilities
- specific asset risk evaluations undertaken
- summary of reported asset failures, including asset initiated safety incidents
- water delivery capacity loss over the year against each water delivery asset
- an asset Health profile that “provides assurance that the risk (health) of the entire asset portfolio is optimally maintained through an adequate asset management

plan (a combination of CAPEX and OPEX treatments) across the entire portfolio over the medium term (10 years)”

- summary of asset management activities undertaken to remedy risks and issues, including summaries of key projects/programs being planned or in progress and backlog maintenance work and an expenditure commitment profile over the next ten years so as to maintain asset capability
- continuous improvement to the report that lists initiatives completed or in progress to improve the methodology and metrics presented in the report to communicate the health of WaterNSW’s core assets
- asset Health and Performance summaries on Non-water Service Delivery Assets.

WaterNSW prepares the Compliance and Performance Report - Asset Management System annually for submission to IPART (referenced in Annual System Health Check) and this is also used to report progress against objectives and targets to the Board. As we note under sub-clause 7.2.1, it appears that this report does not meet all of the requirements under WaterNSW’s reporting manual. However, we don’t consider that this impacts on WaterNSW’s implementation of the AMS. We discuss the Compliance and Performance Report - Asset Management System in further detail under clause 7.2.1.

### Continual Improvement

WaterNSW has incorporated continuous improvement into the implementation of its AMS. It has an Asset Management System Continuous Improvement Plan and prioritises actions based on risk.

The Asset Performance and Health Report identifies the following key initiatives that WaterNSW is currently undertaking to improve its AMS:

- Defect type configuration - Implementation of a defect management system will incorporate classification of failure type (e.g. mechanical, electrical, controls, structural, etc.). The interim process has been established
- Refined asset criticality assessment - Asset and facility topologies mapped resulting in refined criticality assessments for both Rural and Greater Sydney assets. Safety criticalities will be refined to factor in the likelihood of consequence considering the mitigation measures. This initiative is in progress.
- Asset health heat map - A matrix asset risk distribution across valley systems itemised for key asset classes. This initiative is in progress.

Evidence that WaterNSW is implementing its AMS is provided in the third party surveillance audit conducted by BSi in June 2021. The previous year’s audit had identified a non-conformance with the AMS due to the extent of overdue review of controlled documents. The June 2021 audit noted that “a dashboard was sighted and there was an overall reduction of overdue documents in excess of 50%. More time is required to embed the remaining actions. Hence, the nonconformance is carried forward and maintained as a minor nonconformance”. Therefore, while the minor non-conformance was maintained, it is clear that WaterNSW has been implementing and maintaining the system.

### Lessons learned from wet weather event

We queried WaterNSW as to whether any extreme weather events had impacted operations during the audit period. WaterNSW advised that the only extreme weather event occurred in March 2021. During this event Warragamba Dam was managed according to established protocols with the H14 gate opening sequence. Water supply assets were managed to minimise risk to water quality. This included changes to outlet configuration, reconfiguring the Warragamba pipelines, diversion of the Upper Canal and utilisation of Prospect RWPS.

WaterNSW advised that it implemented standard protocols (CD2014/914) to prepare for a major rain event when the Bureau of Meteorology forecast indicated the potential for heavy rain. An IMT was established in accordance with the requirements of the WaterNSW Flood Management Procedure (CD2019/173) to manage both flood operations and water quality. WaterNSW advised that an independent review of the response to this event identified a number of improvement opportunities which WaterNSW is acting on. This also provides assurance that WaterNSW is seeking to improve its approach to operating its assets and in this instance, maintaining business continuity.

### Recommendation

Recommendation 5.1.2-1: By 30 June 2022, WaterNSW should deliver the recommendations included in the internal audit (D2021/117683) on maintenance dated January 2021.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

# Clause 5.2 – Environmental Management Systems

## Clause 5.2.1

**Table 31. Clause 5.2.1 compliance grade**

Subclause	Requirement	Compliance grade
5.2.1	Water NSW must at all times maintain an Environmental Management System for carrying out the functions authorised under this Licence that is consistent with the Australian/New Zealand Standard AS/NZS ISO 14001:2016: Environmental management systems – Requirements with guidance for use or other standard approved by IPART, on request by Water NSW (the Environmental Management System).	Compliant (minor shortcomings)
<b>Risk</b>	<b>Target for full compliance</b>	
Without adequate Environmental Management Systems there is a risk that WaterNSW will have a negative impact on the environment.	Evidence that the Environmental Management System covers all authorised functions of WaterNSW and is maintained	

### Summary of reasons for grade

WaterNSW demonstrated that the EMS has been maintained for all authorised functions and is consistent with the Australian Standard 14001:2016 with the exception of a shortcoming identified in the Safety and Environment Compliance Obligations Register (D2021/28649). The NSW Fluoridation of Public Water Supplies Act (1957) which applies to the Duckmaloi WTP was not included in the register

WaterNSW maintained external certification of their EMS through the audit period as demonstrated by their Certificate of Registration EMS ISO 14001 2015 (C2021/30800).

This clause is graded Compliant (minor shortcomings).

### Discussion and notes

Two versions of the Environmental Management System Manual (EMS) (CD2015/445, v4 and v5 updated on 31/5/2021) were in use during the audit period. Supporting documents adequately cover the authorised functions listed in Section 7(1) of the Water NSW Act (2014) and the Water NSW Operating Licence (2017-2022).

WaterNSW maintained external certification of their EMS through the audit period as demonstrated by Certificate of Registration EMS ISO 14001 2015 (C2021/30800). This standard is the same as the Australian/New Zealand Standard AS/NZS ISO 14001:2016 required by this clause. The Combined Audit Report (CD2021/91538, 25/6/2021) undertaken for certification noted three outstanding actions from the previous certification audit period (2020). These relate to documentation currency, implementation of processes to ensure legal and other requirements are fulfilled and internal auditing to verify all legislative requirements. Progress against these actions is

listed in the audit report, we are satisfied with the progress of the corrective actions against these findings.

The responsibility for maintaining the content of the EMS document is allocated to the Health Safety and Environment (HSE) team in Section 2 Leadership of the EMS Manual (CD2015/445, v5). The EMS document states that review will incorporate any recent audit findings, legislative obligations and run through all sections of the document in a workshop. If there is a significant incident the EMS states that the document may be updated before it is due for review. During the audit interview we sighted a spreadsheet that was used to track changes to the EMS between review dates.

This clause requires WaterNSW to manage and protect the Declared Catchment Areas consistent with its WQMS (clause 2.1), EMS (clause 5.2) and an AMS (clause 5.1).

WaterNSW has demonstrated that it has integrated the EMS into its business, with references in the Project Delivery Framework (CD2016/151, v2.4, 22/5/2017), Procurement Framework (CD2016/77, August 2016, version current in the audit period), Mandatory Training Framework and the Risk Management Framework in the Corporate Risk Management Plan (CD2021/85, May 2021).

The maintenance of the legal requirements was reviewed. The WaterNSW advised that the register of applicable legislation, codes and other compliance requirements is being transitioned to the RACS (legal compliance requirements currently reside in EnviroEssentials). The Safety and Environment Compliance Obligations Procedure (CD2021/28649, version updated on 13/7/2021) was sighted during the interviews. The current system for reviewing and updating legislative requirements is effective at maintaining obligations already included on the register but fails to capture any new legislative requirements that emerge, for example fluoridation requirements that are required now that fluoridation is installed at Duckmaloi WTP, noting that while it is not yet operational or commissioned, chemical was observed on site. The NSW Fluoridation of Public Water Supplies Act (1957) which applies to the Duckmaloi WTP was not included in the register. Recommendation 5.2.1-1 has been made to address this shortcoming.

WaterNSW advised in the interviews that there were no major changes to the EMS Manual during the audit period. They advised that the minor changes made included the Corporate Risk Management Plan being replaced the existing Aspects and Impacts risk assessment and the Impact and Aspects register being replaced with the Environment Risk Event Summary (D2021/52813). This updated document is referenced in version 5 of the EMS and was sighted during the interviews.

It was noted that a number of reference documents in Appendix III of the EMS were due for review. When questioned in the interview, WaterNSW advised that they are constantly managing their documents under the controlled document status and uncontrolled documents are not likely to be updated i.e. Pesticide notification template (form) (D2015/102472). Construction Environmental Management Plan for update (May 2019) (CD2015/188) was taken as an example of a controlled document out of date in the appendix, in the interview the document update history was sighted as updated on 10/6/2021 but not yet finalised. Another document checked in the interviews was the Environmental IMP (CD2016/6) which was updated and approved on 30 September

2021. We are satisfied that WaterNSW are working to update all controlled documents in Appendix III of the EMS Manual.

The Internal and External Stakeholders List (D2018/15546) referenced in the EMS was sighted during the interview. In the interviews WaterNSW advised that this is not a controlled document but that WaterNSW review this document regularly as part of their BSI certification requirements.

The process for introducing fluoridation to the Duckmaloi Water Treatment Plant was reviewed as part of the audit. The EMS manual states it is the responsibility of the Supervisor/Team Leader to “ensure that a risk assessment is undertaken prior to activities or works commencing, to identify any environmental risks”. WaterNSW advised that the risk assessment process included environmental impact assessments, HAZOP and risk assessment during the design and that other considerations are captured by the Safety Data Sheets for the specific chemical (Sodium Fluoride). This process has been found to sufficiently identify environmental risks.

The EMS states that all operational audits, inspection results, associated corrective actions and follow up verification activity is recorded in the RACS system then distributed to all relevant managers.

## Recommendation

Recommendation 5.2.1-1: By 30 June 2022, WaterNSW should ensure the fluoridation requirements are included in the Safety and Environment compliance obligations register.

## Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 5.2.2

Table 32. Clause 5.2.2 compliance grade

Subclause	Requirement	Compliance grade
5.2.2	Water NSW must fully implement the Environmental Management System and carry out all relevant activities in accordance with the Environmental Management System.	Compliant (minor shortcomings)
<b>Risk</b>		<b>Target for full compliance</b>
	If the Environmental Management System is not implemented fully there is a risk that WaterNSW will have a negative impact on the environment.	Evidence that all activities in the Environmental Management System are being fully implemented

## Summary of reasons for grade

WaterNSW demonstrated that it has fully implemented the EMS with the exception of the shortcoming in regards to fluoridation at Duckmaloi WTP. No evidence was provided that the action from the Duckmaloi fluoridation plant HAZOP (D2020/27048) “identify risk of fluoride in sludge pond” is being tracked and progressed.



This clause is graded Compliant (minor shortcomings).

## Discussion and notes

The EMS manual states that training in the EMS is determined by an environment-specific training needs analysis and tracked using WaterNSW advised that the three main training areas are;

- Environmental Essentials Module (delivered to all staff)
- Environmental Management and Heritage Management training (delivered to operational staff with contractor management or physical works responsibilities)
- Training and awareness activities are delivered to teams and tailored training needs are provided by the Environmental Services Team.

The Environmental Training Monthly Report FY 2021 (D2020/95078) recorded that the Environmental Essentials Module had been delivered to 99% of staff members, Environmental Management to 85% and Heritage Management training to 99% of relevant staff. We are satisfied with the implementation of the training program.

The EMS states that “formal reporting on environmental performance occurs monthly, quarterly and annually”. WaterNSW advised that this takes the form of monthly environmental dashboards, EMS quarterly performance review reports and annual management reviews. WaterNSW provided evidence of the Management Committee September 2021 EMS Quarterly Performance and Trend Analysis Report (D2021/107345), September 2021 Monthly Environment Dashboard Report (D2021/107346) and the Management Committee on Safety, People and Capability – 6 September 2021 – EMS Item 3.5 (D2021/107347). These documents tracked implementation of the EMS including targets and objectives, training delivered, incidents and system health checks and satisfied the requirement in the EMS.

The EMS requires reporting of targets to manage identified risks in the business and to progress environmental objectives. The Environmental Objectives and Targets 2020 2021 (D2020/133269) was provided as evidence that the objectives and targets were tracked in the September 2021 EMS Quarterly Performance and Trend Analysis Report (D2021/107345). The final status for the year and new objectives and targets for 2021-22 were outlined in the Management Committee on Safety, People and Capability – 6 September 2021 – EMS Item 3.5 (D2021/107347). WaterNSW has demonstrated that the targets objectives are progressed and tracked appropriately.

WaterNSW advised that approximately 600 Environmental Impact Assessments are undertaken by the Environmental team each year. Prospect VPS update EIA was requested during interviews but WaterNSW advised that as the upgrade was a substitution not a new project and it did not require an EIA. A Prospect Dam spillway project EIA from the period was shown in its place and found to be satisfactory. WaterNSW advised that it is the project manager that has the responsibility to implement the environmental safeguards identified in the EIA.

In the interviews, WaterNSW advised that the Duckmaloi WTP is visited annually to audit the EPL and associated conditions. When asked about environmental requirement training WaterNSW advised that for most work carried out at Duckmaloi, the general

induction covers the required environmental content and if the work being undertaken is significant, a more detailed and relevant environmental induction will be provided.

The introduction of fluoridation to the Duckmaloi Water Treatment Plant was reviewed as part of the audit. The previous polymer room at the WTP had been converted to be used for fluoridation with drawings (87351-161 and 87351-201AX) provided to demonstrate drainage to the sludge ponds from the repurposed room. The EIA undertaken during the tendering phase was provided as evidence (D2018/54667). This document reviewed the environmental impacts of the works to be done and not of operating a fluoridation system onsite. WaterNSW advised that project specific risks such as drainage are addressed in the design phase. The HAZOP undertaken for the plant was provided as evidence (D2020/27048). In this document, fluoride discharge to the creek was identified as a possible outcome with an action to “identify risk of fluoride in sludge pond”. WaterNSW did not provide evidence of this action being tracked to ensure the fluoride drainage does not present any environmental risks. We note that while the fluoride plant is not yet operational, fluoride bags was present in the fluoride dosing room. Recommendation 5.2.2-1 has been made to address this shortcoming.

The Duckmaloi WTP Assurance report provided (D2020/60963) referred to an audit finding that “Before fluoridation system is commissioned a review of Sodium Fluoride storage and used bag storage and disposal is required to ensure applicable safety standards and best practice will be met”. This action had a RACS number attached, indicating the action is being tracked through the software. WaterNSW provided a draft procedure for fluoride operation (D2021/56113) which included appropriate storage and disposal of used fluoride bags.

### **Recommendation**

Recommendation 5.2.2-1: Prior to operation of the fluoride plant at Duckmaloi WTP, WaterNSW must show satisfactory progress and completion of the actions from the Duckmaloi WTP Assurance report (D2020/60963) in regards to fluoridation.

### **Opportunities for improvement**

There are no opportunities for improvement for this clause.

## Clause 6.1 – Customer Supply Agreements – Customers other than Sydney Water

### Clause 6.1.2

**Table 33. Clause 6.1.2 compliance grade**

Subclause	Requirement	Compliance grade
6.1.2	WaterNSW must only Supply water to these Customers in accordance with the terms and conditions of these Customer Supply Agreements.	Non-compliant (non-material)
<b>Risk</b>	<b>Target for full compliance</b>	
Supplying water not in compliance with the terms and conditions of the water supply agreement could result in water being used in ways for which it is not intended, creating a risk to the end user.	Evidence, such as water quality monitoring records, customer complaint logs or other, to show that WaterNSW did in fact supply Customer Supply Agreement-compliant water to its customers.	

### Summary of reasons for grade

The previous audit found this clause to be non-compliant due to WaterNSW not being able to demonstrate that the water it provides to the Fish River Supply Scheme Filtered customers complies with the ADWG. This non-compliance was ongoing until the implementation of the updated Supply of Water Minor Consumer Agreement (Filtered Water). Sufficient evidence was provided that the Supply of Water Minor Consumer Agreement (Filtered Water) was updated during the audit period, at which time this clause would be considered compliant.

As the updated agreement was not implemented until partway through the audit period (19 July 2021), we have assessed this clause to be non-compliant (non-material). A non-material grade has been assigned based on the previous recommendation (Recommendation 2020-12) being addressed. Due to the previous recommendation being addressed, no new recommendation has been made.

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

### Discussion and notes

#### Major customers

WaterNSW advised that the Water Monitoring Program and the Water Quality Incident Response Protocol are developed based on relevant water quality standards, including customer supply agreements.

WaterNSW provides water quality reports to its major customers to show that the water supplied has been in accordance with the required quality parameters set out in the relevant supply agreement. WaterNSW's Water Monitoring Program and the Water

Quality Incident Response Protocols are developed based on the relevant water quality standards for each customer.

Water quality performance against relevant standards is also reported to the WaterNSW Board and Executive in monthly and quarterly reports, as described under element 10.2 of the WQMS. Performance is also reported and discussed with customers and NSW Health on a regular basis.

WaterNSW provided examples of water quality reports issued during the audit period. In addition, an example of the July 2021 Monthly Water Quality Performance Dashboard Report provided to the Board was sighted.

The Raw Water Supply Agreement with Shoalhaven Water (CD2013/17) states that “Both parties shall work together to ensure optimisation of available water to meet the water quality standards specified in Table 2” and in Table 2.1 “Report on any events/excursion in water quality”. We tested the water quality standards for the Kangaroo Valley Water supply (CD2013/17). This comparison is shown in Table 34. We noted a discrepancy with the manganese limit not included in the Water Monitoring Program (CD2011/179, Version 6) for the Kangaroo Water Supply. WaterNSW provided evidence that a limit for manganese was included in the monitoring database and January 2021 report to Council (D2021/117319, SCC report screenshot and D2021/7435). We are satisfied with the evidence provided that the inconsistency in the monitoring plan did not result in water being supplied that did not meet the requirement of the water supply agreement. An opportunity for improvement (OFI 6.1.2-1) is recommended that the monitoring plan limits be updated for Kangaroo Valley to match the requirements in the Customer Supply Agreement. We note that pH was not reported in the January 2021 monitoring report provided.

**Table 34. Comparison of Shoalhaven Customer Supply Agreements with monitoring**

Parameter	Customer Supply Agreement Requirement <sup>3</sup>	Water Monitoring Program (CD2011/179, v6, Table 3.7)	Water Quality Report Inclusions and limit <sup>4</sup>
Turbidity	20 NTU	20 NTU	20 NTU
True colour (400 nm)	70 CU	70 CU	70 CU
Iron	1.1 mg/L	1.1 mg/L	1.1 mg/L
Hardness	36.5 mg/L as CaCO <sub>3</sub>	36.5 mg/L as CaCO <sub>3</sub>	36.5 mg/L as CaCO <sub>3</sub>
Alkalinity	29.0 mg/L as CaCO <sub>3</sub>	29.0 mg/L as CaCO <sub>3</sub>	29.0 mg/L as CaCO <sub>3</sub>
pH	<b>6.5-8.5</b>	<b>6.5-8.5</b>	<b>Not reported</b>
Total manganese	<b>0.4 mg/L</b>	<b>NA</b>	<b>&lt; 0.4 mg/L</b>
Algae	5000 ASU/ml	5000 ASU/ml	<5,000
Known toxin producing algae (cells)	NA	NA	-

<sup>3</sup> Shoalhaven Water Supply Agreement, Table 2 Kangaroo Valley

<sup>4</sup> D2021/7435 Shoalhaven City Council Monthly Report, January 2021

Non-conformances, either with supply agreements or water quality event management protocols are recorded in RACS including records of customer communications. Reported non-conformance in 2020-21 for the raw water supplies (D2021/82173 Management Committee on Water Quality, Health and Catchment Protection) included:

- Algal ASU (a measure of filter clogging potential) on six occasions:
  - Kangaroo Valley raw water in July 2020 and January 2021
  - Prospect raw water in December 2020 and May 2021
  - Cascade raw water in April and May 2021
- Alkalinity in Warragamba raw water in April 2021.

Evidence of non-conformance results recorded in RACS is discussed in clause 4.2.2. It is considered that these non-conformances were managed in accordance with the operating protocols.

WaterNSW reported a non-compliance for clause 3.2.1 for the availability of supply to LCC October 2020 to March 2021 (2020-2021 Statement of Compliance). This is discussed under clause 3.2.1. In accordance with the water quality agreement WaterNSW used best endeavours in the supply of drinking water quality in accordance with the agreement.

### Minor customers

A non-compliance with the Supply of Water Minor Consumer Agreement (Filtered Water) was identified in the previous audit period. The agreement stated that “The Consumer acknowledges that the water quality at the point of supply complies with the Australian Drinking Water Guidelines published by the National Health and Medical Research Council.”

This non-compliance was ongoing until the implementation of the updated Supply of Water Minor Consumer Agreement (Filtered Water). Sufficient evidence was provided that the Supply of Water Minor Consumer Agreement (Filtered Water) was updated during the audit period, at which time this clause would be considered compliant.

As the updated agreement was not implemented until partway through the audit period (19 July 2021), we consider this clause to be non-compliant (non-material). A non-material grade has been assigned based on the previous recommendation (Recommendation 2020-12) being addressed. Due to the previous recommendation being addressed, no new recommendation has been made.

Clause 9 Water Quality has been amended to:

- (a) The water supplied under this Agreement at the Point of Supply is treated to meet drinking water standards in relation to microbial, physical and chemical, and radiological characteristics, as per the Australian Drinking Water Guidelines 2011 (as amended) and is managed in accordance with WaterNSW Water Quality Management System. WaterNSW monitors system performance and undertakes drinking water quality monitoring in the Fish River System as per WaterNSW Water Quality Monitoring System and reports to NSW Health on system performance.

For the Minor customers receiving a raw water supply from WaterNSW, the supply agreements inform that the water is raw untreated water, is not intended for personal, domestic or house hold use and is not a potable supply suitable for drinking. The agreements do not include any specific water quality characteristics and target values. WaterNSW monitors complaints from these customers to ensure it is meeting its obligations.

### **Recommendation**

There are no recommendations for this clause.

### **Opportunities for improvement**

OFI 6.1.2-1: Update the Monitoring Plan for Kangaroo Valley limits to match the requirements in the Customer Supply Agreement.

## Clause 6.2 – Accounting for water

### Clause 6.2.1

**Table 35. Clause 6.2.1 compliance grade**

Subclause	Requirement	Compliance grade
6.2.1	Water NSW must maintain a Water Allocation Account for each Customer that holds a Water Licence.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Failure to maintain a Water Allocation Account for each Customer presents multiple risks which are that a) water usage would not be adequately accounted for and therefore it could not be determined that the objectives of water sharing plans are being met b) WaterNSW's ability to collect revenue may be undermined.	Evidence that WaterNSW has appropriate information systems and processes in place to enable the maintenance of a Water Allocation Account for each Customer that holds a Water Licence.	

### Summary of reasons for grade

WaterNSW demonstrated that it has in place appropriate information systems and processes to help to ensure that a water allocation account is maintained for each customer that holds a water licence.

This clause is graded Compliant.

### Discussion and notes

#### Introduction

This clause requires that WaterNSW maintain a Water Allocation Account for each Customer that holds a Water Licence.

#### Process for maintaining water allocation accounts

WaterNSW advised that a water allocation account is created in the WAS when an access licence is registered in the Water Licensing System (WLS). WLS determines all characteristics of the licensee's water account, such as:

- Work Approval – Water Source, River Section, Stream Order, Work Site, ESIDs, Link Dates
- Access Licence – Water Source, Water Type, Licence Category, Entitlement Share, Status Dates, Name and Address, Customer Number, etc.
- Status of Water Account – Current, Expired, Surrendered, Suspended.

WaterNSW advised that the information in WAS is static and cannot be changed. A record of meters and usage transactions is also maintained in WAS.

WaterNSW has described, at a high level, the process for maintaining water allocation accounts in the following documents:



- WAS Configuration 20/8/2019
- WAS Manual:
  - Manage Water Accounts Process
  - 3. Fundamental Business Rules
  - 5. Access Licence Dealings
  - 9. Water Source Water Account Parameters
  - Interpret Rules for Water Sharing Plans – Water Account Process.

We note that these documents do not appear to provide a clear, end-to-end overview of the process to maintain water allocation accounts. Many of the documents also do not appear to contain document control information, such as a version number, version date, change history, document author, document reviewer or document approver. We consider that WaterNSW can improve its process documentation by revising its WAS Manual to include a clear, end-to-end overview of the process to maintain water allocation accounts; collate relevant procedures; and include document control information. We have raised this as an opportunity for improvement (OFI 6.2.1-1).

### Data trailing

WaterNSW provided to us a schedule of new and cancelled water licences for the audit period (6.2.1 - D2021/107000 - List of new or cancelled licences for IPART Operational Audit 6\_2\_1.XLSX). During the audit, we sighted the following sample of water licences in WAS:

- 60AL581566 (current water licence): We sighted a water account status of “Current” in WAS. We also sighted recent meter read transactions and water order transactions for the water account, confirming the currency of the account.
- 10AL101870 (cancelled water licence): We confirmed that the water account status was “Cancelled” in WAS and that this status was reflected in the schedule of new and cancelled water licences.
- 10AL124127 (new water licence): We sighted the corresponding water account in WAS and confirmed that a balance had not been carried over from the previous year. Accordingly, we confirmed that the water account status was “New” in the schedule of new and cancelled water licenses. As this is a groundwater licence, there were no water orders in the transaction history for the licence.

Based on the process in place for maintaining water allocation accounts and the data trailed at audit, we consider this clause to be compliant.

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

OFI 6.2.1-1: Revise the WAS Manual to include a clear, end-to-end overview of the process to maintain water allocation accounts; collate relevant procedures; and include document control information.

## Clause 6.6 – Customer Advisory Group Charter

### Clause 6.6.2

**Table 36. Clause 6.6.2 compliance grade**

Subclause	Requirement	Compliance grade
6.6.2	<p>The Customer Advisory Group Charter must address all of the following issues:</p> <ul style="list-style-type: none"> <li>a) the role of the Customer Advisory Group;</li> <li>b) how members and the chair of the Customer Advisory Group will be appointed;</li> <li>c) the term for which members are appointed;</li> <li>d) information on how the Customer Advisory Group will operate;</li> <li>e) a description of the type of matters that will be referred to the Customer Advisory Group and how those matters will be referred;</li> <li>f) procedures for communicating the outcomes of the Customer Advisory Groups' work to the public;</li> <li>g) procedures for monitoring issues raised at meetings of the Customer Advisory Groups and ensuring appropriate follow-up of those issues;</li> <li>h) procedures for amending the charter; and</li> <li>i) funding and resourcing of the Customer Advisory Groups by Water NSW.</li> </ul>	Non-compliant (non-material)
<b>Risk</b>	<b>Target for full compliance</b>	
There is a risk that by not addressing all of the issues outlined in clause 6.6.2, the Customer Advisory Group will not function as intended and provide an effective means of consultation for WaterNSW.	Evidence to demonstrate that WaterNSW's Customer Advisory Group Charter addresses all of the requirements set out in the clause	

### Summary of reasons for grade

A non-compliance with sub-clause (e) was identified in the previous audit period. The non-compliance was due to a lack of documentation within the Charter of issues that should be referred to the Customer Advisory Group and procedures for proposing and progressing an amendment to the Charter (refer to Recommendations 2020-13 and 2020-14). The non-compliance was ongoing until the implementation of the updated Customer Advisory Group Charter on 12 August 2021 during the audit period, at which time this clause would be considered compliant. As such, no recommendation has been made. A non-material grade has been assessed based on the previous recommendation being addressed.

This clause is therefore assessed as Non-compliant (non-material).

## Discussion and notes

We reviewed WaterNSW's Customer Advisory Group Charter against the requirements of clause 6.6.2. Our findings are presented in Table 37. This table shows how WaterNSW has addressed the shortcomings identified in the 2020 Operational Audit. These shortcomings are also captured in recommendations 2020-13 and 2020-14. However, WaterNSW addressed the previously identified shortcomings on 12 August 2021 and it was therefore non-compliant until this time.

**Table 37. Review of WaterNSW's Customer Advisory Group Charter against the clause 6.6.2 requirements**

Clause 6.6.2	Requirement	How the requirement is addressed in WaterNSW's Customer Advisory Group Charter	Compliance grading
a)	the role of the Customer Advisory Group	"Customer Advisory Groups provide a forum for WaterNSW to regularly consult, on an area basis, with a broad cross-section of our customers on issues."	Compliant
b)	how members and the chair of the Customer Advisory Group will be appointed	"WaterNSW calls for nominations for, determines and appoints membership of Customer Advisory Groups."  "A chairperson for each Customer Advisory Group will be elected annually by a vote of members."	Compliant
c)	the term for which members are appointed	<b>Term</b> - "Members will be appointed for a three-year term (concluding 30 June 2022) following which WaterNSW will set future terms to align with pricing consultation cycles and Operating Licence terms. Members may serve an unlimited number of terms."  <b>Vacancies during a term</b> - "To fill a vacancy, WaterNSW will seek nominations from the existing members' nominating organisation / customer category. If the organisation is unable or unwilling to nominate a replacement representative, WaterNSW may advertise publicly for new nominations."	Compliant
d)	information on how the Customer Advisory Group will operate	"WaterNSW convenes both area-based Customer Advisory Group meetings and Customer Advisory Groups Representative meetings. Both forums are to meet not less than twice a year. WaterNSW determines meeting schedules and agendas based upon key issues relating to WaterNSW's planning and operations and advice received in the interest of customers. Members will be provided with adequate information, within WaterNSW possession or under its control, to enable them to discharge the tasks assigned, other than information or documents that are confidential (including documents that are subject to client legal privilege). Issues monitoring and follow up is affected via standard meeting minuting and action procedures."	Compliant
e)	a description of the type of	Version 5 of the Charter has been updated to	Non-

Clause	Requirement	How the requirement is addressed in WaterNSW's Customer Advisory Group Charter	Compliance grading
6.6.2	matters that will be referred to the Customer Advisory Group and how those matters will be referred	include the following text (in italics) under the sub-heading of "role": "Customer Advisory Groups provide a forum for WaterNSW to regularly consult, on an area basis, with a broad cross-section of our customers on issues, including but not limited to: system operations; pricing; asset operations and maintenance; WaterNSW involvement in Government programs; customers and stakeholder engagement; and other issues relevant to our performance and delivery of services to customers."	compliant until 12 August 2021. (Compliant from 12 August 2021.)
f)	procedures for communicating the outcomes of the Customer Advisory Groups' work to the public	"WaterNSW will provide a summary after each round of Customer Advisory Groups, including applicable valley-specific issues, which will be made available on the WaterNSW website."	Compliant
g)	procedures for monitoring issues raised at meetings of the Customer Advisory Groups and ensuring appropriate follow-up of those issues	"Issues monitoring and follow up is affected via standard meeting minuting and action procedures."	Compliant
h)	procedures for amending the charter	Version 5 of the Charter has been updated to provide more detail on the process for advising and considering amendments (in italics). This amendment was proposed at the time of the 2019/20 audit but was not in place until this audit period: "Within the term of a Customer Advisory Group, WaterNSW and Customer Advisory Groups may propose amendments to the Charter, which to be effective, require the approval of both parties. Proposed amendments should be emailed to <a href="mailto:cag.support@waternsw.com.au">cag.support@waternsw.com.au</a> and will tabled at the next Customer Advisory Group meeting round for discussion and consideration by WaterNSW and all Customer Advisory Groups."	Compliant
i)	funding and resourcing of the Customer Advisory Groups by WaterNSW	"Customer Advisory Groups are funded and resourced by WaterNSW."	Compliant

## Recommendation

There are no recommendations for this clause.

## Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 6.8 – Code of practice on payment difficulties

### Clause 6.8.2

**Table 38. Clause 6.8.2 compliance grade**

Subclause	Requirement	Compliance grade
6.8.2	<p>The Code of Practice on Payment Difficulties must:</p> <ul style="list-style-type: none"> <li>a) provide for a payment plan for Customers who are responsible for paying their Bills and who are, in WaterNSW's reasonable opinion, experiencing financial hardship;</li> <li>b) include procedures for identifying the circumstances under which WaterNSW may restrict the provision of services to a customer (including in respect of CSR Water and Supply water);</li> <li>c) include procedures for identifying the circumstances under which WaterNSW may suspend water access licences when a Customer has not paid its Bill and an overview of the process that must be followed prior to suspension; and</li> <li>d) include procedures for self-identification, identification by community welfare organisations and identification by WaterNSW of Customers experiencing financial hardship.</li> </ul>	Non-compliant (non-material)

#### Risk

Without informing customers and any other persons, they may not understand the circumstances for service restriction or water access licence suspension and their payment options in times of hardship.

#### Target for full compliance

A WaterNSW customer-specific Code of Practice, which was current for the audit period and which includes the requirements of clause 6.8.2.

Specifically defined criteria for financial hardship.

Procedures or other for identifying the circumstances under which WaterNSW may restrict the provision of services to a customer (including in respect of CSR Water and Supply water).

Procedures or other for identifying the circumstances under which WaterNSW suspend water access licences when a Customer has not paid its Bill and an overview of the process that must be followed prior to suspension.

Procedures for self-identification, identification by community welfare organisations and identification by WaterNSW of Customers experiencing financial hardship.

### Summary of reasons for grade

A non-compliance with sub-clause (c) was identified in the previous audit period. The non-compliance was due to the Code of Practice not identifying the circumstance under which WaterNSW may restrict supply for customers that are not a water licence holder which covers the minor/retail customers (refer to Recommendation 2020-15). The non-compliance was ongoing until the implementation of the updated Code of Practice on Payment Difficulties on 12 July 2021 during the audit period, at which time this clause

would be considered compliant. As such, no recommendation has been made. A non-material grade has been assessed based on the previous recommendation being addressed.

This clause is therefore assessed as Non-compliant (non-material).

## Discussion and notes

WaterNSW has a “Debt Management Code of Practice” which explains the process it undertakes if customers do not pay their bill. It also outlines how WaterNSW can help if customers are having difficulties paying. WaterNSW defines hardship as “When customers would like to pay their water charges, but really cannot manage to do so”. This definition is included in the Code.

The Code is available to be accessed from the ‘Your Account and Paying Bills’ section of WaterNSW’s website.

The Code defines:

- how WaterNSW accepts that a customer is facing affordability difficulties or as per the Operating licence, financial hardship
- how affordability difficulties are outlined on Customer bills
- the procedure for restricting the provision of services or suspension of a water licence
- the process for self-identification, identification by community welfare organisations or by WaterNSW.

WaterNSW’s Debt Management Code of Practice and Customer Supply Agreements are reviewed each year as part of WaterNSW’s operating licence to ensure that they are relevant and up to date. The Code has been revised to Version 5 to account for the findings from last year’s Operational Audit as well as to account for other amendments.

We reviewed each of the requirements of clause 6.8.2 against the information included in WaterNSW’s Debt Management Code of Practice. Our observations are presented in Table 39.

**Table 39. Review of requirements of clause 6.8.2 in WaterNSW’s Debt Management Code of Practice**

Clause 6.8.2	Requirement	How the requirement is addressed in WaterNSW’s Debt Management Code of Practice	Compliance grading
(a)	Provide for a payment plan for Customers who are responsible for paying their Bills and who are, in WaterNSW’s reasonable opinion, experiencing financial hardship	The ‘Assistance with paying your water account’ section of the Code informs customers of the following methods of help: <ul style="list-style-type: none"> <li>• “A payment extension of 3 months or less.</li> <li>• A payment arrangement to pay the account in regular instalments over a period of 3 months</li> <li>• In some circumstances WaterNSW will allow a payment plan of longer than 3 months. This will require you to provide some proof of hardship. You should contact WaterNSW for details of what is required.”</li> </ul>	Compliant

Clause 6.8.2	Requirement	How the requirement is addressed in WaterNSW's Debt Management Code of Practice	Compliance grading
(b)	Include procedures for identifying the circumstances under which WaterNSW may restrict the provision of services to a customer (including in respect of CSR Water and Supply water)	<p>The 'If you don't pay your bill' section of the Code notifies customers that:</p> <p>"If your bill remains unpaid at the end of the payment reminder process, we will refer your account to Revenue NSW for debt recovery action under the State Debt Recovery Act 2018 (NSW). Debt recovery costs will become payable.</p> <p>If you are a water licence holder, we will also consider suspending your licence. This means that you cannot order, extract or trade water. Before the licence suspension is lifted you will be required to pay the overdue amount in full.</p> <p>The suspension and lifting of the suspension need to be lodged with NSW Land Registry Services (LRS) and could take up to 10 days to be processed.</p> <p>If you are not a holder of a water licence, we may disconnect your water supply, per your agreement with us."</p> <p>Version 5 of the Code has been extended to include the circumstance for customers that are not a water licence holder:</p> <p>"If you are not a holder of a water licence, we may disconnect your water supply, per your agreement with us."</p>	Compliant
(c)	Include procedures for identifying the circumstances under which WaterNSW may suspend water access licences when a Customer has not paid its Bill and an overview of the process that must be followed prior to suspension	<p>The 'If you don't pay your bill' section of the Code notifies customers that:</p> <p>"If your bill remains unpaid at the end of the payment reminder process, we will refer your account to Revenue NSW for debt recovery action under the State Debt Recovery Act 2018 (NSW). Debt recovery costs will become payable.</p> <p>If you are a water licence holder, we will also consider suspending your licence. This means that you cannot order, extract or trade water. Before the licence suspension is lifted you will be required to pay the overdue amount in full.</p> <p>The suspension and lifting of the suspension need to be lodged with NSW Land Registry Services (LRS) and could take up to 10 days to be processed.</p> <p>If you are not a holder of a water licence, we may disconnect your water supply, per your agreement with us."</p>	Non-compliant until 12 July 2021. (Compliant from 12 July 2021.)
(d)	include procedures for self-identification, identification by community welfare organisations and identification by WaterNSW of	<p>The How do Customers Qualify for Hardship? Section of the Code includes:</p> <ul style="list-style-type: none"> <li>• "Self-selection – customers can ask WaterNSW for a three-month extension to pay providing justification for the extension.</li> </ul>	Compliant



Clause 6.8.2	Requirement	How the requirement is addressed in WaterNSW's Debt Management Code of Practice	Compliance grading
	Customers experiencing financial hardship.	<ul style="list-style-type: none"> <li>• "WaterNSW customer service staff may identify during the conversation that the customer may need assistance with paying their bills and suggest a three-month payment extension.</li> <li>• Registered welfare organisations and community groups may contact WaterNSW and advise that a customer is suffering hardship and needs assistance in paying their bills. On receipt of this request, the customer will be contacted by the credit supervisor and may be granted a three-month payment extension.</li> <li>• WaterNSW may identify through lack of payments on an account that a customer is facing hardship and offer a three-month payment extension".</li> </ul>	

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 6.9 – Internal complaints handling procedure

### Clause 6.9.1

**Table 40. Clause 6.9.1 compliance grade**

Subclause	Requirement	Compliance grade
6.9.1	WaterNSW must maintain a procedure for receiving, responding to and resolving Complaints, which is consistent with the Australian Standard AS/NZS 10002:2014: Guidelines for complaints management in organizations (AS/NZS 10002:2014) or other standard approved by IPART on request by WaterNSW (Internal Complaints Handling Procedure).	Non-compliant (non-material)
<b>Risk</b>	<b>Target for full compliance</b>	
Not maintaining a procedure for receiving, responding to and resolving complaints means that customers may be disadvantaged and not have their complaints managed appropriately.	Evidence that WaterNSW maintains a procedure for receiving, responding to and resolving Complaints, which is consistent with the Australian Standard AS/NZS 10002:2014: Guidelines for complaints management in organizations (AS/NZS 10002:2014) or other standard approved by IPART Evidence to confirm that if another standard is being used, that it has been approved by IPART	

### Summary of reasons for grade

A non-compliance with this sub-clause was identified in the previous audit period. The non-compliance was due to two identified shortcomings of the procedure against the requirements of AS/NZS 10002:2014, being the lack of a policy and a small number of procedural omissions. The non-compliance was ongoing until the implementation of the required policy and the updated complaints procedure on 30 June 2021 during the audit period, at which time this clause would be considered compliant. As such, no recommendation has been made. A non-material grade has been assessed based on the previous recommendation being addressed.

This clause is therefore assessed as Non-compliant (non-material).

### Discussion and notes

In response to the 2020 Operational Audit finding, WaterNSW has developed a Complaints Management Policy to meet the requirement of clause 6.3 of the Australian Standard AS/NZS 10002:2014: Guidelines for complaints management in organizations, which states that “The organization should establish an explicit complaints management policy setting out its commitment to the effective management of complaints.” The policy has been made consistent with guidance from Service NSW and is structured around the lifecycle of a complaint and the potential interaction between WaterNSW and the complainant. The policy includes a clear commitment from WaterNSW to handle complaints fairly, effectively and efficiently. We found the

principles in the policy to be sound and well articulated. We consider that the policy meets the requirements of the Australian Standard.

WaterNSW has an Internal “Complaints and Compliments handling procedure” which is aligned with AS/NZS 10002-2014 Guidelines for complaint management in organisations. WaterNSW does not align to any other standard for its complaints management. The procedure was revised and updated to Version 6 during the audit period. The next review is due in March 2023.

We reviewed WaterNSW’s Complaints Handling and Compliments Procedure against key components of the Standard and observed the following:

- The definitions set out in the procedure align with the definitions included in Standard Clause 4.
- The source of complaints in Section 3 of Version 6 of the procedure has been updated to include those from social media (Standard Clause 4.6). This revision is in response to the recommendation made at the 2020 Operational audit.
- WaterNSW’s complaints management process is visible (on the WaterNSW website) and transparent (Standard Clause 5.1.3). WaterNSW has a page within the Customer Service section of its website that provides information on customer feedback and complaints.
- Accessibility of WaterNSW’s complaints management system is in general accordance with the requirements of the standard (clause 5.1.4)
- WaterNSW’s procedure covers responsiveness, including indicators to measure the performance for resolving complaints, investigation and escalation. The procedure is in accordance with the overall requirements set out in clause 5.2 of the Standard.
- Privacy of information is included in the procedure and is consistent with clause 5.2.4 of the Standard
- Version 6 of the procedure has been updated to include a section (7) which outlines how WaterNSW staff should act when managing a complaint. The revised procedure also sets out that unacceptable or unreasonable conduct of complainants should be managed in accordance with WaterNSW’s Managing Threatening Behaviour Guidelines. We are satisfied that these revisions meet the requirements of clause 5.3.1 of the Standard to make clear the behaviour expected of both WaterNSW staff and complainants.
- Version 6 of the procedure has been updated to include a section (4.5) on how complaints involving multiple parties are managed (as required by clause 5.3.3 of the Standard). The procedure has a guiding principle that complaints involving multiple parties should preferably be managed through a single contact. Where complaints involve multiple agencies, the procedure commits WaterNSW to working with the other agencies to provide clear communication.
- Responsibilities for actions within the procedure are identified, including those within the escalation procedure. The responsibilities are also assigned to the complaint’s performance indicators and to the specific performance reports that WaterNSW uses to report complaints management up through the organisation. However, we note that the overall responsibilities and authorities for WaterNSW’s complaints management system are not explicitly defined as per clause 6.4 in the Standard.

- Generally, WaterNSW's complaints management system operates in accordance with the requirements under clause 8 of the Standard.

WaterNSW records its complaints in its customer request system (ManageEngine). Complaints are reported monthly to the Executive.

WaterNSW provided the register of customer complaints it had received in the 2019-20 financial year. We reviewed the register and made the following observations:

- We confirmed that a total of 99 complaints had been received.
- Of the 99 total, 61 were received via email, 36 were from phone calls, 1 was received via web form and 1 was received via the post.
- Of the 99 complaints received, 89 were closed, 5 are on hold and 5 are still open.
- We confirmed that 30 of the 99 complaints (30%) were resolved and closed in the system within 10 days which is a reduction in performance compared with 2019/20 where 68% were resolved within 10 days. WaterNSW resolves around two-thirds of complaints in 30 days.

During the course of the audit, we reviewed a number of complaints in detail, including complaint CS0340901 which related to concern over meter accuracy.

### **Recommendation**

There are no recommendations for this clause.

### **Opportunities for improvement**

There are no opportunities for improvement for this clause.

## Clause 6.12 – Code of Conduct with WIC Act Licences

### Clause 6.12.1

**Table 41. Clause 6.12.1 compliance grade**

Subclause	Requirement	Compliance grade
6.12.1	Water NSW must use reasonable endeavours to cooperate with any WIC Act Licensee that seeks to establish with Water NSW a code of conduct required under a licence under the WIC Act.	No Requirement
<b>Risk</b>	<b>Target for full compliance</b>	
Not having an appropriate Code of Conduct in place with a Licensed Network Operator or Licensed Retail Supplier means that governance risks to the water supply network could occur and risks to consumers ensue.	Evidence of the process to and resources to establish the code of conduct. Evidence of 'best endeavours' including meetings, liaison records etc. Evidence of outcomes of cooperation within the audit date scope e.g. implementation of requests where existing.	

### Summary of reasons for grade

WaterNSW has not had any requests seeking to establish a Code of Conduct. We tested how these requests would be managed within WaterNSW if they were made. We are satisfied that the absence of evidence for compliance with this clause is because it was not triggered in the audit period. Therefore, this clause is considered No Requirement.

### Discussion and notes

WaterNSW stated they had not received any requests (written or verbal) seeking to establish a Code of Conduct. We queried whether there was a procedure or process in place to support the implementation of this clause. WaterNSW advised that one has not been developed. During the interviews WaterNSW provided an alternative example of a process for a major connection to the FRWS which also does not have a procedure. This is managed by the Key Accounts Team.

During interviews we tested how a request would come to WaterNSW's attention. WaterNSW advised if the enquiry came through the call centre a ticket would be logged. WaterNSW confirmed that they had searched through the customer requests to confirm that there had been no requests under this clause.

We acknowledge that should a WIC Act Licensee seek to establish a code of conduct and be unable to make contact with the correct section within WaterNSW they would follow up on the request until they were put in contact with the correct representative from WaterNSW.

We are satisfied that the absence of evidence for compliance with this clause is because it has not been triggered in the audit period.

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 6.13 – Memorandum of Understanding with NSW Health

### Clause 6.13.1

**Table 42. Clause 6.13.1 compliance grade**

Subclause	Requirement	Compliance grade
6.13.1	Water NSW must: a) maintain a memorandum of understanding with the Secretary of the Ministry of Health entered into under section 21(1) of the Act; and b) comply with the memorandum of understanding maintained under clause 6.13.1(a). [Note: Clause 6.13.1 does not limit the persons with whom Water NSW may enter into a memorandum of understanding.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
WaterNSW must co-operate with NSW Health to protect public health.	WaterNSW will ensure the Memorandum of Understanding with NSW Health is maintained and provide evidence of compliance.	

### Summary of reasons for grade

WaterNSW has demonstrated that they have maintained and complied with the Memorandum of Understanding (MoU) with NSW Health. The update of the MoU was due in June 2021 but has been delayed, the revised draft was submitted to NSW Health on 21/9/2021. WaterNSW has provided adequate evidence of the implementation of the MoU with details included below.

This clause is considered Compliant.

### Discussion and notes

#### Maintain

The current MoU was established on 16 June 2016. The MoU covers the areas of WaterNSW's role in the declared catchments, the Fish River System and other catchments and small drinking water supplies, both party's responsibilities and accountabilities, raw water quality management and monitoring, events of public health significance, incident management, consultation process, research and exchange of information.

The current MoU has exceeded the 5-year term dictated by the MoU (Section 3). WaterNSW provided evidence that they had engaged with NSW Health to update the MoU since early February 2021. Table 43 summarises the timeline for the development of the MoU. The NSW Health review of the proposed draft was delayed due to 'competing priorities' (D2021/93074), both parties agreed to delay the update and extend the existing MoU. This process is found to be acceptable.

**Table 43. WaterNSW and NSW Health MoU update progress timeline**

Date	Activity	Evidence
3 February 2021	WaterNSW drafted a proposed new MoU and submitted to NSW Health for comment	D2021/93073
10 February 2021	Draft discussed at JOG meeting	D2021/5620
12 May 2021	Update timeline noted during General Business at JOG	D2021/95444
17 June 2021	NSW Health and WaterNSW agreed to extend the current MoU via exchange of letters	D2021/93074
20 August 2021	Letters extending the current MoU to 31/12/21 signed by the NSW Health Secretary were provided by NSW Health	D2021/93047
30 August 2021	Letters extending the current MoU to 31/12/21 signed by WaterNSW and returned to NSW Health	
21 September 2021	The revised draft MoU was submitted to NSW Health	D2021/106515

The Water Quality Systems Officer is responsible for maintaining the MoU, the position description provided for this role (D2017/5883) includes provision of services for the management of key regulatory relationships and is found to be satisfactory.

### Comply

The Consultation Process requirements in the MoU dictate that WaterNSW and NSW Health must maintain a SLG and Joint Operational Group (JOG). The SLG and JOG meet quarterly with the JOG meeting one month before the SLG. The minutes of all four SLG meetings were provided as evidence (D2021/56647, D2020/134805, D2021/77947, D2021/106757) with the meetings held on:

- 10 September 2020
- 8 December 2020
- 16 March 2021
- 15 June 2021.

The JOG meeting minutes from 12 May 2021 were provided as evidence (D2021/95444).

The SLG and JOG meetings have a rolling calendar of agenda items maintained to focus discussions, the rolling annual calendar of activities for 2021 and 2022 was provided as evidence. In the first quarter meeting, the performance of the SLGs and JOGs is discussed and the strategic issues register is reviewed.

The MoU requires WaterNSW to share important results from research with NSW Health. WaterNSW reported on the results of scientific research and incorporated it into its planning, operations and activities through a presentation on the WaterNSW and Sydney Water joint research and development program to the SLG at the Q4 meeting in 2020 (D2021/56647). The outcomes of the 2016-2020 Science program were presented to the Board on 18 November 2020, the presentation was provided as evidence (D2020/114231).

As an example of a collaborative initiative that has been developed as part of the MoU, a working group was established to implement the Joint Policy for responding to requests for Recreational Access (D2020/105480). The working group meeting notes



from 14/1/2021 (D2021/4641) were evidence of WaterNSW's compliance with this clause.

## Recommendation

There are no recommendations for this clause.

## Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 6.13.3

**Table 44. Clause 6.13.3 compliance grade**

Subclause	Requirement	Compliance grade
6.13.3	The memorandum of understanding referred to in clause 6.13.1 must include arrangements for Water NSW to report to NSW Health information on any events, in relation to Water NSW's systems or service that might impact on public health. [Note: Clause 6.13.2 does not limit the matters which may be included in the memorandum of understanding with NSW Health.]	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Without arrangements for communication with NSW Health during incidents that threaten public health there is an increased public health risk.	The MoU will include appropriate arrangements for events that may impact public health.	

## Summary of reasons for grade

The MoU with NSW Health includes adequate arrangements for reporting to NSW Health on events that may impact public health. WaterNSW have provided sufficient evidence that NSW Health has been provided with the water quality information required.

This clause is considered Compliant.

## Discussion and notes

WaterNSW report to NSW Health routine water quality information in monthly and annual reports. Event and investigative water quality monitoring through emails with and phone conversations as required as well as the routine reports.

The MoU includes notifications of events within the declared catchment or involving WaterNSW infrastructure storages or operations which may have implications for public health due to water quality or water supply security should be made to NSW Health as soon as practicable.

Annual Water Quality Monitoring Report 2019/20 (D2020/124885) is available on the WaterNSW website and the email in which it was sent to NSW Health on 1 December 2020 (D2020/126948) was provided as evidence.

The Fish River Drinking Water Quality Report - June 2021 - email to stakeholders (D2021/107335) and Prospect Water Quality Report 9 July 2021 – email to stakeholders (D2021/80178) were provided as examples of the monthly water quality reports.

In accordance with the Raw Water Quality Incident Response Plan, WaterNSW submit the Incidents and events 2020-21 (D2021/95138) to NSW Health. This document outlined the major, significant and minor incidents from July 2020 – June 2021.

### **Recommendation**

There are no recommendations for this clause.

### **Opportunities for improvement**

There are no opportunities for improvement for this clause.

## Clause 6.14 – Memorandum of Understanding with Environment Protection Authority

### Clause 6.14.1

**Table 45. Clause 6.14.1 compliance grade**

Subclause	Requirement	Compliance grade
6.14.1	<p>Water NSW must:</p> <p>a) maintain the memorandum of understanding with the Environment Protection Authority entered into under section 21(1) of the Act; and</p> <p>b) comply with the memorandum of understanding maintained under clause 6.14.1(a).</p> <p>[Note: Clause 6.14.1 does not limit the persons with whom Water NSW may enter into a memorandum of understanding.]</p>	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
WaterNSW must co-operate with New South Wales’s principal environmental regulator, EPA, to drive positive environmental outcomes	Effective interaction, exchange of data and cooperation between WaterNSW and the EPA.	

### Summary of reasons for grade

WaterNSW has demonstrated that the MoU with the NSW Environment Protection Authority (EPA) has been maintained and complied with during the audit period. Evidence of progress being made on the MoU renewal has been provided and found to be adequate. WaterNSW has provided evidence of compliance with the consultation process and exchange of information requirements within the MoU.

This clause is considered Compliant.

### Discussion and notes

#### Maintain

WaterNSW have provided sufficient evidence to demonstrate that the MoU with the EPA has been maintained through the audit period.

The current MoU between WaterNSW and EPA was signed on 7 December 2016 and is available publicly on the WaterNSW website at the following address:

[https://www.waternsw.com.au/\\_data/assets/pdf\\_file/0009/118674/NSW-EPA-Memorandum-of-Understanding.pdf](https://www.waternsw.com.au/_data/assets/pdf_file/0009/118674/NSW-EPA-Memorandum-of-Understanding.pdf)

The MoU covers responsibilities and accountabilities, the regulatory framework, the consultation process, the exchange of information and dispute resolution.

The MoU with the EPA is due for renewal on 7 December 2021 according to Section 3 of the document. An initial meeting regarding the MoU was held with the EPA on 28

August 2021 to discuss the current MoU and potential amendments. There were some delays in the review process due to staff changes within the EPA.

WaterNSW advised that the anticipated process going forward for the review and update would include:

- a meeting in October to commence formal review of the document and determine needs and expectations of WaterNSW and EPA
- a draft revision completed by end of October and circulated within each organisation to relevant managers
- the MoU endorsed and finalised with formal signing of the new MoU by both CEOs during the planned SLG scheduled for late November 2021.

The need to renew the MOU was discussed during the EPA SLG Meeting and the minutes (D2021/95743) were provided as evidence.

### Comply

WaterNSW have provided sufficient evidence to demonstrate that the MoU with the EPA has been implemented through the audit period.

The WaterNSW and EPA SLG is required to meet at least once per calendar year. The meeting in the audit period was held on 15 December 2020. The minutes were provided as evidence (D2021/95743). The following strategic items were discussed:

- 2019 Catchment Audit – Outcomes
- catchment audit finding- Wingecarribee STP
- EPL database for the declared catchment
- mining projects update (Dendrobium, Russell Vale and Hume)
- update on WaterNSW legislative review
- project updates - Burrawang to Avon Tunnel, Illawarra Desalination Plan, Warragamba Update, Interagency discussion for Greater Sydney Water Strategy.

WaterNSW is required to provide the EPA with copies of notices served, notifications of significant water pollution incidents and notifications of legal proceedings instituted by WaterNSW. Non-scheduled activities in the WaterNSW catchment are tracked in the Catchment Compliance Spreadsheets (D2019/77977) which records information relating to the type of notice, company or person of interest, the date and if the EPA has been notified. There were no legal proceedings instituted or pollution incidents identified during the audit period. WaterNSW maintains a public facing register the website detailing the notices issued under section 61 of the Water NSW Act (2014).

Notification requirements to the EPA are detailed within the Environmental Incident Management Protocol (CD2016/6)

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 6.17 – Memorandum of Understanding with Natural Resources Access Regulator

### Clause 6.17.1

**Table 46. Clause 6.17.1 compliance grade**

Subclause	Requirement	Compliance grade
6.17.1	<p>Water NSW must:</p> <p>a) use its best endeavours to establish and maintain a memorandum of understanding with the Natural Resources Access Regulator; and</p> <p>b) comply with the memorandum of understanding maintained under clause 6.17.1(a).</p> <p>[Note: Clause 6.17.1 does not limit the persons with whom Water NSW may enter into a memorandum of understanding.]</p>	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Not having used best endeavours to establish, maintain and comply with the memorandum of understanding (MoU) and then not having maintained the MoU creates a compliance risk.	<p>A current MoU between WaterNSW and the Natural Resources Access Regulator (NRAR).</p> <p>Evidence to show that the MoU has been complied with.</p>	

### Summary of reasons for grade

WaterNSW has demonstrated that the MoU with the Natural Resources Access Regulator (NRAR) was adequately established and maintained and has been complied with during the audit period.

This clause was found Compliant.

### Discussion and notes

#### Establish and maintain

A MoU was entered into between WaterNSW and the NRAR on 24 January 2019. The MoU will be due for renewal in January 2024 as required by Section 3 of the document.

The purpose of the MoU is to establish and maintain processes for effective and efficient:

- information and data exchange related to compliance and enforcement of the natural resources management legislation
- support for compliance, investigation and prosecution activities
- IT system access and use related to the administration of the natural resources management legislation
- evaluation and review processes to ensure the on-going effective, efficient, transparent and accountable administration of natural resources management legislation.

Annexure A to the MoU – Table of Responsibilities lists functional activities and areas of engagement necessary. Against each of the areas of engagement, responsible officers from WaterNSW and NRAR are nominated with the accountability to deliver on the requirements.

Legal Information requests are governed by protocols 1, 2 and 3 (D2021/99160, D2021/99174, D2021/99161) which address how information is to be exchanged and how requests are to be made. These protocols were updated during the audit year. Current and historic versions are maintained in a SharePoint site with access available to Operational Group members and attendees from both NRAR and WaterNSW.

## Comply

The delivery of the objectives of the MoU is overseen by the Chief Executive Officer; Executive Manager Legal, Governance & Risk, & General Manager Customer and Community.

Regulatory Relationships Manager, has the accountability for supporting the relationship.

Compliance with the MoU is delivered through the procedures listed in Annexure A and the consultation process (Strategic Group and the Operational Group) and MoU. The procedures in Annexure A are organised into the following areas of engagement:

- Legal, Investigation and Enforcement information
- Breach Notifications & Licensing
- Investigation Outcomes
- Information Technology and information sharing.

WaterNSW report that further compliance with MoU is achieved through officers from both agencies in regular informal contact to deliver the exchange of information and compliance requirements of the MoU. This information exchange is processed either through direct self-service by NRAR on the WaterNSW website or through directed information requests. NRAR Request Stats (D2021/99179 and D2021/99192) were provided as evidence of the request tracking.

Requests regarding Water Licencing System (WLS) functionality changes are raised by NRAR and captured in the Service NOW application. Since 26 May 2020, WaterNSW have recorded 252 requests of which 185 are related to WLS. The Service NOW register of incidents (D2021/107612) was provided as evidence.

To meet the investigative outcomes requirements, WaterNSW advised NRAR of all instances where it suspended, amended, or cancelled any licence, permit or approval due to non-payment. During the reporting year, WaterNSW suspended, amended, or cancelled 5 licences, permits or approvals due to non-payment. All these notifications were within the specified timeline. A summary of licence suspensions (D2021/107602) was provided as evidence.

WaterNSW are required to notify NRAR of any serious field safety issues as soon as practicable. To satisfy this requirement WaterNSW maintains a register of at risk sites (Doc11/25426) which ensures WaterNSW and NRAR staff are aware of the requirement

to notify serious safety field issues. When this document is updated, it is shared with staff.

Section 7 of the MoU requires the Strategic Group WaterNSW and NRAR attendees to meet twice in the reporting year and the Operational Group meeting frequency to be determined by the strategic group. The Operational Group met four times in the audit period, in accordance with the terms of reference of this group (D2021/99188, November 2020). The WaterNSW reporting of NRAR requests was included in the May Operational Group meeting and the presentation was provided (D2021/99179). Meeting agendas are aligned with Section 7 of the MoU.

### **Recommendation**

There are no recommendations for this clause.

### **Opportunities for improvement**

There are no opportunities for improvement for this clause.



## Clause 6.18 – Online portal for lodgement of documents relating to metering equipment

### Clause 6.18.1

**Table 47. Clause 6.18.1 compliance grade**

Subclause	Requirement	Compliance grade
6.18.1	<p>Water NSW must develop, operate and maintain an on-line portal to allow for the electronic lodgement of the following:</p> <p>a) a certificate provided under clause 237(1) or (2) of the Water Management (General) Regulation 2018, as required by clause 238(2) of that Regulation,</p> <p>b) a report by a person who intends to rely on clause 8 of Schedule 8 of the Water Management (General) Regulation 2018 setting out the steps taken in relation to the metering equipment, as required by clause 8(3) of that Regulation,</p> <p>c) written certification as to the matter set out in clause 9(2)(b) of Schedule 8 of the Water Management (General) Regulation 2018,</p> <p>d) a report from a person who intends to rely on clause 9 of Schedule 8 of the Water Management (General) Regulation 2018, setting out the steps taken in relation to the metering equipment, as required by clause 9(5) of that Regulation.</p>	Compliant
<b>Risk</b>	<p>Accurate and timely data collection, storage and retrieval is essential to properly monitor water use by license holders. If data cannot be collected, securely stored or reliably retrieved total water take may be underestimated, overextraction may not be identified, action may not be able to be taken against non-compliant license holders or compliant license holders could be unjustly prosecuted, with consequent liability to government.</p>	<p><b>Target for full compliance</b></p> <p>Online portal is accessible by license holders and duly qualified persons, and there is the capability to lodge the required certificates and reports.</p> <p>License holders and duly qualified persons have lodged material through the portal within the audit period.</p>

### Summary of reasons for grade

The online portal was live and evidence showed that material had been lodged in the portal by Duly Qualified Persons during the audit period. This evidence demonstrated that the portal was operational and in use by the intended audience.

This clause was found to be Compliant.

### Discussion and notes

The online portal was live and accessible during the audit period and there was evidence that reports and certificates had been lodged in the portal within the audit period.

Emails between WaterNSW and DQPs (D2021/106886, D2021/106869) show that the portal was accessible and in use during the audit period. Screenshots of reports in the

## Clause 6.18 – Online portal for lodgement of documents relating to metering equipment

portal (D2021/106846, D2021/116619) show reports and certificates have been lodged in the portal during the audit period.

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 6.18.2

Table 48. Clause 6.18.2 compliance grade

Subclause	Requirement	Compliance grade
6.18.2	The portal must be operational by 1 December 2020	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Delay in implementation of the portal could result in delayed visibility of compliance and delayed ability to take enforcement action.	The portal is operational by 1 December 2020	

### Summary of reasons for grade

The portal was operational in June 2020, meeting the 1 December 2020 deadline.

This clause was found to be Compliant.

### Discussion and notes

The portal was operational in June 2020. A link to the Irrigation Australia website reporting that after 6 July 2020 all validation certificates would have to be lodged online through the DQP portal supports the attainment of this clause. An e-mail () from a DQP was provided as evidence of feedback.

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 6.18.3

**Table 49. Clause 6.18.3 compliance grade**

Subclause	Requirement	Compliance grade
6.18.3	Water NSW must ensure that certificates, reports and other documents lodged in the portal are retained.	Non-compliant (material)
<b>Risk</b>	<b>Target for full compliance</b>	
If certificates, reports and other documents lodged in the portal are not retained, regulation of license holders is impacted. Regulatory action may not be able to be taken against non-compliant license holders or compliant license holders could be unjustly prosecuted, with consequent liability to government.	To have systems and strategies in place to ensure that certificates, reports and other documents are stored in a manner that can be retrieved when required.	

### Summary of reasons for grade

Evidence relating to data backup practices within the audit period was almost completely absent. Evidence provided established that WaterNSW retained 9 days' backup of the DQP database after the audit period. We observed significant inconsistencies between the audit interviews and evidence provided, and also within the evidence provided, relating to backup practices and specifically how long data is retained.

No evidence was provided to establish that WaterNSW's arrangements for backup of the duly qualified persons (DQP) database and documents indexed within the database had been properly considered or adequately implemented. Due to system architecture and operational settings, WaterNSW is not able to verify that submitted certificates, reports or other documents have been retained in their original and unaltered form after a short period following their submission. This clause has been found to be non-compliant.

In considering the materiality, we found that the deficiency (lack of adequate systems/processes to manage data retention) adversely impacts the ability of the utility to achieve defined objectives/assure outcomes (retention of data). The non-compliance was graded material due to this.

WaterNSW has no documented methodology for data protection or backup and significant inconsistencies were observed when required and actual data retention periods were queried.

This clause was found to be Non-compliant (material).

### Discussion and notes

The purpose of requiring WaterNSW to retain certificates, reports and documents lodged in the portal is to enable them to be retrieved when required by WaterNSW, DQPs, partner agencies, other agencies of government and the court.

The standard of data retention required for the certificates, reports and documents lodged in the portal is not documented and WaterNSW has no written data retention policy to inform or regulate this maintenance task. Decisions around data retention are

made at an operational level and changes to data retention, and the reasons for those changes, are not documented.

Standards for document retention vary widely (in industry, in government, mandated in some cases by legislation and having regard to the intended purpose of the data). These practices vary from only retaining current data, to retaining all data for seven years. Some data is retained indefinitely. Where data is to be used to support compliance (and potentially prosecution) the data retention period is usually longer (typically referenced to the statute of limitations) and it is preferable that this data retention is transparent and accountable.

An explanatory document (D2021/117794) described that WaterNSW hosts the DQP database in a managed structured query language (SQL) instance within the Azure public cloud in the Australia East region (Sydney) and stores the documents indexed in the database on SharePoint in Azure Binary Large Object (BLOB) storage in the same region. Archives of the database are copied daily to BLOB storage. Both these elements (the SQL instance and the BLOB storage) are replicated daily to read-only storage in the Australia Southeast (Melbourne) region. The primary storage (Sydney) features versioning but the secondary (Melbourne) does not, meaning it is only the most recent copy of the data. It is also asynchronous, being copied once per day.

The explanatory document (D2021/117794) notes WaterNSW relies on features of Azure storage to provide backup functionality, although this describes the settings when the document was created (outside the audit period) rather than the situation during the audit period (this is discussed later):

- Azure storage is versioned for 35 days, potentially providing the ability to revert to point-in-time restores over that interval
- Microsoft retains the ability to restore the last version for a further 14 days
- The most recent version is copied to read-only geo redundant storage in Melbourne once per day
- This combined functionality provides WaterNSW easily accessible backup functionality for the DQP database which can be restored in the event of a failure, and the only backup of the documents indexed in the database
- The DQP database is copied daily to Azure BLOB storage for recovery from catastrophic errors caused by development changes to the database, which at this point has been retained for the life of the database although it is intended to rationalise this in the future. There was no evidence as to whether the documents are also copied from hot storage to this cold archive.

WaterNSW has adopted this backup strategy on the basis that it is a “highly reliable backup solution” (D2021/117794) but this is not the intended function of this product. The stated reliability of Azure storage relates to the accessibility of redundant managed instances and the risk of hardware failure or natural disaster over short timeframes, providing assured availability for the portal. It does not assure protection against accidental or deliberate deletion of documents or records. Based on the information provided (which was after the audit period), we could not establish that certificates, reports and other documents were discoverable, verifiable and protected against alteration or loss during the audit period.

Recommendation 6.18.3-1 addresses this deficiency.

In attempting to determine the data retention period used during the audit period we considered the following:

- WaterNSW stated in interviews and evidence that their practice is to keep 35 days' backup of the DQP database in Azure, without stating that this did not relate to the audit period
- The explanatory document (D2021/117794) which was created on 5 November 2021 showed the earliest point-in-time restore point for the DQP database was from 27 October 2021, meaning there was only 9 days' backup available at that time
- This apparent inconsistency with the started backup period (35 days) was explained by WaterNSW by stating that the previous backup setting was to keep 7 days' backup of the DQP database in Azure, and that the setting was changed two days before the document (D2021/117794) was created, to a setting which retained 35 days' backup
- The suggested implication by WaterNSW is that the existence of only 9 days' backup is consistent with the changeover from the 7-day setting to the 35-day setting
- No evidence was provided of the reason for the change in setting or the date of its implementation
- The conclusion drawn from this exchange is that before 3 November 2021, WaterNSW was operating on a position of only retaining 7 days' backup of the DQP database
- There was no additional evidence available to determine the data retention period in use during the audit period.

We observed inconsistencies when querying WaterNSW about backup and retention periods for data and records in the portal. In addition to receiving different and inconsistent answers, within the same interview, to these questions, submitted evidence provided further contradictions and highlighted further inconsistencies. Data retention periods were variously stated or shown in evidence to be 7 days, 9 days, 35 days, 49 days, 5 years and 7 years. Evidence demonstrated that the actual data protection period achieved outside the audit period was 9 days. There was no additional evidence available to determine the data retention period in use during the audit period.

WaterNSW disagreed with this conclusion in the draft report and provided numerous additional pieces of evidence to support their assertion of compliance with the clause; their objection is noted but after review of the two tranches of additional evidence we were unable to resolve the observed inconsistencies. The additional evidence provided no assistance in this regard.

All the DQP data (DQP database and documents, and all the backups) are stored on the same platform, presenting a common risk from platform failure which has not been mitigated. This is addressed by Recommendation 6.18.3-1.

The DQP portal and database requires protection against data loss and alteration, evidence for which is absent or contradictory. WaterNSW has no written data protection policy and no evidence was provided to demonstrate that WaterNSW has properly considered the need for a data protection methodology. Decisions about data

protection seem to be made in an ad-hoc fashion. This is addressed by Recommendation 6.18.3-1 and OFI 6.18.3-1.

## Recommendation

Recommendation 6.18.3-1: By 31 July 2022, WaterNSW shall develop, document and implement a data protection methodology to ensure that certificates, reports and other documents lodged in the portal are discoverable, verifiable and protected against alteration or loss. In developing this methodology, WaterNSW shall conduct and document a formal risk assessment to:

- identify their obligations arising from state and federal legislation and policy on data storage and protection
- identify the risks to data posed by operating the DQP portal in the cloud, including but not limited to, the failure modes which impact data stored in the cloud, the risk of accidental or deliberate deletion of data, cyber risks, insider risks, third party risks, and how these can be effectively mitigated
- quantify the risk to government of WaterNSW or other regulatory agencies taking legal enforcement action based on incomplete, incorrect or unverifiable data.

## Opportunities for improvement

OFI 6.18.3-1: WaterNSW should ensure that development and changes to the DQP portal comply with relevant legislation and policies. This compliance should be verified at senior management level or externally.

## Clause 6.18.4

**Table 50. Clause 6.18.4 compliance grade**

Subclause	Requirement	Compliance grade
6.18.4	Water NSW must ensure that all holders of a current authority and all duly qualified persons have access to the portal. In this subclause, "authority" has the same meaning as in Part 10 of the Water Management (General) Regulation 2018 and "duly qualified person" has the same meaning as in the Water Management Act 2000.	Compliant
<b>Risk</b>		<b>Target for full compliance</b>
	If holders of a current authority or duly qualified persons cannot access the portal, proper regulation of those licenses is impacted. Total water take may be underestimated, overextraction may not be identified and action against non-compliant license holders may be delayed or prevented.	Authority holders and DQPs should be provided with access to the portal in a timely fashion

### Summary of reasons for grade

Evidence was provided that authority holders and DQPs have been provided with access to the portal, have submitted information, and suggestions for improvements to the portal from DQPs have been noted by WaterNSW.

This clause was found Compliant.

### Discussion and notes

We reviewed the evidence provided in relation this this clause (D2021/106869, D2021/106886, D2021/106891) which showed:

- an email request to add a DQP to the portal,
- an email from a DQP suggesting an improvement to the portal and
- a screenshot of active DQPs in the system

This evidence shows that DQPs have been registered in the portal, have used it to enter information and have submitted suggestions to WaterNSW for improvements to the portal. This evidence shows that DQPs have access to the portal and are using the system as intended.

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.



## Clause 6.20 – Data sharing and services agreement with DPIE and NRAR – NSW non-urban water metering framework

### Clause 6.20.1

**Table 51. Clause 6.20.1 compliance grade**

Subclause	Requirement	Compliance grade
6.20.1	<p>Water NSW must use its best endeavours to develop and enter into a data sharing and services agreement with DPIE and NRAR as soon as practicable after 1 July 2020 or by a date approved by the Minister in writing (the Metering Data Sharing and Services Agreement). If such an agreement has been entered into before 1 July 2020, this subclause does not apply.</p> <p>[Note: The Metering Data Sharing and Services Agreement is in addition to the MWP Data Sharing Agreement described in clause 2.9.6.]</p>	Compliant
<b>Risk</b>	<p>DPIE and NRAR require access to data held by WaterNSW' to perform their regulatory function. A data sharing agreement is required between the organisations to formalise the arrangements for sharing of data. If such an agreement is delayed, the regulatory function of NRAR or DPIE could be impacted.</p>	<p><b>Target for full compliance</b></p> <p>Completed data sharing agreements with DPIE and NRAR.</p>

### Summary of reasons for grade

Data Sharing Agreements have been signed with both NRAR and DPIE.

This clause was found Compliant.

### Discussion and notes

The Data Sharing Agreement between WaterNSW and NRAR was signed on 3<sup>rd</sup> December 2020 (D2020/12632).

The Data Sharing Agreement between WaterNSW and DPIE was signed on 5<sup>th</sup> July 2021 (D2021/38294).

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 6.20.2

**Table 52. Clause 6.20.2 compliance grade**

Subclause	Requirement	Compliance grade
6.20.2	The Metering Data Sharing and Services Agreement is to record the terms and conditions on which Water NSW will provide access to the data and services relating to the NSW non-urban water metering framework to DPIE and to the NRAR.	Compliant
<b>Risk</b>		<b>Target for full compliance</b>
If the data sharing agreements do not specify the terms and conditions on which Water NSW will provide access to the data and services relating to the NSW non-urban water metering framework to DPIE and to the NRAR, the intended effect of the agreement may not be realised.		The data sharing agreements specify the terms and conditions on which Water NSW will provide access to the data and services relating to the NSW non-urban water metering framework to DPIE and to the NRAR.

### Summary of reasons for grade

The data sharing agreements with DPIE and NRAR specify the terms and conditions on which WaterNSW will provide access to the data and services relating to the NSW non-urban water metering framework.

This clause was found Compliant.

### Discussion and notes

The Data Sharing Agreement (D2021/38294) between WaterNSW and DPIE specifies the terms and conditions on which WaterNSW will provide access to the data and services relating to the NSW non-urban water metering framework to DPIE.

The Data Sharing Agreement (D2020/12632) between WaterNSW and NRAR specifies the terms and conditions on which WaterNSW will provide access to the data and services relating to the NSW non-urban water metering framework to NRAR.

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 6.20.3

**Table 53. Clause 6.20.3 compliance grade**

Subclause	Requirement	Compliance grade
6.20.3	Once Water NSW has entered into the Metering Data Sharing and Services Agreement, Water NSW must: <ul style="list-style-type: none"> <li>a) provide access to the data and services under that Agreement to DPIE and NRAR, in accordance with that Agreement, and</li> <li>b) comply with any cure plan that applies to Water NSW under that Agreement</li> </ul>	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
If WaterNSW does not enact the provisions of the data sharing agreements, the intended effect of the agreements will not be realised.	WaterNSW provides access to the data specified in the Information Sharing Schedule to the Data Sharing Agreements with DPIE and NRAR, and complies with any cure plan in the agreements.	

### Summary of reasons for grade

There is no cure plan included in the Data Sharing Agreements between WaterNSW and DPIE/NRAR.

WaterNSW has provided access to the non-compliant data specified in the Information Sharing Schedule to the Data Sharing Agreements with DPIE and NRAR to DPIE and NRAR, according to their understanding of the terms of the agreement.

This clause was found Compliant.

### Discussion and notes

While WaterNSW has satisfied the conditions of the clause, the Data Sharing Agreements are ambiguous regarding the precise meaning of the term “adapt the Shared Information”. WaterNSW understands that this means they are only required to provide access to the Shared Information whereas NRAR holds that they are entitled to modify the Shared Information. This ambiguity has resulted in a lack of consensus regarding NRAR’s use of the database. An opportunity to improve the clarity of the data sharing agreements has been noted (OFI 6.20.3-1).

A review of the Data Sharing Agreement between WaterNSW and NRAR is planned before the formal review date to address this and other matters.

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

OFI 6.20.3-1: When the Data Sharing Agreements between WaterNSW and DPIE/NRAR are (separately) reviewed, ensure any clarifications to the terms and conditions which are raised and agreed upon are appended to both agreements.

## Clause 6.20.4

**Table 54. Clause 6.20.4 compliance grade**

Subclause	Requirement	Compliance grade
6.20.4	If by 1 July 2020, Water NSW, DPIE and NRAR have entered into an agreement as required by this clause, clause 6.20.3 applies to that agreement.	No Requirement
<b>Risk</b>	<b>Target for full compliance</b>	
If Data Sharing Agreements are completed before 1 July 2020, clause 6.20.3 is not enlivened by clause 6.20.1.	WaterNSW provides access to the data specified in the Information Sharing Schedule to the Data Sharing Agreements with DPIE and NRAR, and complies with any cure plan in the agreements.	

### Summary of reasons for grade

No Data Sharing Agreements were completed before 1 July 2020

This clause was found No Requirement.

### Discussion and notes

The Data Sharing Agreement between WaterNSW and NRAR was signed on 3<sup>rd</sup> December 2020 (D2020/12632).

The Data Sharing Agreement between WaterNSW and DPIE was signed on 5<sup>th</sup> July 2021 (D2021/38294).

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

## Clause 7.2 – Reporting in accordance with this License and the Reporting Manual

### Clause 7.2.1

**Table 55. Clause 7.2.1 compliance grade**

Subclause	Requirement	Compliance grade
7.2.1	Water NSW must comply with its reporting obligations set out in this Licence and in the Reporting Manual, including in relation to: <ul style="list-style-type: none"> <li>a) water source protection and conservation;</li> <li>b) Bulk Water storage and transmission;</li> <li>c) Performance Standards;</li> <li>d) organisational systems management;</li> <li>e) Customer and stakeholder relations; and</li> <li>f) performance monitoring and reporting including:                             <ul style="list-style-type: none"> <li>i. IPART performance indicators; and</li> <li>ii. the National Water Initiative Performance Indicators.</li> </ul> </li> </ul>	Non-compliant (non-material)
<b>Risk</b>	<b>Target for full compliance</b>	
Without accurate and timely information, there is a risk that the performance of WaterNSW against its Operating Licence requirements will not be known.	Evidence that WaterNSW has provided all of its information for reporting and auditing as set out in the Reporting Manual and on time.	

### Summary of reasons for grade

The following aspects of this clause were found to be non-compliant non-material:

- publicly available reports were not uploaded to the WaterNSW website by the dates specified in the reporting manual
- the contents of the Water Quality Management System Annual Report (2019/20 and 2020/21) did not meet the content requirements in the reporting manual
- the contents of the Annual Report on the Water Conservation Program did not meet the content requirements in the reporting manual
- the contents of the Annual Performance Standards Report did not meet the content requirements in the reporting manual
- the contents of the Compliance and Performance Report on the AMS did not meet the content requirements in the reporting manual.

A non-material grade has been awarded as the deficiency doesn't adversely impact WaterNSW's ability to achieve its regulatory reporting obligations, with required data being collected by WaterNSW and that reports were submitted to the regulators by the required dates.

This clause was found Non-compliant (non-material).

## Discussion and notes

A summary of compliance with reporting dates specified in the reporting manual is shown in Table 56. Non-compliance with the requirement to make the report publicly available by the dates specified in the reporting manual (Table A.1) for the following reports (Recommendation 7.2.1-5):

- Asset Management Report Annual Report
- Environmental Management Report Annual Report
- Customer and stakeholder relations Annual Report
- Annual Catchment Management Report
- Annual Water Quality Monitoring Report.

**Table 56. Compliance with reporting manual dates**

Date	Report to	Reporting on	Reporting Manual Section	Finding
31 March	IPART	Annual report on significant changes	7.15	Evidence was provided that the annual reporting on Significant Changes (D2021/34374) was submitted to IPART on the 31 March 2021 (D2021/34552).
		Annual report on audit recommendations provided by IPART to auditors in audit scope	7.1.3	Annual report on audit recommendations provided by IPART to auditors in audit scope.
1 September	NSW Health IPART	Water Quality Management System Annual Report	2.1.1	The Annual Report on the Water Quality Management System for 2019-2020 (D2020/93804) was submitted to IPART (D2020/96582) and to NSW Health on the 1 September 2020 (D2020/96583)
	IPART Public	Water Conservation Program Annual Report (first due in 2020)	2.1.6	The Annual Report on the Water Conservation Program for 2019-2020 was submitted to IPART on 1 September 2020. However, the report was not uploaded to WaterNSW's website until 2 September 2021 (outside the audit period and following receipt of the auditor questionnaire).
	IPART	Performance Standard Annual Report	4.1.1	The Annual Performance Standards Report was submitted to IPART on 1 September 2020.
	IPART Public	Asset Management Report Annual Report	5.1.1	The Asset Management Report for 2019-2020 (D2020/93804) was submitted to IPART on the 1 September 2020 (D2020/96582).  WaterNSW provided evidence that the report was not uploaded onto the WaterNSW website on the 1 September 2021 (outside the audit scope and following receipt of the auditor questionnaire).

Date	Report to	Reporting on	Reporting Manual Section	Finding
	IPART Public	Environmental Management Report Annual Report	5.1.1	The Environmental Management Report for 2019-2020 (D2020/93804) was submitted to IPART on the 1 September 2020 (D2020/96582).  WaterNSW provided evidence that the report was not uploaded onto the WaterNSW website on the 1 September 2021 (outside the audit scope and following receipt of the auditor questionnaire).
	IPART Public	Customer and stakeholder relations Annual Report	6.1.1	The Customer and Stakeholder Relations Report for 2019-2020 (D2020/93804) was submitted to IPART on the 1 September 2020 (D2020/96582)  Partial compliance WaterNSW provided evidence that the report was not uploaded onto the WaterNSW website on the 1 September 2021 (outside the audit scope and following receipt of the auditor questionnaire).
	IPART	Statement of Compliance <ul style="list-style-type: none"> <li>IPART performance indicators</li> <li>NWI indicators relevant to the Declared Catchment Areas only (except for environment indicators)</li> </ul>	7.1.4 Appendix C	Evidence was provided that the Statement of Compliance was submitted to IPART on the 1 September 2020 (D2020/96582).
1 October	IPART	Annual Reports on: IPART performance indicators (environment) relevant to Declared Catchment Areas only	2.1.4	WaterNSW's data for the IPART performance indicators (environment indicators) relevant to Declared Catchment Areas only was submitted to IPART on 1 September 2020.
		NWI indicators relevant to the Declared Catchment Areas only (environment indicators)	2.1.5	WaterNSW's data for the NWI indicators (environment indicators) was submitted to IPART on 1 September 2020.



Date	Report to	Reporting on	Reporting Manual Section	Finding
30 November	NSW Health/ IPART Public	Annual report on Water Quality Monitoring relevant to Declared Catchment Areas only	2.1.2	The Annual Water Quality Monitoring Report for 2019-2020 was submitted to IPART (D2021/103278) and to NSW Health (D2020/126948) on the 30 November 2020 in accordance with the reporting manual requirement.  The report is accessible via the WaterNSW website, noting as published 2021 (no month noted).
	IPART Public	Annual Report on catchment management relevant to Declared Catchment Areas only	2.1.3	The Annual Report for catchment management relevant for 2019-2020 was submitted to IPART (D2021/103278) on the 30 November 2020 in accordance with the reporting manual requirement.  The report is accessible via the WaterNSW website, noting as published in 2021 (no month noted). The metadata from the pdf of the Annual Report published on the website is dated 12 January 2021.

## Water source protection and conservation

### Water quality management

The WaterNSW Reporting Manual requires that WaterNSW submit an Annual Report on the WQMS to NSW Health and IPART. WaterNSW must use the template in Appendix B of the Reporting Manual to prepare the Annual Report on WQMS. WaterNSW submitted a 2019-2020 Water Quality Management System Annual Report (D2020/93804) to IPART on the 1 September 2020 and reported on activities in the audit period in the 2020-2021 Water Quality Management System Annual Report (submitted on the 1 September 2021 to IPART, provided as evidence in the audit period at the Management Committee on Water Quality, Health and Catchment Protection: 29 July 2021, D2021/82173). These reports followed the template headings specified in Appendix B of the reporting manual.

WaterNSW Reporting Manual requirements for what must be included in the Annual report and how these are met in the 2019/2020 and 2020/2021 Annual Water Quality Management System reports is shown in Table 57. WaterNSW is non-compliant with a number of the requirements for inclusion in an Annual WQMS Report (Recommendation 7.2.1-1).

**Table 57. WQMS report requirements for inclusion**

WQMS Annual report requirement	Are the requirements met in the Annual WQMS Report?		
	19/20	20/21	Discussion
The water quality management activities and programs completed by Water NSW in the financial year to meet its water quality objectives, including the results and outcomes from those activities and programs	Yes	No	Inclusion of reports of management activities and programs are included in the 2019/20 at a high level but not in the 2020/21 WQMS report. WaterNSW advised us that this change was done in relation to actioning a OFI 2.1.1-4 in the 2018 Operational Licence Audit. We note that OFI in question referred to the improvement plan and not the Annual WQMS report. We note that WaterNSW utilises the same formats for both reports and that information is still being recorded in the improvement plan (D2021/82173).
The water quality management activities and programs proposed by Water NSW to meet Water NSW's water quality objectives in the future, including the expected outcomes, scope and timetable for completion	Yes	Yes	Improvement initiatives included in the improvement plan are provided in both the WQMS reports.
An assessment of the performance of critical control points (as identified by the Water Quality Management System) over the long term in accordance with Chapter 10 of the Australian Drinking Water Guidelines or Element 11 of the Australian Guidelines for Water Recycling (as the case may be), or other requirements as specified by NSW Health or IPART	No	No	WaterNSW advised that they consider that this requirement is met through the CCP performance summary included in the Annual Performance Standards Report that is submitted to IPART in the same email. This report is not however submitted to NSW Health. WaterNSW advised that NSW Health receive the Annual Fish River Drinking Water Quality Report which includes CCP performance. WaterNSW reports CCP performance through a range of processes, however the WQMS Annual Report does not include or reference the information, required by the reporting manual.
An assessment of the review and continual improvement conducted over the previous 12-month period (as identified by the Water Quality Management Systems) in accordance with Element 12 of the Australian Drinking Water Guidelines or Australian Guidelines for Water Recycling (as the case may be), or other requirements as specified by NSW Health or IPART	Yes	Yes	Completed improvement initiatives included in the improvement plan are provided in both the WQMS reports.
Any significant changes made to the Water Quality Management System, and	Yes	Yes	The report is structured around the 12 ADWG Elements.

WQMS Annual report requirement	Are the requirements met in the Annual WQMS Report?		
	19/20	20/21	Discussion
			<p>WaterNSW advised that they considered the reporting on the progress of Modelpedia in the 2020/21 annual WQMS report to be reporting on significant changes.</p> <p>The 2019/20 report is silent on significant changes made to the Water Quality Management System; noting that no Significant changes were reported in the March 2021 report to IPART.</p>
Any non-conformances with the Water Quality Management System and the actions taken to resolve them.	No	No	The report is silent on non-conformances.

### Water quality monitoring relevant to the declared catchments

The WaterNSW Reporting Manual requires that WaterNSW submit an Annual Report on Water Quality Monitoring relevant to the declared catchments only.

WaterNSW Reporting Manual requirements for what must be included in the report include:

- summarise the monitoring program developed under the WQMS, including WaterNSW's water quality objectives relating to monitoring and the applicable guidelines for water quality (eg, the Australian Drinking Water Guidelines, or other requirements as approved by NSW Health or IPART)
- summarise the monitoring results and analyse if the results address WaterNSW's water quality objectives. This will include the results of:
  - routine monitoring of the water quality characteristics identified in the WQMS, and
  - non-routine monitoring (event-based and investigative monitoring), including a summary of water quality incidents identified during the financial year and actions taken to resolve, eliminate or mitigate the effect of those incidents, especially to protect public health during the incident; and
- provide information on the integrity of the data reported

We were provided evidence of the Water Quality Monitoring Report 2019-20 and attached appendices. We consider that the report provided meets the requirements of the Reporting Manual.

### Catchment management relevant to the declared catchments only

The WaterNSW Reporting Manual requires that WaterNSW submit an Annual Report on Catchment Management relevant to the declared catchments only.

WaterNSW Reporting Manual requirements for what must be included in the report include:

The Annual Report on Catchment Management must include:

- the planned and actual catchment management and protection activities
- the planned and actual expenditure for each of the catchment management and protection activities
- the planned and actual outcomes for each of the catchment management and protection activities
- identification of program activities in response to the recommendations or findings of the Operational Audit, Catchment Audit, or WaterNSW's research or monitoring programs
- an explanation of the types of catchment research activities and programs undertaken by WaterNSW and the planned and completed catchment research activities, to meet WaterNSW's research objectives
- an explanation of any annual changes in catchment management and protection activities or programs and expenditure
- an explanation of the types of community education activities and programs run by WaterNSW
- the actual (completed) community education activities, and
- any other matter notified by IPART to WaterNSW.

We were provided evidence of the Annual Catchment Management Report 2020 ([https://www.waternsw.com.au/\\_data/assets/pdf\\_file/0004/164353/Annual-Catchment-Management-Report-2019-20.pdf](https://www.waternsw.com.au/_data/assets/pdf_file/0004/164353/Annual-Catchment-Management-Report-2019-20.pdf), accessed 24/11/2021). We consider that the report sighted meets the requirements of the Reporting Manual.

#### Report on IPART Environment Indicators relevant to Declared Catchments only

WaterNSW's data for the IPART performance indicators (environment indicators) relevant to Declared Catchment Areas only was submitted to IPART on 1 September 2020.

#### Annual reporting - Water Conservation Program report

The WaterNSW Reporting Manual requires that WaterNSW submit to IPART an annual report on its progress against the water conservation work program using the process set out in the Water Conservation Strategy.

The WaterNSW Reporting Manual further requires that the report must:

- Describe and explain WaterNSW's progress against implementation (or otherwise) of each of the elements of its program of water conservation activities for the previous financial year
- Include, for the next five financial years:
  - WaterNSW's strategies, programs and projects relating to Water Storage and Transmission
  - Options identified for conserving water within system operating arrangements
  - Comparison of these options
  - Options selected for implementation
- Describe and explain any proposed changes to the water conservation activities
- Outline how WaterNSW's water conservation activities relate to the Metropolitan Water Plan.

The report must be submitted to IPART by 1 September 2020.

As noted in Table 56, WaterNSW submitted to IPART an Annual Report on the Water Conservation Program. The report was submitted on 1 September 2020, as required by the Reporting Manual. However, the report was not uploaded to WaterNSW's website until 2 September 2021, which is outside the audit period and following the receipt of the auditor questionnaire.

We reviewed the content of the Annual Report on the Water Conservation Program for 2019 – 2020. Within the report, WaterNSW has tabulated water conservation actions for the preceding financial year (2019 – 2020) and the next four financial years (2020 – 2021 to 2023 – 2024). For each action, WaterNSW has included the timeframe, post-implementation review timeframe and progress. WaterNSW has also included commentary on proposed changes and/or further improvements.

While the above elements meet some of the requirements of the Reporting Manual, we note that the report:

- Does not outline how WaterNSW's water conservation activities relate to the Metropolitan Water Plan (with "Error! Bookmark not defined" populated against the corresponding section heading in the report table of contents)
- Includes strategies, programs and projects for the next four financial years rather than the next five financial years
- Does not appear to compare options for conserving water within system operating arrangements.

The above are requirements of the Reporting Manual. As such, we do not consider that WaterNSW has met the requirements of the Reporting Manual (Recommendation 7.2.1-2).

### As required reporting

#### Routine water quality monitoring reports

The WaterNSW Reporting Manual requires that WaterNSW must report to its Customers and NSW Health the results of routine water quality monitoring undertaken under the monitoring program that it develops as part of the WQMS. The Reporting Manual states that the reports must include the results of routine monitoring which the monitoring program requires to be reported to WaterNSW's Customers and NSW Health. This requirement is relevant to Customers which are Supplied water from within the Declared Catchment Areas only.

We were provided with monthly reports for Prospect (D2020/133316 December 2020, D2020/133316 February 2021, D2020/133316 March 2021, D2021/70631 June 2021 and D2021/70631 July 2021). These reports reported on results of routine monitoring which the monitoring program requires as discussed in clause 2.1.4. Evidence of the 8 July 2021 Prospect Monthly Report being distributed to Sydney Water via email was provided (D2021/80178, email dated 12 July 2021). The reports provided meet the requirements of the Reporting Manual.

### Incident reporting

The WaterNSW Reporting Manual requires that WaterNSW must report in accordance with the reporting protocols developed in the WQMS and that WaterNSW must report to NSW Health and its Customers immediately if there is an incident where the Bulk Water it supplies poses a risk to human health.

This is audited under clause 2.1.4 Element 6 Incident and emergency response protocols.

### Notification of significant changes

The WaterNSW Reporting Manual requires that WaterNSW must notify IPART and NSW Health of any significant changes that it proposes to make to a WQMS. We were provided evidence of the that this was provided to IPART on the 31 March 2021 (D2021/34552)

### Review of System Yield model relevant to Declared Catchment Areas only

The WaterNSW Reporting Manual requires that WaterNSW submit to IPART a report on the independent review of the modelling and procedures for calculating the System Yield by 30 June 2021. As noted against clause 2.6.3, WaterNSW did not comply with this requirement as it submitted the review report to IPART on 9 August 2021.

### Publicly available documents

WaterNSW must make specified documents available free of charge on its website for downloading by any person. Compliance with this is discussed under Table 56.

### Performance standards

The WaterNSW Reporting Manual requires that WaterNSW submit to IPART an annual compliance and performance report with respect to WaterNSW's performance against the Performance Standards. The Performance Standards are stipulated in clause 4 of the operating licence.

The WaterNSW Reporting Manual further requires that the report includes an explanation of how WaterNSW has complied or not complied with the Performance Standards, which details:

- Major factors (both positive and negative) that have influenced WaterNSW's performance, both within and beyond WaterNSW's control
- Reasons for any variation (both positive and negative) between WaterNSW's performance in the financial year and with performance in prior years.

The report must be submitted to IPART by 1 September 2020.

As noted in Table 56, WaterNSW submitted to IPART an Annual Performance Standards Report for 2019 – 2020. The report was submitted on 1 September 2020, as required by the Reporting Manual.

We reviewed the content of the Annual Performance Standards Report for 2019 – 2020. We observed that, for the majority of the performance standards, WaterNSW has not compared its performance against the standard in 2019/20 with its performance in prior years. For example, WaterNSW has not compared its performance against clause



4.2.3 (Supply Service Interruption Performance Standard) or clause 4.3 (CSR water performance standards) against its performance in prior years.

Similarly, for the majority of the performance standards, WaterNSW either has not detailed major factors (both positive and negative) that have influenced its performance (both within and beyond WaterNSW's control) or has provided brief, high-level and qualitative commentary only. For example, in relation to its performance against clause 4.2.3 (Supply Service Interruption Performance Standard), WaterNSW has provided comments such as "Unplanned – main break at Wallerawang" and "Unplanned – Pipe dug up Glen Davis".

In order to meet the requirements of the Reporting Manual, we would expect to see, for each performance standard, a tabular or graphical comparison of annual performance in the financial year with performance in prior years. We would also expect to see evidence or summaries of underlying or supporting analyses. As WaterNSW has not compared its performance in the financial year with its performance in prior years, and as it has not provided details on major factors (both positive and negative) that have influenced its performance (both within and beyond WaterNSW's control), we do not consider that WaterNSW has met the requirements of the Reporting Manual (Recommendation 7.2.1-3).

### Organisational systems management

The WaterNSW Reporting Manual requires that WaterNSW submit to IPART an annual compliance and performance report on the AMS.

The WaterNSW Reporting Manual further requires that the report includes:

- a summary of the objectives and/or targets of each management system
- the activities and programs completed by WaterNSW in the financial year to meet the objectives and targets of each management system
- the results and outcomes from those activities and programs
- the activities and programs proposed to be undertaken by WaterNSW to meet the objectives and targets of each management system in the future, including the timetable for completion and proposed performance measures
- any significant changes made to each management system
- any major non-conformities in each management system and the actions taken to resolve those non-conformances.

The report must be submitted to IPART by 1 September 2020.

As noted in Table 56, WaterNSW submitted to IPART a Compliance and Performance Report on the AMS for 2019 – 2020. The report was submitted on 1 September 2020, as required by the Reporting Manual. However, the report was not uploaded to WaterNSW's website until 1 September 2021, which is outside the audit period and following the receipt of the auditor questionnaire.

We reviewed the content of the Compliance and Performance Report on the AMS for 2019 – 2020. We observed that the structure of the report aligns with the requirements of the Reporting Manual, with a separate section included for each requirement. We also observed that the "Activities and Programs" and "Results and Outcomes" sections



are structured to align with the asset management objectives summarised at the beginning of the report.

However, we note that it is not clear from the report as to whether WaterNSW has met the performance measures corresponding to its asset management objectives, and how the activities and programs it has implemented in the financial year have contributed to meeting or not meeting these performance measures. Additionally, for activities and programs proposed to be undertaken by WaterNSW, the report does not include the timetable for completion or proposed performance measures, which are required by the Reporting Manual. As such, we do not consider that WaterNSW has met the requirements of the Reporting Manual (Recommendation 7.2.1-4).

### Customer and stakeholder relations

The WaterNSW Reporting Manual requires that WaterNSW submit to IPART an annual compliance and performance report on its customer and stakeholder relations.

The WaterNSW Reporting Manual further requires that the report includes:

- the activities of the Customer Advisory Group in the financial year including:
  - the activities and achievements of the customer advisory group; and
  - the compliance of the Customer Advisory Group with the Customer Advisory Group Charter
- any systemic problems arising from Complaints and the action taken to resolve them
- any proposed significant changes to:
  - the Customer Advisory Group Charter referred to in clause 6.6 of the Licence
  - the Customer Service Charter referred to in clause 6.7 of the Licence
  - the Code of Practice on payment difficulties referred to in clause 6.8 of the Licence
  - the Internal Complaints Handling Procedure referred to in clause 6.9 of the Licence
  - the External Dispute Resolution Scheme referred to in clause 6.10 of the Licence
- The following information:
  - total number of Customers by category (Supply and CSR) for each scheme or area
  - the number of requests by Customers for assistance with paying Bills, including which area or scheme they are located in
  - the number of Customers in receipt of assistance with paying Bills, including which area they are located in
  - the number of licences and entitlements suspended under the Water Management Act 2000 or the Water Act 1912
  - total number of licences administered by WaterNSW, and
  - the number of approvals suspended under the Water Management Act 2000.

The report must be submitted to IPART by 1 September 2020.

As noted in Table 56, WaterNSW submitted to IPART an Annual Customer and Stakeholder Relations Report for 2019 - 2020. The report was submitted on 1 September 2020, as required by the Reporting Manual. However, the report was not

uploaded to WaterNSW's website until 1 September 2021, which is outside the audit period and following the receipt of the auditor questionnaire.

We reviewed the Annual Customer and Stakeholder Relations Report for 2019 – 2020. We observed that the structure of the report aligns with the requirements of the Reporting Manual, with a separate section included for each requirement. We confirmed that the report meets the requirements of the Reporting Manual.

### Performance monitoring and reporting

The WaterNSW Reporting Manual requires that WaterNSW submit to IPART a compliance and performance report on WaterNSW's performance against the performance indicators set out in Appendix C of the Reporting Manual. The Reporting Manual does not set out mandatory content requirements for the report. The report must be submitted to IPART by 1 September 2020. WaterNSW provided evidence that this report was submitted, as required.

The WaterNSW Reporting Manual also requires that WaterNSW submit to IPART a compliance and performance report on the National Water Initiative indicators (excluding environment indicators) for all water Supplied from the Sydney Catchment Area (unless reported to another regulator). The Reporting Manual does not set out mandatory content requirements for the report. The report must be submitted to IPART by 1 September 2020. WaterNSW's data for the NWI indicators was submitted to IPART on 1 September 2020.

### Recommendation

Recommendation 7.2.1-1: By 1 September 2022, WaterNSW must ensure that the Annual Water Quality Management Report meets the requirements of the Reporting Manual.

Recommendation 7.2.1-2: By 1 September 2022, WaterNSW must ensure that the Annual Report on the Water Conservation Program meets the requirements of the Reporting Manual.

Recommendation 7.2.1-3: By 1 September 2022, WaterNSW must ensure that the Annual Performance Standards Report meets the requirements of the Reporting Manual.

Recommendation 7.2.1-4: By 1 September 2022, WaterNSW must ensure that the Compliance and Performance Report on the AMS meets the requirements of the Reporting Manual.

Recommendation 7.2.1-5: By 30 June 2022, WaterNSW must establish processes to ensure that documents to be made publicly on the website meet the dates requirements in Appendix A of the Reporting Manual.

### Opportunities for improvement

OFI 7.2.1-1: WaterNSW should ensure that all aspects required to be reported in accordance with the Reporting Manual are included, even if there are no occurrences or changes.

## Clause 7.2.2

**Table 58. Clause 7.2.2 compliance grade**

Subclause	Requirement	Compliance grade
7.2.2	Water NSW must maintain sufficient record systems that enable it to report accurately in accordance with clause 7.2.1.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Without accurate and timely information, there is a risk that the performance of WaterNSW against its Operating Licence requirements will not be known	Evidence that WaterNSW has in place sufficient record systems for reporting.	

### Summary of reasons for grade

We consider that WaterNSW has maintained sufficient record systems to enable it to report accurately in accordance with clause 7.2.1.

This clause was found Compliant.

### Discussion and notes

This clause requires that WaterNSW maintain sufficient record systems to enable it to report accurately in accordance with Clause 7.2.1.

WaterNSW utilise ARK as its Records Management System (HP Trim). WaterNSW advised that when a new version of a document is created and actioned for review, it is labelled in ARK as 'UNDER REVIEW' and placed in a container for draft documents. It is actioned to the reviewer and not published on the intranet until it is approved. When the new version of the document is approved, the old document is labelled 'OBSOLETE' and moved to a secure container. The new version will then be published to the intranet.

Assurance that WaterNSW is actioning document reviews is provided in the management systems surveillance audit from June 2021 which notes that "a dashboard was sighted and there was an overall reduction of overdue documents in excess of 50%.

We were provided with a variety of evidence for this clause, including monitoring reports, emails to regulators and internal emails, meeting minutes and screenshots of ARK document control. Details of these records are noted in clause 7.2.1.

We were provided with a demonstration of ARK in the audit interviews (discussed under clause 2.1.2, 2.1.3 and 2.1.4).

### Recommendation

There are no recommendations for this clause.

### Opportunities for improvement

There are no opportunities for improvement for this clause.

### 3 Previous Recommendations

#### Recommendation 2018-20: Roles and Responsibilities with Department of Industry clause 6.16.1

Item	Detail
IPART's recommendation to the Minister	By 31 December 2019, Water NSW should review the roles and responsibilities in the Deed of Business Transfer (or the most recent variation of the Deed) for the conduct of the Conferred Functions specified in Schedule A of the licence, to clarify and confirm the roles and responsibilities with the Department of Industry – Water, and ensure it remains current in light of changes to the conferred functions.
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	In the 2020 audit, the auditor was satisfied with Water NSW's efforts, but due to water reform being undertaken at a state level this recommendation is not yet closed. The most recent Deed of Business Transfer is still in force. Status reported 7 June 2021: In progress The Roles and Responsibility Agreement is a tripartite agreement between WaterNSW, DPIE and NRAR. The agreement is being coordinated by DPIE through an inter-agency working group. Drafts of the agreement and related schedules have been circulated and commented on by the various stakeholders. The current working deadline for the working group is implementation by 30 June 2021 following the extension to the current deed of business transfer to that date.
IPART guidance	Auditor to check for completion.
Audit finding	The Roles and Responsibilities Agreement (RRA) was executed by WaterNSW, Water Administration Ministerial Council, DPIE-W and NRAR on 30 June 2021. We sampled the document and were satisfied that it addressed the Conferred Functions specified in Schedule A of the licence.
Recommendation status	This recommendation is closed

## Recommendation 2019-02: Water Quality Management System clause 2.1.3

Item	Detail
IPART's recommendation to the Minister	By 30 September 2020, Water NSW should identify the minimum qualifications and competencies for personnel operating water treatment processes and incorporate these into the training processes such as the 'Mandatory Training Matrix'. The minimum qualifications and competencies should be based on industry standards such as Water Industry Operator Certification Scheme or a substantially similar scheme
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>In the 2020 audit, the auditor considered that Water NSW's approach to use DPI's minimum qualifications and competencies and fluoridation training was sound. Water NSW noted that it was in the final stages of completing this recommendation where it was incorporating the training into its internal "myLearning" system.</p> <p>Status reported 7 June 2021: Complete</p> <p>Training requirements have been completed. For each module, each operator has the module included in their learning plan in LMS and marked as completed. In each case, the training record has a copy of the relevant training record (statement of attainment or similar) attached.</p>
IPART guidance	Auditor to check for completion or progress
Audit finding	<p>A Learning Management System (LMS) report was provided that showed 3 operators had completed</p> <ul style="list-style-type: none"> <li>• Fluoridation of public water supplies</li> <li>• Water Treatment Operator Part 1 - Chemical Dosing Systems</li> <li>• Water Treatment Operator Part 2 - Water Treatment Operations</li> </ul>
Recommendation status	This recommendation is closed

## Recommendation 2020-01: Water Quality Management System clause 2.1.1

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, complete the review (and revision as appropriate) of the Water Quality Incident Response Protocol
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	In progress The revised document, CD2004/183[v4], has been sent to key stakeholders for review and any comments. The Water Quality Incident Response Protocol is on track to be approved and implemented.
IPART guidance	Auditor to check for completion
Audit finding	<p>WaterNSW provided evidence that they reviewed and updated the Water Quality Incident Response (CD2004/183, v4, published 5 July 2021) and the document is in use. The protocols are dated June 2021, we note that they were published on the 5 July 2021 after the recommendation due date (D2021/107553 screenshot of document control records in ARK).</p> <p>The Water Quality Incident Response Protocol was provided to NSW Health, WSC, Goulburn, Sydney Water and Shoalhaven for comment (D2021/104378, email dated 25 January 2021). Meeting minutes were provided as evidence of NSW Health review of the protocols (D2021/75958, workshop 30 June 2021).</p> <p>Evidence that the Water Quality Incident Response was distributed to stakeholders include:</p> <ul style="list-style-type: none"> <li>Finalised document was provided to NSW Health (D2021/107913, email, dated 9/7/2021).</li> <li>Email to internal stakeholders, advising of updated document, 19 July 2021 (D2021/104353)</li> <li>Finalised document was provided to Sydney Water (D2021/107915, email, dated 26/7/2021)</li> <li>Calendar invite to Teams 'familiarisation session' for the protocols on the 29 July 2021 (D2021/107550)</li> </ul>
Recommendation status	This recommendation is closed

## Recommendation 2020-02: Water Quality Management System clause 2.1.3

Item	Detail
IPART's recommendation to the Minister	<p>By 31 July 2021, review and, where appropriate, amend the Fish River Water Supply Scheme Drinking Water Quality Management System against each of the 12 elements, 32 components and 76 actions of the Framework for Management of Drinking Water Quality. Water NSW should document reviews and internal audits in the updated system at intervals appropriate to ensure effective implementation of the system. Water NSW should review and update supporting documentation for currency, including:</p> <ul style="list-style-type: none"> <li>• Fish River Water Supply System operations and maintenance manual</li> <li>• Operating Protocols for Fish River Water Supply (CD2017/173)</li> <li>• Fish River Water Supply Scheme Incident Management Plan (D2018/116921).</li> </ul>
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>In progress</p> <p>Reviewed against the ADWG for elements 1, and 7-12. More detail and process mapping underway for remaining elements and on track for completion by 31 July 2021.</p> <p>Hunter H2O have been engaged to consolidate and develop a new Operations and Maintenance manual for the Duckmaloi Water Treatment Plant. An order was issued on 20 May 2021 for this work to be carried out. The current estimated completion date of this work is the middle of July 2021.</p> <p>Currently on track for completion within due date.</p> <p>We have started reviewing the operating protocols. Currently awaiting updated contact details from Lithgow City Council after recent changes to personnel.</p>
IPART guidance	Auditor to check for completion



Item	Detail
Audit finding	<p>WaterNSW undertook a review of the Fish River DWMS against the ADWG, combining it with their overarching WQMS into the on-line Modelpedia format. This system became the WQMS in force on the 31 August 2021 (D2021/107012). The auditors were provided external access to the system.</p> <p>Evidence was provided that the Operating Protocols for Fish River Water Supply (CD2017/173) was updated during the audit period. We sighted the document control for the in ARK, with a 29 June 2021 finalisation date. Changes included updated contact details and captured learnings from previous incidents.</p> <p>The WQMS Audit Program (D2017/87415) appropriately records internal audit, system audit and process health check frequency with tracking of the previous year's audits, planned audits and deferred audits. This document meets the requirement of the recommendation to document reviews and internal audits in the updated system at intervals appropriate to ensure effective implementation of the system.</p> <p>Evidence was provided that the Fish River Water Supply Scheme Incident Management Plan (D2018/116921) were updated during the audit period. We sighted in the ARK system document control that it was finalised and published on 29 June 2021.</p> <p>While an O&amp;M Manual had been developed and accepted as a controlled document, there were numerous errors. This document should be reviewed for technical accuracy and ground-truthed by operational.</p>
Recommendation status	<p>Part of this recommendation is still open. We suggest this recommendation is updated to:</p> <p>By 30 September 2022, finalise the FRWS System operations and maintenance manual including the supporting SOPs and maintenance requirements.</p>

## Recommendation 2020-03: Water Quality Management System clause 2.1.3

Item	Detail
IPART's recommendation to the Minister	<p>By 30 June 2021, Water NSW should engage with NSW Health Local Health Department (LHD) to determine the appropriate mechanisms for stakeholder commitment and engagement with them, including:</p> <ul style="list-style-type: none"> <li>• Reporting on the annual review of the drinking water management system</li> <li>• Routine reporting on the distribution system water quality</li> <li>• Notification requirements when water quality cannot be assured (including instrumentation failure)</li> </ul>
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>In progress</p> <p>Engagement - WaterNSW has a MoU with NSW Health which covers both Greater Sydney and the Fish River supply system. The MoU is currently under review and has been revised to better describe the mechanism for engaging with LHD. Quarterly Joint Operational Group (JOG) meetings have been established for the Fish River system involving the Nepean Blue Mountains LHD with Lithgow and Oberon Councils. Meetings have been held in February and May 2021.</p> <p>Reporting - Annual reports on water quality performance in Fish River are already provided to NSW Health, monthly performance reports including distribution system water quality performance, have been provided to NSW Health for feedback on scope and format.</p> <p>Notification requirements as per WQ incident response protocol - required notifications were discussed with NSW Health at the 11 May 2021 JOG meeting and will be captured in CCP tables and Water Quality Incident Response Protocol.</p> <p>The Fish River system has been specifically mentioned under notification of events of public health significance in the revised draft MoU.</p>
IPART guidance	Auditor to check for completion
Audit finding	<p>Water NSW provided evidence of ongoing consultation with NSW Health on reporting requirements occurred throughout the reporting period. Feedback was received on the format of the monthly reports and incorporated in the July report.</p> <p>Notification requirements were discussed at the Fish River JOG and captured under the CCP tables.</p> <p>We were provided evidence that WaterNSW advised NSW Health that they were planning to adopt a NSW Health Template for the FRSW Annual report. Feedback for the annual report for the 20-21 reporting has been requested from PHU and LCC on format and contents.</p>
Recommendation status	This recommendation is closed

## Recommendation 2020-04: Water Quality Management System clause 2.1.3, Water Supply clause 3.2.1

Item	Detail
IPART's recommendation to the Minister	<p>By 30 September 2021, Water NSW should:</p> <ul style="list-style-type: none"> <li>Review the Fish River Water Supply System verification monitoring program to align with the monitoring that is being undertaken in the field and the requirements of the Australian Drinking Water Guidelines. NSW Health should be consulted to confirm the verification program aligns with their advice.</li> <li>Review the implementation of the Fish River Water Supply System verification monitoring program to ensure that testing is undertaken in accordance with the monitoring plan.</li> <li>Establish review and reporting processes to confirm and report compliance with the monitoring program (e.g. reporting should verify the number of samples taken).</li> </ul>
Audit findings & status	<p>Status reported 7 June 2021:</p> <p>In progress</p> <p>The Fish River verification monitoring program was reviewed against the requirements of ADWG and reflected in the new Water Monitoring Program (draft completed and submitted for internal stakeholder review). WaterNSW also revised the combined microbiological verification program with Lithgow Council and provided to LHD for feedback and discussed during the May JOG meeting. LHD supported the revised program.</p> <p>Final verification monitoring program (chemical and microbiological) to be finalised under the Water Monitoring Program (CD2011/179) currently under internal review. To be provided to NSW Health in June 2021 for feedback. On track for finalisation before 30 September 2021.</p> <p>Compliance with the monitoring program (samples collected versus scheduled) is included in monthly reports from May 2021</p>
IPART guidance	Auditor to check for completion or progress

Item	Detail
<p>Audit finding</p>	<p>Sufficient evidence was provided that the Fish River verification monitoring program has been reviewed and the program implemented.</p> <p>The review of the Fish River verification monitoring is recorded in the Proposed microbiological verification monitoring program frequencies (D2021/54925) paper. This paper references ADWG requirements, system configurations, zone populations and recommends a proposed monitoring program.</p> <p>Fish River Water Monitoring Program- minutes (D2021/107277, 29 June 2021) was provided as evidence of an internal review of monitoring program.</p> <p>Evidence was provided of engagement with NSW Health on the proposed changes:</p> <ul style="list-style-type: none"> <li>• JOG Meeting minutes 11 May 2021 (D2021/58547) – Item 3, discussion of proposed network monitoring</li> <li>• Emails chain, including emails on the 10, 17 and 18 August, WaterNSW and NSW Health (D2021/107952) – Provision of paper to NSW Health, NSW Health comments and WaterNSW response</li> </ul> <p>The monitoring program (Water Monitoring Program (CD2011/17, version 7) was provided as evidence that the changes to monitoring plan had been incorporated.</p> <p>WaterNSW advised that monitoring was implemented for the Fish Reiver Scheme in August 2021. We sighted the August 2021 (D2021/100788) monitoring report for Fish River, with the weekly sampling requirement sample numbers matching that in the plan.</p> <p>We were provided with the June (D2021/81887), July (D2021/94936) and August 2021 (D2021/100788) monitoring reports. These reports include the program count and the number of samples taken as evidence of review and reporting processes to confirm and report compliance with the monitoring program.</p>
<p>Recommendation status</p>	<p>This recommendation is closed</p>

## Recommendation 2020-05: Water Quality Management System clause 2.1.4

Item	Detail
IPART's recommendation to the Minister	<p>By 31 July 2021, Water NSW should undertake a risk and Critical Control Point (CCP) review workshop for the Fish River Water Supply Stage 1 system (using D2019/30124) with key stakeholders, including the NSW Health LHD, with outcomes reviewed by relevant senior executives.</p> <ul style="list-style-type: none"> <li>The risk assessment should have a sound evidence base for the effectiveness of the preventive measures (including how effectively they are implemented).</li> <li>The risk assessment should explicitly consider the risk of contamination of the treated water by raw water leaking through the valves connecting Stage 1 and Stage 2.</li> <li>For the CCPs, the risk assessment should consider (1) the adequacy of the limits chosen, (2) validation for the limits chosen, (3) the monitoring points, (4) corrections and formalisation of procedures and (5) communication triggers with the NSW Health LHD for non-conformance or CCP instrumentation failure</li> </ul>
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>In progress</p> <p>Risk Assessment - a C2C workshop was held in November 2020 with LHD, Oberon City Council and Lithgow City Council, in line with D2019/30124 procedure. A follow up workshop was held on 31 May 2021. A summary of risk assessment activities and outcomes is included in quarterly trend analysis reports to Senior Executive and Board committee members. The risk of contamination of the treated water by raw water leaking through the valves connecting stage 1 and stage 2 has been moved from a potential cause for a contamination event to a specific hazardous event with causes, controls and uncertainty reviewed during the risk assessment. The risk assessment included consideration of the level of uncertainty for each hazardous event (including effectiveness of controls, consequences and likelihood). Items where further action was required to reduce uncertainty were discussed and will be included in the Water Quality Improvement Plan.</p> <p>CCPs- CCP workshop held on 11 May 2021 with NSW Health, Lithgow City Council and Oberon City Council.</p> <p>Presented and discussed Fish River CCPs and OCPs, including the adequacy of the limits chosen, validation for the limits chosen, the monitoring points, corrective actions procedures and communication triggers with the NSW Health LHD for non-conformance or CCP instrumentation failure. NSW Health suggested that operational monitoring in the reticulation to be considered as OCP and this feedback has been incorporated. In addition, revised CCPs and OCPs (and supporting information) are also included under the new Water Quality Incident Response Protocol and Fish River Water Quality Management System.</p>
IPART guidance	Auditor to check for completion

Item	Detail
Audit finding	<p>Sufficient evidence has been provided to show that WaterNSW undertook a risk and CCP review workshop for the FRWS with key stakeholders prior to the 31 July 2021.</p> <p>Risk assessment workshops were held for the FRWS in November 2020 and May 2021, evidence included:</p> <ul style="list-style-type: none"> <li>• D2020/130067, dated 9 December 2020, email to workshop participants, with the post November 20220 risk register</li> <li>• D2020/131272 November 2020 risk assessment workshop meeting minutes</li> <li>• D2021/89413 Fish River C2C Risk Assessment Workshop – minutes, 31 May 2021</li> <li>• D2021/80906 C2C 5 Year risk review – Risk Register</li> </ul> <p>We note that the risk register assessed the hazardous event 'Ingress of contaminants through raw water entering through the valves connecting Stage 1 and Stage 2'. The risk assessment included consideration of the level of uncertainty for each hazardous event</p> <p>WaterNSW advised that the assessment of risk was undertaken with the technical experts in the room.</p> <p>Evidence was provided that CCPs were reviewed at the May 2021 workshop (D2021/89413). We were provided with updated CCP for the FRWS (D2021/52340) that included a section on the 'Validation of Critical Control Points for Oberon Dam and Duckmaloi Water Filtration Plant' that include protocols and triggers for communication with NSW Health.</p>
Recommendation status	This recommendation is closed.

## Recommendation 2020-06: Water Quality Management System clause 2.1.4

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should develop and implement change management processes for the CCP alarms. These processes should establish who has the authority to raise the alarms above the critical limit and the incident procedures to be enacted when this change is made
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>The CCPs have been modified in ClearSCADA so that they can no longer be changed by SCADA users. This modification was made in November 2020. These setpoints can only be changed by BSI SCADA Administrators in the Operational &amp; Maintenance; Asset Infrastructure Team. Changes to those setpoints can be requested by the business through the existing ServiceNOW SCADA Alarm Change request form, which has a workflow for management approval.</p> <p>Additional works to update the SCADA change management procedure and to add some metadata to the CCP points in ClearSCADA to ensure this extra approval step is always followed will be completed in June.</p>
IPART guidance	Auditor to check for completion

Item	Detail
Audit finding	<p>WaterNSW advised that they had modified CCPs in ClearSCADA so that they can no longer be changed by SCADA users. We viewed SCADA at the Duckmaloi WTP during the site visit and confirmed that the turbidity critical limits were unable to be changed.</p> <p>We viewed evidence that WaterNSW updated the SCADA Configuration &amp; Change Management Procedure by the 30 June 2021(D2016/67172, June 2021)</p> <p>We were provided with evidence a screenshot of the SCADA alarm change request in the myWaterNSW system (D2021/108040). A completed SCADA CCP change request form (D2021/116979, dated 8 April 2021) was provided as evidence of implementation of the CCP change procedure. The limits were for a change request for the turbidity CCP at Duckmaloi WTP. The limits in the form were consistent with that viewed on site.</p>
Recommendation status	This recommendation is closed.

## Recommendation 2020-07: Water Quality Management System clause 2.1.4

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should clarify how targeted risk reviews are undertaken, if the C2C (Catchment to Consumer) process (D2019/30124) does not apply. If the C2C process does apply, ensure that the scope of the process is changed to make this clear
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>Complete</p> <p>Process mapped in Modelpedia specifies need to establish scope of risk assessment and the details and process steps to be included for targeted versus full risk assessments.</p>
IPART guidance	Auditor to check for completion
Audit finding	<p>WaterNSW advised that procedure Document C2C (Catchment to Consumer Process) (D2019/30124) is no longer in use, we confirmed that it was marked as obsolete in their system.</p> <p>WaterNSW developed new procedures to conduct (CD2021/92 Conduct Catchment-to-Customer (C2C) Risk Assessments) and approve (D2021/94 Approve Catchment-to-Customer (C2C) Risk Assessments) a risk assessment. The approval date for Approve Catchment-to-Customer (C2C) Risk Assessments) risk assessments (CD2021/94) was sighted in ARK as the 9 August 2021.</p> <p>The Conduct Catchment-to-Customer (C2C) Risk Assessment procedure includes a process step to 'Determine Scope of Risk Reviews' that includes when targeted risk reviews are required. The procedure states 'Full Catchment 2 Customer risk assessments should be conducted periodically or if there is a significant change to the risk assessment process or to the supply system ... A targeted risk review may be limited to new hazard events or revising the assessment of specific existing hazard events in relation to new processes, assets or conditions (such as when responding to an incident).'</p>
Recommendation status	This recommendation is closed



## Recommendation 2020-08: Water Quality Management System clause 2.1.4

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should ensure that all relevant roles with responsibility for assembling inputs, collating outputs and contributing in a key manner to the water quality risk assessments, are trained in the requirements of process [Water NSW ref.D2019/30124] (all inputs, steps and outputs).
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	Complete At the start of each risk assessment workshop WaterNSW will go over the procedure to ensure participants are familiar with the relevant steps. This requirement is now incorporated under the process as mapped in Modelpedia.
IPART guidance	Auditor to check for completion
Audit finding	WaterNSW advised that risk participants are provided with an overview of the risk assessment procedure at the start of each risk assessment. This requirement is included in the Conduct Catchment-to-Customer (C2C) Risk Assessment procedure (CD2021/92). Evidence of this being implemented is included in the May 2021 Fish River System C2C Risk Assessment Workshop - minutes (D2021/89413). WaterNSW advised that external facilitators are not used and that the staff conducting the risk assessments were involved in the development of the Conduct Catchment-to-Customer (C2C) Risk Assessment procedure and have not therefore been trained separately in the procedure. This is considered adequate.
Recommendation status	This recommendation is closed.

## Recommendation 2020-09: Water Supplied Performance Standards clause 4.2.2, Water Supply clause 3.2.1

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should review the appropriateness of CCP analysers at Duckmaloi Water Treatment Plant to ensure that they provide a reliable measurement of turbidity and chlorine residual.
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	In progress Hunter H2O have been retained to develop a proposal to improve the reliability of the analysers at the Duckmaloi Water Treatment Plant. Options have been identified and orders are in the process of being placed. Based on the current schedule, sourcing, installation including completing relocation of lines to new analysers will be completed by the end of June 2021.
IPART guidance	Auditor to check for completion

Item	Detail
Audit finding	<p>HunterH2O visited Duckmaloi WTP to review the instruments selection and configuration and concluded that:</p> <ul style="list-style-type: none"> <li>• Online water quality instrumentation reliability and accuracy appears to be compromised by sample line and instrument fouling, and</li> <li>• The online water quality instruments utilised to measure turbidity and free chlorine residuals on unfiltered water samples are not fit for purpose, alternatives are available that offer improved performance and robustness and are less reliant on operator intervention for reliable operation.</li> </ul> <p>HunterH2O have been engaged to procure upgraded water quality instruments at Duckmaloi WTP (PO00014194)</p> <ul style="list-style-type: none"> <li>• Oberon Raw Turbidity, pH and Free Chlorine</li> <li>• Duckmaloi Weir Turbidity and pH</li> <li>• UF Filtrate Turbidity</li> </ul> <p>We were provided a separate proposal from Hunter H2O to mount the above instruments optimising existing sample water lines from the clear water balance tank to removing flow restrictions, equipment redundancies and provide line flushing arrangements.</p> <p>The new analysers are not yet installed. The work was delayed by COVID-19 travel restrictions arising from “stay at home” orders imposed on Greater Sydney and Hunter Valley LGAs. It is expected that installation will be permitted and completed by November 2021.</p>
Recommendation status	This recommendation remains open.

## Recommendation 2020-10: Water Supplied Performance Standards clause 4.2.2

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should review and update operational forms at Duckmaloi Water Treatment Plant to improve record keeping of operational data, including the time of data sampling and any actions taken to manage operational issues at the plant.
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>In progress</p> <p>Data is currently collated electronically in spreadsheets. Due to changes made in server configuration, this is only visible locally at the plant. The process is now being updated to make files available in SharePoint to ensure the Water Quality team has visibility and access to all collected data. The spreadsheet used for data collection is being updated to improve ease of use and data review. On track for completion, with relevant staff to be taken through the updated process in mid-June 2021.</p>
IPART guidance	Auditor to check for completion

Item	Detail
Audit finding	WaterNSW has updated the operational forms at Duckmaloi (Duckmaloi WTP Daily Data Sheet) however the sheets do not include the time of sampling. This information is entered into the excel file Duckmaloi daily data sheet 2021 (2020-10 – 4.2.2. D2021/106283). The spreadsheet has a column for time and a tab to record exceptions. This meets the requirements of the recommendation. We discuss opportunities for improvement in Clause 2.1.4.
Recommendation status	This recommendation is closed.

## Recommendation 2020-11: CSR Water Performance Standard A clause 4.3.2

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should develop and implement procedures for reporting in line with CSR Water Performance standards under clause 4.3 of the Licence. These should (1) define the performance measure, (2) set out inclusions and exclusions and (3) include the process for reviewing, and, (4) where required, revising, the data for reporting against the performance standards, the overall calculation and any review and approval requirements.
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	In progress Draft procedure completed and with Manager Customer Experience for review/approval before transforming to Controlled Document prior to 18 June 2021.
IPART guidance	Auditor to check for completion
Audit finding	WaterNSW has developed IPART CSR Reporting Procedure - Operating Licence Clause 4.3 (ARK Reference CD2021/61). WaterNSW provided to us a copy of this procedure, as well as screenshots from ARK, WaterNSW's document management system, demonstrating that the procedure was reviewed, approved and published prior to 30 June 2021.  WaterNSW advised that the procedure formally documents existing practice, rather than introducing new procedures for its staff. Therefore, we consider this recommendation to be complete.
Recommendation status	This recommendation is closed

## Recommendation 2020-12: Customer Supply Agreements – Customers other than Sydney Water clause 6.1.2

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should (1) consult with NSW Health to identify the most appropriate information in the Australian Drinking Water Guidelines that applies to the Fish River Filtered Water Supply and (2) amend the customer Supply Agreement to cover the obligations that have been agreed by consensus between Water NSW and NSW Health.

Item	Detail
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>Complete</p> <p>Feedback from NSW Health on proposed wording sought via email and discussed during Fish River JOG on 11 May 2021. Email re-sent to Public Health Unit and NSW Health water unit following the discussions with amended wording. Response from the Public Health Unit with endorsement received on the same date.</p> <p>Legal have finalised the water quality changes as agreed between WaterNSW and NSW Health. The final copy of the agreement has been circulated to stakeholders and the new version updated on the website.</p>
IPART guidance	Auditor to check for completion
Audit finding	<p>The updated minor consumer agreement for filtered water on the Fish River was sighted on the WaterNSW website (<a href="https://www.waternsw.com.au/__data/assets/pdf_file/0019/122860/2020-2021-Agreement-for-the-Supply-of-Water-Minor-Consumer-Agreement-Filtered-Water-Fish-River.pdf">https://www.waternsw.com.au/__data/assets/pdf_file/0019/122860/2020-2021-Agreement-for-the-Supply-of-Water-Minor-Consumer-Agreement-Filtered-Water-Fish-River.pdf</a>)</p> <p>We were provided evidence that WaterNSW consulted with NSW Health on the amended wording in the agreement (D2021/58547 FR JOG meeting minutes 11 May 2021, and D2021/108039 RE: FRWS JOG - Action - Minor Consumer Agreement wording - feedback NSWH).</p>
Recommendation status	This recommendation is closed

## Recommendation 2020-13: Customer Advisory Group Charter clause 6.6.2

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should undertake a review of its Customer Advisory Group Charter to document matters that should be referred.
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>Complete</p> <p>The Customer Advisory Group Charter was approved by the Chief Executive Officer and updated as a controlled document on 20 April 2021.</p>
IPART guidance	Auditor to check for completion
Audit finding	<p>Version 5 of the Charter has been updated to include the following text (in italics) under the sub-heading of "role":</p> <p>"Customer Advisory Groups provide a forum for WaterNSW to regularly consult, on an area basis, with a broad cross-section of our customers on issues, including but not limited to: system operations; pricing; asset operations and maintenance; WaterNSW involvement in Government programs; customers and stakeholder engagement; and other issues relevant to our performance and delivery of services to customers".</p>
Recommendation status	This recommendation is closed

## Recommendation 2020-14: Customer Advisory Group Charter clause 6.6.2

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should complete its review of Water NSW's Customer Advisory Group Charter to document procedures for proposing and progressing an amendment to the Charter.
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	Complete The Customer Advisory Group Charter was approved by the Chief Executive Officer and updated as a controlled document on 20 April 2021.
IPART guidance	Auditor to check for completion
Audit finding	Version 5 of the Charter has been updated to provide more detail on the process for advising and considering amendments (in italics). This amendment was proposed at the time of the 2019/20 audit but was not in place until this audit period:  "Within the term of a Customer Advisory Group, WaterNSW and Customer Advisory Groups may propose amendments to the Charter, which to be effective, require the approval of both parties. Proposed amendments should be emailed to <a href="mailto:cag.support@waterNSW.com.au">cag.support@waterNSW.com.au</a> and will tabled at the next Customer Advisory Group meeting round for discussion and consideration by WaterNSW and all Customer Advisory Groups."
Recommendation status	This recommendation is closed

## Recommendation 2020-15: Code of Practice on Payment Difficulties clause 6.8.2

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should amend its Code of Practice on Payment Difficulties to include procedures for identifying the circumstances under which Water NSW may restrict the provision of services to a customer including the minor/retail customers who are able to be disconnected for non-payment of services.
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	In progress Updates have been made and an amended Code of Practice on Payment Difficulties prepared for Board approval at the June 2021 meeting.
IPART guidance	Auditor to check for completion
Audit finding	Version 5 of the Code has been extended to include the circumstance for customers that are not a water licence holder which covers the minor/retail customers:  "If you are not a holder of a water licence, we may disconnect your water supply, per your agreement with us."
Recommendation status	This recommendation is closed.

## Recommendation 2020-16: Internal Complaints Handling Procedure clause 6.9.1

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should establish a Complaints Management Policy in accordance with the requirements.
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	Complete Amended Policy approved by Board Committee in late 2020 - document CD2020/119 Feedback Compliments and Complaints Policy.
IPART guidance	Auditor to check for completion
Audit finding	WaterNSW has developed a Complaints Management Policy to meet the requirement of clause 6.3 of the Australian Standard AS/NZS 10002:2014: Guidelines for complaints management in organizations. The policy has been made consistent with guidance from Service NSW and is structured around the lifecycle of a complaint and the potential interaction between WaterNSW and the complainant. The policy includes a clear commitment from WaterNSW to handle complaints fairly, effectively and efficiently. We found the principles in the policy to be sound and well articulated. We consider that the policy meets the requirements of the Australian Standard.
Recommendation status	This recommendation is closed.

## Recommendation 2020-17: Internal Complaints Handling Procedure clause 6.9.1

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should undertake a review of its Complaints Handling and Compliments Procedure to ensure: <ul style="list-style-type: none"> <li>Water NSW manages complaints received through social media in line with the requirements of AS/NZS 10002:2014 Clause 4.6.</li> <li>Water NSW documents the behaviour expected of both its staff and complainants in line with the requirements of AS/NZS 10002:2014 clause 5.3.1.</li> <li>Water NSW documents the process for managing complaints involving multiple parties in line with the requirements of AS/NZS 10002:2014 clause 5.3.3.</li> </ul>
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	In progress CD2007/13[v6] is in draft and has been updated to include IPART recommendations. It is ready for review/approval by the Manager Customer Experience prior to 18 June 2021.
IPART guidance	Auditor to check for completion

Item	Detail
Audit finding	<p>We reviewed the revised, Version 6, of WaterNSW's Complaints Handling and Compliments Procedure and identified that the requirements of this recommendation have been addressed as follows:</p> <ul style="list-style-type: none"> <li>• The source of complaints in Section 3 of Version 6 of the procedure has been updated to include those from social media (Standard Clause 4.6). This revision is in response to the recommendation made at the 2020 Operational audit.</li> <li>• Version 6 of the procedure has been updated to include a section (7) which outlines how WaterNSW staff should act when managing a complaint. The revised procedure also sets out that unacceptable or unreasonable conduct of complainants should be managed in accordance with WaterNSW's Managing Threatening Behaviour Guidelines. We are satisfied that these revisions meet the requirements of clause 5.3.1 of the Standard to make clear the behaviour expected of both WaterNSW staff and complainants.</li> <li>• Version 6 of the procedure has been updated to include a section (4.5) on how complaints involving multiple parties are managed (as required by clause 5.3.3 of the Standard). The procedure has a guiding principle that complaints involving multiple parties should preferably be managed through a single contact. Where complaints involve multiple agencies, the procedure commits WaterNSW to working with the other agencies to provide clear communication.</li> </ul>
Recommendation status	This recommendation is closed

## Recommendation 2020-18: Memorandum of Understanding with Natural Resources Access Regulator clause 6.17.1

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should review, revise and ratify the Terms of Reference for both the Strategic Group and the Operation Group, paying particular attention to areas such as frequency of meetings.
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>Complete</p> <p>At the Strategic Group meeting of 15 December 2020, the TOR for the Strategic Group was reviewed and endorsed.</p> <p>At the Operational Group meeting of 5 May 2020, the TOR for the Operational Group was reviewed and endorsed.</p>
IPART guidance	Auditor to check for completion



Item	Detail
Audit finding	<p>We were provided with the Terms of Reference for the WaterNSW and Natural Resources Access Regulator Strategic Group (Version date: December 2020) and the agenda for the Strategic Group meeting of 15 December 2020 meeting which had an agenda item to review the Strategic Group Terms of Reference. The Terms of Reference included meeting frequency.</p> <p>We were provided with the Terms of Reference WNSW and NRAR Operational Group (Version date: November 2020). The Terms of Reference included meeting frequency and quorum requirements. We were provided with the agenda for the Operational Group meeting for 5 May 2021 which had an agenda item (#12) titled Operating Strategic Group Terms of Reference</p> <p>Minutes from 5 May 2021 WaterNSW and NRAR meeting were provided and documented approval of the Operating Group Terms of Reference (TOR) in Section 12.</p> <p>WaterNSW advised that the Strategic Group TOR was endorsed but were unable to verify as there are no minutes recorded in the Strategic Group meeting.</p>
Recommendation status	This recommendation is closed.

## Recommendation 2020-19: Memorandum of Understanding with Natural Resources Access Regulator clause 6.17.1

Item	Detail
IPART's recommendation to the Minister	By 30 June 2021, Water NSW should update the document history of the Area Protocols with a formalised cycle of review, to ensure establishment of currency and accuracy.
Progress on 2020 audit findings as reported by utility on 7 Jun 2021	<p>Complete</p> <p>At the Operational Group meeting of 23 February 2021, changes to protocols were accepted and endorsed, including those required to address matters raised in the audit.</p>
IPART guidance	Auditor to check for completion
Audit finding	The Area Protocols (1-3) have been updated to include a review frequency of that commences within 12 months of the last revision date. The documents record the revision number and approval date.
Recommendation status	This recommendation is closed.

## Appendix A Evidence sighted

### Clause 2 Water Source protection and conservation

- 2.1 D2021/107904 Calibration records - Turbidity.XLSX
- 2.1 D2021/113985 Item 2.3b WQ Dashboard 022021 DecJan performance.DOCX
- 2.1 D2021/116463 Email Legal Alert New compliance req FRWSS.MSG
- 2.1 D2021/116473 Fish River Network Sampling Schedule.XLSX
- 2.1 D2021/116979 Approval Form CCP change FR- SCADA alarm.PDF
- 2.1 D2021/116985 WQA training ~ agenda and minutes screenshot.DOCX
- 2.1 D2021/117239 RE Fish Biomonitor Liverpool Dam Justification of limits.MSG
- 2.1 D2021/117541 Prospect Acceptance Criteria Results 04122020.MSG
- 2.1 D2021/117543 Prospect acceptance criteria emails.DOCX
- 2.1 D2021/117548 Pipe Repair Guidance Document – document history.DOCX
- 2.1 D2021/28470 Lake Burragorang Water Quality Report 12th March 2021.PDF
- 2.1 D2021/30438 Short Form ATS - Prospect VPS Upgrade ~ AL170000.15.DOCX
- 2.1 D2021/45220 Lake Burragorang Water Quality Report 13th April 2021.PDF
- 2.1 D2021/50564 Lake Burragorang Water Quality Report 22 April 2021.PDF
- 2.1 D2021/54702 Lake Burragorang Water Quality Report 3rd May 2021.PDF
- 2.1 D2021/54925 FR - monitoring program review paper.DOCX
- 2.1 D2021/54926 FROG - MP review.PPTX
- 2.1 D2021/55168 Board WQCHP Water Quality Awareness Presentat.pptx
- 2.1 D2021/59944 Lake Burragorang Water Quality Report 24th May 2021.DOCX
- 2.1 D2021/67202 Lake Burragorang Water Quality Report 8th June 2021.PDF
- 2.1 D2021/70899 Lake Burragorang Water Quality Report 21 June 2021.PDF
- 2.1 D2021/76693 Lake Burragorang Water Quality Report 30 June 2021.PDF
- 2.1 D2021/82201 Lake Burragorang Water Quality Report 19 July 2021.DOCX
- 2.1 D2021/114098 Copy Board on Wat~ashboard Report ~ Item 4.2.PDF
- 2.1.2 - CD2013/56[v4] - Water Quality Management System 2018.DOCX
- 2.1.2 - CD2019/129 - Fish River Drinking water quality manual.DOCX
- 2.1.2 - D2021/107011 - Launch of Modelpedia WQMS.MSG
- 2.1.2 - D2021/107012 - RE Launch of Modelpedia WQMS – published to The Source.MSG
- 2.1.2 - D2021/107014 - Our New WQMS (all user email).MSG
- 2.1.2 - D2021/58547 - FR JOG Meeting minutes – 11 May 2021.DOCX
- 2.1.2 - D2021/95444 - FINAL Minutes JOG 12th May 2021.DOCX
- 2.2.1 - CD2013/56[v4] - Water Quality Management System(2).DOCX
- 2.2.1 - CD2013/56[v4] - Water Quality Management System.DOCX
- 2.2.1 - cd2014/5[v5] - Water Quality Policy.DOCX
- 2.2.1 - CD2015/272[v4] - Procedure for Part 5 Environmental Assessment.DOC
- 2.2.1 - CD2015/436 - Strategic Asset Management Plan(2).DOCX
- 2.2.1 - CD2015/436 - Strategic Asset Management Plan.DOCX
- 2.2.1 - CD2015/445[v5] - Environmental Management System Manual.DOCX
- 2.2.1 - CD2015/593 - Environmental Policy.DOCX

- 2.2.1 - CD2016/56 - Asset Management Strategy Framework.PDF
- 2.2.1 - CD2016/6 - Environmental Incident Management Protocol.DOC
- 2.2.1 - CD2019/30 - Prepare Catchment Protection Work Program Procedure(2).DOCX
- 2.2.1 - CD2019/30 - Prepare Catchment Protection Work Program Procedure(3).DOCX
- 2.2.1 - CD2019/30 - Prepare Catchment Protection Work Program Procedure(4).DOCX
- 2.2.1 - CD2019/30 - Prepare Catchment Protection Work Program Procedure.DOCX
- 2.2.1 - CD2019/45 - Asset Class Strategy – Lands CD2019/45.DOCX
- 2.2.1 - CD2020/62 - Corporate Risk Management Policy.DOCX
- 2.2.1 - CD2020/62 - Risk Management Policy.DOCX
- 2.2.1 - CD2020/63 - Corporate Risk Management Procedure.DOCX
- 2.2.1 - CD2020/63 - Risk Management Procedure.DOCX
- 2.2.1 - CD2021/85 - Corporate Risk Management Plan(2).PDF
- 2.2.1 - CD2021/85 - Corporate Risk Management Plan(3).PDF
- 2.2.1 - CD2021/85 - Corporate Risk Management Plan.PDF
- 2.2.1 - D2015/98663 - PSAT 2012-2016(2).DOCXf
- 2.2.1 - D2015/98663 - PSAT 2012-2016.DOCX
- 2.2.1 - D2017/84621 - Oberon PSAT 2016.DOCX
- 2.2.1 - D2019/100569 - Australian Land use and Management Classification v8.PDF
- 2.2.1 - D2019/98855 - Letter to Wingecarribee Council – NorBE Assessment Audit 2019.PDF
- 2.2.1 - D2020/10056 - Fire Strategy Project – Program Structure and Governance.PPTX
- 2.2.1 - D2020/109959 - Recovery Steerco No 11 Update Report.DOCX
- 2.2.1 - D2020/122756 - Urban Program Business Case.DOCX
- 2.2.1 - D2020/124885 - Annual Water Quality Monitoring Report 2019 20.PDF
- 2.2.1 - D2020/1704 - Catchment Protection Work Program FY2021.DOCX
- 2.2.1 - D2020/18100 - Board Com WQCHP – Bushfire Season Report and Recovery Project.DOCX
- 2.2.1 - D2020/19811 - Post Fire Water Quality Monitoring Plan – Lake Burragorang 2020.DOCX
- 2.2.1 - D2020/24621 - Land use data comparison – CLUM 2017 data vs PSAT 2016 data.XLSX
- 2.2.1 - D2020/48773[v2] Approval Fire Trail Maintenance Program 2020-21 – EIA - RITM0085646.PDF
- 2.2.1 - D2020/63325 - Bushfire Recovery Steerco report 2020701.DOCX
- 2.2.1 - D2020/74495 - Letter to Wingecarribee Council – NorBE Audit Outcome.PDF
- 2.2.1 - D2020/9676 - Bushfire Recovery Steerco Meeting 1 Presentation.PPTX
- 2.2.1 - D2021/100926 - Bushfire Recovery Steerco No 18 report 20210913.DOCX
- 2.2.1 - D2021/106800 - WaterNSW Environmental Management System Objectives and Targets 2021-22.DOCX
- 2.2.1 - D2021/107533 - Lake Burragorang Wildfires - Summary of Monitoring Mitigation and ~ Summary Extract.DOCX
- 2.2.1 - D2021/19325 - Rural Program Business Case.DOCX

- 2.2.1 - D2021/25494 - Catchment Protection Work Program FY2022(2).PDF
- 2.2.1 - D2021/25494 - Catchment Protection Work Program FY2022.PDF
- 2.2.1 - D2021/27596 - Source Water Protection Strategy ('Catchment Vision').DOCX
- 2.2.1 - D2021/27596 - Source Water Protection Strategy(2).DOCX
- 2.2.1 - D2021/27596 - Source Water Protection Strategy.DOCX
- 2.2.1 - D2021/4087 - Mining Principles.PDF
- 2.2.1 - D2021/46289 - Annual C2C Risk Review WQH&CP Committee Briefing(2).DOCX
- 2.2.1 - D2021/46289 - Annual C2C Risk Review WQH&CP Committee Briefing(3).DOCX
- 2.2.1 - D2021/46289 - Annual C2C Risk Review WQH&CP Committee Briefing.DOCX
- 2.2.1 - D2021/52211 - QzWater Talk QOliver 2021 (2).PPTX
- 2.2.1 - D2021/52846 - Board Com WQHCP 19 May 21- Emerging trends in science Item 3.1.DOCX
- 2.2.1 - D2021/63819 - Science Program.DOCX
- 2.2.1 - D2021/63819 - WaterNSW Science Program.DOCX
- 2.2.1 - D2021/72410 WNSW Submission IPC 2nd Hearing Hume Coal Berrima Rail Projects.PDF
- 2.2.1 - D2021/76256 - BR2 – Water Delivery CRMP Event Summary.DOCX
- 2.2.1 - D2021/76258 - BR3 – Water Quality CRMP Risk Event Summary.DOCX
- 2.2.1 - D2021/76259 - BR4 – Environment CRMP Risk Event Summary-.DOCX
- 2.2.1 - D2021/76262 - BR7 – Compliance Regulation CRMP Event Risk Summary.DOCX
- 2.2.1 - D2021/76758 - CARM Greater Sydney Water Quality Modelling Project ATS Financial Yr 21-22.DOCX
- 2.2.1 - D2021/77521 - Corporate Risk Profile Summary FY2021.PDF
- 2.2.1 - D2021/77521 - Corporate Risk Profile Summary FY21.PDF
- 2.2.1 - D2021/80752 - Planning Direction 5.2.DOCX
- 2.2.1 - D2021/81062 - Source Water Protection Report.DOCX
- 2.2.1 - D2021/81743 - Science program monthly report – June 2021(2).PDF
- 2.2.1 - D2021/81743 - Science Program Monthly Report – June 2021.PDF
- 2.2.1 - D2021/82300 Mgt Committee - WQCP – 29 July 2021 – Science Program Progress Report – Item 5.2.3.PDF
- 2.2.1 - D2021/89116 - Bushfire Recovery Steerco No 17 ICARE Update Report.DOCX
- 2.2.1 - D2021/98008 - Berrima Rail Instrument of Refusal.PDF
- 2.2.1 - D2021/98010 - Berrima Coal and Rail Statement or Reason.PDF
- 2.2.1 D2021/116508 FW Dairy pond overflowing in Kangaroo Valley.MSG
- 2.2.1 D2021/116509 FW Dairy ponds in Nepean Catchment.MSG
- 2.2.1 D2021/116510 Wingecarribee Sewer Pumping station overflowing.MSG
- 2.2.1 D2021/116511 Screenshot 20211026 160032 dairy update March 2021 event.PNG
- 2.2.1 D2021/116913 DairyProgram\_Budget\_Expenses\_031121.XLSX
- 2.2.1 D2021/116948 Evidence CD201930 is current.DOCX
- 2.2.1 D2021/116952 Evidence CD201945 is current.DOCX
- 2.2.1 D2021/117574 Bushfire strategy project status summary.DOCX
- 2.2.1 IM2021/8715 InkedIMG\_0326\_LI(2).jpg

- 2.2.1 IM2021/8716 InkedIMG\_0320\_LI(2).jpg
- 2.2.2 D2021/116588 Planned prescribed burning program.MSG
- 2.2.3 D2021/116911 Rural Landscape Program Program data.XLSX
- 2.2.3 D2021/116912 Rivers of Carbon Source Water Linkages Program Data.XLSX
- 2.4.1 - CD2014/91[v1] - Rain Event Planning.DOC
- 2.4.1 - CD2015/331 - Asset Criticality Assessment Procedure.DOCX
- 2.4.1 - CD2015/335 - Asset Condition Assessment Guidelines.DOCX
- 2.4.1 - CD2015/436 - Strategic Asset Management Plan.DOCX
- 2.4.1 - CD2019/173 - Flood Management Procedure.DOCX
- 2.4.1 - CD2021/46 - Bushfire Management Framework.DOCX
- 2.4.1 - D2020/130883 - Greater Sydney Storage System Nomograph.XLSX
- 2.4.1 - D2021/107814 - Metro Storage Levels.XLSX
- 2.4.1 - D2021/107860 - SITREP 1 Rain Burst Event.DOCX
- 2.4.1 - D2021/107861 - SITREP 15 Rain Burst Event.DOCX
- 2.4.1 - D2021/107862 - Incident Action Plan Rain Burst Event.DOCX
- 2.4.1 - D2021/62242 - JAM Contingency Plans.PDF
- 2.4.1 - D2021/62243 - Joint Risk Assessment.PDF
- 2.4.1 - D2021/62245 - JAM Program.PDF
- 2.4.1 - D2021/87988 - Drum Gate Post Flood Inspection Recommendations.XLSX
- 2.4.1 CD2020/53 WNSW-TUN-AS-001 Tunnels Asset Class Strategy.DOCX
- 2.4.1 D2019/74884 WNSW-CNL-AS-001 Canals Channel cuttings Asset Class Strategy Rev 0.DOCX
- 2.4.1 D2021/116987 EAMS extract Upper Canal Functional location Data.XLSX
- 2.4.1 D2021/3204 Work Order Prioritisation - Process.DOCX
- 2.6 D2016/74435 Wathnet Water Supply System Model Independent Review 2016.PDF
- 2.6 D2021/104611 WATHNET Model Independent Review 2021.MSG
- 2.6 D2021/116779 Letter IPART delay in Wathnet Review 2021 Final Report.MSG
- 2.6 D2021/117348 FW Wathnet model Review - comments on the report.MSG
- 2.6 D2021/117719 Letter to IPART Apr 2021.PDF
- 2.6 D2021/27812 Request Quotation Wathnet model independent review 2021.DOCX
- 2.6.1 - D2021/027812 - Request for quotation to review Wathnet model.DOCX
- 2.6.1 - D2021/104602 RE RFQ HARC - Review of Wathnet model - Greater Sydney Water Supply System Yield.MSG
- 2.6.1 - D2021/104605 - RE Wathnet.MSG
- 2.6.1 - D2021/104606 RE RFQ Jacobs - Review of Wathnet model - Greater Sydney Water Supply System Yield.MSG
- 2.6.1 - D2021/104611 - WATHNET Model Independent Review 2021.MSG
- 2.6.1 - D2021/83262 - Attachment 2 – Greater Sydney Water Supply System yield - July 2021.DOCX
- 2.6.1 - D2021/83330 - Wathnet model Independent Review – Final report.PDF
- 2.6.2 - D2021/104618 - Minutes from WATHNET Review Expert Panel Workshop.MSG
- 2.6.2 - D2021/104626 - WATHNET Review Workshop No 1 - Minutes and presentation.MSG

- 2.6.2 - D2021/104634 - Uploading WaterNSW website on 31 August.MSG
- 2.6.2 - D2021/83330 - Wathnet model independent review 2021.PDF
- 2.6.2 - D2021/89457 - Letter to IPART with final report was sent on 8 August.PDF
- 2.6.2 - D2021/104634 - Uploading WaterNSW website on 31 August.MSG
- 2019-02 - 2.1.3 - D2021/106240 - LMS Report - Water Treatment ~ Learning Report 20210927.XLSX
- 2019-02 - 2.1.3 - D2021/106248 - RACS Action Report #1910.XLSX
- 2020-01 - 2.1.1 - D2021/104353 WQ Incident Response Protocol stakeholders.MSG
- 2020-01 - 2.1.1 - D2021/104378 Water Quality Incident draft to customers NSW for feedback.MSG
- 2020-01 - 2.1.1 - D2021/107550 - Teams familiarisation and WQ information session 29 July 2021.ICS
- 2020-01 - 2.1.1 - D2021/107553 - ARK notes - approval of Water Quality Incident Response Protocol.PNG
- 2020-01 - 2.1.1 - D2021/107913 WQ Incident Response Protocol v4 Final Protocol to NSW.MSG
- 2020-01 - 2.1.1 - D2021/107915 - WNSW - Water Quality Incident Response Protocol v4 - email to SW.MSG
- 2020-01 - 2.1.1 - D2021/75958 - WQ Incident Response Protocol meeting NSWHealth 30June21.DOCX
- 2020-02 - 2.1.3 - CD2017/173[v1] - Operating Protocols for Fish River Water Supply.PDF
- 2020-02 - 2.1.3 - CD2017/173[v2] - Operating Protocols for Fish River Water Supply.DOCX
- 2020-02 - 2.1.3 - CD2021/107 Operations Maintenance Manual Duckmaloi Water Treatment Plant.DOCX
- 2020-02 - 2.1.3 - CD2021/83 - Fish River Incident Management Plan.DOCX
- 2020-02 - 2.1.3 - D2021/107011 Launch of Modelpedia WQMS – please provide your feedback.MSG
- 2020-02 - 2.1.3 - D2021/107012 Launch Modelpedia WQMS – published to The Source.MSG
- 2020-02 - 2.1.3 - D2021/107014 - Our New Water Quality Management System (all user email).MSG
- 2020-02 - 2.1.3 - D2021/52068 - Fish River Supply and Duckmaloi Water Filtration Plant Schematic.PDF
- 2020-02 - 2.1.3 - D2021/52340 - Critical Control Points – CCP – Fish River Water Supply System.DOCX
- 2020-02 - 2.1.3 - D2021/80906 - C2C 5 year review – Lithgow and Oberon – 2021 - finalised.XLSX
- 2020-02 - 2.1.3 - CD2011/179 [V7] - Water Monitoring program manual.DOCX
- 2020-03 - 2.1.3 - D2019/87210 Fish River Drinking WQMS report to NSW Health.EML
- 2020-03 - 2.1.3 - D2021/102631 - MoU WaterNSW and NSW Health\_Draft Sept 21.DOCX
- 2020-03 - 2.1.3 - D2021/107335 - Fish River Drinking WQ Report - June 2021 stakeholders.MSG



- 2020-03 - 2.1.3 - D2021/107952 -NSWH feedback - update on WaterNSW agreed actions and feedback.MSG
- 2020-03 - 2.1.3 - D2021/107954 - FR AR feedback request on report scope NSWH webpage template.MSG
- 2020-03 - 2.1.3 - D2021/107956 - Annual report for Fish River Drinking Water Quality Management System.MSG
- 2020-03 - 2.1.3 - D2021/58547 - FR JOG meeting minutes 11 May 2021.DOCX
- 2020-03 - 2.1.3 - D2021/94636 - Fish River Drinking Water Quality Report – July 2021.PDF
- 2020-04 - 2.1.3 3.2.1 - CD2011/179 [V7] - Water Monitoring program manual (part 2. Pg. 14-17).DOCX
- 2020-04 - 2.1.3 3.2.1 - D2021/100788 - Fish River Drinking Water Quality Report - August 2021.PDF
- 2020-04 - 2.1.3 3.2.1 - D2021/107277 Fish River Water Monitoring Program 29June2021 meeting notes.DOCX
- 2020-04 - 2.1.3 3.2.1 - D2021/107952 NSWH feedback update on WaterNSW agreed actions feedback.MSG
- 2020-04 - 2.1.3 3.2.1 - D2021/50425 - Fish River Drinking Water Quality Report – March 2021.PDF
- 2020-04 - 2.1.3 3.2.1 - D2021/58547 - FR JOG meeting minutes 11 May 2021.DOCX
- 2020-04 - 2.1.3 3.2.1 - D2021/81887 - Fish River Drinking Water Quality Report – June 2021.PDF
- 2020-04 - 2.1.3 3.2.1 - D2021/94636 - Fish River Drinking Water Quality Report – July 2021.PDF
- 2020-05 - 2.1.4 - CD2004/183[v4] - Water Quality Incident Response Protocol.DOCX
- 2020-05 - 2.1.4 - D2021/107275 - Fish River CCP Awareness 29th June 2021 meeting notes.DOCX
- 2020-05 - 2.1.4 - D2021/47936 Board Com WQHCP 19 May 21 WQ Performance Trend Analysis item 6.1.DOCX
- 2020-05 - 2.1.4 - D2021/58547 - FR JOG Meeting minutes – 11 May 2021.DOCX
- 2020-05 - 2.1.4 - D2021/80906 - C2C 5 year review – Lithgow and Oberon – 2021 - finalised.XLSX
- 2020-05 - 2.1.4 - D2021/81018 - Fish River System Risk Assessment – instructions to attendees.MSG
- 2020-05 - 2.1.4 - D2021/86488 - Water Quality Dashboard July 29.DOCX
- 2020-05 - 2.1.4 - D2021/89413 - Fish River C2C Risk Assessment 31 May 2021 Final Minutes.DOCX
- 2020-06 - 2.1.4 - D2016/67172 SCADA & Automation Configuration Change Management.DOC
- 2020-06 - 2.1.4 - D2021/108040 - SCADA alarm change form -myWater screen shot .DOCX
- 2020-07 - 2.1.4 - CD2021/92 - Conduct Catchment-to-Customer (C2C) Risk Assessment.DOCX
- 2020-07 - 2.1.4 - CD2021/94 - Approve Catchment-to-Customer (C2C) Risk Assessment.DOCX

- 2020-07 - 2.1.4 - D2021/81018 - Fish River System Risk Assessment – instructions to attendees.MSG
- 2020-08 - 2.1.4 - CD2021/92 - Conduct Catchment-to-Customer (C2C) Risk Assessment.DOCX
- 2020-08 - 2.1.4 - D2021/89413 - Fish River C2C Risk Assessment 31 May 2021 Final Minutes.DOCX
- E1 - C1.1 - CD2014/5[V5] - Water Quality Policy.DOCX
- E1 - C1.1 - D2020/89947 - screenshot - Water Quality Awareness training.JPG
- E1 - C1.2 - CD2018/13 - Compliance Management Framework.DOCX
- E1 - C1.2 - CD2019/123 - Controlled Documents Framework.DOCX
- E1 - C1.2 - D2015/88098 - Water Quality Systems Officer Position Description.DOCX
- E1 - C1.2 - D2020/122166 - WaterNSW Internal Audit Report - Regulatory Compliance Framework - Final.PDF
- E1 - C1.2 - D2020/91412 - Copy of position Description – Asset Custodian.PDF
- E1 - C1.2 - D2021/107014 - Our New Water Quality Management System (all user email).MSG
- E1 - C1.2 - D2021/107672 - Screenshot from staff Comms kit August 2021.PNG
- E1 - C1.2 - D2021/54315 AR Board Committee 17 May 2021 Item 4.2 Regulatory Compliance Mgt Framework.DOCX
- E1 - C1.2 - D2021/54319 AR Board Com 17 May 2021 Item 4.2 Annexure 1 CMP high level plan.PPTX
- E1 - C1.2 - D2021/92179 AR Board Com 25 Aug 21 Item 4.2 Regulatory Compliance Management Framework.DOCX
- E1 - C1.2 - D2021/92180 AR Board Committee – 25 August 2021 – draft compliance management policy.DOCX
- E1 - C1.2 - D2021/92181 AR Board Committee – 25 August 2021 - draft compliance management procedure.DOCX
- E1 - C1.3 - D2013/94543 - WaterNSW Water Quality Contact List.DOCX
- E1 - C1.3 - D2021/105029 - Screenshot ARK- WQ contact list updates 20-21.PNG
- E1 - C1.3 - D2021/22411 - Fish River Water Supply Operations Forum - Agenda - 2 March 2021.DOCX
- E1 - C1.3 - D2021/22663 - Fish River Water Supply Operations Forum Minutes 2 March 2021.DOCX
- E1 - C1.3 - D2021/90342 - FR JOG Meeting 10 Aug 2021 – item 7 of the minutes.DOCX
- E2 - C2.1 - D2021/106938 - FR Schematic review - meeting with Assets team.MSG
- E2 - C2.1 - CD2021/92 - Conduct Catchment-to-Customer (C2C) Risk Assessment.DOCX
- E2 - C2.1 - CD2021/94 - Approve Catchment-to-Customer (C2C) Risk Assessment.DOCX
- E2 - C2.1 - D2015/88093 - Water Quality Adviser.DOCX
- E2 - C2.1 - D2015/88098 - Water Quality Systems Officer.DOCX
- E2 - C2.1 - D2017/5876 - Principal Adviser Water Quality Science.DOCX
- E2 - C2.1 - D2019/86297 - Map of Prospect Hydrological Catchment.PDF
- E2 - C2.1 - D2021/103279 - How to guide – developing and maintaining schematics.DOCX
- E2 - C2.1 - D2021/107613 WQ Team Qualifications and Experience Register.DOCX



- E2 - C2.1 - D2021/47936 Board Committee WQHCP 19 May 2021 WQ Performance and Trend Analysis – item 6.1.DOCX
- E2 - C2.1 - D2021/52068 - Fish River Supply and Duckmaloi Water Filtration Plant Schematic.PDF
- E2 - C2.1 - D2021/78515 - Warragamba to Prospect Supply Schematic.PDF
- E2 - C2.1 - D2021/78516 - Blue Mountains Supply Schematic.PDF
- E2 - C2.1 - D2021/78517 - Shoalhaven Water Supply Schematic.PDF
- E2 - C2.1 - D2021/78518 - Upper Nepean Supply Schematic.PDF
- E2 - C2.1 - D2021/78521 - Woronora Supply Schematic.PDF
- E2 - C2.1 - D2021/81018 - Fish River System Risk Assessment – instructions to attendees.MSG
- E2 - C2.1 - D2021/89413 - Fish River C2C Risk Assessment 31 May 2021 Final Minutes.DOCX
- E2 - C2.1 - MAP2006/00004 - Map of Prospect Special Area.PDF
- E2 - C2.2 - D2021/80176 - Prospect Water Quality Report 8 July 2021.PDF
- E2 - C2.2 - D2021/94636 - Fish River Drinking Water Quality Report – July 2021.PDF
- E2 - C2.2 - CD2011/179[v6] - Water Monitoring Program Manual.DOCX
- E2 - C2.2 - CD2012/130[V5] - Water Quality Data Review and Reporting Procedure.DOCX
- E2 - C2.2 - CD2012/130[V6] - Water Quality Data Review and Reporting Procedure.DOCX
- E2 - C2.3 - D2020/109176 - Cyanobacteria Risk Forecast for 2020-2021 – Board Committee paper.DOCX
- E2 - C2.3 - D2021/80906 - C2C 5 year review – Lithgow and Oberon – 2021 - finalised.XLSX
- E2 - C2.3 - CD2021/92 - Conduct Catchment-to-Customer (C2C) Risk Assessment.DOCX
- E2 - C2.3 - CD2021/94 - Approve Catchment-to-Customer (C2C) Risk Assessment.DOCX
- E2 - C2.3 - D2018/75972 - Final 2018 Report Catchment to Customer Mid-term review.PDF.PDF
- E2 - C2.3 - D2020/104266 - Annual Cyanobacteria Risk to Drinking Water Forecast 2020-21.DOCX
- E2 - C2.3 - D2020/105494 - Q3 2020 Item 4.1 SLG Catchment to Customer Annual Update.DOCX
- E2 - C2.3 - D2020/71259 - C2C Issues register.XLSX
- E2 - C2.3 - D2021/106575 - C2C Risk Register – for Working Group meeting 27 9 2021.XLSX
- E2 - C2.3 - D2021/107647 - Weekly Catchment Cryptosporidium Assessment - instruction tab.XLSX
- E2 - C2.3 - D2021/108913 - 2021 Q3 SLG item 4.1 Catchment to Customer Annual Update.DOCX
- E2 - C2.3 - D2021/27128 - Prospect Water Quality Report 9 March 2021.PDF
- E2 - C2.3 - D2021/52340 - Critical Control Points – CCP – Fish River Water Supply System.DOCX

- E2 - C2.3 - D2021/89413 - Fish River C2C Risk Assessment 31 May 2021 Final Minutes.DOCX
- E2 - C2.3 - D2021/90919 - RE Cryptosporidium Catchment Assessment 13 August 2021.MSG
- E2 - C2.3 - D2021/94636 - Fish River Drinking Water Quality Report – July 2021.PDF
- E2 - C2.3 - D2021/98447 - C2C 5 year report 2021.DOCX
- D2020/123768 C2C Risk Assessment Workshop for Fish River supplies.msg
- D2020/127800 Fish River C2C RA workshop screenshot showing attendees.tr5
- D2020/130067 Fish River C2C follow-up.msg
- D2020/131272 Fish River C2C Workshop minutes and follow-up.DOCX
- E3 - C3.1 - CD2013/56[v4] - Water Quality Management System.DOCX
- E3 - C3.1 - CD2019/30 - Prepare Catchment Protection Work Program Procedure.DOCX
- E3 - C3.1 - CD2021/85 - Corporate Risk Management Plan.PDF
- E3 - C3.1 - CD2021/92 - Conduct Catchment-to-Customer (C2C) Risk Assessment.DOCX
- E3 - C3.1 - CD2021/94 - Approve Catchment-to-Customer (C2C) Risk Assessment.DOCX
- E3 - C3.1 - CD2021/95 - Add Recommendations to Water Quality Improvement Plan.DOCX
- E3 - C3.1 - D2019/53719 WQIP (item 2.3.11 3.2.11 4.3.6 - actions added to WQIP).XLSX
- E3 - C3.1 - D2019/68447 - NorBE Audit Scope.DOCX
- E3 - C3.1 - D2019/98855 - Letter to Wingecarribee Council – NorBE Assessment Audit 2019.PDF
- E3 - C3.1 - D2020/102655 - Meeting Minutes and Action Item 22 September 2020.DOCX
- E3 - C3.1 - D2020/74495 - Letter to Wingecarribee Council – NorBE Audit Outcome.PDF
- E3 - C3.1 - D2021/14227 - NorBE Training register.XLSX
- E3 - C3.1 - D2021/21451 - NorBE Training Presentation – Councils.PPTX
- E3 - C3.1 - D2021/24680 - NorBE Training Presentation – Consultants.PPTX
- E3 - C3.1 - D2021/25494 - Catchment Protection Work Program FY2022.PDF
- E3 - C3.1 - D2021/27596 - Source Water Protection Strategy ('Catchment Vision').DOCX
- E3 - C3.1 - D2021/28470 - Lake Burragorang Water Quality Report 12th March 2021.PDF
- E3 - C3.1 - D2021/30512 - NOCTSO – Warragamba Pre Event Outlet Change March 2021.DOCX
- E3 - C3.1 - D2021/61481 - WaterNSW-Sydney Water-NSW Health Water Quality Meeting May 2021.DOCX
- E3 - C3.1 - D2021/77792 - NorBE Tickets Report.MSG
- E3 - C3.1 - D2021/89413 - Fish River C2C Risk Assessment 31 May 2021 Final Minutes.DOCX
- E3 - C3.2 - D2021/103757 WNSW WQ Incident Response Protocol preliminary includes CCPs drafts.MSG

- E3 - C3.2 - D2021/107068 - FR Chlorine CL – CCP sensor alarm notification to NSW – March 2021.MSG
- E3 - C3.2 - D2021/107274 - CCP Awareness Workshop 29th June 2021 invites and attendees.DOCX
- E3 - C3.2 - D2021/107275 - Fish River CCP Awareness 29th June 2021 meeting notes.DOCX
- E3 - C3.2 - D2021/107277 - Fish River Water Monitoring Program Update 29th June 2021 meeting notes.DOCX
- E3 - C3.2 - D2021/107489 - FW Treated water- CCP turbidity exceedance at Duckmaloi WTP.MSG
- E3 - C3.2 - D2021/107664 - Wingecarribee Algal Update 20 January 21.MSG
- E3 - C3.2 - D2021/50417 - Fish River Drinking Water Quality Report – December 2020.PDF
- E3 - C3.2 - D2021/50424 - Fish River Drinking Water Quality Report – February 2021.PDF
- E3 - C3.2 - D2021/50425 - Fish River Drinking Water Quality Report – March 2021- see CCP exceptions.PDF
- E3 - C3.2 - D2021/52340 - Critical Control Points – CCP – Fish River Water Supply System.DOCX
- E3 - C3.2 - D2021/52341 – CCP – Raw Water Supply to Sydney Water’s Water Filtration Plants.DOCX
- E3 - C3.2 - D2021/58547 - FR JOG meeting minutes 11 May 2021 – CCP review workshop (p 2-4).DOCX
- E3 - C3.2 - D2021/95444 - Final Minutes JOG 12th May 2021 – refer p2, section 1.2.DOCX
- E3-C32~1.MSG
- E4 - C4.1 - CD2007/2 - Raw Water Supply Operating Protocols with Sydney Water.PDF
- E4 - C4.1 - CD2011/179 [V6] - Water Monitoring program manual.DOCX
- E4 - C4.1 - CD2013/17 - Raw Water Supply Agreement with Shoalhaven City Council.PDF
- E4 - C4.1 - CD2017/173[v1] - Operating Protocols with Lithgow City Council.PDF
- E4 - C4.1 - CD2017/173[v2] - Operating Protocols with Lithgow City Council.DOCX
- E4 - C4.1 - CD2021/107 Operations and Maintenance Manual Duckmaloi Water Treatment Plant WTP.DOCX
- E4 - C4.1 - CD2021/83 - Fish River Incident Management Plan.DOCX
- E4 - C4.1 - D2015/23218 - The Greater Sydney Water Supply System Configuration Plan.DOCX
- E4 - C4.1 - D2019/30924 - Procedures and Processes for Managing Water Quality.DOCX
- E4 - C4.1 - D2020/80599 - Water supply agreement Wingecarribee Shire Council.PDF
- E4 - C4.1 - D2021/106376 - 3753 Wallerawang Re-Chlorination O&M Manual.PDF
- E4 - C4.1 - D2021/106377 - Rydal Chlorinator O&M Manual.DOCX
- E4 - C4.1 - D2021/52068 - Fish River Supply and Duckmaloi Water Filtration Plant Schematic.PDF

- E4 - C4.1 - D2021/52340 - Critical Control Points – CCP – Fish River Water Supply System.DOCX
- E4 - C4.1 - D2021/82421 - NOCTSO.DOCX
- E4 - C4.1 - D2021/99762 - Reservoir integrity system health check (Fish River).XLSX
- E4 - C4.1 D2021/90735 Installation and Emergency Repairs Water Mains Microbial Contamination.DOC
- E4 - C4.2 - CD2004/183[v3] - Water Quality Incident Response Protocol.DOCX
- E4 - C4.2 - CD2004/183[v4] - Water Quality Incident Response Protocol.DOCX
- E4 - C4.2 - D2021/106287 - RACS #1759 Screenshot low chlorine alarm at Duckmaloi WFP.DOCX
- E4 - C4.2 - D2021/106449 - Screenshot RACS #1808 Low chlorine Wallerawang.PNG
- E4 - C4.2 - D2021/52340 - Critical Control Points – CCP – Fish River Water Supply System.DOCX
- E4 - C4.2 - D2021/52341 CCP – Raw Water Supply to Sydney Water’s Water Filtration Plants.DOCX
- E4 - C4.3 - CD2021/83 - Fish River Incident Response Plan.DOCX
- E4 - C4.3 - D2021/107539 - RE For review Facebook message - Customer notification - Incident 202.MSG
- E4 - C4.4 - CD2011/179 [v6] Water monitoring program (table 2.16 Table 2.16 Real time monitoring).DOCX
- E4 - C4.4 - D2017/100972 - Water Services – Endorsed Instrument List.DOCX
- E4 - C4.4 - D2021/106293 - OFFLINE COPY - Fish River Network Sampling Results.XLSX
- E4 - C4.4 - D2021/106449 - Screenshot RACS #1808 Low chlorine Wallerawang.PNG
- E4 - C4.4 - D2021/107801 - Water Monitoring Site maintenance frequency.PDF
- E4 - C4.4 - D2021/107812 - Samplers Calibration Sheet 2021.XLSX
- E4 - C4.4 - D2021/107904 - Calibration records – Turbidity.XLSX
- E4 - C4.5 - CD2015/38[V3] - Purchasing Procedure for Chlorination Facilities.DOCX
- E4 - C4.5 - CD2019/36[v1] - Materials and Chemicals in Contact with Drinking Water Procedure.DOC
- E4 - C4.5 - CD2019/36[v2] - Materials and Chemicals in Contact with Drinking Water Procedure.DOC
- E4 - C4.5 - D2021/106294 Screenshot WNSW SpendWise eProcurement Portal risk questionnaire.DOCX
- E4 - C4.5 - D2021/99762 - Reservoir integrity Health check (see additional ~ chlorination) (2).XLSX
- E4130F~1.DOC
- E5 - C5.1 - CD2011/179 [V6] - Water Monitoring program manual.DOCX
- E5 - C5.1 - CD2011/179 [V7] - Water Monitoring program manual.DOCX
- E5 - C5.1 - CD2012/130[V5] - Water Quality Data Review and Reporting Procedure.DOCX
- E5 - C5.1 - CD2012/130[V6] - Water Quality Data Review and Reporting Procedure.DOCX
- E5 - C5.1 - CD2017/16[v1] - Water Monitoring Quality Management System Quality Manual.DOCX
- E5 - C5.1 - D2020/124885 - Annual Water Quality Monitoring Report 2019 20.PDF

- E5 - C5.1 - D2020/133316 - Prospect Reservoir water quality report – 17 December 2020.PDF
- E5 - C5.1 - D2021/107800 - Sampling contract extracts - QA-QC.DOCX
- E5 - C5.1 - D2021/107801 - Water Monitoring Site maintenance frequency.PDF
- E5 - C5.1 - D2021/107812 - Samplers Calibration Sheet 2021.XLSX
- E5 - C5.1 - D2021/107813 - Calibration records 2021 - pH.XLSX
- E5 - C5.1 - D2021/15020 - Prospect Water Quality Report 9 February 2021.DOCX
- E5 - C5.1 - D2021/27128 - Prospect Water Quality Report 9 March 2021.PDF
- E5 - C5.1 - D2021/50417 - Fish River Drinking Water Quality Report – December 2020.PDF
- E5 - C5.1 - D2021/50424 - Fish River Drinking Water Quality Report – February 2021.PDF
- E5 - C5.1 - D2021/50425 - Fish River Drinking Water Quality Report – March 2021.PDF
- E5 - C5.1 - D2021/58547 - FR JOG Meeting minutes – 11 May 2021 (item 3).DOCX
- E5 - C5.1 - D2021/70631 - Prospect Water Quality Report 16 June 2021.PDF
- E5 - C5.1 - D2021/80176 - Prospect Water Quality Report 8 July 2021.PDF
- E5 - C5.1 - D2021/81887 - Fish River Drinking Water Quality Report – June 2021.PDF
- E5 - C5.1 - D2021/94636 - Fish River Drinking Water Quality Report – July 2021.PDF
- E5 - C5.2 - CD2007/13[v5] - Complaints and Compliments Handling Procedure.DOC
- E5 - C5.2 - CD2007/13[v6] - Complaints and Compliments Handling Procedure.DOC
- E5 - C5.2 - CD2020/119 - Feedback Compliments and Complaints Policy.DOCX
- E5 - C5.2 - D2021/103325 - FRWS Complaints 2020-21.XLSX
- E5 - C5.2 - D2021/103874 Training Presentation OL Customer and Stakeholder Relations 2021 (slide 17).PPTX
- E5 - C5.3 - CD2012/130[V5] - Water Quality Data Review and Reporting Procedure.DOCX
- E5 - C5.3 - CD2012/130[V6] - Water Quality Data Review and Reporting Procedure.DOCX
- E5 - C5.3 - D2020/102644 FRWS Annual Review of the Drinking WQMS 2020.PDF
- E5 - C5.3 - D2020/124885 - Annual Water Quality Monitoring Report 2019 20.PDF
- E5 - C5.3 - D2020/133316 - Prospect Reservoir water quality report – 17 December 2020.PDF
- E5 - C5.3 - D2021/107335 - Fish River Drinking Water Quality Report - June 2021 - email to stakeholders.MSG
- E5 - C5.3 - D2021/107338 - Prospect Acceptance Criteria Results - 4 December 2020.MSG
- E5 - C5.3 - D2021/15020 - Prospect Water Quality Report 9 February 2021.DOCX
- E5 - C5.3 - D2021/27128 - Prospect Water Quality Report 9 March 2021.PDF
- E5 - C5.3 - D2021/50417 - Fish River Drinking Water Quality Report – December 2020.PDF
- E5 - C5.3 - D2021/50424 - Fish River Drinking Water Quality Report – February 2021.PDF
- E5 - C5.3 - D2021/50425 - Fish River Drinking Water Quality Report – March 2021.PDF
- E5 - C5.3 - D2021/70631 - Prospect Water Quality Report 16 June 2021.PDF

- E5 - C5.3 - D2021/80176 - Prospect Water Quality Report 8 July 2021.PDF
- E5 - C5.3 - D2021/80178 - Prospect Water Quality Report 9 July 2021 – email to stakeholders.MSG
- E5 - C5.3 - D2021/81887 - Fish River Drinking Water Quality Report – June 2021.PDF
- E5 - C5.3 - D2021/94636 - Fish River Drinking Water Quality Report – July 2021.PDF
- E5 - C5.4 - CD2004/183[v3] - Water Quality Incident Response Protocol(2).DOCX
- E5 - C5.4 - CD2004/183[v3] - Water Quality Incident Response Protocol.DOCX
- E5 - C5.4 - CD2004/183[v4] - Water Quality Incident Response Protocol.DOCX
- E5 - C5.4 - D2016/92951 - Contingency Plan Warragamba Algae V4.DOCX
- E5 - C5.4 - D2020/115382 - Monitoring of cause dirty water complaints Fish River Scheme – October 2020.DOCX
- E5 - C5.4 - D2021/107339 Duckmaloi WFP Mn results bench testing implemented.MSG
- E5 - C5.4 - D2021/107340 - Preliminary water quality results from Oberon Dam - email update.MSG
- E5 - C5.4 - D2021/52340 - Critical Control Points – CCP – Fish River Water Supply System.DOCX
- E5 - C5.4 - D2021/52341 CCP – Raw Water Supply to Sydney Water’s Water Filtration Plants.DOCX
- E5 - C5.4 - D2021/53042 - Fish River Water Supply Scheme - Potassium Permanganate Dosing Plant - ~ DRAFT.DOCX
- E6 - C6.1 - CD2004/183[v4] - WQ Incident response protocol.DOCX
- E6 - C6.1 - CD2017/173[v1] WNSW Lithgow City C Operating Protocols for the FRWS Manual.DOCX
- E6 - C6.1 - CD2017/173[v2] WNSW Lithgow City C Operating Protocols for the FRWS Manual.PDF
- E6 - C6.1 - D2013/94543 - WaterNSW Water Quality Contact List.DOCX
- E6 - C6.1 - D2021/105029 - Screenshot ARK- WQ contact list updates 20-21.PNG
- E6 - C6.1 - D2021/106289 - RACS Screenshot #1636 Prospect WFP alkalinity and ASU.DOCX
- E6 - C6.1 - D2021/106449 - Screenshot RACS #1808 Low chlorine Wallerawang.PNG
- E6 - C6.1 - D2021/107540 - RACS #1550 Screenshot - toxin detection Lake Burragorang.DOCX
- E6 - C6.1 - D2021/90342 - FR JOG Meeting 10 Aug 2021 (item 7 of the minutes).DOCX
- E6 - C6.2 - CD2007/2 - Raw Water Supply Protocols.PDF
- E6 - C6.2 - CD2017/180[v1] - Incident Management Procedure (Under review).DOCX
- E6 - C6.2 - CD2021/41 - Fish Death Procedure for Rivers and Storages.DOC
- E6 - C6.2 - CD2021/83 - Fish River Incident Response Plan.DOCX
- E6 - C6.2 - D2019/53719 - Water Quality Improvement Plan.XLSX
- E6 - C6.2 - D2020/105471 - Item 4.5 WaterNSW COVID-19 Response 16 June 2020 (SLG paper).DOCX
- E6 - C6.2 - D2020/17533 - Rain Bomb 2020 - Incident Hot Debrief - 25 February.DOCX
- E6 - C6.2 - D2021/106003 - COVID19 - protocol for undertaking field work.PDF
- E6 - C6.2 - D2021/106295 - COVID Incident Response Procedure Final.DOCX



- E6 - C6.2 - D2021/106586 - COVID Restrictions – Potential reduction in water quality monitoring.MSG
- E6 - C6.2 - D2021/107339 - Latest Duckmaloi WFP Mn results - bench testing implemented at Duckmaloi.MSG
- E6 - C6.2 - D2021/107533 - Lake Burragarang Wildfires Summary of Monitoring Mitigation.DOCX
- E6 - C6.2 - D2021/107534 - Science Program 2021-2025 - Fire research strategy copy.DOCX
- E6 - C6.2 - D2021/107596 - Incident Log.DOCX
- E6 - C6.2 - D2021/107681 - Recovery Actions (FR Incident).DOCX
- E6 - C6.2 - D2021/107682 - Incident Action Plan.DOCX
- E6 - C6.2 - D2021/107683 - Incident Assessment Checklist.DOCX
- E6 - C6.2 - D2021/107684 - SITREP#1.DOCX
- E6 - C6.2 - D2021/30438 - Short Form ATS – Prospect VPS Upgrade ~ AL170000.15.DOCX
- E6 - C6.2 - D2021/31313 - Dairies Register.XLSX
- E6 - C6.2 - D2021/90735 Guide Installation Emergency Repairs Water Mains - Microbial Contamination.DOC
- E634B3~1.DOC
- E66ECB~1.DOC
- E6E42F~1.DOC
- E7 - C7.1 - D2018/81619 - Executive eLearning module for WQ Incident Response Protocol.EML
- E7 - C7.1 - D2019/58363 - WNSW Request Materials and Chemicals in contact with drinking water.DOCX
- E7 - C7.1 - D2021/107430 WQ Catchment\_Protection\_Mandatory\_Training\_Report\_2021\_09\_20.XLSX
- E7 - C7.2 - D2015/88137 - Asset Custodian.DOCX
- E7 - C7.2 - D2015/88145 - Maintenance Officer - Trade.DOCX
- E7 - C7.2 - D2015/88146 - Maintenance Officer.DOCX
- E7 - C7.2 - D2015/88205 - SCADA Electrician.DOCX
- E7 - C7.2 - D2015/88209 - Water System Operator.DOCX
- E7 - C7.2 - D2015/89675 - Water Systems Operations Manager.DOCX
- E7 - C7.2 - D2015/89681 - Maintenance Team Leader.DOCX
- E7 - C7.2 - D2015/89684 - Maintenance Planner.DOCX
- E7 - C7.2 - D2018/111898 - Electrical and Controls Asset Specialist.PDF
- E7 - C7.2 - D2018/111901 - Mechanical Asset Specialist.PDF
- E7 - C7.2 - D2018/52871 - Water System Operations Supervisor.DOCX
- E7 - C7.2 - D2020/131070 - Regional Manager AM&S.DOCX
- E7 - C7.2 - D2021/103874 Training Presentation OL Customer and Stakeholder Relations 2021 (slide 17).PPTX
- E7 - C7.2 - D2021/106297 - Organisational Structures - Fish River O&M.PDF
- E7 - C7.2 - D2021/107427 - Sep 2021 - Water Quality Performance and Trend Analysis - Item 6.1.DOCX
- E7 - C7.2 - D2021/47935 Board Committee WQHCP- 24 March 21 - WQ Performance and ~ Item 6.1.DOCX



- E7-C71~1.EML
- E7-C72~1.PPT
- E7D450~1.DOC
- E8 - C8.1 - D2018/78477 - Community and Stakeholder Engagement Plan (CSEP) Long Form Template.DOCX
- E8 - C8.1 - D2019/29701 - Community and Stakeholder Engagement Plan (CSEP) Short Form Template.DOCX
- E9 - C9.1 - D2020/109756 - Warragamba Taste and Odour investigation June 2020.DOCX
- E9 - C9.1 - D2020/118977 Board Com WQHCP - 18 Nov 20 Annual Science Program review Item 6.3.PPTX
- E9 - C9.1 - D2020/123021 Board Com WQHCP 21-25 Science Program – Item 3.1.DOCX
- E9 - C9.1 - D2020/132093 Business Case technology trial + phycocyanin sensors - Lake Burragorang.DOCX
- E9 - C9.1 - D2020/1704 - Catchment Protection Work Program FY2021.DOCX
- E9 - C9.1 - D2021/25494 - Catchment Protection Work Program FY2022.PDF
- E9 - C9.1 - D2021/31545 - Alternative and Innovative Methods for Cyanobacteria Monitoring.DOCX
- E9 - C9.1 - D2021/52846 Committee Water Quality, Health and Catchment Protection -19 May.DOCX
- E9 - C9.1 - D2021/63889 - RE Board Resolution Request (2021-2025 board approval evidence).MSG
- E9 - C9.1 - D2021/64678 - Science Program 2021-2025 – Fire research strategy.DOCX
- E9 - C9.1 - D2021/81330 - CARM Greater Sydney Project Methodology.DOCX
- E9 - C9.1 - D2021/81743 - Science program monthly report – June 2021.PDF
- E9 - C9.1 - D2021/82300 Mgt Com WQCHP 29 July 2021 Science Program Progress Report – Item 5.2.3.PDF
- E9 - C9.2 - D2020/102644 FRWS Annual Review Drinking WQMS 2019 2020 (section 4).PDF
- E9 - C9.2 - D2021/100788 - Fish River Drinking Water Quality Report - August 2021.PDF
- E9 - C9.2 - D2021/107558 - SCADA screen showing Contact Time.PNG
- E9 - C9.2 - D2021/52340 CCP – Fish River Water Supply System (p12 validation table).DOCX
- E9 - C9.2 - D2021/52341 CCP – Raw Water Supply SWC Water Filtration Plants (validation table).DOCX
- E9 - C9.2 - D2021/82173 Mgt Com WQHCP Annual Report to IPART on WQMS item 5.3.4 (section 4).DOCX
- E9 - C9.2 - D2021/99762 - Reservoir integrity system health check (Fish River) - Jun 2021.XLSX
- E9 - C9.3 - D2021/106378 - Duckmaloi Analyser proposal from Hunter H2O.PDF
- E9 - C9.3 - D2021/107999 - Fish River Dosing Plant Project- Risk Register.XLSX
- E9 - C9.3 - D2021/108000 - Duckmaloi Manganese Dosing System- Final Risk Workshop.MSG

- E9 - C9.3 - D2021/108728 - ACR - Duckmaloi WFP Analyser Replacement - RITM0259658.PDF
- E9 - C9.3 - D2021/80906 - C2C 5 year review – Lithgow and Oberon – 2021 – finalised.XLSX
- E9 - C9.3 - D2021/89413 - Fish River C2C Risk Assessment 31 May 2021 Final Minutes.DOCX
- E91063~1.DOC
- E9-C92~1.DOC
- E9-C93~2.DOC
- E10 - C10.1 - CD2012/130[V5] - Water Quality Data Review and Reporting Procedure.DOCX
- E10 - C10.1 - CD2012/130[V6] - Water Quality Data Review and Reporting Procedure.DOCX
- E10 - C10.1 - CD2019/123 - Controlled Documents Framework.DOCX
- E10 - C10.1 - D2021/100583 - Screenshot, Monthly controlled document changes.DOCX
- E10 - C10.2 - D2020/124885 - Annual Water Quality Monitoring Report 2019 20.PDF
- E10 - C10.2 - D2020/126932 - IPART receipt for ACMR 2020.MSG
- E10 - C10.2 - D2021/103278 Reports 30Nov2020 Water Quality Monitoring Catchment Management.MSG
- E10 - C10.2 - D2021/107335 - Fish River Drinking Water Quality Report - June 2021 - email to stakeholders.MSG
- E10 - C10.2 - D2021/47936 Board Com WQHCP 19 May 2021 WQ Performance Trend Analysis item 6.1.DOCX
- E10 - C10.2 - D2021/47937 - Management Committee on Water Quality Health and Catchment ~ Water ~ Item 6.2.DOCX
- E10 - C10.2 - D2021/80178 - Prospect Water Quality Report 9 July 2021 – email to stakeholders.MSG
- E10 - C10.2 - D2021/82173 Mgt ComWQHCP 29 July 2021 Annual Report to IPART on WQMS – item 5.3.4.DOCX
- E10 - C10.2 - D2021/94636 - Fish River Drinking Water Quality Report – July 2021.PDF
- E10 - C10.2 - D2021/98648 - Water Quality Dashboard Aug 2021.DOCX
- E10-C1~3.MSG
- E10CCB~1.DOC
- E11 - C11.1 - D2021/102828 - FINAL- Alternative and Innovative Methods Presentation.PDF
- E11 - C11.1 - D2021/104284 - Mgt Committee on Water Quality, Health Warragamba and Nepean Dams.PPTX
- E11 - C11.1 - D2021/107752 -Data Analytics Raw Water Treatability - Nepean scope attached.MSG
- E11 - C11.1 - D2021/81330 - CARM Greater Sydney Project Methodology.DOCX
- E11 - C11.2 - CD2021/95 - Add Recommendations to Water Quality Improvement Plan.DOCX
- E11 - C11.2 - D2017/87415 - WQMS Audit Program.DOCX
- E11 - C11.2 - D2019/53719 WQ Improvement Plan (items 3.2.9, 3.2.10, 6.2.8, 6.2.9).XLSX

- E11 - C11.2 - D2020/101734 - WaterNSW Assessment Report~Fish River Supply Scheme DWQ 20-09-16.DOCX
- E11 - C11.2 - D2021/47936 Board Com WQHCP 19 May 2021 WQ Performance Trend Analysis – item 6.1.DOCX
- E11 - C11.2 - D2021/47937 Mgt Committee on Water Quality Health and Catchment Water.DOCX
- E11 - C11.2 - D2021/82173 WQHCP 29 July 2021 Annual Report to IPART on WQMS – item 5.3.4.DOCX
- E11 - C11.2 - D2021/99762 - Reservoir integrity system health check (Fish River) - Jun 2021.XLSX
- E11-C1~1.MSG
- E12 - C12.1 - D2017/50060 WQMS Annual review and Continuous Improvement Cycle.DOCX
- E12 - C12.1 - D2019/64126 - Review Water Quality Management System – How to Guide.DOCX
- E12 - C12.1 - D2020/102644 Fish River Water Supply Annual Review of the Drinking WQMS.PDF
- E12 - C12.1 - D2021/52872 - Board Com WQHCP 19 May 21 Annual System Health Check WQM Item 6.3.DOCX
- E12 - C12.1 - D2021/70966 -Board Meeting 30 June 2021 – Fish River Improvement Plan Item 12.4.PPTX
- E12 - C12.1 - D2021/82173 WQHCP 29 July 2021 Annual Report to IPART on WQMS item 5.3.4.DOCX
- E12 - C12.1 - D2021/91748 Board Meeting 28 August 2021 FR Improvement Plan Dashboard – Item 11.4.PPTX
- E12 - C12.2 - CD2021/95 - Add Recommendations to Water Quality Improvement Plan.DOCX
- E12 - C12.2 - D2019/53719 - Water Quality Improvement Plan.XLSX
- E12 - C12.2 - D2021/47936 Board Com WQHCP 19 May 2021 WQ Performance Trend Analysis item 6.1.DOCX
- E12 - C12.2 - D2021/82173 WQHCP 29 July 2021 Annual Report to IPART on WQMS item 5.3.4.DOCX
- D2021/113409 Auditors additional request Overview & Fish River Schematic.docx.pdf
- 2021 Operational Audit Response RE Fluoridation Plant FRWS.DOCX
- 87351-161 Duckmaloi Water Clari~tion Plant - Conduit Layout(2).pdf
- 87351-201AX Duckmaloi Water Cl~n Plant - Ground Floor Plan(2).TIF
- D2018/54667v1 ENV Enviro Impact Assess Form (EIA) for Minor Works.PDF
- D2018/54667v2 Approval EIA Duckmaloi Fluor Plant May 2018.PDF
- D2021/119124 Email Pradeep Kumar 171219 - Insp form.PDF
- D2021/56113 Duckmaloi WTP Fluoridation SOPs.DOCX
- Email from Pradeep Kumar 21-8-2019.pdf
- Email from Pradeep Kumar 29-9-2020(2).pdf
- Email to Pradeep Kumar 21-8-2019(2).pdf
- InspSaturator Bottle(2).doc
- InspSaturator Duck Fluoriation Plant Final(2).doc

- InspSaturator(2).doc
- RFT 05382F51 Drawings(2).pdf
- D2020/109959 Bushfire Recovery SteerCo No11 - 20201012.DOCX
- D2020/93789 Mgt Comm SPC 310820 - EMS Ann Mgt Review 19-20 Item3.5.DOCX
- D2021/113396 DRAFT Compliance Management Implementation Plan 30.9.21.DOCX
- D2021/56620 FINAL Minutes JOG 10 February 2021.DOCX
- D2021/68731 Bushfire Recovery Steerco No16 - 20210616.DOCX
- D2021/95450 FINAL Minutes JOG meeting 16 November 2020.DOCX
- Email From Carolyn re Macarthur deep dive.log

### Clause 3 Bulk Water storage and transmission

- 3.1.1 - CD2015/331 - Asset Criticality Assessment Procedure.DOCX
- 3.1.1 - CD2019/173 - Flood Incident Management Protocol.DOCX
- 3.1.1 - D2021/106003 - COVID19 - protocol for undertaking field work.PDF
- 3.1.1 CD2021/107 Operations and Maintenance Man~aloi WTP.DOCX
- 3.1.1 D2020/59967 PIB - Project Initiation Brief - Prospect RWPS resilience..DOCX
- 3.1.1 D2020/71309 PIB - Project Initiation Brief - Prospect RWPS SCADA renewal.DOCX
- 3.1.1 D2021/116977 Asset Delivery Steer Co Pack - August 2021.PDF
- 3.1.1 D2021/117389 Duckmaloi WTP - PM work orders.XLSX
- 3.1.1 D2021/117469 PO00012908 purchase order - ABB.PDF
- 3.1.1 D2021/117483 Flow Meter Calibration Verification Certificate.PDF
- 3.1.1 D2021/117544 Merck Spectroquant - Prove 100 - Calibration Cert.PDF
- 3.1.1 D2021/117573 WO00058479 Electromagnetic Inspection Work Order.PDF
- 3.1.1 D2021/117573 WO00058479 Electromagnetic Pro~Inspection - Work Order Report.PDF
- 3.1.1 D2021/117711 Asset Delivery Steer Co Pack - June 2021.PDF
- 3.2 1 D2021117673 Fish River BU reporting evidence extract.docx
- 3.2.1 - CD2011/179[v6] - Water Monitoring Program.DOCX
- 3.2.1 - CD2011/179[v7] - Water Monitoring Program.DOCX
- 3.2.1 - CD2015/436 - Strategic Asset Management Plan.DOCX
- 3.2.1 - CD2019/112 - Customer supply agreement Procedure.DOCX
- 3.2.1 - D2013/101721 - Raw Water Supply Agreement(2).PDF
- 3.2.1 - D2013/101721 - Raw Water Supply Agreement.PDF
- 3.2.1 - D2021/106289 - RACS Screenshot #1636 Prospect WFP alkalinity and ASU.DOCX
- 3.2.1 - D2021/82173 - Management Committee on Water Quality, Health and Catchment Protection - 29 ~ Item 5.3.4.DOCX
- 3.2.1 D2018/116921 OBSOLETE FRWSS~t Management Plan October 2020.DOCX
- 3.2.1 D2020/76136 CSA Checklist Goulburn Mulwaree Council 2020 Review.XLSX
- 3.2.1 D2021/116534 FW Fish River discoloured water.MSG
- 3.2.1 D2021/116553 FRWS web page content - FINAL.MSG
- 3.2.1 D2021/116582 Fish River Update.MSG
- 3.2.1 D2021/116583 Fish River update.MSG
- 3.2.1 D2021/116587 Fish River object criticality.xlsx
- 3.2.1 D2021/116786 Goulbn-Mulwar rwcsa Exec approval.MSG

- 3.2.1 D2021/117250 IPART 2021 - further evidence Clauses 3\_3\_1 and 6\_12.DOCX
- 3.2.1 D2021/117646 frws with copper data Oct report.DOCX
- 3.2.1 D2021/117688 Incident Mgt\_Evidence.pdf
- 3.2.1 D2021/22294 Goulburn Mulwaree Supply Agree~ber 2020.PDF
- 3.3.1 - CD2015/312[v2] - Water Ordering Procedure.DOC
- 3.3.1 - D2021/88656 - 2020-2021 Water Order Stats - for Operating Licence Audit.XLSX
- 3.3.1 - DOC10 11867[v2] - Water Order Checklist.PDF
- 3.3.1 D2021/115566 Copy C&C BU Report 15 June - 14 Jul 21.XLSX
- 3.3.1 D2021/117250 Further evidence Clauses 3\_3\_1 and 6\_12.DOCX
- 3.4.1 - CD2021/106 - Maintaining the LWU Register Contact Details.DOC
- 3.4.1 - D2021/102335 - May 2021 Water Accounting System report for LWU.XLSX
- 3.4.1 - D2021/97065 - Confirmation of contact details Warren Shire Council.MSG
- 3.4.1 - D2021/97073 - Confirmation of contact details Mid-Western Regional Council,.MSG
- 3.4.1 - D2021/97075 - Confirmation of contact details Bega Valley Shire Council.MSG
- 3.4.1 - DOC13 29697 - Local Water Utilities contact details.XLSX
- 3.4.2 - DOC13 29697 - Local Water Utilities contact details.XLSX
- 3.4.3 - CD2021/86 - LWU Information Request Procedure 2021.DOCX
- 3.4.3 - CD2021/97 - Procedure for Managing Information Requests from Local Water Utilities.DOC
- 3.4.4 - CD2021/86 - LWU Information Request Procedure 2021.DOCX
- 3.4.4 - CD2021/97 - Procedure for Managing Information Requests from Local Water Utilities.DOC

## Clause 4 Performance Standards

- 4.2.2 - CD2004/183[v3] - Water Quality Incident Response Protocol.DOCX
- 4.2.2 - CD2004/183[v4] - Water Quality Incident Response Protocol.DOCX
- 4.2.2 - D2020/124885 - Annual Water Quality Monitoring Report 2019 20.PDF
- 4.2.2 - D2020/133316 - Prospect Reservoir water quality report – 17 December 2020.PDF
- 4.2.2 - D2021/15020 - Prospect Water Quality Report 9 February 2021.DOCX
- 4.2.2 - D2021/27128 - Prospect Water Quality Report 9 March 2021.PDF
- 4.2.2 - D2021/50417 - Fish River Drinking Water Quality Report – December 2020.PDF
- 4.2.2 - D2021/50424 - Fish River Drinking Water Quality Report – February 2021.PDF
- 4.2.2 - D2021/50425 - Fish River Drinking Water Quality Report – March 2021.PDF
- 4.2.2 - D2021/70631 - Prospect Water Quality Report 16 June 2021.PDF
- 4.2.2 - D2021/80176 - Prospect Water Quality Report 8 July 2021.PDF
- 4.2.2 - D2021/81887 - Fish River Drinking Water Quality Report – June 2021.PDF
- 4.2.2 - D2021/82173 Mgt Committee WQHCP – 29 July 2021 – Annual Report on the WQMS – item 5.3.4.DOCX
- 4.2.2 - D2021/94636 - Fish River Drinking Water Quality Report – July 2021.PDF
- 4.2.3 - CD2015/436 - Strategic Asset Management Plan.DOCX
- 4.2.3 - CD2016/59 - WaterNSW Asset Planning Manual.DOCX
- 4.2.3 - CD2017/173[v1] - Operating Protocols with LCC.PDF

- 4.2.3 - CD2017/173[v2] - Operating Protocols with LCC.DOCX
- 4.2.3 - CD2017/180[v1] - Incident Management Procedure.DOCX
- 4.2.3 - CD2019/140 - Protocol for Managing Supply Interruptions.DOCX
- 4.2.3 - CD2021/44 - WNSW-VSD-AS-001 HV Variable Speed Drives & Motors Asset Class Strategy.DOCX
- 4.2.3 - CD2021/83 - Fish River Incident Management Plan.DOCX
- 4.2.3 - D2019/105916 - RACS882-PMP-RP-001 PROS Prospect RWPS Failure ICAM Report Rev 0.DOCX
- 4.2.3 - D2020/59967 - PIB - Project Initiation Brief - Prospect RWPS resilience.DOCX
- 4.2.3 - D2021/108012 - RACS Summary.XLSX
- 4.2.3 - D2021/70679 - Fish River Drinking Water Quality Report May 2021.PDF
- 4.2.3 - D2021/75420 - RWSA Monthly Compliance Report June 2021.XLSX
- 4.2.3 - D2021/80459 - Sydney Water RWPS Compliance Report June 2021.DOCX
- 2020-09 - 4.2.2 3.2.1 - D2021/106291 WQ Instruments for Duckmaloi WTP Installation Commissioning.PDF
- 2020-10 - 4.2.2 - D2021/106283 - OFFLINE COPY - Duckmaloi WTP daily data sheet 2021.XLSX
- 2020-11 - 4.3.2 - CD2021/61 - IPART CSR Reporting Procedure - Operating Licence Clause 4\_3.DOC
- CD2001/115v1 O and M Manual Prospect Dam.PDF
- CD2001/115v2 O&M Manual Prospect Dam UNDER REVIEW.DOCX
- D2014/100100 Prospect dam improve Works O&M Pt1a r1.DOC
- D2014/100101 Prospect dam O&M Part1a.DOC
- D2014/100104 Prospect dam O&M Part2a rev1.DOC
- D2014/100106 Prospect dam O&M Part2a.DOC
- D2014/100108 Prospect dam O&M Part3a.DOC
- D2014/100109 Prospect dam O&M Part4a.DOC
- D2014/100111 Prospect dam O&M Part5a.DOC
- D2014/100113 Prospect dam O&M Part6a.DOC
- D2014/100114 Prospect dam O&M Part7a.DOC
- D2014/100117 Prospect dam O&M Part8a.DOC
- D2014/100118 Prospect dam O&M Part9a.DOC
- D2014/100120 Prospect dam O&M Part10a.DOC
- D2014/100121 Prospect dam O&M Part11a.DOC
- D2014/100125 Prospect dam O&M Part12a.DOC

## Clause 5 Organisational systems management

- 5.1 D2018/54341 WaterNSW Assurance Program 2018-2022\_High Risk Sites.XLSX
- 5.1 D2021/116505 Assets Overdue CDs.MSG
- 5.1 D2021/116939 ACS Plan vs Completed.DOCX
- 5.1 D2021/117362 Warragamba Drum Gate CM work orders.XLSX
- 5.1 D2021/117518 WO106640 Gate Valve - Minor Inspection.PDF
- 5.1 D2021/117522 WO106640 Gate Valve - Minor Inspection attachments.PDF
- 5.1 D2021/117523 WO89908 Butterfly Valve - Minor Inspection attachments.PDF
- 5.1 D2021/117525 WO89908 Butterfly Valve - Minor Inspection.PDF



- 5.1 D2021/117683 WaterNSW Asset Maintenance Internal Audit Report - Final.PDF
- 5.1 D2021/65244 DRAFT Board Comm Assets Sep21 Annual Sys Health Check AMS.DOCX
- 5.1.1 - CD2015/331 - Asset Criticality Assessment Procedure.DOCX
- 5.1.1 - CD2015/436 - Strategic Asset Management Plan.DOCX
- 5.1.1 - CD2015/488[v4] - Asset Management Policy.DOCX
- 5.1.1 - D2019/83472 - Certificate of Registration AMS 659130 (for period 10 Jan 2020 to 30 June 2020).PDF
- 5.1.1 - D2020/118497 - RCM Review on Electrical Actuators and Low Voltage Power Distribution Boards Change Request.DOCX
- 5.1.1 - D2020/75078 - RCM Review on Valves and Gates Change Request.DOCX
- 5.1.1 - D2020/97949 - Annual Asset Performance and Health Report FY19-20 FINAL.DOCX
- 5.1.1 - D2021/102629 - organisation-chart effective Aug 2021(see p31).PDF
- 5.1.1 - D2021/106003 - COVID19 - protocol for undertaking field work.PDF
- 5.1.1 - D2021/91538 - WNSW-Assessment Report-June 2021-Final-11July2021.PDF
- 5.1.1 CD2015/331[v3] Asset Criticality Assessment Procedure.DOCX
- 5.1.1 CD2015/335[v2] Asset Condition Assessment Guidelines.DOCX
- 5.1.1 CD2015/436[v8] Strategic Asset Management Plan \_OBSOLETE.DOCX
- 5.1.1 CD2015/436[v9] Strategic Asset Management Plan.DOCX
- 5.1.1 D2020/59624 Board Assets 230920 Annual System Health Check AMS Item 6.3.DOCX
- 5.1.1 D2021/115253 Guiding Principles AGREED by WaterNSW 17 Dec 2020.docx
- 5.1.1 D2021/115254 WNSW & WIN MoU Executed version 17 May 2021.pdf
- 5.1.1 D2021/115256 WNSW WNSW working together leadership pack v03.pdf
- 5.1.1 D2021/116801 WNSW WNSW Letter Attachment re Interim Arrangements.pdf
- 5.1.1 D2021/116803 Service Agreement Water NSW-WIN (FOR EXECUTION 23.09.21).pdf
- 5.1.1 D2021/116805 ToR Dungowan Dam & Pipeline PCG - Sept 2021.docx
- 5.1.1 D2021/116807 ToR Project Oversight Committee - Sept 2021.docx
- 5.1.1 D2021/116810 ToR Three Dams Steering Committee - Sept 2021.docx
- 5.1.2 - CD2015/331 - Asset Criticality Assessment Procedure.DOCX
- 5.1.2 - CD2015/335 - Asset Condition Assessment Guidelines.DOCX
- 5.1.2 - CD2015/436 - Strategic Asset Management Plan.DOCX
- 5.1.2 - CD2015/488[v4] - Asset Management Policy.DOCX
- 5.1.2 - D2018/87912 - AMS awareness presentation.PPTX
- 5.1.2 - D2020/35936 - Asset Management System Awareness eLearning module content extract April 2020.PDF
- 5.1.2 - D2021/102597 - Assets Weekly Newsletter - 20210622 - ISO audit.PDF
- 5.1.2 - D2021/102598 - Assets Weekly Newsletter - 20210628 - COVID impacts.PDF
- 5.1.2 - D2021/106292 - FY21 WO Duckmaloi WTP, Prospect RWPS, Wallerawang WTP.XLSX
- 5.2 D2021/116986 Heritage NSW notification - Cataract Clearing letter..MSG
- 5.2 D2021/57558 Incident Investigation Form - Level 2 ICAM Cataract Dam.DOC
- 5.2 D2021/76259 BR4 - Environment CRMP Risk Event Summary - v1 May 2021.DOCX



- 5.2 D2021/95743 EPA SLG Meeting 15 December 2020 Minutes v1 final.DOCX
- 5.2.1 - CD2011/163[v4] - Assurance Activity Procedure.DOC
- 5.2.1 - CD2015/445[v4] - Environmental Management System Manual.DOCX
- 5.2.1 - CD2015/445[v5] - Environmental Management System Manual.DOCX
- 5.2.1 - CD2015/593[v3] - Environmental Policy.PDF
- 5.2.1 - CD2016/151[v1] - Project Delivery Framework (PDF) User Guide.DOCX
- 5.2.1 - CD2016/77 - WaterNSW Procurement Framework.DOCX
- 5.2.1 - D2021/062441 - Balranald Assurance Activity Report.DOC
- 5.2.1 - D2021/102541 - WNSW-Assessment Report-Surveillance (May - June 2021).PDF
- 5.2.1 - D2021/102562 - ISO 14001 2015 Awareness Presentation.PPTX
- 5.2.1 - D2021/30800 - WaterNSW Certificate of registration EMS ISO 14001 2015 (659131, expiry 2023 Jan).PDF
- 5.2.1 - D2021/53772 - Environmental Operational Site Checklist - Lock 15 Euston (5 May 2021).PDF
- 5.2.1 - D2021/66189 - EMS Assurance Activity Report (Internal EMS Audit) 2021.DOCX
- 5.2.1 - D2021/91538 - BSI Combined Audit Report (EMS Surveillance audit).PDF
- 5.2.2 - D2015/48040(v2) - Process Health Audit Schedule.XLSX
- 5.2.2 - D2020/122624 - Fish River Water Supply Scheme INCIDENT MANAGEMENT PLAN - Training Material.PPTX
- 5.2.2 - D2020/122627 - FRWSS Incident Management (Environment) - Training Records.XLSX
- 5.2.2 - D2020/133269 - Environmental Objectives and Targets 2020 2021.DOCX
- 5.2.2 - D2020/92704 - Reports Charts 2020 2021.XLSM
- 5.2.2 - D2020/95078 - Environmental Training – Monthly Report FY 2021.XLSX
- 5.2.2 - D2021/107345 - Management Committee ~ Sep 6 EMS Quarterly Performance and Trend Analysis Report Item 3.2.DOCX
- 5.2.2 - D2021/107346 - Item 2.3a WaterNSW September 2021 Monthly Environment Dashboard Report.DOCX
- 5.2.2 - D2021/107347 - Management Committee on Safety, People and Capability - 6 September 2021 - EMS ~ Item 3.5.DOCX
- 5.2.2 - D2021/71843 - Duckmaloi Water Treatment Plant - Assurance Activity Report Audit 2021.DOC
- D2021/71346 WNSW Board meeting 30 06 21 Environment Performance Dashboard Item 12.1.DOCX
- 2021 Operational Audit Response RE Fluoridation Plant FRWS.DOCX
- 87351-161 Duckmaloi Water Clarification Plant - Conduit Layout(2).pdf
- 87351-201AX Duckmaloi Water Clarification Plant - Ground Floor Plan(2).TIF
- D2018/54667v1 ENV Enviro Impact Assess Form (EIA) for Minor Works.PDF
- D2018/54667v2 Approval EIA Duckmaloi Fluor Plant May 2018.PDF
- D2021/119124 Email Pradeep Kumar 171219 - Insp form.PDF
- D2021/56113 Duckmaloi WTP Fluoridation SOPs.DOCX
- Email from Pradeep Kumar 21-8-2019.pdf
- Email from Pradeep Kumar 29-9-2020(2).pdf
- Email to Pradeep Kumar 21-8-2019(2).pdf

- InspSaturator Bottle(2).doc
- InspSaturator Duck Fluoriation Plant Final(2).doc
- InspSaturator(2).doc
- RFT 05382F51 Drawings(2).pdf

## Clause 6 Customer and stakeholder relations

- 5.Clause 6 Customer and stakeholder relations6.1.2 - CD2007/13[v5] - Complaints and Compliments Handling Procedure.DOC
- 6.1.2 - CD2007/13[v6] - Complaints and Compliments Handling Procedure.DOC
- 6.1.2 - CD2017/173[v1] - Operating Protocols with LCC.PDF
- 6.1.2 - CD2017/173[v2] - Operating Protocols with LCC.DOCX
- 6.1.2 - CD2017/180[v1] - Incident Management Procedure.DOCX
- 6.1.2 - CD2019/140 - Protocol for Managing Supply Interruptions.DOCX
- 6.1.2 - CD2020/119 - Feedback Compliments and Complaints Policy.DOCX
- 6.1.2 - CD2021/83 - Fish River Incident Management Plan.DOCX
- 6.1.2 - D2021/108012 - RACS Summary.XLSX
- 6.13.1 - D2017/5883 - Water Quality Systems Officer (position description).PDF
- 6.13.1 - D2020/105480 - Item 4.1 Joint policy on recreational access June 2020.PDF
- 6.13.1 - D2020/114231 - Management Committee on Water Quality, Health and Catchment Protection - 27 ~ item 3.2.3.PPTX
- 6.13.1 - D2020/134805 - Q4 2020 Q3 SLG Minutes 10 Sep – final.DOCX
- 6.13.1 - D2021/102631 - Memorandum of Understanding between WaterNSW and NSW Health\_Draft Sept 21.DOCX
- 6.13.1 - D2021/106515 receipt of revised draft MoU between WNSW and NSW Health\_Draft Sept 2021.MSG
- 6.13.1 - D2021/106757 - 2021 Q3 SLG item 2.1 SLG Minutes 15 June.DOCX
- 6.13.1 - D2021/29665 - Rec Access Process\_v3.PDF
- 6.13.1 - D2021/4641 - Recreational access policy implementation working group meeting notes 14 Jan 2021.DOCX
- 6.13.1 - D2021/5620 - FINAL Minutes JOG 10 February 2021 (refer p2, section 1.2).MSG
- 6.13.1 - D2021/56647 2020 Q4 SLG Minutes 8 Dec – FINAL ref pg2 item 3.1.DOCX
- 6.13.1 - D2021/77947 - 2021 Q1 SLG Minutes 16 Mar - FINAL.DOCX
- 6.13.1 - D2021/77952 - 2021 Q2 SLG Item 4.1 Attachment 1 Terms of Reference Public Health SLG JOG.DOCX
- 6.13.1 - D2021/93047 - Extension of MoU NSW Health and WaterNSW letters signed by NSW Health Secretary.PDF
- 6.13.1 - D2021/93073 - ARK Memorandum of Understanding between WaterNSW and NSW Health – draft to NSW Health.MSG
- 6.13.1 - D2021/93074 MoU between WNSW and NSW Health – intention to extend by exchange of letters.MSG
- 6.13.1 - D2021/93075 - MoU – NSW Health edits post finalisation of SWC MoU.MSG
- 6.13.1 - D2021/95444 - FINAL Minutes JOG 12th May 2021 (refer p2, Item 1.3 General discussion).DOCX
- 6.13.3 - D2020/124885 - Annual Water Quality Monitoring Report 2019 20 Annual Water Quality Monitoring Report.PDF

- 6.13.3 - D2020/126948 - Report to NSW Health - WaterNSW Water Quality Monitoring Report 2019-2020.MSG
- 6.13.3 - D2021/107335 - Fish River Drinking Water Quality Report - June 2021 - email to stakeholders.MSG
- 6.13.3 - D2021/80178 - Prospect Water Quality Report 9 July 2021 – email to stakeholders.MSG
- 6.13.3 - D2021/95138 - Incidents and events 2020-21 (prepared for 2020-21 AWQMR).DOCX
- 6.14.1 - CD2016/6 - Environmental Incident Management Protocol.DOC
- 6.14.1 - D2019/77977 - Catchment Compliance Spreadsheets.XLSX
- 6.14.1 - D2021/103757 - WNSW Water Quality Incident Response Protocol.MSG
- 6.17.1 - D2021/107602 - Summary of Licence suspension details.PDF
- 6.17.1 - D2021/107603 - Suspension on water licence 85AL751654.PDF
- 6.17.1 - D2021/107604 - Suspension imposed on 3 WALs - 31806 31809 31810.PDF
- 6.17.1 - D2021/107605 - Suspension on water licence 90AL802532.PDF
- 6.17.1 - D2021/107612 - Servicenowincidnet-NRAR-20210930.XLSX
- 6.17.1 - D2021/99160 - Attachment 5.1 - Protocols - Area 1 - Updated 2021-02-23.DOCX
- 6.17.1 - D2021/99160 - Attachment 5.1 - Protocols - Area 1 - Updated 2021-02-23.DOCX
- 6.17.1 - D2021/99161 - Attachment 5.3 - Protocols - Area 3 - Updated 2021-02-23(2).DOCX
- 6.17.1 - D2021/99161 - Attachment 5.3 - Protocols - Area 3 - Updated 2021-02-23.DOCX
- 6.17.1 - D2021/99174 - Attachment 5.2 - Protocols - Area 2 - Updated 2021-02-23(2).DOCX
- 6.17.1 - D2021/99174 - Attachment 5.2 - Protocols - Area 2 - Updated 2021-02-23.DOCX
- 6.17.1 - D2021/99179 - 5 Operating Group Update - NRAR Request Stats.PPTX
- 6.17.1 - D2021/99188 - 12B OG\_ToR - November 2020 - As Agreed.DOCX
- 6.17.1 - D2021/99192 - Attachment 3 - NRAR Request Stats.PPTX
- 6.17.1 - D2021/99204 - Attachment 3 - Strategic Group ToR - December 2020 Review.DOCX
- 6.17.1 - Doc11 25426 - unsafe site register.XLSX
- 6.18 D2021/116619 RE [FEEDBACK ] NRAR access to DQP portal.MSG
- 6.18 D2021/116621 RE NRAAR Tamper seals - access to the form.MSG
- 6.18 D2021/116622 RE [FEEDBACK ] NRAR access to DQP portal.MSG
- 6.18 D2021/117794 DQP DB Azure Storage and backup.pdf
- 6.18.1 - CD2021/89 - Agile Delivery Framework.DOCX
- 6.18.1 - D2019/120812 - Duly Qualified Person Portal (DQPP) Project Short form ATS.DOCX
- 6.18.1 - D2020/126874 - (Managing DQP Certificates Procedure - DRAFT).DOCX
- 6.18.1 - D2020/33843 - Duly Qualified Person Portal (DQPP) Project Release 2.DOCX
- 6.18.1 - D2020/35636 - (DQP Portal Implementation - TSD).DOCX
- 6.18.1 - D2021/106841 - 6\_18\_1\_CertSamp\_ TAR-80CA701835-kiameron@bigpond.com-1447.PDF

- 6.18.1 - D2021/106842 - 6\_18\_1\_CertSamp\_VAL-90CA801812-plattsag@gmail.com-1742.PDF
- 6.18.1 - D2021/106843 - 6\_18\_1\_CertSamp\_VAL-90CA814614-Bruce Coxhead-2337.PDF
- 6.18.1 - D2021/106844 - 6\_18\_1\_CertSamp\_ACC-80CA701688-John Larkin-2521.PDF
- 6.18.1 - D2021/106845 - 6\_18\_1\_CertSamp\_DES-90CA806738--1895.PDF
- 6.18.1 - D2021/106846 - 6\_18\_1\_CertSamp\_Sample of Uploaded Images.PNG
- 6.18.1 - D2021/106869 - 6\_18\_1\_FW NSW Certified Meter Installer.MSG
- 6.18.1 - D2021/106870 - 6\_18\_1\_Non-Urban-metering-functionality List.PNG
- 6.18.1 - D2021/106873 - 6\_18\_1\_RE DQP Portal - Jasen Crighton.MSG
- 6.18.1 - D2021/106875 - 6\_18\_1\_RE NRAR representative for DAS system review and end to end testing.MSG
- 6.18.1 - D2021/106876 - 6\_18\_1\_DQP Portal - BRD v1.1.DOCX
- 6.18.1 - D2021/106881 - 6\_18\_1\_DQP Portal - Colin Lee.MSG
- 6.18.1 - D2021/106882 - 6\_18\_1\_End to End Testing Scope\_WNSW\_20200227.DOCX
- 6.18.1 - D2021/34529 - Transition Handover Document - DQP Portal - April - 2021.DOCX
- 6.18.2 - D2021/106886 - 6\_18\_2\_Suggested improvement for DQP portal.MSG
- 6.18.2 - D2021/106952 - 6\_18\_2\_DQP\_DeliveredImprovements\_DevOps.PNG
- 6.18.3 - CD2021/2 - Information Classification & Handling Standard.DOCX
- 6.18.3 - D2019/52015 - Azure Storage Account Standard.DOCX
- 6.18.4 - D2021/106891 - 6\_18\_4\_List of DQPs in the system - Screenshot from PowerBI Report.PNG
- 6.18.4 - D2021/106892 - 6\_18\_4\_Request for Authorization from DQP.EML
- 6.2.1 - D2019/86792 - 6.2.1 IPART Audit\_2018-2019 - WAS Accounts.DOCX
- 6.2.1 - D2019/86794 - WAS Manual - Manage Water Accounts Process.DOC
- 6.2.1 - D2019/86797 - WAS Manual - 3. Fundamental Business Rules.DOCX
- 6.2.1 - D2019/86803 - WAS Manual - 5. Access Licence Dealings.DOCX
- 6.2.1 - D2019/86806 - WAS Manual - 9. Water Source Water Account Parameters.DOCX
- 6.2.1 - D2019/86809 - WAS Manual - Interpret Rules for Water Sharing Plans - Water Account Process.DOC
- 6.2.1 - D2021/107000 - List of new or cancelled licences for IPART Operational Audit 6\_2\_1.XLSX
- 6.20.1 - D2020/126232 - WaterNSW-NRAR DSA.PDF
- 6.20.1 - D2021/102614 - Roles and Responsibilities Agreement.PDF
- 6.20.1 - D2021/38294 - WaterNSW- DPIE DSA.PDF
- 6.20.3 - CD2010/121[v5] - IT Access Control Procedure.DOCX
- 6.20.3 - CD2010/123[v5] - IT Access Control Procedure - Third Party.DOCX
- 6.20.3 - D2021/107914 - File Note System Access Operational Audit (NSW non-urban water metering framework.DOCX
- 6.20.3 - D2021/107923 - Data Quality Tool Statement (metering datasets).DOCX
- 6.6.2 - CD2015/281[V4] - WaterNSW Customer Advisory Groups Charter.DOCX
- 6.6.2 - CD2015/281[V5] - WaterNSW Customer Advisory Groups Charter.DOCX
- 6.6.2 - D2021/18451 - Namoi-Peel CAG.PDF
- 6.6.2 - D2021/18460 - Murrumbidgee CAG.PDF

- 6.6.2 - D2021/18466 - Murray-Lower Darling CAG.PDF
- 6.6.2 - D2021/18470 - Macquarie-Cudgegong CAG.PDF
- 6.6.2 - D2021/18475 - Lachlan CAG.PDF
- 6.6.2 - D2021/18479 - Gwydir CAG.PDF
- 6.6.2 - D2021/18484 - Greater Sydney CAG.PDF
- 6.6.2 - D2021/18485 - Coastal-Hunter CAG.PDF
- 6.6.2 - D2021/18491 - Border Rivers CAG.PDF
- 6.6.2 - D2021/18497 - Barwon-Darling CAG.PDF
- 6.8.2 - CD2017/70[V4] - Debt Management Code of Practice.DOCX
- 6.8.2 - CD2017/70[V5] - Debt Management Code of Practice.DOCX
- 6.8.2 - CD2019/62 - WaterNSW Internal Customer Hardship Procedure.DOC
- 6.8.2 - D2021/103874 - Training Presentation - OL Section 6 - Customer and Stakeholder Relations - 2021.PPTX
- 6.8.2 - D2021/103916 - Payment Plans - 2020-21 - source Sept 2021 BU report - Billing.DOCX
- 6.9.1 - CD2007/13[v5] - Complaints and Compliments Handling Procedure.DOC
- 6.9.1 - CD2007/13[v6] - Complaints and Compliments Handling Procedure.DOC
- 6.9.1 - CD2020/119 - Feedback Compliments and Complaints Policy.DOCX
- 6.9.1 - D2021/103934 - Email from Exec Manager 24-08-21 to launch - Compliments and Complaints Form.PDF
- 6.9.1 - D2021/82262 - Complaints 20-21.XLSX 2020-12 - 6.1.2 - D2021/58547 - FR JOG meeting minutes 11 May 2021.DOCX
- 2020-12 - 6.1.2 - D2021/108039 FRWS JOG - Action Minor Consumer Agreement feedback NSW.HMSG
- 2020-12 - 6.1.2 - D2021/58547 - FR JOG meeting minutes 11 May 2021.DOCX
- 2020-13 - 6.6.2 - CD2015/281[V4] - WaterNSW Customer Advisory Groups Charter.DOCX
- 2020-13 - 6.6.2 - CD2015/281[V5] - WaterNSW Customer Advisory Groups Charter.DOCX
- 2020-14 - 6.6.2 - CD2015/281[V4] - WaterNSW Customer Advisory Groups Charter.DOCX
- 2020-14 - 6.6.2 - CD2015/281[V5] - WaterNSW Customer Advisory Groups Charter.DOCX
- 2020-14 - 6.6.2 - D2021/18451 - Namoi-Peel CAG.PDF
- 2020-14 - 6.6.2 - D2021/18460 - Murrumbidgee CAG.PDF
- 2020-14 - 6.6.2 - D2021/18466 - Murray-Lower Darling CAG.PDF
- 2020-14 - 6.6.2 - D2021/18470 - Macquarie-Cudgegong CAG.PDF
- 2020-14 - 6.6.2 - D2021/18475 - Lachlan CAG.PDF
- 2020-14 - 6.6.2 - D2021/18479 - Gwydir CAG.PDF
- 2020-14 - 6.6.2 - D2021/18484 - Greater Sydney CAG.PDF
- 2020-14 - 6.6.2 - D2021/18485 - Coastal-Hunter CAG.PDF
- 2020-14 - 6.6.2 - D2021/18491 - Border Rivers CAG.PDF
- 2020-14 - 6.6.2 - D2021/18497 - Barwon-Darling CAG.PDF
- 2020-15 - 6.8.2 - CD2017/70[V5] - Debt Management Code of Practice.DOCX
- 2020-15 - 6.8.2 - D2021/103928 approval Debt Mgt COP and Compliment complaint Feedback Policy.MSG



- 2020-16 - 6.9.1 - D2021/103928 approval - Debt Mgt COP and Compliment complaint Feedback Policy.MSG
- 2020-16 - 6.9.1 - D2021/103934 - Email Exec Manager 24-08-21 launch - Compliments and Complaints Form.PDF
- 2020-16 - 6.9.1 - D2021/104831 ToR - IPART Operating License Validation Final 5Jul21.MSG
- 2020-17 - 6.9.1 - CD2007/13[v5] - Complaints and Compliments Handling Procedure.DOC
- 2020-17 - 6.9.1 - CD2007/13[v6] - Complaints and Compliments Handling Procedure.DOC
- 2020-17 - 6.9.1 - D2021/103934 - Email Exec Manager 24-08-21 launch - Compliments and Complaints Form.PDF
- 2020-17 - 6.9.1 - D2021/104831 - ToR - IPART Operating License Validation of Completed ~ Final 5Jul21.MSG
- 2020-18 - 6.17.1 - D2021/99188 - 12B OG\_ToR - November 2020 - As Agreed.DOCX
- 2020-18 - 6.17.1 - D2021/99190 - NRAR-WNSW Operations Group Agenda - Meeting 8 - 2021-05-05.DOCX
- 2020-18 - 6.17.1 - D2021/99204 - Attachment 3 - Strategic Group ToR - December 2020 Review.DOCX
- 2020-18 - 6.17.1 - D2021/99206 - Strategic Group Agenda - Meeting 3.DOCX

## Clause 7 Performance monitoring

- 7.2.1 - D2020/126948 - Report to NSW Health - WaterNSW Water Quality Monitoring Report 2019-2020.MSG
- 7.2.1 - D2020/93804 - Annual WQMS Report - 2019-20.PDF
- 7.2.1 - D2020/96582 - IPART Confirmation - 1 September Reporting - WaterNSW Operating Licence.MSG
- 7.2.1 - D2020/96583 - NSW Health Confirmation - Annual Water Quality Management ~ WaterNSW Operating Licence.MSG
- 7.2.1 - D2021/103278 - Reports to IPART - 30 Nov 2020 Water Quality Monitoring and Catchment Management.MSG
- 7.2.1 - D2021/106741 - 1 Sept 2020 Reports on WaterNSW website.MSG
- 7.2.1 - D2021/106742 - 1 Sept 2020 Water Conservation Program Report on WaterNSW website.MSG
- 7.2.1 - D2021/106853 - Email to IPART - 1 September Reporting 2020 - WaterNSW Operating Licence.MSG
- 7.2.1 - D2021/106885 - Review of System Yield - uploaded to WaterNSW website.MSG
- 7.2.1 - D2021/106937 - LWU Information Request Procedure - ARK Approval.JPG
- 7.2.1 - D2021/107105 - LWU Information Request Procedure- uploaded to WaterNSW website.MSG
- 7.2.1 - D2021/107116 - Website Change Request - myWaterNSW - screenshot.JPG
- 7.2.1 - D2021/34374 - 31 March 2021 Report to IPART - Significant Changes.PDF
- 7.2.1 - D2021/34552 - Email to IPART - 31 March 2021 - Significant Changes Report.MSG
- 7.2.1 - D2021/99792 - Email to IPART - Review of System Yield Model Report.MSG

- 2020-19 - 7.17.1 - D2021/99160 - Attachment 5.1 - Protocols - Area 1 - Updated 2021-02-23.DOCX
- 2020-19 - 7.17.1 - D2021/99161 - Attachment 5.3 - Protocols - Area 3 - Updated 2021-02-23.DOCX
- 2020-19 - 7.17.1 - D2021/99171 - NRAR-WNSW Operations Group Agenda - Meeting 7 - 2021-02-23.DOCX
- 2020-19 - 7.17.1 - D2021/99174 - Attachment 5.2 - Protocols - Area 2 - Updated 2021-02-23.DOCX









## 1<sup>st</sup> September reports






- 1 - oct 21 - IPART NWI Indicators 2020-2021.XLSX
- 1 - oct -21 - IPART Performance Indicators 2020-2021.XLSX
- 2020-2021 Statement of Compliance.pdf
- Annual WQMS Report to IPART- 2020-21.PDF
- IPART - Compliance and Performance Report - Asset Management System 2020-2021.PDF
- IPART NWI Indicators 2020-2021.XLSX
- IPART Performance Indicators 2020-2021 - CSR Water Performance Standards.XLSX
- IPART Performance Indicators 2020-2021.XLSX
- Part 2.1.6 - Annual report - Water Conservation Program - 2020 to 2021 - WaterNSW Operating Licence.PDF
- Part 4 - Compliance and Performance report - Performance Standards - 2020 to 2021 - WaterNSW Operating Licence.PDF
- Part 5 - Compliance and Performance Report - Environmental Management System 2020-2021 - WaterNSW Operating Licence.PDF
- Part 6 - Compliance and Performance report - Customer and Stakeholder Relations - 2020 to 2021 - WaterNSW Operating Licence.PDF





## F IPART's checks for the 2021 operational audit

Table F.1 Clauses that we checked as part of the 2021 operational audit

Licence clause	Operating Licence obligation	Compliance grade
1.5.1	Water NSW must make this Licence available free of charge on its website for downloading by any person.	 Non-compliant (non-material)
2.4.2	Water NSW must, in accordance with the Reporting Manual make the Design Criteria available to the public free of charge on its website for downloading by any person.	 Compliant
6.6.4	Water NSW must make the Customer Advisory Group Charter available free of charge on its website for downloading by any person.	 Compliant
6.9.4	Water NSW must make the information concerning internal Complaints handling referred to in clause 6.9.3 available to any person, free of charge, on its website for downloading.	 Compliant
6.10.2	Water NSW must: <ul style="list-style-type: none"> <li>a) prepare information that explains the dispute resolution service provided by the Energy and Water Ombudsman of NSW, including any right to have a Complaint or dispute referred to the Energy and Water Ombudsman of NSW and how such a Complaint or dispute can be assessed;</li> <li>b) provide the information prepared under clause 6.10.2(a), free of charge to Customers at least once a year with their Bills; and</li> <li>c) make the information prepared under clause 6.10.2(a) available to any person, free of charge, on its website for downloading.</li> </ul>	 Compliant
6.14.3	Water NSW must publish on its website, for downloading by any person, the memorandum of understanding maintained with the Environmental Protection Authority under clause 6.14.1(a).	 Compliant
7.1.2	Water NSW must provide to IPART or the Auditor all information in Water NSW's possession, or under Water NSW's custody or control, which is necessary or convenient for the conduct of the Operational Audit.	 Compliant
7.1.3	Without limiting clause 7.1.2, Water NSW must provide to IPART or the Auditor any information necessary or convenient for the conduct of the Operational Audit which IPART or the Auditor requests in writing, within any reasonable period of time specified by IPART or the Auditor in writing.	 Compliant

Licence clause	Operating Licence obligation	Compliance grade
7.1.4	<p>For the purpose of any Operational Audit or verifying a report on an Operational Audit, Water NSW must, within a reasonable period of time from receiving a request from IPART or the Auditor, permit IPART or the Auditor to:</p> <ul style="list-style-type: none"> <li>a) access any Works, premises or offices occupied by Water NSW;</li> <li>b) carry out inspections, measurements and tests on, or in relation to, any such Works, premises or offices;</li> <li>c) take on to any such premises, Works or offices any person or equipment necessary for the purpose of performing the Operational Audit or verifying any report on the Operational Audit;</li> <li>d) inspect and make copies of, and take extracts from, any books and records of Water NSW that are maintained in relation to the performance of Water NSW's obligations under this Licence (including the Reporting Manual); and</li> <li>e) discuss matters relevant to the Operational Audit or any report on the Operational Audit with Water NSW, including Water NSW's officers and employees.</li> </ul> <p>[Note: Water NSW is required under section 60 of the Act to pay to the Treasurer the cost (as certified by IPART) involved in and in connection with carrying out the Operational Audit of Water NSW.]</p>	 Compliant
7.3.1	<p>Water NSW must provide IPART or an Auditor with information relating to the performance of any of Water NSW's obligations under clause 7.2 (including providing IPART with physical and electronic access to the records required to be kept under clause 7.2) within a reasonable period of time from Water NSW receiving a request from IPART for that information.</p>	 Compliant
7.3.2	<p>Water NSW must provide IPART or an Auditor with such information as is reasonably required to enable IPART or an Auditor to conduct any review or investigation of Water NSW's obligations under this Licence within a reasonable period of time from Water NSW receiving a request from IPART for that information.</p>	 Compliant
7.3.3	<p>If Water NSW contracts out any of its activities to any person (including a subsidiary), it must take all reasonable steps to ensure that, if required by IPART, or any Auditor, any such persons provide information and do the things specified in this clause 7.3 as if that person were Water NSW.</p>	 No requirement
7.3.4	<p>Where this Licence requires Water NSW to provide information to IPART or an Auditor that is information to which:</p> <ul style="list-style-type: none"> <li>a) section 24FF of the IPART Act applies; or</li> <li>b) section 24FF of the IPART Act does not apply but IPART or the Auditor has agreed to treat the information as though section 24FF of the IPART Act applies to that information,</li> </ul> <p>Water NSW must, to the maximum extent permitted by the law, provide that information even if it is confidential.</p>	 No requirement

Note:  = Compliant;  = No Requirement.

<sup>1</sup> See Division 1, part 57 of the Act.

<sup>2</sup> The Hon. Kevin Anderson, MP.

<sup>3</sup> *Water NSW Reporting Manual Operating Licence 2017-2022, July 2018.*

<sup>4</sup> IPART, *Compliance and Enforcement Policy*, December 2017.

<sup>5</sup> IPART, *Audit Guideline – Public Water Utilities*, July 2019.

<sup>6</sup> The audit interviews were held online.

<sup>7</sup> IPART, *Audit Guideline – Public Water Utilities*, July 2019.

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