IPART Independent Pricing and Regulatory Tribunal | NSW

Water Industry Competition Act 2006

Audit Guidelines – Compliance audits

July 2025

Water »

Acknowledgment of Country

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

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

Tribunal Members

The Tribunal members for this review are:

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The Independent Pricing and Regulatory Tribunal

IPART's independence is underpinned by an Act of Parliament. Further information on IPART can be obtained from IPART's website.

Amendment record

Revision	Date issued	Summary of amendments made
Draft	April 2025	Draft released for consultation
Revision 1	July 2025	Final approved for publication

Contents

1 Introduction

This compliance audit guideline (Guideline) applies to licensed operators and retailers (licensees) who construct, operate and maintain water and sewerage infrastructure, or supply water or provide a sewerage service, by means of infrastructure licensed under the *Water Industry Competition Act 2006* (WIC Act).

Licensees are monitored by IPART, including through compliance audits, on the extent of their compliance with the WIC Act, the *Water Industry Competition (General) Regulation 2024* (WIC Regulation), licences and approvals.[1] IPART must report to the Minister annually on licensees' compliance and on the outcomes of any audits conducted.[2]

1.1 IPART publishes Audit Guidelines

In addition to this Guideline, IPART has published the following audit guidelines:

- *Audit Guidelines - Fundamentals, process and findings*
- *Audit Guidelines - Application audits*
- *Audit Guidelines - Contingency plan audits*

These guidelines are available for download from www.ipart.nsw.gov.au.

All compliance audits should be carried out in accordance with this Guideline and the *Audit Guidelines – Fundamentals, process and findings*.

1.2 Purpose of this document

The objective of this document is to provide licensees and auditors information on compliance audits including:

- the timing and scope of the audit
- the audit criteria
- specific instructions for auditors when testing compliance with relevant national guidelines (if applicable)
- additional requirements for audit (if applicable)
- how to report audit findings.

[1] WIC Act, section 85.
[2] WIC Act, section 89.

1.3 Compliance audits

We may use a compliance audit to assess:

- that the licensee has complied with obligations under the WIC Act, the WIC Regulation, licences or approvals
- that the licensee has implemented its licence plans and systems[3] during operation
- the ongoing adequacy of its licence plans and systems to ensure these are fit for purpose
- that the licensee has complied with other regulatory obligations
- that the licensee has addressed any outstanding issues from previous audits.

[3] Licence plans and systems include water quality management systems, asset management plans or systems and sewage management plans or systems, where applicable.

2 Audit timing, scope and auditor selection

2.1 Audit timing

The timing of a compliance audit is determined by IPART. We require the licensee to undertake periodic audits, usually annually, once the licensee has commenced operating or providing services.

We may schedule biennial audits for licensees who establish a history of good compliance[4] after operating or providing services for at least 5 years.

We will clearly specify when the audit report is due in the audit initiation letter to the licensee. We usually allow at least 12 to 16 weeks for the auditor to submit the final audit report. For more details on the audit process and timeframes refer to section 4 of *Audit Guidelines – Fundamentals, process and findings*.

2.2 Auditor selection

For compliance audits, we recommend licensees select an auditor from the 'licence and regulatory compliance' auditor category on our *Audit Services and Technical Experts Panel* – refer to sections 3.1 and 3.2 of our *Audit Guidelines – Fundamentals, process and findings* for details.[5]

It is the auditor's responsibility to ensure that they have access to any additional expertise required to complete the compliance audit.

If an auditor from a different audit category is required for the compliance audit, the audit initiation letter will specify this requirement.

2.3 Audit scope

IPART will determine the audit scope for compliance audits. This can include an assessment of:

- compliance with regulatory obligations
- adequacy of the licence plans or systems
- implementation of the licence plans or systems, or
- a combination of the above.

We will not usually test the adequacy of entire licence plans or systems at every compliance audit. However, we may assess the adequacy and implementation of parts of a licence plan or system during the audit.

[4] We define 'good compliance' for a licensee when it has no material non-compliances over the past three consecutive audits, and the last three annual compliance reports. A small number of non-material non-compliances may be acceptable, if they are considered to be managed appropriately.

[5] Our current list of approved auditors is on our website. We may nominate a person as the auditor, or the licensee may nominate a person as the auditor to be approved by IPART. Please refer to section 54 of the WIC Regulation.

IPART will seek input directly from NSW Health to inform the audit scope. NSW Health will provide comments on any concerns that it identifies with the scheme, or notify IPART if there are no concerns. After the audit, we will provide NSW Health with the audit report for information.

When scoping audits, IPART will also engage with relevant stakeholders. However, if any further engagement is required, the auditor should seek input directly from the stakeholder and notify IPART of this action.

We will specify these details in the audit scope, in the audit initiation letter sent to the licensee.

2.4 Audit criteria

We determine the audit criteria based on our risk assessment that considers the compliance history of the licensee. **We have not included the audit criteria for all regulatory obligations in this Guideline** as we will specify the audit criteria in the audit initiation letter to the licensee as part of the audit scope.

We have set out the audit criteria for the adequacy or implementation of licence plans or systems below.

2.4.1 Water quality management systems

To assess the adequacy of the water quality management system, the audit must clearly demonstrate how the relevant national guideline has been addressed in full, with particular emphasis on the 12 elements of the applicable management framework:

- **Drinking water supply** – For water supplied as drinking water, the audit must show how the applicant has addressed and will implement the *Australian Drinking Water Guidelines* (**ADWG**) generally, with specific focus on the 12 elements of the framework for managing drinking water quality.
- **Recycled water supply -** For water supplied as recycled water, the audit must demonstrate how the applicant has addressed and will implement the *Australian Guidelines for Water Recycling* (**AGWR**). This includes a detailed explanation of how the 12 elements of the recycled water quality management framework are applied, how the system accounts for the intended uses of the water, and any restrictions on unsuitable uses, in accordance with AGWR guidance. If directed by the Minister or IPART, the audit must also detail how the licensee's water quality management system has been amended to comply with such directions.

The water quality management plan and system must ensure the infrastructure continues to be fit for purpose and can be operated safely and reliably, in a way consistent with the national safety guidelines and that does not present a significant risk of harm to the environment.[6]

To assess the **implementation** of the water quality management system, the audit should address:

- that the licensee has complied with its water quality management system, and

[6] Section 7D(1)(c) of the WIC Act.

- regularly reviewed and updated the system to ensure it complies with the requirements set out above.[7]

We may require the audit to focus on specific elements of the framework for the management of drinking water or recycled water. The auditor should follow the instructions provided in Appendix B and/or Appendix C to test compliance with relevant national guidelines.

2.4.2 Sewage management plans or systems

To assess the **adequacy** of the sewage management plan or system, the audit should assess whether the licensee's sewage management plan or system, in relation to the conveyance, treatment and disposal of sewage by means of the infrastructure, addresses:

- how health and ecological assessments are undertaken
- how a concern arising from an assessment will be addressed
- the arrangements for the disposal of waste from the infrastructure
- if the Minister or IPART directs, how the licensee's sewage management plan or system has been amended in accordance with the direction. [8]

The general principles of undertaking a 12-element risk management approach, similar to the AGWR and the *Australian Sewage Quality Management Guidelines*.[9]

The sewage management plan and system must ensure the infrastructure continues to be fit for purpose and can be operated safely and reliably, in a way consistent with the national safety guidelines and that does not present a significant risk of harm to the environment.[10]

To assess the **implementation** of the sewage management plan or system, the audit should address:

- that the licensee has complied with the sewage management plan or system, and
- regularly reviewed and updated the plan or system to ensure compliance with the requirements set out above.[11]

2.4.3 Asset management plans or systems

To assess **adequacy** of an asset management **system,** the audit should assess whether the system is consistent with *AS ISO 55001:2014, Asset management – Management systems – Requirements*.[12]

7 Schedule 2, section 8 of the WIC Regulation.
8 Schedule 2, section 9 of the WIC Regulation.
9 Australian Sewage Quality Management Guidelines.
10 Section 7D(1)(c) of the WIC Act.
11 Schedule 2, section 9 of the WIC Regulation.
12 Schedule 2, section 7 of the WIC Regulation.

To assess the **adequacy** of an asset management **plan,** the audit should assess whether the plan has included policies and procedures relating to the construction and operation of the water industry infrastructure, including the following:

- the safe and reliable operation and maintenance of the infrastructure,
- the redundancy built into the infrastructure and the arrangements for the renewal of the infrastructure,
- the continuity of water supply and alternative water supply arrangements,
- the maintenance, monitoring and reporting of standards of service[13], and
- if the Minister or IPART directs, how the licensee's asset management plan or system has been amended in accordance with the direction.[14]

The asset management plan or system must also ensure the infrastructure is fit for purpose and can be operated safely and reliably, in a way consistent with the national safety guidelines and that does not present a significant risk of harm to the environment.[15]

To assess the **implementation** of the asset management plan or system, the audit should address:

- that the licensee has complied with the asset management plan or system, and
- regularly reviewed and updated the plan or system to ensure compliance with the requirements set out above.

2.5 Findings

The Auditor must report audit findings in accordance with section 5 of our *Audit Guidelines – Fundamentals, process and findings* and using the guide provided in **Appendix A**.

The Auditor should assess the licensee's compliance based on the evidence provided for the audit period and assign a compliance grade in accordance with **Table 1** below.

Auditors should use the Audit Grade Decision Tree in **Figure 1** to assign the grade.

Guidance for reporting compliance audit findings is provided in Appendix A. Auditors are not required to provide reports in a set style or structure, as long as the elements in Appendix A are met.

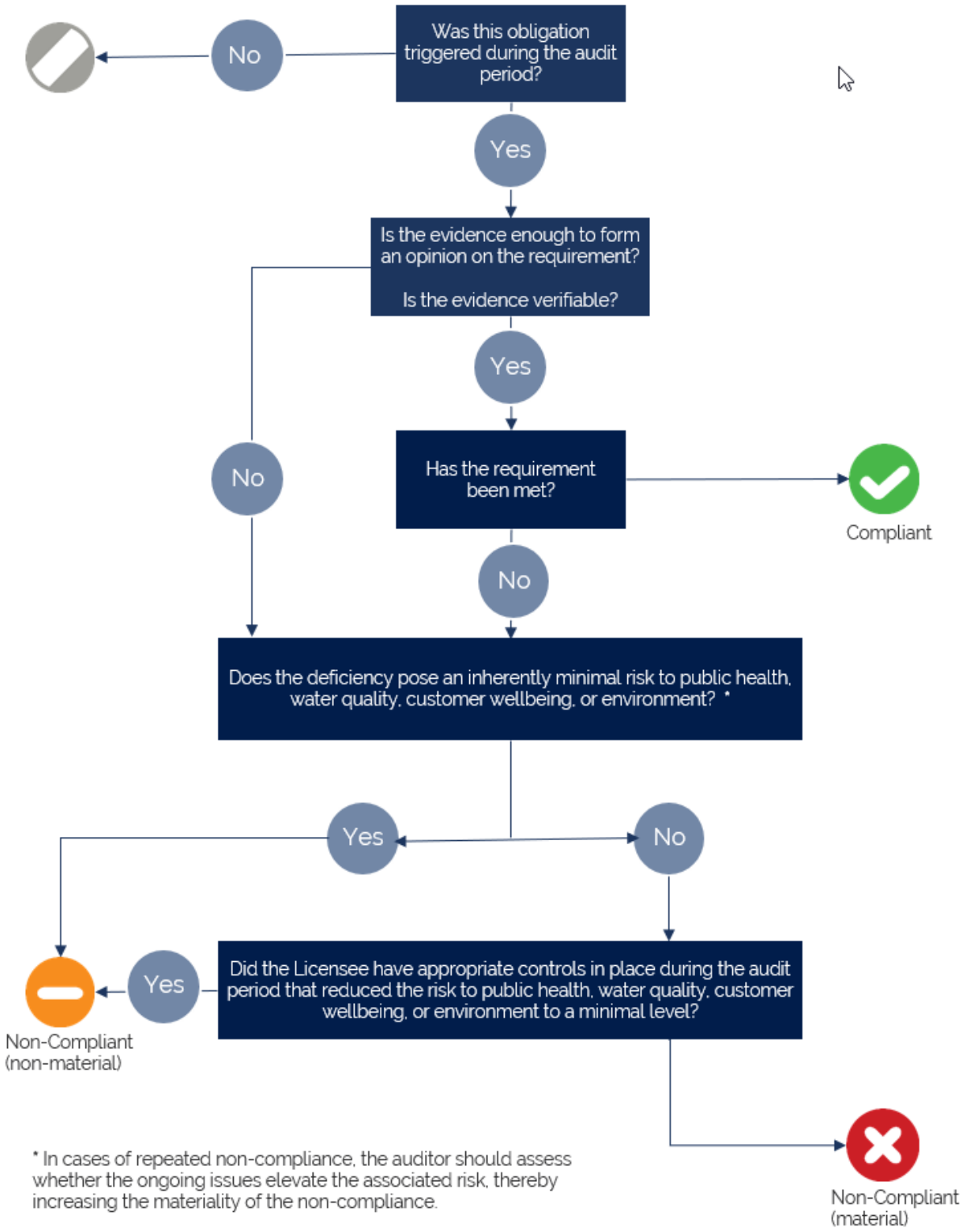
We will include the findings from compliance audits in our annual compliance report to the Minister.

[13] Schedule 2 section 7(2) of the WIC Regulation.
[14] Schedule 2, section 7 of the WIC Regulation.
[15] Section 7D(1)(c) of the WIC Act.

Table 1 Audit grades for compliance audits

Audit grade	Description
Compliant 	Sufficient evidence is available to confirm that the requirements have been met.
Non-compliant (non-material) 	Sufficient evidence is not available to confirm that the requirements have been met. The deficiency: • Poses an inherently minimal risk to public health, water quality, customer wellbeing, or environment, or • Poses a minimal risk to public health, water quality, customers wellbeing, or environment as the licensee had appropriate controls in place during the audit period.
Non-compliant (material) 	Sufficient evidence is not available to confirm that the requirements have been met. The deficiency poses a medium/high risk to public health, water quality, customer wellbeing, or environment, even with controls in place.
No requirement 	There is no requirement for the licensee to meet this criterion within the audit period.

Figure 1 Audit Grade Decision Tree



2.5.1 Grades must reflect compliance for the whole audit period

To be assigned a complaint grade, the licensee must have complied with the licence obligation for the whole audit period. If the licensee did not comply with its licence obligations at any time during the audit period, the auditor must assign a non-compliant grade for the obligation.

Licensees are responsible for maintaining compliance with its licence conditions at all times and for rectifying any non-compliances as quickly as reasonably possible. If the licensee self-identifies and rectifies a non-compliance within the same audit period, the auditor may consider the licensee's response, such as procedural or system changes, when assessing the materiality of the non-compliance.

If the licensee provides additional evidence from outside the audit period that demonstrates improved compliance, the auditor should take the following approach:

- The auditor may consider any new evidence submitted by the licensee, but evidence of events that occurred or action taken outside the audit period should not affect the audit grade.
- The auditor may review and assess new evidence from outside the audit period in its commentary, and subsequent recommendations or opportunities for improvement. The commentary may note that new evidence has already addressed a non-compliance and make no recommendation.

The type of action that we take in response to the findings will be consistent with IPART's *Compliance and Enforcement Policy*.

Appendices

A Compliance audit report requirements

The auditor must apply the following elements to present the audit findings on each audit criterion.

Element	Requirements
Obligation	• State the clause number of the audit criterion/section number of the regulatory obligation, • State the audit criterion/regulatory obligation. • Identify the specific water quality plan section/element (if applicable).
Applicable Schemes/Licences	Only required if multiple schemes or licences are being audited.
Audit grade	• Auditors must assign audit grades that reflect the compliance evidence that the licensee has provided at the time of drafting the report.
Reason for the audit grade	A few sentences to explain why the obligation was assigned the particular audit grade. This must be clearly link to the audit criterion/ regulatory obligation being audited.
Auditor comments and justification	**Basis for the finding** The auditor must clearly explain how each finding was reached, including: • Clearly describe the evidence or facts that informed the auditor's finding. • Explain how the evidence supports the finding, showing the link between what was observed and the conclusion reached. • Include an analysis of the gap between what was observed and what is required by the obligation. Where relevant, also explain the causes of the gap and its potential or actual impacts. For each non-compliance, the auditor must: • Clearly explain if the non-compliance is material or non-material with justification based on the level of risks to public health, water quality, customer outcomes, or environment. • Identify the specific shortcomings of failures that has led to the non-compliance. • Indicate whether any extenuating circumstances contributed to the non-compliance and explain the relevance. • Include references to any related recommendation numbers to support the comments and justifications.
Evidence cited	List the evidence cited or alternatively, provide a link/reference to a separate list in other sections of the report.
Recommendation(s)	Only to be provided where the audit grade is non-compliant. Recommendations must be numbered or labelled logically for reference.
Opportunities for improvement	Can be provided for all audit grades. Opportunities for improvement must be numbered or labelled logically for reference.

B Instruction to auditor for the adequacy and implementation of drinking water quality management system or plan

The following tables list the elements 1-12 of the *Australian Drinking Water Guidelines* (**ADWG**) framework.

Column 1 – lists the components of each element of the ADWG framework.

Column 2 – summarises actions for each component of the ADWG framework.

Column 3 – the licensee achieves adequacy if a plan substantially meets these outcomes.

Column 4 – the licensee has implemented its plan if it substantially meets these items.

ADWG Element 1 – Commitment to drinking water quality management

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Drinking water policy	Formulate a drinking water quality policy, endorsed by senior executive, to be implemented throughout the organisation.	A drinking water policy has been endorsed by senior managers.	The drinking water policy is implemented within the organisation (see below).
	Ensure that the policy is visible and is communicated, understood and implemented by employees.	A process for communicating the policy has been identified and the drinking water policy is available to employees.	Employees are aware of the policy as it relates to the implementation of their particular function. (Overlap with implementation of water quality management system (drinking water) in Element 7)
Regulatory and formal requirements	Identify and document all relevant regulatory and formal requirements.	Identify and document regulatory and formal obligations, and agencies responsible for the obligations that apply to the scheme. Document what the scope of the licence authorises.	A registry of regulatory and other obligations is readily accessible to employees for reference.
	Ensure that responsibilities are understood and communicated to employees.	Allocates responsibilities for managing regulatory obligations to the appropriate employees.	Communication to relevant staff is ongoing to ensure understanding is maintained and is current.
	Review requirements periodically to reflect any changes.	Document process for reviewing and updating the regulatory and formal obligations.	The registry of relevant regulation and other requirements is reviewed regularly and in accordance with documented processes.
Engaging stakeholders	Identify all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier.	List all stakeholders who could affect, or be affected by, decisions or activities of the drinking water supplier. List the stakeholders where catchments and source waters are beyond the drinking water supplier's area of operation and their input is necessary for the development of the water quality management system (drinking water) consistent with the ADWG.	Identified stakeholders are engaged in the review of the Water Quality Plan for Drinking Water (WQP-DW), where their input is necessary to produce outcomes that are consistent with the ADWG. The list is up to date and is reviewed regularly in accordance with documented processes.
	Develop appropriate mechanisms and documentation for stakeholder commitment and involvement.	Identifies the mechanisms that will be employed to involve stakeholders and gain their commitment.	Mechanisms are effectively employed. The various agencies are involved in ongoing support of the licensee and, where appropriate, to

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
			coordinate their planning and management activities.
	Regularly update the list of relevant agencies.	A process for reviewing and updating the list of relevant agencies has been documented.	The list is up to date and is reviewed regularly in accordance with documented processes.

ADWG Element 2 – Assessment of the drinking water supply system

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Water supply system analysis	Assemble a team with appropriate knowledge and expertise.	Identifies the appropriate experts (or knowledge and expertise) to assess the drinking water supply system.	(For all Element 2) There is evidence to demonstrate that the team assembled to assess the drinking water supply system has the appropriate knowledge and expertise to undertake this work. The drinking water supply system assessment has been prepared and reviewed in accordance with the requirements of Element 2 and remains current.
	Construct a flow diagram of the water supply system from catchment to consumer.	Summarises the results of the drinking water system analysis that has been undertaken by the appropriate team. Includes a comprehensive flow diagram of the water supply system consistent with section 3.2.1 of the ADWG. The diagram outlines all steps and processes, whether they are under control of the drinking water supplier, verified by field verification site visit audits and checked by those with specific knowledge of the system.	The flow diagram of the water supply system is reviewed regularly and is kept up to date.
	Assemble pertinent information and document key characteristics of the water supply system to be considered.	Each part of the water supply system from catchment to consumer is characterised with respect to water quality, the factors affecting it, and the integrity of the water supply system.	Water supply system characteristics are regularly reviewed and are kept up to date.
	Periodically review the water supply system analysis.	Document a process to periodically review the water supply system analysis, including flow diagram. Analysis remains relevant. Flow diagrams reflect what is currently in operation from catchment to consumer.	Document a process to periodically review the water supply system analysis.

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Assessment of water quality data	Assemble historical data from source waters, treatment plants and finished water supplied to consumers (over time and following specific events).	Assembles historical data regarding source water quality, as well as data from treatment plants and/or finished water supplied to consumers, identifying gaps and assessing reliability of the data (including exceedance data). Water quality data is periodically updated.	
	List and examine exceedances.	See above.	
	Assess data using tools such as control charts and trends analysis to identify trends and potential problems.	Identifies a process for assessing data to identify trends and potential problems in the water supply system, including any exceedance data. Trends and potential problems resulting from data analysis are identified.	
Hazard identification and risk assessment[16]	Define the approach and methodology to be used for hazard identification and risk assessment.	Documents 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.	Identifies and documents 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.	Identifies the estimated 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.	Identifies the actions necessary to reduce uncertainty associated with each hazard and hazardous event.	
	Determine significant risks and document priorities for risk management.	Identifies significant risks and documents priorities for risk management.	
	Periodically review and update the hazard identification and risk assessment to incorporate any changes.	Documents a process to periodically review and update the hazard identification and risk assessment to incorporate any changes.	

[16] The assessment should be consistent with the principles of Hazard analysis critical control point (HACCP). The HACCP risk management framework was adopted for the ADWG (See section 2.1).

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
		The process should also identify triggers for review of hazard identification and risk assessment. Hazard identification and risk assessment have been reviewed and are current.	

ADWG Element 3 – Preventive measures for drinking water quality management

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Preventive measures and multiple barriers	Identify existing preventive measures from catchment to consumer for each significant hazard or hazardous event and estimate the residual risk.	Identifies preventive measures from catchment to consumer for each significant hazard or hazardous event and estimates the residual risk.	Documented preventative measures and strategies are implemented.
	Evaluate alternative or additional preventive measures where improvement is required.	Defines acceptable risk level and evaluates alternative or additional preventive measures where improvement is required.	Preventive measures remain effective, and barriers are operational.
	Document the preventive measures and strategies into a plan addressing each significant risk.	Documents the preventive measures and strategies addressing each significant risk in the scheme risk register for the water quality management system (drinking water).	Regularly reviews preventive measures to determine effectiveness of risk mitigation strategies.
Critical control points	Assess preventive measures throughout the drinking water system to identify critical control points.	Identifies the critical control points. Selection of critical control points, mechanisms for control, critical limits and target criteria are supported by verifiable evidence.	SCADA[17] (or other controls system for the treatment plant) set points are consistent with the documented critical limits and target criteria.
	Establish mechanisms for operational control.	Identifies the mechanisms for operational control at critical control points.	Critical control points are monitored and critical limit exceedances actioned in accordance with procedures.
	Document the critical control points, critical limits and target criteria.	Documents the critical control points, critical limits and target criteria. Changes to critical control points, critical limits and target criteria are documented and justified.	Critical control points are reassessed where preventive measures are not effective.

[17] Supervisory control and data acquisition (SCADA).

ADWG Element 4 – Operational procedures and process control

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Operational procedures	Identify procedures required for processes and activities from catchment to consumer.	Clearly identifies all the operational procedures that are required to ensure processes and activities, including preventative measures identified in the risk register are formalised and actioned.	Control of processes is achieved through implementation of operational procedures, monitoring protocols and operational corrections in accordance with the water quality management system (drinking water).
	Document all procedures and compile into an operations manual.	Documents identified operations procedures which form part of the water quality management system (drinking water) or asset management plan.	Records are maintained to demonstrate implementation of operational procedures, monitoring protocols and operational corrections identified in the water quality management system (drinking water).
Operational monitoring	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.	Documents an operational monitoring protocol which specifies monitoring protocols for operational performance of the system, including the selection of operational parameters and criteria, and the routine analysis of results.	Operational monitoring is carried out in accordance with the developed protocols. Changes to protocols or methodologies due technological advancements or continuous improvement are captured and documented. Process control alerts and alarms to be intrusive in nature for efficient responses, corrections and actions.
	Document monitoring protocols into an operational monitoring plan.	See above.	
Corrective action	Establish and document procedures for corrective action to control excursions in operational parameters.	Establish procedures for corrective action where operational parameters are not met. There are documented processes in place to ensure that equipment performs adequately and provides sufficient flexibility and process control.	
	Establish rapid communication systems to deal with unexpected events.	Documents rapid communication systems to deal with unexpected events, including incident notifications in accordance with the IPART Reporting Manual.	Rapid communications systems responding to unexpected events were followed.

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Equipment capability and maintenance	Ensure that equipment performs adequately and provides sufficient flexibility and process control.	Equipment and infrastructure in a water supply system needs to be adequately designed and of sufficient capacity (in terms of size, volume and detention times) to handle all flow rates (peak and otherwise), without limiting performance.	Monitoring and measuring equipment are fit for purpose and calibrated at specified intervals.
	Establish a program for regular inspection and maintenance of all equipment, including monitoring equipment.	Documents an asset management and maintenance program that specifies inspection and maintenance requirements for all equipment, including monitoring equipment. The program should detail schedules and timelines, responsibilities, and resource requirements. Identify where the program is a part of operations and maintenance manual or asset management plan and system.	Regular inspection and maintenance of all equipment, from source to point of use, ensures continuing process capability. Implementation of the asset management plan and system is tested separately.
Materials and chemicals	Ensure that only approved materials and chemicals are used.	Documents specifications of approved materials and chemicals. In addition, documents specifications and procedures for evaluating chemicals, materials and suppliers to ensure only approved materials and chemicals are used.	Materials used in the drinking water system are appropriate and meet specifications. Chemicals used in the drinking water system are appropriate and meet specifications.
	Establish documented procedures for evaluating chemicals, materials and suppliers.	See above.	See above.

ADWG Element 5 – Verification of drinking water quality and environmental performance

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Drinking water quality monitoring	Determine the characteristics to be monitored in the distribution system and in water as supplied to the consumer.	Identifies 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.	Identifies the points at which monitoring will be undertaken. Identifies the agreed levels of service with the registered retailer.	Procedures for sampling and testing are followed. Results of drinking water quality verification monitoring are used to evaluate conformity to criteria set in the water quality management system (drinking water).
	Ensure monitoring data are representative and reliable.	Identifies the frequency of monitoring in order to obtain meaningful information and statistical validity.	The consolidated sampling plan is followed, and monitoring data is verified to be representative and reliable. Adequate resources are provided to ensure valid and reliable results of drinking water quality monitoring.
Consumer satisfaction	Establish a consumer complaint and response program, including appropriate training of employees.	Documents program, or arrangements for ensuring that the registered retailer has a program, to monitor satisfaction of consumers and train the people responsible for the program.	Complaints and comments from consumers are evaluated, whether received from the registered retailer or directly from the registered operator.
Short-term evaluation of results	Establish procedures for the daily review of drinking water quality monitoring data and consumer satisfaction.	Documents procedures for the short-term review of monitoring data. Procedures include rapid notification process for the contracted laboratory for out of specification results. Procedures include a notification process for the registered retailer to report issues/complaints regarding water quality from end users.	Short-term evaluation of monitoring results and consumer feedback is used to verify that the quality of the drinking water conforms to established targets and meets consumer expectations.
	Develop reporting mechanisms internally and externally, where required.	Documents reporting mechanism for the short-term evaluation of results internally and externally, as appropriate.	

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Corrective action	Establish and document procedures for corrective action in response to non-conformance or consumer feedback.	Documents procedures for corrective action in response to non-conformances or feedback from users via the registered retailer.	Corrective responses to non-conformances are implemented in accordance with documented procedures, or where registered operator has deviated from documented procedure; reasons are documented the response has provided an equal or improved management of risk.
	Establish rapid communication systems to deal with unexpected events.	Documents rapid communication systems to deal with unexpected events, including incident notification in accordance with the IPART Reporting Manual.	Planned changes are controlled and consequences of unintended changes reviewed, action taken to mitigate any adverse effects, as necessary.

ADWG Element 6 – Management of incidents and emergencies

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Communication	Define communication protocols with the involvement of relevant agencies and prepare a contact list of key people, agencies and businesses.	Document protocols for internal and external communications with involvement from relevant stakeholders. The contents of the protocol should be consistent with Element 6 of the ADWG.	Contact lists of key stakeholders should be updated regularly for accuracy.
	Develop a public and media communications strategy.	A public and media communications strategy is prepared in advance.	Specific staff are trained appropriately to handle communications. Employees are kept informed during any incident, and consumers are informed when the incident has ended as well as the cause and any actions taken to prevent future occurrences.
Incident and emergency response protocols	Define potential incidents and emergencies and document procedures and response plans with the involvement of relevant agencies.	Defines declared and notifiable incidents and emergencies. Documents procedures and response plans, including rapid communications for incident notification, which reflect events identified in the risk register and notification requirements set out in IPART's Reporting Manual and Incident Notification Forms A and B.	Incident and emergency communications protocols are implemented as described in the water quality management system (drinking water), and follow the requirements of IPART's Reporting Manual and notification requirements as set out in the WIC Regulations sch 2, cl.3(1).
	Train employees and regularly test emergency response plans.	Identifies training and testing of plan.	Employees are trained in incident and emergency response protocols and the plans are tested as appropriate.
	Investigate any incidents or emergencies and revise protocols as necessary.	Identifies the process for reviewing incidents or emergencies and identifying new risks, or new or improved preventative measures and making any necessary amendments to operational procedures or protocols.	Following any incident and emergency situation, an investigation is undertaken, and all appropriate staff debriefed. Protocols have been revised as necessary.

ADWG Element 7 – Operator, contractor and end-user awareness and training

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Employee awareness and involvement	Develop mechanisms and communication procedures to increase employees' awareness of and participation in drinking water quality management.	Identifies mechanisms and communication procedures to increase employee awareness of, and participation in managing drinking water quality.	Operators have a general understanding of the regulatory requirements of licensed network operators under the WIC Act regarding protection of public health. Operators and relevant contractors are aware of the drinking water policy and objectives of the water quality management system (drinking water) (overlap with Element 1). Operators and relevant contractors understand drinking water quality risk management principles set out in the water quality management system (drinking water), characteristics of the drinking water supply system and preventive strategies in place, consequences of system failures and how to apply and follow risk management principles. Operators and relevant contractors should be aware of the arrangements that the registered retailer has in place to manage its obligations (e.g. communication with consumers) and that the licensee must/use best endeavours to ensure those arrangements align with licensee's risk controls.
Employee training	Ensure that employees, including contractors, maintain the appropriate experience and qualifications.	Ensure employees, including contractors, are suitably competent and adequately trained to carry out their duties.	Employees and contractors are aware of their contribution of the effectiveness of implementing the water quality management system (drinking water), including benefits of improved performance, and the implications of not conforming to the requirements set out in the water quality management system (drinking water).

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
	Identify training needs and ensure resources are available to support training programs.	Identify any gaps in experience and training of operators and key contractors and identify ongoing training needs. Includes a schedule of training with timeframes and resources identified.	Identified training has been delivered, or is appropriately scheduled to be delivered so that operators and contractors can fulfill the duties of the role.
	Document training and maintain records of all training sessions.	Document processes and procedures for employee training and maintaining records of all employees training.	Records are maintained of all employee training, and processes and procedure for training are followed.

ADWG Element 8 – Community involvement and awareness

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Community consultation	Assess requirements for effective community involvement.	Identifies requirements for consultation and communication with the community. This requirement may be satisfied through appropriate arrangements with the registered retailer.	
	Develop a comprehensive strategy for community consultation.	Documents a consultation strategy or makes arrangements for the registered retailer to develop a consultation strategy consistent with requirements.	The registered retailer undertakes consultation with the community, and makes the information available to the registered operator consistent with the strategy.
Communication	Develop an active two-way communication program to inform consumers and promote awareness of drinking water quality issues.	Documents communication arrangements with consumers. This may occur through the registered retailer.	Arrangements are in place and are actively employed.

ADWG Element 9 – Validation, research and development

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Investigative studies and research monitoring	Establish programs to increase understanding of the water supply system.	Documents a program to increase understanding of the drinking water supply system and to improve management of the system.	Implements program as documented.
	Use information to improve management of the water supply system.	See above.	
Validation of processes	Validate processes and procedures to ensure that they are effective in controlling hazards.	Documents validation processes and procedures that ensure effective control of hazards. The processes and procedures should include evaluation of scientific and technical information to demonstrate, as a minimum, that the log removal value claimed for each process and critical control point is valid. Where scheme validation relies on the WaterVal validation of treatment technologies framework (complements the objectives of the ADWG), the specific section needs to be identified.[18]	Validation monitoring[19] is undertaken in accordance with documented processes and procedures to ensure hazards are effectively controlled.
	Revalidate processes periodically or when variations in conditions occur.	Identifies variations that may affect performance of processes and would trigger revalidation. Documents processes for revalidation.	Revalidation of processes is done when variations occur.
Design of equipment	Validate the selection and design of new equipment and infrastructure to ensure continuing reliability.	Documents validation processes and procedures that apply to the design of new equipment and infrastructure to ensure continuing reliability.	Validation of new equipment and infrastructure is undertaken in accordance with documented processes and procedures to ensure continuing reliability. Implementation of asset management plans and systems are tested separately.

Note: Chapter 9.8 of the ADWG has additional guidance on validation of barrier performance.

[18] See: https://www.waterra.com.au/research/waterval/

[19] The purpose of validation monitoring is to obtain evidence that the processes will achieve the target pathogen log removals for the scheme.

ADWG Element 10 – Documentation and reporting

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Management of documentation and records	Document information pertinent to all aspects of drinking water quality management.	Identifies information that is pertinent to aspects of drinking water quality management.	Appropriate documentation is kept to provide a foundation for maintaining effective drinking water quality management.
	Develop a document control system to ensure current versions are in use.	Documents a document control system to ensure current versions of key documents are in use.	All documentation relevant to the implementation of the water quality management system (drinking water) are reviewed and current.
	Establish a records management system and ensure that employees are trained to fill out records.	Documents a records management system, and a process to ensure that employees are trained to complete records.	Records management system is maintained and records complete. Employees are trained to complete records.
	Periodically review documentation and revise as necessary.	Documents review timeframes.	Documents are reviewed and revised as necessary.
Reporting	Establish procedures for effective internal and external reporting.	Documents procedures for effective internal and external reporting.	Internal and external reporting is undertaken according to procedures.
	Produce an annual report to be made available to consumers, regulatory authorities and stakeholders.	Identifies requirements for the production of an annual report that contains sufficient information to enable consumers, regulatory authorities and stakeholders to make informed judgements about water quality, and to canvas feedback.	Annual report is produced.

ADWG Element 11 – Evaluation and audit

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Long-term evaluation of results	Collect and evaluate long-term data to assess performance and identify problems.	Documents processes and practices for the collection and evaluation of long-term data to assess performance and identify problems.	Evaluation of long-term data is undertaken and results are reviewed. Problems from long-term data evaluation are identified and addressed.
	Document and report results.	Documents processes and practices for documenting and reporting results.	See above.
Audit of drinking water quality management	Establish processes for internal and external audits.	Documents process for effective implementation and maintenance of drinking water quality management internal and external audits. The frequency and schedule of audits, as well as the responsibilities, requirements, procedures and reporting mechanisms, should be defined.	Internal audit undertaken at planned intervals.
	Document and communicate audit results.	Identify that audit results are to be communicated to relevant stakeholders. Audit results should be considered as a part of Element 12 review and continuous improvement.	Audit results are documented and communicated.

ADWG Element 12 – Review and continuous improvement

Component	Summary of actions from the ADWG	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considers that implementation of the plan by the licensees includes (but is not limited to) the following
Review by senior executive	Senior executive to review the effectiveness of the management system.	Identify the process for senior executives to review the effectiveness of the management system and evaluation of the need for change, including approving and monitoring implementation of audit programs and review of audit outcomes.	Effectiveness of the management system is reviewed by senior managers, and the need for change is evaluated. Decisions and actions by senior management are documented.
	Evaluate the need for change.	Processes and practices for periodic review of the water quality management system (drinking water) have been established and triggers of significant change that require it to be re-audited are determined.	Periodic reviews are undertaken as scheduled.
Drinking water quality management improvement plan	Develop a drinking water quality management improvement plan.	A drinking water quality management improvement plan has been developed to address identified needs. Results of analysis and evaluation, and output from the management review is considered to determine need for inclusion in improvement plan. The improvement plan is endorsed by senior executive and the water quality management system (drinking water) commits to implementing the plan. The improvement plan includes objectives, actions to be taken, accountability, timelines and reporting.	The improvement plan is implemented according to the plan.
	Ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.	A process for communicating, implementing and monitoring effectiveness of continual improvement actions has been established.	The improvement plan is communicated and implemented, and improvements are monitored for effectiveness.

C Instruction to auditor for the adequacy and implementation of recycled water quality management system or plan

The following tables list the elements 1-12 of the *Australian Guidelines for Water Recycling* (**AGWR**) framework.

Column 1 – lists the components of each element of the AGWR framework.

Column 2 – summarises actions for each component of the AGWR framework.

Column 3 – the licensee achieves adequacy if a plan substantially meets these outcomes.

Column 4 – the licensee has implemented its plan if it substantially meets these items.

AGWR Element 1 – Commitment to responsible use and management of recycled water quality

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Responsible use of recycled water	Involve agencies (i.e. stakeholders) with responsibilities and expertise in protection of public and environmental health.	Identifies governmental agencies with responsibilities and expertise in protection of public health and the environment relevant to the scheme and specify their involvement in the development of relevant aspects of the water quality management system (recycled water).	Identified stakeholders and government agencies are engaged in the development and review of the water quality management system (recycled water), where their input is necessary to produce outcomes that are consistent with the AGWR.
	Ensure that design, management and regulation of recycled water schemes is undertaken by agencies and operators with sufficient expertise.	Identifies the expertise required for the design, management and regulation of the recycled water system.	Suitably qualified and experienced persons are engaged to design, manage and regulate the scheme.
Regulatory and formal requirements	Identify and document all relevant regulatory and formal requirements.	Identifies and documents the regulatory and formal obligations that apply to the scheme. Document what the scope of the licence authorises.	
	Identify governance of recycled water schemes for individual agencies, designers, installers, operators, maintainers, owners and users of recycled water.	Identifies the agencies responsibilities for the regulatory obligations that apply to the scheme.	
	Ensure that responsibilities are understood and communicated to designers, installers, maintainers, operations employees, contractors and end users.	Allocates responsibilities for managing regulatory obligations to the appropriate employees.	Communication to relevant staff, contractors and end-users is ongoing to ensure understanding is maintained and is current.
	Review requirements periodically, to reflect any changes.	Documents process for reviewing and updating the regulatory and formal obligations.	Regulatory and formal obligations are current and reviewed regularly in accordance with documented processes.
Partnerships and engagement of stakeholders (including the public)	Identify all agencies with responsibilities for water resources and use of recycled water; regularly update the list of relevant agencies.	Lists all agencies with responsibilities for water resources and recycled water, and process for updating list.	The list is up to date and is reviewed regularly in accordance with documented processes.
	Establish partnerships with agencies or organisations as necessary or where this will support the effective management of recycled water schemes.	Identifies partnerships that are necessary to ensure effective management of recycled water.	Relevant partnerships are established.

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
	Identify all stakeholders (including the public) affecting, or affected by, decisions or activities related to the use of recycled water.	Lists stakeholders and the decisions or activities that they affect or will be affected by.	
	Engage users of recycled water; ensure responsibilities are identified and understood.	Identifies the responsibilities of users and processes employed to ensure they understand their responsibilities. This may include identifying the roles and responsibilities of the scheme retailer in ensuring all requirements of the AGWR are articulated.	Users of recycled water are regularly engaged and understand their responsibilities.
	Develop appropriate mechanisms and documentation for stakeholder commitment and involvement.	Identifies the mechanisms that will be employed to involve stakeholders and gain their commitment.	Mechanisms are effectively employed.
Recycled water policy	Develop a recycled water policy, endorsed by senior managers, to be implemented within an organisation or by participating agencies.	A recycled water policy has been endorsed by senior managers.	The recycled water policy is implemented within the organisation (see below).
	Ensure that the policy is visible and is communicated, understood and implemented by employees and contractors.	A process for communicating the policy has been identified and the recycled water policy is available to employees and contractors.	Key employees and contractors are aware of the policy as it relates to the implementation of their particular function. (Overlap with implementation of water quality management system (recycled water) Element 7)

AGWR Element 2 – Assessment of the recycled water system[20]

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Intended uses and source of recycled water	Identify source of water.	Identifies the intended sources.	The recycled water system assessment has been prepared and reviewed in accordance with the requirements of Element 2 and remains current.
	Identify intended uses, routes of exposure, receiving environments, endpoints and effects.	Identifies the intended end uses (as authorised by licence), routes of exposure, receiving environments, endpoints and environmental effects.	
	Consider inadvertent or unauthorised uses.	Identifies possible unintended and unauthorised end uses. If there is a staged approach, the Water quality plan – recycled water (WQP-RW) identifies current/existing and planned sources of recycled water and an indicative timeframe or milestones as appropriate.	
Recycled water system analysis	Assemble pertinent information and document key characteristics of the recycled water system to be considered.	Each part of the recycled water system from source to end use is characterised with respect to water quality, the factors affecting water quality, and the likely variability.	
	Assemble a team with appropriate knowledge and expertise.	Identifies the appropriate experts (or knowledge and expertise) that assessed the recycled water system.	There is evidence to demonstrate that the team assembled to assess the recycled water supply system has the appropriate knowledge and expertise to undertake this work.
	Construct a flow diagram of the recycled water system from the source to the application or receiving environments.	Summarises the results of the recycled water system analysis that has been undertaken by the appropriate team. Includes a comprehensive flow diagram of the recycled water system consistent with section 2.2.2 of the AGWR.	

[20] The assessment should be consistent with the principles of HACCP. The HACCP risk management framework was adopted for both the ADWG and AGWR, see section 1.2.2 and chapter 5 of the AGWR.

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
		The diagram outlines all steps and processes from source to end use, including fate of out of specification recycled water and where the scheme has been constructed, the flow diagram has been verified by those with specific knowledge of the system.	
	Periodically review the recycled water system analysis.	Documents a process to periodically review the recycled water system analysis, including flow diagram. Flow diagrams reflect what is currently in operation from source to end use.	
Assessment of water quality data	Assemble historical data about sewage, greywater or stormwater quality, as well as data from treatment plants and of recycled water supplied to users; identify gaps and assess reliability of data.	Assembles historical data regarding source water quality, as well as data from treatment plants and/or recycled water supplied to users, identifying gaps and assessing reliability of the data (including exceedance data). Water quality data is periodically updated.	
	Assess data (using tools such as control charts and trends analysis), to identify trends and potential problems.	Identifies a process for assessing data to identify trends and potential problems in the recycled water system, including any exceedance data. Trends and potential problems resulting from data analysis are identified.	
Hazard identification and risk assessment	Define the approach to hazard identification and risk assessment, considering both public and ecological health.	Documents the approach and methodology to be used for hazard identification and risk assessment, considering both public and ecological health.	
	Periodically review and update the hazard identification and risk assessment to incorporate any changes.	Documents a process to periodically review and update the hazard identification and risk assessment to incorporate any changes. The process should also identify triggers for review of hazard identification and risk assessment. Hazard identification and risk assessment have been reviewed and are current.	

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
	Identify and document hazards and hazardous events for each component of the recycled water system.	Identifies and documents hazards, sources and hazardous events for each component of the recycled water system.	
	Estimate the level of risk for each identified hazard or hazardous event.	Identifies the estimated level of risk for each identified hazard or hazardous event.	
	Consider inadvertent and unauthorised use or discharge.	Includes inadvertent and unauthorised use and discharge in risk assessment.	
	Determine significant risks and document priorities for risk management.	Identifies significant risks and documents priorities for risk management.	
	Evaluate the major sources of uncertainty associated with each hazard and hazardous event and consider actions to reduce uncertainty.	Identifies the actions necessary to reduce uncertainty associated with each hazard and hazardous event.	

AGWR Element 3 – Preventive measures for recycled water management

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Preventive measures and multiple barriers	Identify existing preventive measures system-wide for each significant hazard or hazardous event, and estimate the residual risk.	Identifies preventive measures from source to end use for each significant hazard or hazardous event and estimates the residual risk.	Documented preventative measures and strategies are implemented. Preventive measures remain effective, and barriers are operational.
	Identify alternative or additional preventive measures that are required to ensure risks are reduced to acceptable levels.	Defines acceptable risk level and evaluates alternative or additional preventive measures where improvement is required.	
	Document the preventive measures and strategies, addressing each significant risk.	Documents the preventive measures and strategies for addressing each significant risk in the scheme water quality management system (recycled water) risk register.	
Critical control points	Assess preventive measures throughout the recycled water system to identify critical control points.	Identifies the critical control points. Selection of critical control points, mechanisms for control, critical limits and target criteria are supported by verifiable evidence.	SCADA (or other controls system for the treatment plant) set points are consistent with the documented critical limits and target criteria.
	Establish mechanisms for operational control.	Identifies the mechanisms for operational control at critical control points.	Critical control points are monitored, and critical limit exceedances actioned in accordance with procedures.
	Document the critical control points, critical limits and target criteria.	Documents the critical control points, critical limits and target criteria. Changes to critical control points, critical limits and target criteria are documented and justified.	Critical control points are reassessed where preventive measures are not effective. Changes to critical control points, critical limits and target criteria are documented and justified.

AGWR Element 4 – Operational procedures and process control

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Operational procedures	Identify procedures required for all processes and activities applied within the whole recycled water system (source to use).	Clearly identifies all the operational procedures that are required to ensure processes and activities, including preventative measures identified in the risk register are formalised and actioned.	Control of processes is achieved through implementation of operational procedures, monitoring protocols and operational corrections in accordance with the water quality management system (recycled water).
	Document all procedures and compile into an operations manual.	Documents identified operations procedures which form part of the WQP-RW, or Infrastructure Operating Plan or Operations and Maintenance (IOP O&M) manual.	
Operational monitoring	Develop monitoring protocols for operational performance of the recycled water supply system, including the selection of operational parameters and criteria, and the routine analysis of results.	Documents an operational monitoring protocol which specifies monitoring protocols for operational performance of the system, including the selection of operational parameters and criteria, and the routine analysis of results.	Records are maintained to demonstrate implementation of operational procedures, monitoring protocols and operational corrections identified in the water quality management system (recycled water).
	Document monitoring protocols into an operational monitoring plan.	See above.	
Operational corrections	Establish and document procedures for corrective action where operational parameters are not met.	Determine operational parameters (criteria) for fit-for-purpose recycled water for the end uses authorised by the licence. Establish procedures for corrective action where operational parameters are not met. There are documented processes in place to ensure that equipment performs adequately and provides sufficient flexibility and process control.	
	Establish rapid communication systems to deal with unexpected events.	Documents rapid communication systems to deal with unexpected events, including incident notifications in accordance with the IPART Reporting Manual.	Rapid communications systems responding to unexpected events were followed.
Equipment capability and maintenance	Ensure that equipment performs adequately and provides sufficient flexibility and process control.	Establish and document arrangements for preventing out-of-specification water being supplied to end use.	Monitoring and measuring equipment are fit for purpose and calibrated at specified intervals.

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
		Equipment and infrastructure in the recycled water supply system need to be adequately designed and of sufficient capacity (in terms of size, volume and detention times) to handle all flow rates (peak and otherwise), without limiting performance.	
	Establish a program for regular inspection and maintenance of all equipment, including monitoring equipment.	Documents an asset management and maintenance program that specifies inspection and maintenance requirements for all equipment, including monitoring equipment. The program should detail schedules and timelines, responsibilities, and resource requirements. Identify where the program is a part of the operations and maintenance manual or asset management plan and system.	Regular inspection and maintenance of all equipment, from source to point of use, ensures continuing process capability. *Implementation of asset management plans and systems is tested separately*.
Materials and chemicals	Ensure that only approved materials and chemicals are used.	Documents specifications for approved materials and chemicals and procedures for evaluating chemicals, materials and suppliers and ensuring only approved materials and chemicals are used.	Materials used in the recycled water system are appropriate and meet specifications. Chemicals used in the recycled water system are appropriate and meet specifications.
	Establish documented procedures for evaluating chemicals, materials and suppliers.	See above.	See above.

AGWR Element 5 – Verification of recycled water quality and environmental performance

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Recycled water quality monitoring	Determine the characteristics to be monitored.	Identifies the characteristics to be monitored in the recycled water system.	
	Determine the points at which monitoring will be undertaken.	Identifies the points at which monitoring will be undertaken. Identifies the agreed levels of service with the registered retailers.	Procedures for sampling and testing are followed.
	Determine the frequency of monitoring.	Identifies the frequency of monitoring in order to obtain meaningful information and statistical validity.	Adequate resources are provided to ensure valid and reliable results of recycled water quality monitoring.
Application site and receiving environment monitoring	Determine the characteristics to be monitored and the points at which monitoring will be undertaken.	Identifies the characteristics to be monitored at application sites and receiving environment, including the location and frequency of sampling.	Results of recycled water verification monitoring are used to evaluate conformity to criteria set in the water quality management system (recycled water).
Documentation and reliability	Establish and document a sampling plan for each characteristic, including the location and frequency of sampling, ensuring that monitoring data is representative and reliable.	Documents a consolidated sampling plan, including procedures for sampling and testing that are suitable for verification of whether the scheme is performing as intended.	The consolidated sampling plan is followed, and monitoring data is verified to be representative and reliable.
Satisfaction of users of recycled water	Establish an inquiry and response program for users of recycled water, including appropriate training of people responsible for the program.	Documents a program, or arrangements for ensuring that the registered retailer has a program, to monitor satisfaction of users and train the people responsible for the program.	Complaints and comments from users are evaluated, whether received from the registered retailer or directly to the registered operator.
Short-term evaluation of results	Establish procedures for the short-term review of monitoring data and satisfaction of users of recycled water.	Documents procedures for the short-term review of monitoring data. Procedures include rapid notification process for the contracted laboratory for out of specification results. Procedures include a notification process for the registered retailer to report issues/complaints regarding water quality from end users.	Short-term evaluation of monitoring results and user feedback is used to verify that the quality of the recycled water conforms to established targets and meets user expectations.

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
	Develop reporting mechanisms internally and externally, where required.	Documents reporting mechanism for the short-term evaluation of results internally and externally, as appropriate.	
Corrective responses	Establish and document procedures for corrective responses to non-conformance or feedback from users of recycled water.	Documents procedures for corrective action in response to non-conformances or feedback from users via the registered retailer.	Corrective responses to non-conformances are implemented in accordance with documented procedures; or where network operator has deviated from documented procedure, reasons are documented and the response has provided an equal or improved management of risk.
	Establish rapid communication systems to deal with unexpected events.	Documents rapid communication systems to deal with unexpected events, including incident notification in accordance with the IPART Reporting Manual.	Planned changes are controlled and consequences of unintended changes reviewed, action taken to mitigate any adverse effects, as necessary.

AGWR Element 6 – Management of incidents and emergencies

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Communication	Define communication protocols with the involvement of relevant agencies and prepare a contact list of key people, agencies and stakeholders.	Identifies communications protocols. Includes an up-to-date contact list of key people, appropriate agencies and stakeholders relevant to management of incidents and emergencies.	
	Develop a public and media communications strategy.	Documents the public and media communications strategy developed in consultation with the registered retailer.	
Incident and emergency response protocols	Define potential incidents and emergencies and document procedures and response plans with the involvement of relevant agencies.	Define declared and notifiable incidents and emergencies. Document procedures and response plans, including rapid communications for incident notification, which reflect events identified in the risk register and notification requirements set out in IPART's Reporting Manual and Incident Notification Forms A and B.	Incident and emergency communications protocols are implemented as described in the water quality management system (recycled water), and follow the requirements of IPART's Reporting Manual and notification requirements as set out in the WIC Regulation, sch 2, cl.3(1).
	Train employees and regularly test emergency response plans.	Documents training and testing plans.	Employees are trained in incident and emergency response protocols and the plans are tested as appropriate.
	Investigate any incidents or emergencies and revise protocols as necessary.	Identifies the process for reviewing incidents or emergencies and identifying new risks, or new or improved preventative measures and making any necessary amendments to operational procedures or protocols.	Following any incident and emergency situation, an investigation is undertaken, and all appropriate staff debriefed. Protocols have been revised as necessary.

AGWR Element 7 – Operator, contractor and end user awareness and training

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Operator, contractor and end user awareness and involvement	Develop mechanisms and communication procedures to increase operator, contractor and end-user awareness of, and participation in, recycled water quality management and environmental protection.	Identifies mechanisms and communication procedures to increase operator and contractor awareness of, and participation in managing recycled water quality and environmental protection. Documents process (arrangements) for ensuring that the registered retailer fulfils the requirement to ensure end-user awareness.	Operators have a general understanding of the regulatory requirements of registered operators under the WIC Act for protection of public health. Operators and relevant contractors are aware of the recycled water policy and objectives of the water quality management system (recycled water) (overlap with Element 1). Operators and relevant contractors understand water quality and environmental risk management principles set out in the water quality management system (recycled water), characteristics of the recycled water supply system and preventive strategies in place, consequences of system failures and how to apply and follow risk management principles. Operators and relevant contractors should be aware of the arrangements that the registered retailer has in place to manage its obligations (e.g. communication with end users, training) and that the licensee must use best endeavours to ensure those arrangements align with licensee's risk controls.
Operator, contractor and end user training	Ensure that operators, contractors and end users maintain the appropriate experience and qualifications.	Ensure employees, including contractors, are suitably competent and adequately trained to carry out their duties. Document process (arrangements) for ensuring that the registered retailer fulfils the requirement to ensure end users maintain appropriate experience and qualifications as appropriate.	Operators and contractors are aware of their contribution to the effectiveness of implementing the water quality management system (recycled water), including benefits of improved performance, and the implications of not conforming to those requirements. There are arrangements in place with the registered retailer for ensuring ongoing user awareness.
	Identify training needs and ensure resources are available to support training programs.	Identify a process for identifying any gaps in experience and training of operators and key contractors and identify ongoing training needs.	Identified training has been delivered, or is appropriately scheduled to be delivered so that operators and contractors are able to fulfil the duties of the role.

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
		Includes a schedule of training with timeframes and resources identified.	
	Document training and maintain records of all training sessions.	Document processes and procedures for employee training and maintaining records of all employees training.	Records are maintained of all employee training, and processes and procedure for training are followed.

AGWR Element 8 – Community involvement and awareness

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Consultation with users of recycled water and the community	Assess requirements for effective involvement of users of recycled water and the community.	Identifies requirements for consultation, communication and education with users of recycled water and the community. This requirement may be satisfied through appropriate arrangements with the registered retailer.	
	Develop a comprehensive strategy for consultation.	Documents a consultation strategy or makes arrangements for the registered retailer to develop a consultation strategy consistent with requirements.	The registered retailer undertakes consultation with users of recycled water and the community, making the information available to the registered operator consistent with the strategy.
Communication and education	Develop an active two-way communication program to inform users of recycled water and promote awareness of recycled water quality issues.	Documents communication and education arrangements with users of recycled water. This may occur through the registered retailer of the scheme.	Arrangements are in place and are actively employed.
	Provide information on the impacts of unauthorised use.	Identifies the impact of unauthorised use to be communicated and process to be followed to communicate the information.	The identified information is communicated consistent with identified process.
	Provide information on the benefits of recycled water use.	Identifies the benefits of recycled water use to be communicated and process to be followed to communicate the information.	The identified information is communicated consistent with identified process.

AGWR Element 9 – Validation, research and development

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Validation of processes	Validate processes and procedures to ensure they control hazards effectively.	Documents validation processes and procedures that ensure effective control of hazards. *The processes and procedures should include evaluation of scientific and technical information to demonstrate, as a minimum, that the log removal value claimed for each process and critical control point is valid.* *Where scheme validation relies on the WaterVal validation of treatment technologies framework (complements the objectives of the AGWR), the specific section needs to be identified.*[21]	Validation monitoring[22] is undertaken in accordance with documented processes and procedures to ensure hazards are effectively controlled.
	Revalidate processes when variations in conditions occur.	Identifies variations that may affect performance of processes and would trigger revalidation and documents processes for revalidation.	Revalidation of processes is done when variations occur.
Design of equipment	Validate the design of new equipment and infrastructure to ensure continuing reliability.	Documents validation processes and procedures that apply to the design of new equipment and infrastructure to ensure continuing reliability.	Validation of new equipment and infrastructure is undertaken in accordance with documented processes and procedures to ensure continuing reliability. *Implementation of asset management plans and systems are tested separately.*
Investigation studies and research monitoring	Establish programs to increase understanding of the recycled water supply system, and use this information to improve management of the recycled water supply system.	Documents a program to increase understanding of the recycled water supply system and to improve management of the system.	Implements program as documented.

Note: Chapter 5 of the AGWR has additional guidance on validation monitoring.

[21] See: https://www.waterra.com.au/research/waterval/

[22] The purpose of validation monitoring is to obtain evidence that the processes will achieve the target log removal for the scheme.

AGWR Element 10 – Documentation and reporting

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Management of documentation and records	Document information pertinent to all aspects of recycled water quality management, and develop a document-control system to ensure current versions are in use.	Identifies information that is pertinent and uses a document control system to ensure current versions of key documents are in use.	Appropriate documentation is kept to provide a foundation for maintaining effective recycled water quality management. All documentation relevant to the implementation of the water quality management system (recycled water) is reviewed and current.
	Establish a records-management system and ensure that employees are trained to complete records.	Documents a records-management system, and a process to ensure that employees are trained to complete records.	Records-management system is maintained and records complete. Employees are trained to complete records.
	Periodically review documentation and revise as necessary.	Documents review timeframes.	Documents are reviewed and revised as necessary.
Reporting	Establish procedures for effective internal and external reporting.	Documents procedures for effective internal and external reporting.	Internal and external reporting is undertaken according to procedures.
	Produce an annual report aimed at users of recycled water, regulatory authorities and stakeholders.	Identifies requirements for the production of an annual report that contains sufficient information to enable consumers, regulatory authorities and stakeholders to make informed judgements about recycled water quality, and to canvas feedback.	Annual report is produced.

AGWR Element 11 – Evaluation and audit

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Long-term evaluation of results	Collect and evaluate long-term data to assess performance and identify problems.	Documents processes and practices for the collection and evaluation of long-term data to assess performance and identifying problems.	Evaluation of long-term data is undertaken, and results are reviewed. Problems from long-term data evaluation are identified and addressed.
	Document and report results.	Documents processes and practices for documenting and reporting results.	*See above.*
Audit of recycled water quality management	Establish processes for internal and external audits.	Documents processes for internal and external audits of recycled water quality management systems and their implementation. The frequency and schedule of audits, as well as the responsibilities, requirements, procedures and reporting mechanisms, should be defined. Internal audits should also assess effectiveness of end-user controls.	Internal audit undertaken at planned intervals.
	Document and communicate audit results.	Identify that audit results are to be communicated to relevant stakeholders. *Audit results should be considered as a part of Element 12 implementation.*	Audit results are documented and communicated.

AGWR Element 12 – Review and continuous improvement

Component	Summary of actions from the AGWR	Adequacy – IPART considerations to achieve key outcomes	Implementation - IPART considerations for implementation of the plan or system
Review by senior managers	Senior managers review the effectiveness of the management system and evaluate the need for change.	Identify the process for senior managers to review the effectiveness of the management system and evaluation of the need for change, including approving and monitoring implementation of audit programs and review of audit outcomes. Processes and practices for periodic review of the water quality management system (recycled water) have been established and triggers of significant change that require it to be re-audited are determined.	Effectiveness of the management system is reviewed by senior managers, and the need for change is evaluated. Decisions and actions by senior management are documented.
Recycled water quality management improvement plan	Develop a recycled water quality management improvement plan.	A recycled water quality management improvement plan has been developed to address identified needs. Results of analysis and evaluation, and output from the management review is considered to determine need for inclusion in improvement plan. The improvement plan is endorsed by senior executive and the water quality management system (recycled water) commits to implementing the plan. The improvement plan includes objectives, actions to be taken, accountability, timelines and reporting.	The improvement plan is implemented according to the plan.
	Ensure that the plan is communicated and implemented, and that improvements are monitored for effectiveness.	A process for communicating, implementing and monitoring effectiveness of continual improvement actions has been established.	The improvement plan is communicated and implemented, and improvements are monitored for effectiveness.

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