

Independent Pricing and Regulatory Tribunal
New South Wales

Review of water utility performance indicators

Draft Report
Water

April 2018

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Invitation for submissions

IPART invites written comment on this document and encourages all interested parties to provide submissions addressing the matters discussed.

Submissions are due by 24 May 2018

We would prefer to receive them electronically via our online submission form <www.ipart.nsw.gov.au/Home/Consumer_Information/Lodge_a_submission>.

You can also send comments by mail to:

Water Utility Performance Indicators Review

Independent Pricing and Regulatory Tribunal

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If you would like further information on making a submission, IPART's submission policy is available on our website.

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1 Executive Summary

We collect performance indicators for water utilities¹ on water quality, water quantity, assets and their performance, the environment and customer service. We use our performance indicators in addition to our compliance monitoring framework, to monitor the performance of the water utilities we regulate. The IPART performance indicators² are collected in addition to the National Water Initiative (NWI) indicators³ and other information.

Performance indicators can be a useful tool to monitor or assess a utility's performance and analyse performance trends. We publish data collected from the IPART performance indicators on our website annually.

We are reviewing our performance indicators to ensure that the information we collect is useful and that we are not imposing unnecessary regulatory costs. This means that the benefits derived from requiring water utilities to report on performance indicators should outweigh the costs of collection and reporting.

In our approach to date, we do not use all of the performance indicator information we collect to analyse water utilities' performance and we are unsure of the extent to which the general public or other entities use the performance indicators information.

This report proposes a set of performance indicators for water utilities, discusses the supporting analysis, and seeks further submissions from all interested stakeholders.

1.1 Overview of our proposed performance indicators

We propose to streamline our indicator set and reduce regulatory burden

We hold the regulated businesses accountable using both compliance monitoring⁴ (for example, annual reporting and auditing against licence conditions) and the performance indicators that we are considering as part of this review. We have identified performance indicators that we are able to reduce or remove because those issues are already captured in our compliance activities. Therefore, we have reduced the number of performance indicators to 27 indicators (Table 1.1), representing a reduction of more than 75 percent from

¹ We administer the operating licences for Hunter Water Corporation, Sydney Water Corporation, WaterNSW, and the network operator and retail supplier licences for *Water Industry Competition Act 2006* licensees.

² We refer to the water utility performance indicators we collect as the 'IPART performance indicators'.

³ NWI indicator information is collected from Australian water utilities annually by the Bureau of Meteorology, we have a role in coordinating the data from the water utilities we regulate.

⁴ Our approach to compliance is detailed in our Compliance and Enforcement Policy, December 2017 Available: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/licensing-policy-cross-industry-review-of-ipart-compliance-and-enforcement-policy-2017/ipart-compliance-and-enforcement-policy-december-2017.pdf>

our current indicator list.⁵ Our streamlined performance indicators will remove unnecessary red tape without compromising the quality of our regulatory oversight.

We have reduced the performance indicator set and reporting requirements for Hunter Water Corporation (Hunter Water), Sydney Water Corporation (Sydney Water), *Water Industry Competition Act 2006* (WIC Act) network operators and WIC Act retail suppliers. We have increased the performance indicator set for WaterNSW to allow us to collect information from WaterNSW that reflects the performance standards in its operating licence. WaterNSW proposed this change in response to our Issues Paper.⁶

We have assessed the proposed changes to the performance indicators by applying criteria which ensures our performance indicators:⁷

- ▼ have a regulatory purpose
- ▼ align with the desired regulatory performance outcome
- ▼ have benefits which outweigh the costs of collecting information
- ▼ are not collected through other means, and
- ▼ are consistent with SMART⁸ criteria.

We propose a single set of performance indicators for the water utilities we regulate, however due to different legislative frameworks and services provided, each utility would have some of its own IPART performance indicators which are not necessarily common to other utilities (see Table 1.1). The list and definitions for our proposed performance indicator set are in Appendix A.

We propose to continue to monitor performance using a combination of compliance monitoring and performance indicators

We monitor water utility performance across the following performance areas:

- ▼ water quality and quantity
- ▼ assets
- ▼ environment, and
- ▼ customers.

We intend to continue to use both compliance monitoring and performance indicators to monitor performance. Where compliance monitoring is sufficient to monitor performance we propose to not collect performance indicators.

⁵ Across five water utilities our existing IPART performance indicator set has 121 unique performance indicators.

⁶ WaterNSW, Submission to the IPART review of water utility performance indicators, March 2018, p8.

⁷ See Figure 3.3.

⁸ Specific, Measureable, Achievable, Relevant and Time-bound.

We propose to create consistency in timing and format of collection and reporting

We have considered the timing and format of collection and reporting on water utility performance indicators. We propose for all water utilities to report in a consistent manner, including:

- ▼ all water utilities would be required to report on performance indicators (excluding environment performance indicators) on 1 September each year
- ▼ utilities required to report on environment performance indicators (Sydney Water and WaterNSW) would be required to report on those indicators on 1 October each year.
- ▼ all water utilities would be required to submit information in a database or spreadsheet format, and
- ▼ IPART publishing a performance indicator data set annually which includes data from all water utilities.

We propose to collect licence data to assist in our administrative functions





























































We have identified licence data that allows for the calculation of WIC Act retail supplier licence fees and to understand the number of customers served by retail water utilities (ie, Hunter Water, Sydney Water and WIC Act retail suppliers), which we are interested in to allow us to understand the impact of our role, to inform our risk based-compliance activities, and may also provide context and information to stakeholders. In some cases this licence data replaces existing performance indicators.












































































Hunter Water and Sydney Water already provide some data on the number of customers served through their reporting on NWI indicators related to customer numbers.⁹ This means that Hunter Water and Sydney Water would only be required to report on licence data related to customer numbers for non-potable water.

The list and definitions for our licence data set are in Appendix B.

⁹ NWI indicators C2, C3, C6, C7.

Table 1.1 Proposed IPART performance monitoring approach

Performance area	Indicator number	Obligation or indicator	Water utility ^a				
			Hunter Water	Sydney Water	Water NSW	WICA NOL	WICA RSL
		Total number of IPART indicators	5	19	10	7	7
Water quality		Maintain and implement a Drinking Water Quality Management System consistent with the Australian Drinking Water Guidelines					
		Maintain and implement a Recycled Water Quality Management System consistent with the Australian Guidelines for Water Recycling					
Water quantity		Obligations related to water conservation, including water recycling					
	W1	Percent of customers who place a Non-complying Water Order are contacted within one working day to rectify that order					
	W2	Percent of Water Orders are Delivered within one day of the scheduled day of Delivery					
	W3	Percent 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					
	W4	Percent 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					
	W5	Percent 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					
Assets		Maintain and implement an Asset Management System consistent with the requirements of its licence					
		Maintain and implement and Infrastructure Operating Plan					
	A1	Number of properties that experience an unplanned water interruption that lasts for more than five continuous hours					
	A2	Number of properties that experience three or more unplanned water interruptions that each lasts for more than one hour					

Performance area	Indicator number	Obligation or indicator	Water utility ^a				
			Hunter Water	Sydney Water	Water NSW	WICA NOL	WICA RSL
	A3	Total number of unplanned interruptions – water supply					
	A4	Average duration of unplanned water interruptions – water supply					
	A5	Percent of priority 6 breaks/leaks in drinking water mains that the water utility responded to within 3 hours					
	A6	Percent of priority 5 breaks/leaks in drinking water mains that the water utility responded to within 6 hours					
	A7	Percent of priority 5 breaks/leaks in drinking water mains that the water utility responded to within 24 hours					
	A8	Percent of priority 4 breaks/leaks in drinking water mains that the water utility responded to within 5 days					
	A9	Percent 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					
	A10	Number of properties that experience a water pressure failure					
	A11	Number of properties (other than public properties) that experience an uncontrolled wastewater overflow in dry weather					
	A12	Number of properties (other than public properties) that experience three or more uncontrolled wastewater overflows in dry weather					
Environment		Maintain and implement an Environmental Management System consistent with the requirements of the licence					
		Comply with environment conditions in its legislation and licence					
		Comply with requirements of Environment Protection Licences where relevant					
		Comply with requirements of NSW and Commonwealth environment legislation					
	E1	Total energy consumption by the water utility (electricity, fuel and gas) in units provided on energy bills					

Performance area	Indicator number	Obligation or indicator	Water utility ^a				
			Hunter Water	Sydney Water	Water NSW	WICA NOL	WICA RSL
	E2	Electricity consumption from renewable resources or generated by the water utility expressed as a total percentage of electricity consumption					
	E3	Total number of controlled wastewater overflows that occur in dry weather that discharged to the environment, per km of sewer main					
	E4	Total number of uncontrolled wastewater overflows that occur in dry weather that discharged to the environment, per km of sewer main					
	E5	Total mass of biosolids produced by the water utility					
	E6	Percent of solid waste recycled or reused expressed as a percentage of solid waste generated					
	E7	Total mass of solid waste generated by the water utility					
	E8	Total area of clearing of native vegetation					
	E9	Total area of native vegetation rehabilitated, including due to replanting and protection by the water utility					
	E10	Total area of native vegetation gain due to rehabilitation, replanting and protection by the water utility					
Customers		Customer contracts and service obligations					
		Maintain policies and procedures for assisting customers who are experiencing financial hardship					
		Maintain procedure for receiving, responding to, and resolving complaints consistent with Australian standards.					
		Maintain and implement procedures for disconnecting or restricting water supply in the event of non-payment.					
		Maintain membership of ombudsman scheme					

a Key to table:



Performance of the water utility primarily monitored through IPART compliance monitoring.



Proposed IPART indicator applicable to the utility.



Proposed IPART indicator applicable to the utility due to requirements of the *Sydney Water Act 1994* or *Water NSW Act 2014*. The environment performance of water utilities is monitored under NSW and Commonwealth legislation.



Proposed IPART indicator applicable to the utility and reported under the NWI indicator set.



Performance of the water utility primarily monitoring by another regulator. The environment performance of water utilities is monitored under NSW and Commonwealth legislation.



Proposed IPART indicator not applicable to the utility. The environment performance of water utilities is monitored under NSW and Commonwealth legislation.



Proposed IPART indicator not applicable to the utility.

1.2 Performance indicators - water quality and quantity

Water quality

We propose no performance indicators for water quality, and instead will monitor the water quality performance of water utilities through our compliance monitoring which includes self-reporting, public disclosure of information, and audits.

There appears to be limited need to incorporate performance indicators to monitor performance of water utilities in relation to water quality because:

- ▼ all of the water utilities are required to have management systems or plans in place to meet the Australian Drinking Water Guidelines (ADWG) and Australian Guidelines for Water Recycling (AGWR)
- ▼ all of the water utilities are required to report on any non-compliance
- ▼ in addition to reporting to IPART, all of the water utilities have some obligations to report to NSW Health, customers, or the Minister for Public Health on water quality outputs and outcomes, and
- ▼ water utilities' performance in meeting those obligations is generally good.

Stakeholders, including NSW Health, support our approach.¹⁰

Water quantity

We will primarily monitor the water quantity performance of water utilities using a compliance-based approach.

However, we propose five performance indicators for water quantity for WaterNSW which align with its performance standards for water released for extraction and use under a customers access licence.

We propose no other performance indicators for water quantity since:

- ▼ we monitor the compliance of all water utilities with their water quantity and water conservation obligations
- ▼ water utilities other than WaterNSW do not have a performance standard related to water quantity
- ▼ water utilities already report on water conservation, including recycled water, and
- ▼ water utilities can provide detailed water usage and demand forecast information in other ways.

¹⁰ IPART Transcript, Stakeholder Roundtable, 20 March 2018, p5; Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p2; Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p10; Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p7; Department of Planning and Environment, Submission on water utility performance indicators review, 9 March 2018, p2.

1.3 Performance indicators - assets

We propose performance indicators that align with current performance standards, including:

- ▼ service interruptions
- ▼ water pressure, and
- ▼ wastewater overflows.

These performance standards are related to management of assets, and relate to the level of service provided to customers. Water utilities and other stakeholders broadly support this approach.

We propose nine performance indicators related to service interruptions, one related to water pressure and two related to wastewater overflows in dry weather.

We propose the same service interruptions performance indicators for water utilities that have a network or retail function, ie, Hunter Water, Sydney Water and WIC Act licensees. However we continue to require Sydney Water to report on main breaks and leaks response times.¹¹, which was a recommendation of its most recent operating licence review.

We agree with WaterNSW's suggestion for a service interruption performance indicator that aligns with its performance standard on bulk water supply.

We considered performance indicators for planned service interruptions, and consider that in the absence of a performance standard there is no reason to include a performance indicator related to planned service interruptions.

We do not support Fire & Rescue NSW's (FRNSW's) recommendation to collect further information on water pressure and water flows. We have previously considered the requirements for water for firefighting in our 2015 Sydney Water operating licence review and our 2017 Hunter Water operating licence review, and are further considering it in our current review of developer charges and backlog sewerage charges for metropolitan water agencies. We consider a mapping tool or set of maps is not a performance indicator and can be developed and shared between water utilities and FRNSW under a bilateral agreement. The Memorandums of Understanding which are required between FRNSW and Hunter Water and Sydney Water in their respective licences could facilitate this process.

For wastewater overflows, we propose the same performance indicators for water utilities with a network or retail function.

We note that we base our proposed performance indicators on current performance standards and that these are subject to change in the future. In the upcoming Sydney Water operating licence review (due to commence in mid-2018) we will review the obligations in its operating licence. We intend to review Sydney Water's performance standards, including considering opportunities for customers to be engaged in decisions about performance standards.

1.4 Performance indicators - environment

We consider water utilities would meet the desired environment outcomes if the water utilities comply with the environmental legislative framework administered by the NSW

¹¹ This was a recommendation of Sydney Water's most recent operating licence review.

Environment Protection Agency (EPA) and the NSW Office of Environment and Heritage (OEH), and the environmental obligations in their licences (eg, the PWU licence requirement to have and implement an EMS). We would continue to monitor the compliance of all water utilities with the environment obligations in their licences.

The legislative frameworks of Sydney Water and WaterNSW require environment indicators to be compiled. We have proposed environment performance indicators for Sydney Water and WaterNSW utilities based on stakeholder feedback. Where possible we have made indicators consistent between the water utilities and have removed indicators where information is collected through other means.

Hunter Water, WIC Act network operators and WIC Act retail suppliers do not have any requirements to compile environment indicators. We propose no environment performance indicators where there are no legislative requirements to compile environment indicators.

1.5 Performance indicators - customers

We propose no performance indicators for customer service, and instead will monitor the customer performance of water utilities using a compliance-based approach. Stakeholders support this approach.

We intend to further investigate the introduction of customer satisfaction indicator(s) during 2018-19.

1.6 Have your say on our draft performance indicators

We are now inviting submissions on the proposed performance indicators in this Draft Report and the associated reporting manuals. Submissions are due by 24 May 2018. We provide information on how to make a submission on page iii at the front of this report.

We will consider submissions to our Draft Report in preparing our final performance indicators for implementation from 1 July 2018.

For this review, we are conducting both targeted and public consultation as well as detailed analysis. To date, we have:

- ▼ released an Issues Paper in February 2018 outlining our proposed approach to the review and invited comment
- ▼ held a Stakeholder Roundtable in March 2018 to provide the opportunity to discuss our preliminary view and the views of key stakeholders, and
- ▼ considered all submissions to our Issues Paper and the discussion at the Stakeholder Roundtable and undertaken analysis to develop this Draft Report.

1.7 The structure of our report

The rest of this report explains our draft findings and proposed performance indicators in more detail:

-
- ▼ **Chapter 2** outlines key contextual information relevant to our review of water utility performance indicators.
 - ▼ **Chapter 3** explains the approach we have used to develop our proposed performance indicators, including the objectives and the issues we considered.
 - ▼ **Chapter 4** explains our approach to collecting and publishing performance indicators.
 - ▼ **Chapter 5** identifies and discusses outcomes and performance indicators relating to water quality and quantity.
 - ▼ **Chapter 6** identifies and discusses outcomes and performance indicators relating to assets.
 - ▼ **Chapter 7** identifies and discusses outcomes and performance indicators relating to the environment.
 - ▼ **Chapter 8** identifies and discusses outcomes and performance indicators relating to customers.

1.8 List of draft decisions

Draft Decisions

- 1 Water utilities must report on IPART performance indicators (excluding environment indicators) to IPART by 1 September of each year. 24
- 2 Water utilities must report on IPART environment performance indicators to IPART by 1 October of each year. 25
- 3 Public water utilities must report on NWI indicators (excluding environment indicators) to IPART by 1 September of each year. 25
- 4 Public water utilities must report on NWI environment indicators to IPART by 1 October of each year. 25
- 5 WIC Act retail supplier licensees must provide the following licence data to IPART by 1 September of each year: 30
 - L1 Total volume of water supplied (ML) 30
 - L2 Total volume of non-potable water supplied (ML) 30
 - L3 Total volume of sewage collected (ML) 30
- 6 WIC Act retail suppliers must provide the following licence data to IPART by 1 September of each year: 30
 - L4 Connected residential properties – water supply (000s) 30
 - L5 Connected non-residential properties – water supply (000s) 30
 - L6 Connected residential properties – wastewater (000s) 30
 - L7 Connected non-residential properties – wastewater (000s) 30
- 7 Hunter Water, Sydney Water and WIC Act retail suppliers must provide the following licence data to IPART by 1 September of each year: 30
 - L8 Connected residential properties – non-potable water supply (000s) 30
 - L9 Connected non-residential properties – non-potable water supply (000s) 30
- 8 IPART will remove IPART performance indicators related to water quality.. 31
- 9 WaterNSW must report on the following indicators related to water quantity: 34
 - W1 Percent of customers who place a Non-complying Water Order are contacted within one working day to rectify that order 34
 - W2 Percent of Water Orders are Delivered within one day of the scheduled day of Delivery 34
 - W3 Percent 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 34
 - W4 Percent 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 34
 - W5 Percent 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 34
- 10 Hunter Water, Sydney Water and WIC Act licensees must report on the following IPART performance indicators related to service interruptions: 41
 - A1 Number of properties that experience an unplanned water interruption that lasts for more than five continuous hours 41
 - A2 Number of properties that experience three or more unplanned water interruptions that each lasts for more than one hour 41
- 11 WIC Act licensees must report on the following IPART performance indicators related to service interruptions: 41
 - A3 Total number of unplanned interruptions – water supply 41
 - A4 Average duration of unplanned water interruptions – water supply 41

12	Sydney Water must report on the following IPART performance indicators related to service interruptions:	41
–	A5 Percent of priority 6 breaks/leaks in drinking water mains that the water utility responded to within 3 hours	41
–	A6 Percent of priority 5 breaks/leaks in drinking water mains that the water utility responded to within 6 hours	41
–	A7 Percent of priority 5 breaks/leaks in drinking water mains that the water utility responded to within 24 hours	41
–	A8 Percent of priority 4 breaks/leaks in drinking water mains that the water utility responded to within 5 days	41
13	WaterNSW must report on the following IPART performance indicators related to service interruptions:	41
–	A9 Percent 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	41
14	Hunter Water, Sydney Water and WIC Act licensees must report on the following IPART performance indicator for water pressure:	49
–	A10 Number of properties that experience a water pressure failure (as defined in the water utility's licence)	49
15	Hunter Water, Sydney Water, and WIC Act licensees must report on the following IPART performance indicators related to wastewater overflows:	54
–	A11 Number of properties (other than public properties) that experience an uncontrolled wastewater overflow in dry weather	54
–	A12 Number of properties (other than public properties) that experience three or more uncontrolled wastewater overflows in dry weather	54
16	Hunter Water, WIC Act network operators and WIC Act retail suppliers are not required to report on IPART performance indicators related to environment.	59
17	Sydney Water must report on the following IPART performance indicators related to environment:	60
–	E1 Total energy consumption by the water utility (electricity, fuel and gas) in units provided on energy bills	61
–	E2 Electricity consumption from renewable resources or generated by the water utility expressed as a total percentage of electricity consumption	61
–	E3 Total number of controlled wastewater overflows that occur in dry weather that discharged to the environment, per km of sewer main	61
–	E4 Total number of uncontrolled wastewater overflows that occur in dry weather that discharged to the environment, per km of sewer main	61
–	E5 Total mass of biosolids produced by the water utility	61
–	E6 Percent of solid waste recycled or reused expressed as a percentage of solid waste generated	61
–	E7 Total mass of solid waste generated by the water utility	61
–	E8 Total area of clearing of native vegetation	61
–	E9 Total area of native vegetation rehabilitated, including due to replanting and protection by the water utility	61
–	E10 Total area of native vegetation gain due to rehabilitation, replanting and protection by the water utility	61
18	WaterNSW must report on the following IPART performance indicators related to environment, applicable to the Declared Catchment Areas only:	66
–	E1 Total energy consumption by the water utility (electricity, fuel and gas) in units provided on energy bills	66
–	E2 Electricity consumption from renewable resources or generated by the water utility expressed as a total percentage of electricity consumption	66

	– E6 Percent of solid waste recycled or reused expressed as a percentage of solid waste generated	66
	– E7 Total mass of solid waste generated by the water utility	66
19	IPART will remove IPART performance indicators related to customer service.	68
20	IPART will review customer satisfaction indicators for water utilities in 2018-19.	71

2 Context

This chapter outlines key contextual information relevant to our review of water utility performance indicators.

2.1 How do we monitor performance?

We monitor the performance of the water utilities we regulate against regulatory objectives. To measure performance against the outcomes, we use compliance monitoring¹² (including self-reporting, public disclosure of information, and audits), performance indicators, or a combination of both (Figure 2.1). In some cases, our existing compliance monitoring approach is likely to be sufficient, whereas for other outcomes, we might require more detail regarding performance (through the use of indicators).

The licence(s) applicable to each utility authorise a water utility to carry out its functions, and regulate how it undertakes those functions through terms and conditions designed to meet regulatory objectives. Where possible the terms and conditions of water utility licences are outcomes-based rather than having prescriptive inputs or outputs or other requirements. We continue to move towards outcomes-based regulation of water utilities.

Compliance monitoring is necessary when the obligation is complex and reporting on an indicator does not simply or reliably measure compliance with or performance against an obligation. Our compliance monitoring allows us to consider whether a utility complies or does not comply with a regulatory requirement (and therefore outcome). Where we audit, we can also consider auditor commentary to ascertain the risk of a utility failing in the near future or to build a picture of how a utility is performing over time.

Where our compliance monitoring is able to appropriately monitor performance or where a performance indicator is unable to provide a meaningful result, we do not propose to collect performance indicator information to monitor the water utility's performance.

In other cases, there is an expectation of maintenance or improvement in service over time that may require the use of performance indicators to provide information on whether the water utility is improving the service or not. Performance indicator information can signal changes to trend and with a proper monitoring mechanism they can provide valuable information to react to events that can significantly impact a utilities capacity to comply with its regulatory outcomes. Performance indicators can be an important tool in assessing or driving improvements in performance, however they need to be established appropriately, otherwise they may create perverse incentives or outcomes for the utilities.

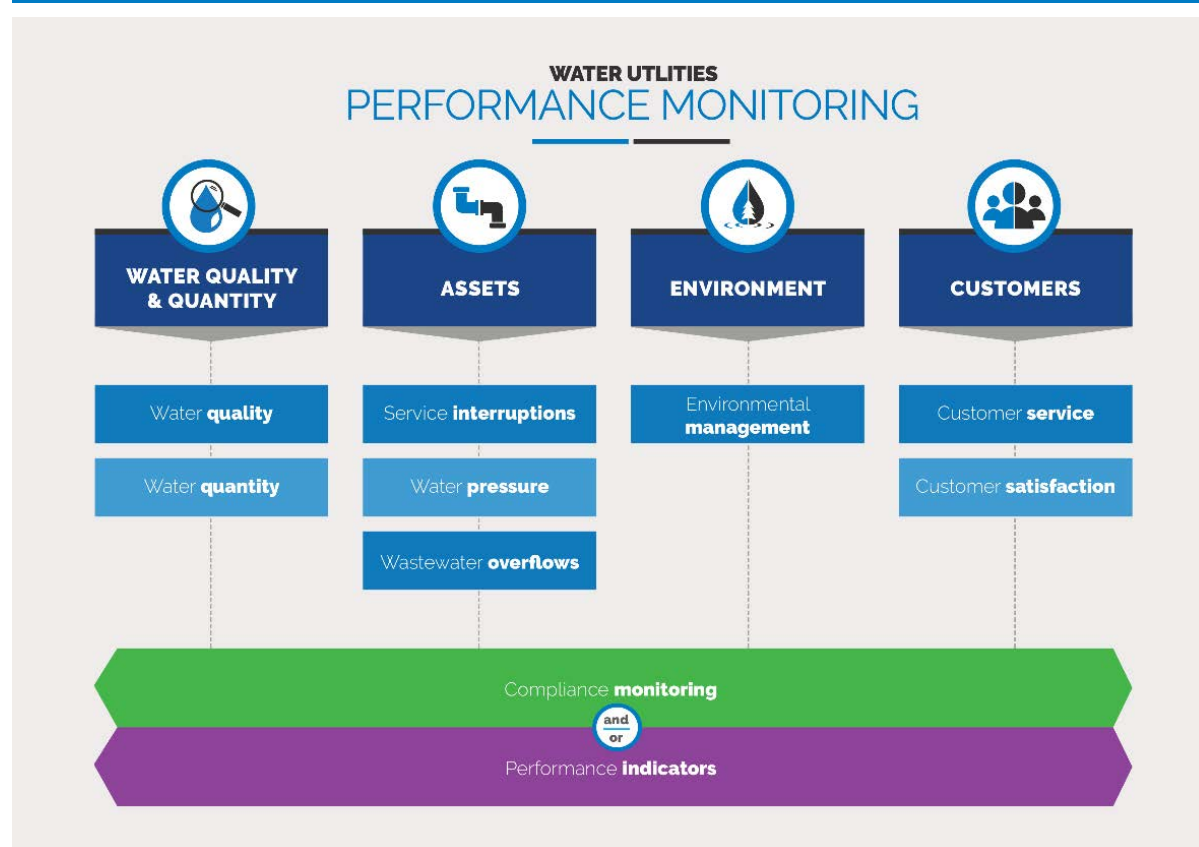
¹² Our approach to compliance is detailed in our Compliance and Enforcement Policy, December 2017 Available: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/licensing-policy-cross-industry-review-of-ipart-compliance-and-enforcement-policy-2017/ipart-compliance-and-enforcement-policy-december-2017.pdf>

2.2 What performance areas do we monitor?

Due to the diversity of functions, size, structure and services provided by each of the water utilities it is not possible to apply a single set of outcomes or objectives to the performance of the water utilities we regulate. However, the performance outcomes in the current operating licences of public water utilities (PWUs) and WIC Act licensees generally fall within four key performance areas:

- ▼ water quality and quantity
- ▼ assets
- ▼ environment, and
- ▼ customers.

Figure 2.1 IPART's approach to performance monitoring



2.3 What is a performance indicator?

A performance indicator is something that can be simply and reliably used to measure change and assess performance against a goal or target. It represents the direction and type of change required to achieve a desired performance outcome.

Reporting against indicators can be useful in providing information to the public, to other regulators and to us about performance and compliance of water utilities.

While the use of performance indicators is widespread across government and private sectors, there are some factors to consider so that performance indicators are appropriate and effective:

- ▼ the benefits derived from data must outweigh the costs of collection, and
- ▼ indicators should be selected and used carefully to ensure data is aligned and representative of an area of performance or outcome that is desired.

Performance indicators can be either lag or lead indicators. To date we have based the performance indicator information we collect on lag indicators. Lag indicators are a historical measure, typically output-oriented and easy to measure, but can be hard to influence.

In contrast, lead indicators are predictive and are typically input-oriented, harder to measure but allow a pro-active response to influence the regulatory outcome. Because lead indicators correlate to expected future performance, they are most usefully employed by organisations who intend to make proactive decisions or adjustments within a hands-on management approach. Clarity about the outcome sought is an important precursor to effective use of lead indicators.

2.4 PWU licensing and performance indicators

IPART administers the operating licences for Hunter Water, Sydney Water and WaterNSW. The licences set the terms and conditions that each utility is required to meet in order to:

- ▼ ensure service quality and reliable supply
- ▼ protect customers, and
- ▼ assess the impact of the utility on the environment.

We review each licence regularly, at intervals of no longer than five years and we audit each licence annually applying our risk-based compliance framework to determine the appropriate scope of these audits. We publish a Public Water Utility Audit Guideline,¹³ and each PWU is required under its licence¹⁴ to comply with a reporting manual,¹⁵ which requires is to report annually on water utility performance.

The *Hunter Water Corporation Act 1991* (Hunter Water Act), *Sydney Water Corporation Act 1994* (Sydney Water Act), and *Water NSW Act 2014* (Water NSW Act) require that PWU licences include terms and conditions requiring the utility to meet performance standards, specified in the licence. The Acts specify the issues which may be addressed by performance standards:

- ▼ Hunter Water: water quality, service interruptions, price levels and other matters determined by the Governor.¹⁶
- ▼ Sydney Water: water quality, service interruptions, pricing and other matters determined by the Governor.¹⁷

¹³ IPART, *Audit Guideline Public Water Utilities*, May 2016.

¹⁴ Hunter Water Operating Licence 2017-2022, cl. 6.2; Sydney Water Operating Licence 2015-2020, cl.8.2; Water NSW Operating Licence 2017-2022, cl. 7.2.

¹⁵ Hunter Water Corporation Reporting Manual 2017-2022; Sydney Water Corporation Reporting Manual 2015-2020; Water NSW Reporting Manual 2017-2022.

¹⁶ *Hunter Water Act 1991*, s 13(1)(c).

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- ▼ WaterNSW: water delivery, water quality, service interruptions or any other matters.¹⁸

Licence conditions that require a PWU to report against a performance indicator may be introduced for any of these matters.

Under the Sydney Water Act and the Water NSW Act, operating licences must require the utility to compile indicators on the direct impact of their activities on the environment.¹⁹ Sydney Water must use this information to prepare an annual report and facilitate a year-to-year comparison on its environmental performance. Sydney Water's operating licence specifies a requirement for Sydney Water to report on the environmental performance indicators. Sydney Water publishes an annual Environmental Indicators Report, as part of its Environmental Compliance and Performance Report, on its website.

WaterNSW's environmental indicators provide information on its performance and enable reports to be prepared, but there is no statutory obligation to publish indicators or any reports. WaterNSW's licence and operating manual stipulate that it must report annually to IPART on the environmental performance indicators specified by IPART.²⁰ The Water NSW Operating Licence 2017-2022 introduced environmental indicators and 2017-18 will be first time WaterNSW's reports on these.

Under the Hunter Water Act there is no provision to compile indicators on the direct impact of its activities on the environment.

Additionally, the Water NSW Act requires that every three years WaterNSW is audited against a set of catchment health indicators for the Sydney Catchment Area. We do not undertake this audit. The former Department of Water and Energy developed the 18 catchment health indicators which were published in the Government gazette on 19 December 2008.²¹ The portfolio Minister tables the audit report in Parliament and WaterNSW must use the results to inform its catchment management programs and activities, and risk framework. Under our existing approach we require WaterNSW to report annually to us on the five catchment health indicators it collects.

2.5 WIC Act licensing and performance indicators

IPART is responsible for administering the licence regime under the WIC Act. We monitor and assess licensees' compliance with their licence conditions and provide an annual report to the Minister for Energy and Utilities. We identify non-compliances with licence conditions through audits, licensees' self-reporting and our analysis. Our monitoring of licensees' compliance is critical to:

- ▼ protect public health, public safety, consumers and the environment, and
- ▼ encourage competition in the market by maintaining market confidence and integrity.

¹⁷ *Sydney Water Act 1994*, s 14(1)(c).

¹⁸ *Water NSW Act 2014*, s 12(2)(a).

¹⁹ *Sydney Water Act 1994*, s 14(1)(d); *Water NSW Act 2014*, s 12(2)(b).

²⁰ *Water NSW Operating Licence 2017-2022*, cl 2.3.1(d).

²¹ NSW Government Gazette number 158, Friday 19 December 2008.

The WIC Act does not specify particular performance indicators for the WIC Act licensees. However, IPART's functions under the WIC Act are to monitor, and to report to the Minister on, the extent to which licensed network operators and licensed retail suppliers comply, or fail to comply, with the conditions imposed on the licences held by them.²² To facilitate the monitoring and reporting, there are existing conditions in the WIC Act licences that require licensees to outline their (proposed) arrangements in relation to the maintenance, monitoring and reporting of standards of service.

The legislation also imposes reporting obligations, such as the requirement for retail supplier's licensees to provide periodic reports regarding customer complaints to the Minister and IPART.²³

2.6 Commonwealth requirements for performance indicators

The *Water Act 2007* (Cth) (Water Act) and *Water Regulations 2008* (Cth) (Water Regulations) specify water information which urban water utilities must provide to the Bureau of Meteorology (BOM). The BOM manages, interprets and reports on the information collected. A utility does not have to provide information which the BOM already has from another source. Water information which utilities must provide under the Water Act includes:

- ▼ Information or data relating to:
 - the availability, distribution, quantity, quality, use, trading or cost of water, and
 - water access rights, water delivery rights or irrigation rights.
- ▼ Any metadata relating to the data above, and contextual information about land use, geological and ecological context.

The Water Regulations specify who should report, and when and how the information should be reported.

- ▼ Utilities are classified into categories A-M, with the categories reflecting the scope of the company's operations. Each category has different reporting requirements.
- ▼ Water information is classified into 11 categories (for example, Category 3 – water storage information). The Water Regulations specify the necessary information and the time at which it is required.


By referring to the Water Act and Water Regulations, utilities can comprehensively identify the information they must provide to the BOM. The BOM also maintains a tool which allows utilities to generate a list of reporting obligations.²⁴

The BOM also publishes the annual Urban National Performance Report (Urban NPR). The existing requirement to date in our PWU reporting manuals is that water utilities enter the relevant NWI indicator information into the Urban NPR database. The Urban NPR is produced by agreement with all states and territories, and reports on the urban NWI indicators. Of the water utilities we regulate, Hunter Water, Sydney Water and WaterNSW

²² WIC Act, s85.

²³ *Water Industry Competition (General) Regulation 2008* (WIC Regulation), Sch 2, cl 4.

²⁴ Bureau of Meteorology, *Find Your Organisation*, at <http://www.bom.gov.au/water/regulations/search.php>, accessed 19 January 2018.



report to the BOM on NWI indicators. The NWI indicators include water resource supply and usage, financial operations, bills and pricing, assets, water quality compliance and customer performance.

To be included in the Urban NPR, water utilities must be either a bulk water utility or service at least 10,000 connected properties.²⁵ At this time, none of the WIC Act licensees are servicing 10,000 or more connected properties. When we developed the list of WIC Act licensee IPART performance indicators in 2008, we included NWI indicators to create a similar data set. For WIC Act licensees the current sets of IPART indicators includes 37 NWI indicators for both network operators and retail suppliers.²⁶

For the water utilities that are required to provide NWI indicator information to BOM there is limited duplication with our IPART performance indicators. However, we propose to remove any duplication that does exist.

²⁵ Bureau of Meteorology 2017, National performance report 2015-16: urban water utilities – Part A.

²⁶ WIC Act network operators and retail suppliers both have 37 NWI indicators included in their IPART performance indicators list, although some of these indicators are the same, it is a different set of 37 indicators for each licence type reflecting the different services provided under the two licence types.

3 Approach to review

3.1 Who does this review affect?

This review affects the following water utilities:

- ▼ Hunter Water
- ▼ Sydney Water
- ▼ WaterNSW
- ▼ WIC Act network operators, and
- ▼ WIC Act retail suppliers.

We collect information against performance indicators from these water utilities.

If, as a result of our review, the list of IPART performance indicators changes, we would amend the following reporting manuals accordingly:

- ▼ Hunter Water Reporting Manual
- ▼ Sydney Water Reporting Manual
- ▼ Water NSW Reporting Manual
- ▼ WIC Act Network Operator's Reporting Manual, and
- ▼ WIC Act Retail Supplier's Reporting Manual.

At the same time we release this report we are releasing draft versions of water utility reporting manuals for consultation.

In addition to our role in administering the licences of water utilities, we have a price regulation role for some water utilities. The scope of this review does not include the indicators we collect to inform our price regulation role.

3.2 How are we approaching the review?

We last reviewed our PWU²⁷ performance indicators in 2012, and we have not reviewed our *Water Industry Competition Act 2006* licensee performance indicators since we first created them in 2009. Our existing approach to date, has five different sets of IPART performance indicators, one for each of the three PWUs and one each for the two types of WIC Act licences (network operator and retail supplier) we administer. Across five water utilities our existing IPART performance indicator set has 121 unique performance indicators.

In undertaking this review we consider it important to identify clear outcomes, understand the justification for performance standards and any performance indicators, and to clearly

²⁷ We administer the operating licences of Hunter Water Corporation, Sydney Water Corporation and WaterNSW.

define a role for IPART in relation to performance indicators. We propose that any IPART performance indicators should align with the desired outcome set by the legislative framework and water utility licences, provide greater benefits than costs in monitoring the indicator and not currently be collected through other mechanisms. Water utilities have different legislative frameworks and licences, and where the desired outcome is different between utilities we consider the desired outcome for each water utility.

We have developed a set of assessment criteria to provide guidance when considering which performance indicators to apply. The use of assessment criteria should help to ensure that our decisions are clear, consistent and transparent.

Following stakeholder feedback on our Issues Paper, we have made one minor change to the language used in criterion four²⁸, to allow for a consistent response to all questions. The definition of this criterion has not changed. Flow Systems²⁹ (a WIC Act licensee) and Sydney Water³⁰ support the assessment criteria, and Hunter Water³¹ considers the criteria are generally appropriate.

Hunter Water notes that the performance area outcomes are generally broadly expressed, which makes it difficult to consider the regulatory purpose of a performance indicator and how the performance indicator aligns with the desired outcome.³² Sydney Water provided similar feedback and proposes that the reporting manuals should clearly state the regulatory purpose and desired outcomes for each performance indicator area.³³ To deal with these issues we have clearly identified the desired outcomes for each performance area in this draft report. We have not included the desired outcomes in the reporting manuals at this time and consider the operating licence may be a better instrument to state the desired outcome.

The assessment criteria for the inclusion (or exclusion) of performance indicators are set out in Figure 3.1.

We are applying a first principles approach, and use these assessment criteria to assess whether we should require collection of information against a performance indicator. We have not applied these assessment criteria to indicators that are explicitly stated in, or required by, legislative instruments.

²⁸ In the Issues Paper criterion four was: Is the information currently collected through other means? It has changed to: Is the information not currently collected through other means?

²⁹ Flow Systems, Submission to IPART review of water quality performance indicators, 13 March 2018, p1.






³⁰ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water quality performance indicators, March 2018, p4.

³¹ Hunter Water Corporation, Response to Issues Paper, IPART review of water quality performance indicators, March 2018, p6.

³² Ibid, p6.





³³ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water quality performance indicators, March 2018, p4.

Figure 3.1 Criteria for the assessment of whether a performance indicator is necessary

	Is there is a regulatory purpose for the performance indicator?
	The information collected through the indicator is of direct importance to IPART's regulation of the utility.
	Does the performance indicator align with the desired outcome?
	The information collected through the indicator has a direct correlation with the outcomes that the indicator is intended to measure.
	Do the benefits of the information outweigh the costs of collecting the information?
	This criterion assesses the information that an indicator provides about the utility's performance against the desired outcome. Our proposed approach to assessing these benefits is to consider whether the absence of this information impacts on the ability to measure the progress of the utility against the desired outcome, or provides benefits to IPART or another user. Where the absence of the indicator does not have any impact, it is likely that the costs will outweigh the benefits.
	Is the information not currently collected through other means?
	Where the utility is already required to provide reliable information relating to the desired outcome under another regulatory framework, there is no need for IPART to capture the same information.
	Is the performance indicator consistent with SMART criteria?
	The indicators are Specific, Measurable, Achievable, Relevant and Time-bound.

We undertake an assessment of each performance indicator in Chapters 5 to 8. We provide a key for our assessment in Figure 3.2.

Figure 3.2 Key for the assessment of whether a performance indicator is necessary

Symbol	Response to criteria question
	Yes
	Uncertain
	No
	Assessment not undertaken

4 Approach to performance indicators

4.1 How we propose to collect performance indicator information

We propose to collect information against performance indicators via a database or spreadsheet method. We would provide access to water utilities to enter their information into a database or access to a template spreadsheet.

This will facilitate our collection and release of performance indicator data consistent with the NSW Government's Open Data Policy³⁴, which also aligns with one IPART's guiding principles, transparency, and provides information to customers and other stakeholders.

4.2 When we propose to collect performance indicators

We propose to collect performance data at the same time for all water utilities. The existing approach is that PWUs report against the majority of their performance indicators for the previous financial year by 1 September, and WIC Act utilities report by 31 August. We propose that all water utilities to provide performance indicator data (excluding environment indicators) on 1 September of each year, commencing in 2018. This creates consistency in the reporting framework for water utilities.

Sydney Water and WaterNSW have in the past identified the 1 September requirement for reporting on environment indicators to be difficult to achieve. For those utilities that have a requirement to report on environment indicators (Sydney Water and WaterNSW), we propose to maintain the requirement that water utilities must provide those performance indicators by 1 October of each year.³⁵

We have also aligned the NWI indicator reporting timeline, such that public water utilities must report against all NWI indicators (excluding environment indicators) to IPART by 1 September of each year and NWI environment indicators to IPART by 1 October of each year. We note that under the existing approach to date Hunter Water provides this information on 1 September of each year, Sydney Water by 1 October of each year, and WaterNSW by 31 October of each year.³⁶ We propose a consistent timeline to align with the reporting against IPART environment indicators.

Draft Decisions

- 1 Water utilities must report on IPART performance indicators (excluding environment indicators) to IPART by 1 September of each year.

³⁴ NSW Government Open Data Policy, 2016 available: https://www.finance.nsw.gov.au/ict/sites/default/files/resources/NSW_Government_Open_Data_Policy_2016.pdf

³⁵ Sydney Water Corporation Reporting Manual 2015-2020, section 8.2.1; Water NSW Reporting Manual Operating Licence 2017-2022, Appendix A, Table A.1.

³⁶ Hunter Water Corporation Reporting Manual 2017-2022, section 6.1.1; Sydney Water Corporation Reporting Manual 2015-2020, section 8.2.1; Water NSW Reporting Manual Operating Licence 2017-2022, Appendix A, Table A.1.

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- 2 Water utilities must report on IPART environment performance indicators to IPART by 1 October of each year.
 - 3 Public water utilities must report on NWI indicators (excluding environment indicators) to IPART by 1 September of each year.
 - 4 Public water utilities must report on NWI environment indicators to IPART by 1 October of each year.

4.3 How we propose to publish performance indicators

We propose to publish performance indicator information in a database or spreadsheet on our website that is easy to access and use. We intend to be consistent with the NSW Government's Open Data Policy. The Department of Planning and Environment (DPE) supported this approach in its submission to our Issues Paper.³⁷

Under our existing approach, we prepare and report to the Minister annually on WIC Act licensee compliance and the operational audits for each of the PWUs. Our annual WIC Act compliance report includes the IPART performance indicator information we collect from WIC Act licensees. We separately publish the IPART performance indicator information we collect from PWUs, together with a selection of NWI indicators (for context), annually in a database. Commencing with the 2017-18 performance indicator data set, we intend to include the WIC Act performance indicators in this database.

We would to continue to use the information from performance indicators as a monitoring tool and not currently undertake analysis of performance outcomes or incentivise changes in performance, other than by publishing the information we collect.

4.4 We intend to investigate incentivising performance in the future

In our Issues Paper we sought feedback from stakeholders about whether it was appropriate for us to have a role in incentivising performance through performance indicators.

There is some support from stakeholders for using performance indicators to actively incentive performance.³⁸ However, we agree with Hunter Water³⁹ and Sydney Water⁴⁰ that linking performance incentives to the performance standards in the operating licences is a better approach than linking incentives to IPART's performance indicators. We agree with Hunter Water that there is further investigation, including research, analysis and stakeholder consultation, required to consider incentives for performance beyond the reputational incentives arising from publishing information.⁴¹

³⁷ DPE, Submission on water utility performance indicators review, 9 March 2018, p2.

³⁸ DPE, Submission on water utility performance indicators review, 9 March 2018, p2; Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p1; Office of Emergency Management, Submission to IPART review of water utility performance indicators, 8 March 2018.

³⁹ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

⁴⁰ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p5.

⁴¹ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

Sydney Water note that by being able to monitor utility performance, particularly any declining trends in performance, IPART has the flexibility to propose to government new or revised operating licence performance standards where we consider there is a need to drive improved utility performance.⁴² Hunter Water state that considering incentives in parallel with performance standards would better facilitate alignment with service improvements that are most important to customers.⁴³

Making changes to water utility performance standards or other licence obligations is outside the scope of this review, although we note that several stakeholders propose these types of changes. WaterNSW⁴⁴ propose changes to its own performance standards, FRNSW⁴⁵ raise the possibility of a performance standard for water flow in addition to that of water pressure for Hunter Water and Sydney Water, and the Office of Emergency Management⁴⁶ propose requirements on water utilities to address organisational resilience including emergency plans and business continuity plans.

We consider licence obligations, including where relevant performance standards, in our reviews of water utility licences and in our assessment of WIC Act licence applications.

In the upcoming Sydney Water operating licence review (due to commence in mid-2018) we will review the obligations in its operating licence. We intend to review Sydney Water's performance standards, including considering opportunities for customers to be engaged in decisions about performance standards. We would also consider linking incentives (reputational or financial) to any licence obligations including performance standards.

4.5 A single set of performance indicators

We propose a single set of performance indicators for the water utilities we regulate, however due to different legislative frameworks and services provided, each utility would have its own IPART performance indicator sub-set (see Table 1.1).

We make this proposal following feedback from stakeholders that generally supported the position we took in the Issues Paper, that where the service provided to the customer is essentially the same, we would seek to capture the same performance indicator information.

This means that, regardless of whether it is a PWU or WIC Act licensee, the indicators of whether the water utility is performing in line with the preferred outcomes will be the same. This ensures that where the utilities are providing the same service to customers, they will be treated the same under the performance indicator framework, thereby creating a level playing field for public and private water utilities.

⁴² Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p5.

⁴³ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

⁴⁴ WaterNSW, WaterNSW Submission to the IPART review of water utility performance indicators, March 2018, p3.

⁴⁵ FRNSW, Issues Paper – Review of water utilities performance indicators submission, 14 March 2018, pp9-10.

⁴⁶ Office of Emergency Management, Submission to IPART review of water utility performance indicators, 8 March 2018.

The exception to this is where we consider that there are justifiable differences between the utilities or their services that require them to have different indicators. For example, where the legislative framework differs between water utilities, or where the proportionality of the outcome is substantially different (eg, where one water utility provides a service to 100 customers and another provides the same service to 10,000 customers).

Stakeholders generally support a single set of performance indicators

Flow Systems agree that it is appropriate for water utilities providing the same service to be subject to the same performance indicators, although it qualified that position, noting that in its view customer numbers or other factors outside of their control should not disadvantage WIC Act licensees.⁴⁷

Hunter Water agree that a consistent set of performance indicators would provide some benefits, including a level playing field for public and private water utilities in terms of regulatory costs imposed, and would facilitate performance comparison between utilities that provide the same services.⁴⁸ However, it noted that it is possible to preserve consistency without necessarily having identical performance indicators for all water utilities.⁴⁹ We agree with Hunter Water about considering the cost versus benefit of collecting and reporting performance information on a utility-by-utility basis as it may differ across utilities.

Sydney Water supports our proposed approach to have standardised and comparable performance indicators.⁵⁰ In Sydney Water's view this approach gives customers and IPART an indication of the level of service provided by the utility and may be a driver in utilities improving service levels.⁵¹

DPE supports a consistent framework that is fit for purpose where justifiable differences emerge, such as differences in the legislative framework.⁵² Specifically, DPE consider both PWU and WIC Act utilities should be subject to the same performance indicators on service interruptions.⁵³ NSW Health have a similar position, but noted that IPART may consider applying different indicators based on size of a utility (eg, the number of connections).⁵⁴ NSW Health's view is that IPART should carefully consider the rationale for this approach, particularly if the outcomes were health-related.⁵⁵

The Department of Industry – Water is currently undertaking a review of its regulatory role regarding local water utilities in regional NSW.⁵⁶ We understand an outcome of this review

⁴⁷ Flow Systems, Submission to IPART review of water quality performance indicators, 13 March 2018, p1.

⁴⁸ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p9.

⁴⁹ Ibid, p9.

⁵⁰ IPART Transcript, Stakeholder Roundtable, 20 March 2018, p14; Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

⁵¹ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

⁵² Department of Planning and Environment, Submission on water utility performance indicators review, 9 March 2018, p2.

⁵³ Ibid, p2.

⁵⁴ IPART Transcript, Stakeholder Roundtable, 20 March 2018, p13.

⁵⁵ Ibid, p13.

⁵⁶ Department of Industry – Water, Submission to Water Utility Performance Indicators Review, 14 March 2018.

may be changes to the Department of Industry – Water’s performance monitoring.⁵⁷ The Department of Industry suggests that we could consider aligning performance indicators for all water utilities in NSW, including regional water utilities in NSW.⁵⁸ The timing of the Department of Water – Industry means that we are unable to consider consistency across all NSW water utilities within this review. However, we will continue to engage with the Department of Industry – Water on this matter in the future, and in particular to work towards consistent performance indicator definitions.

We generally agree with the positions made by stakeholders regarding our approach to a single set of performance indicators and have considered this feedback in our assessment of indicators for each performance area.

4.6 Utilities will continue to collect their own data

We consider that in order to effectively undertake operations, water utilities are likely to continue to collect information on their operations and performance in addition to the IPART performance indicator set.

The collection of operations and performance indicators is good business practice and is consistent with the general duties of directors under the *Corporations Act 2001* (Cth).

Public water utilities will also continue to be required to report on NWI indicators annually. Further, Hunter Water and Sydney Water have stated that they will continue to collect much of the information necessary to report against the current IPART performance indicators (as well as other indicators).⁵⁹ These indicators are collected in order to guide operations, undertake analysis, provide internal controls, improve efficiency, and to inform planning and decision making.⁶⁰

Hunter Water indicates that although it will continue to collect performance indicators internally for business reasons, the removal of any performance indicator from the IPART performance indicator set results in a reduction in costs to the utility.⁶¹ This is because there are additional costs in satisfying audit requirements (both internal and external audits) that arise once a utility is required to report on an indicator.⁶²

4.7 We do not intend to collect lead indicators

The feedback we received from stakeholders did not clearly identify any value in collecting and reporting on lead indicators in our IPART performance indicator set at this time.

⁵⁷ Department of Industry – Water, Submission to Water Utility Performance Indicators Review, 14 March 2018.

⁵⁸ Ibid.

⁵⁹ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p7; Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p4.

⁶⁰ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p7.

⁶¹ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p2.

⁶² Ibid, p2.

We do not collect lead indicators. However we note that our compliance framework includes monitoring of lead indicators through our reporting requirements and licence audits. In particular, water utilities monitor water quality critical control points (CCPs) and are required to report breaches of CCPs to NSW Health and/or IPART. Water utilities also undertake condition assessments of assets, which could provide information about future performance. Hunter Water notes that this type of information is available to IPART and auditors on request and is routinely provided and considered through IPART's annual audit process.⁶³

We understand water utilities gather some lead indicators within their own management systems irrespective of our requirements. Sydney Water indicates that to monitor whether it is meeting its internal objectives it uses lead indicators.⁶⁴ Sydney Water expressed a preference to use mostly lag indicators for performance indicators, as these focus on performance outcomes.⁶⁵

Flow Systems and WaterNSW did not identify any lead indicators that for collection or publication by IPART.⁶⁶

DPE recommended that we explore options around demand forecast lead indicators, which we consider in section 5.2.⁶⁷

4.8 We propose collecting data for our administrative purposes

Collecting data to allow the calculation of WIC Act retail supplier licence fees

We use some of our current performance indicator set to assist with administration of licence fees. The Minister for Energy and Utilities determines a methodology for calculating the annual licence fees.⁶⁸ We collect data to allow the calculation of the annual fee for each licence according to that methodology. For WIC Act retail suppliers this includes information about the volume of water and non-potable water supplied, and the volume of sewage collected.⁶⁹ To date we have referred to this data as 'performance indicators', however this data does not indicate performance.

In our Issues Paper we proposed to continue to collect this data, clearly stating the purpose and renaming the data set to 'licence data' in our reporting manuals. Flow Systems was the only affected water utility to provide a submission to our Issues Paper, and it did not specifically respond to this proposal.⁷⁰ We propose to collect licence data from WIC Act

⁶³ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

⁶⁴ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p5.

⁶⁵ Ibid, p5.

⁶⁶ Flow Systems, Submission to IPART review of water quality performance indicators, 13 March 2018, pp2-3; WaterNSW, WaterNSW Submission to the IPART review of water utility performance indicators, March 2018.

⁶⁷ Department of Planning and Environment, Submission on water utility performance indicators review, 9 March 2018, p2.

⁶⁸ *Water Industry Competition Act 2006*, s 14.

⁶⁹ WIC Act network operator licence fees are calculated based on the capacity of the plant which is information we collect during the WIC Act licence application process and our compliance monitoring.

⁷⁰ Flow Systems, Submission to IPART review of water quality performance indicators, 13 March 2018, p1.

licensees to allow the calculation of the annual fee for each licence according to that methodology, this replaces three of the performance indicators WIC Act licensees are required to provide to IPART.

The definitions for our licence data set are in Appendix B.

Draft decision

- 5 WIC Act retail supplier licensees must provide the following licence data to IPART by 1 September of each year:
 - L1 Total volume of water supplied (ML)
 - L2 Total volume of non-potable water supplied (ML)
 - L3 Total volume of sewage collected (ML)

Collecting data to understand the number of customers served

We are interested in monitoring the number of customers served by retail water utilities. This information:

- ▼ allows us to understand the impact of our role as a regulator
- ▼ informs our risk-based compliance activities (ie, an understanding of the consequence of failure or non-compliance of a particular utility or scheme), and
- ▼ may provide information to stakeholders on how well the WIC Act and WIC Regulation is meeting its objectives.

Hunter Water and Sydney Water already provide some data on the number of customers served through their reporting on NWI indicators related to customer numbers.⁷¹ This means that Hunter Water and Sydney Water would only be required to report on licence data related to customer numbers for non-potable water.

The definitions for our licence data set are in Appendix B.

Draft decisions

- 6 WIC Act retail suppliers must provide the following licence data to IPART by 1 September of each year:
 - L4 Connected residential properties – water supply (000s)
 - L5 Connected non-residential properties – water supply (000s)
 - L6 Connected residential properties – wastewater (000s)
 - L7 Connected non-residential properties – wastewater (000s)
- 7 Hunter Water, Sydney Water and WIC Act retail suppliers must provide the following licence data to IPART by 1 September of each year:
 - L8 Connected residential properties – non-potable water supply (000s)
 - L9 Connected non-residential properties – non-potable water supply (000s)

⁷¹ NWI indicators C2, C3, C6, C7.

5 Performance – Water quality and quantity

This chapter discusses the water quality and quantity performance area, which focuses on water utilities' activities relating to water quality and quantity (including recycled water), incorporating the maintenance of certain standards of water quality as well as ensuring an efficient level of water conservation (quantity).

5.1 Water quality

The desired outcome for water quality is for water utilities to provide drinking water and recycled water that is safe and fit for purpose. This means maintaining an appropriate level of water quality for the intended use.

We propose no performance indicators for water quality

We assess water quality outcomes through regular continuous monitoring and reporting as well as regular expert audit. This is because a non-compliance with the water quality requirements may have significant consequences to public health and customers.

There appears to be limited need to incorporate performance indicators to monitor performance of water utilities in relation to water quality because:

- ▼ all of the water utilities are required to have management systems or plans in place to meet the Australian Drinking Water Guidelines (ADWG) and Australian Guidelines for Water Recycling (AGWR)
- ▼ all of the water utilities are required to report on any non-compliance
- ▼ in addition to reporting to IPART, all of the water utilities have some obligations to report to NSW Health, customers, or the Minister for Public Health on water quality outputs and outcomes, and
- ▼ water utilities' performance in meeting those obligations is generally good.






We assess water quality performance indicators against our performance indicator criteria in Figure 5.1.

Draft decision

- 8 IPART will remove IPART performance indicators related to water quality..

Figure 5.1 Assessment of water quality performance indicators

► Water quality performance indicators

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the water quality performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

Stakeholders generally agreed that IPART water quality indicators are not required

We did not receive any feedback from stakeholders that are using the existing water quality indicators.

NSW Health confirmed that it does not widely use the current IPART performance indicators for water quality, and that they are of limited benefit from a public health perspective.⁷² For NSW Health, the most useful indicator of water quality performance is whether a utility is implementing the frameworks that are in the ADWG and AGWR.⁷³ NSW Health noted there are difficulties with identifying a single indicator and would contribute to the discussion if further indicators were to be developed.⁷⁴ We assess the implementation of the ADWG and AGWR frameworks through compliance audits.

Flow Systems, Hunter Water, Sydney Water and the Department of Planning and Environment (DPE) agree with our initial position put forward in the Issues Paper that the existing compliance framework adequately covers water quality performance and performance indicators are not required.⁷⁵

⁷² IPART Transcript, Stakeholder Roundtable, 20 March 2018, p5.

⁷³ Ibid, p5.

⁷⁴ Ibid, p5.

⁷⁵ IPART Transcript, Stakeholder Roundtable, 20 March 2018, p5; Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p2; Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p10; Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p7; Department of Planning and Environment, Submission on water utility performance indicators review, 9 March 2018, p2.

WaterNSW considers that the adoption of minimum performance standards, including on water quality, may be appropriate.⁷⁶ WaterNSW raises the possibility of an indicator of water quality performance in the Customer Supply Agreement between WaterNSW and its customers, or in the Raw Water Supply Agreements (ie, with Sydney Water and local councils).⁷⁷ We consider that a compliance-based approach is appropriate for WaterNSW, and that it has the ability to include performance indicators in its customer and supply agreements. We intend to consider WaterNSW's performance standards when we next review its licence.

WaterNSW is required to report separately on catchment health indicators

In addition to water quality, WaterNSW is required to report to IPART on catchment health indicators. WaterNSW collects five indicators. These are a subset of indicators developed, approved and published by the NSW Government (see also section 2.4). IPART does not propose to change these indicators. However, we will no longer require annual reporting by WaterNSW. Instead we will continue to require WaterNSW to report to the catchment auditor when requested.

WaterNSW notes the duplication between the current requirements to report on two of the catchment health performance indicators annually to IPART which are also required under WaterNSW's Water Access Licence and Water Sharing Plans.⁷⁸ The indicators are related to the availability of surface water. We understand WaterNSW reports this data to the:⁷⁹

- ▼ BOM as part of the National Water Account
- ▼ Australian Bureau of Statistics for the Annual Water Supply and Sewerage Services Survey, and
- ▼ Department of Industry – Water, as part of requirements set out in relevant Water Access Licences.

We understand the OEH's environmental water program and Science Division uses the catchment health indicators.⁸⁰

We agree with WaterNSW that its provision of catchment health indicators as part of the catchment audit undertaken by the NSW Government is a more efficient way to collect information on catchment health.⁸¹ We propose to no longer require annual reporting of catchment health indicators to IPART.

5.2 Water quantity

We consider that one of the desired outcomes for water quantity is for water utilities to provide a level of service consistent with an efficient level of water conservation.

For the supply of bulk water by WaterNSW (capture-store-release or CSR water as it is defined in WaterNSW's operating licence), we consider the desired outcome is for

⁷⁶ WaterNSW, Submission to the IPART review of water utility performance indicators, March 2018, pp3-4, 7.

⁷⁷ WaterNSW, Submission to the IPART review of water utility performance indicators, March 2018, pp3-4, 7.

⁷⁸ Ibid, p5.

⁷⁹ Ibid, p5.

⁸⁰ OEH, Email correspondence, 12 April 2018.

⁸¹ Ibid, p5.

WaterNSW's water order and delivery systems to perform to meet customer expectations and provide a level of service consistent with its performance standards.

We propose performance indicators for water quantity for WaterNSW

We propose to include performance indicators for water quantity on WaterNSW which align with its performance standards for water released for extraction and use under a customers access licence.⁸² These indicators provide information on water delivery and account processing. This is consistent with our preferred approach to include performance indicators related to performance standards,⁸³ and WaterNSW's support this approach in its submission to our Issues Paper.⁸⁴

Draft decision

9 WaterNSW must report on the following indicators related to water quantity:

- W1 Percent of customers who place a Non-complying Water Order are contacted within one working day to rectify that order
- W2 Percent of Water Orders are Delivered within one day of the scheduled day of Delivery
- W3 Percent 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
- W4 Percent 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
- W5 Percent 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

In its submission to our Issues Paper, WaterNSW propose that its operating licence set minimum performance standards related to water quantity, and that these standards be used to develop performance indicators.⁸⁵

In our licence review, we also recommended performance standards based on performance indicators that were previously included in the State Water reporting manual for water delivery, service interruptions and account processing standards.⁸⁶ These performance standards are included in the current Water NSW Operating Licence 2017-2022.⁸⁷ The draft performance indicators we propose for water quantity for WaterNSW reflect the performance standards for water delivery and account processing standards.⁸⁸

⁸² Water NSW Operating Licence 2017-2022, cl.4.2

⁸³ See also chapter 6 of this draft report.

⁸⁴ WaterNSW, Submission to the IPART review of water utility performance indicators, March 2018, pp3-4, 7.

⁸⁵ WaterNSW, Submission to the IPART review of water utility performance indicators, March 2018, p3.

⁸⁶ IPART, Water NSW operating licences review – Final Report, May 2017, pp78-86.






⁸⁷ Water NSW Operating Licence 2017-2022, cl.4.3

⁸⁸ We consider performance indicators for service interruptions in section 6.1.

We assess water delivery and account processing performance indicators in Figure 5.2. In considering the benefits and costs, we consider collecting performance indicator information regarding this performance standard provides transparency to customers and stakeholders, and does not result in any additional costs due to the existing broader reporting and requirements regarding public water utility system performance standards.

Figure 5.2 Assessment of water delivery and account processing performance indicators

► Water delivery and account processing indicators

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the water delivery performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

Water utilities already report on water conservation, including recycled water

We considered whether to include performance indicators to measure the volume of water sourced and supplied, aligning with the desired outcome of water conservation. Considering trends over time, this would show the amount of water used and could be used to indicate how the utility is performing with its licence obligations related to water quantity. Further, these indicators inform policy and planning decisions. We understand this is how the Department of Planning and Environment currently uses this data.⁸⁹

Flow Systems suggest we adopt a performance indicator that measures how much drinking water is saved by using recycled water instead of drinking water.⁹⁰

While the regulatory framework for PWUs and WIC Act licensees regarding water quantity differs, both have a focus on water conservation. The focus for PWUs is for an efficient level of water conservation. Whereas the WIC Act and WIC Regulation is focused more specifically on facilitating the development of infrastructure for the production and

⁸⁹ Department of Planning and Environment, Submission to IPART review of water utility performance indicators, 9 March 2018, p2.

⁹⁰ Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p2.

reticulation of recycled water, which is one of a portfolio of options available to conserve water.

The NSW Government's 2017 Metropolitan Water Plan (for the Sydney Catchment Area) and 2014 Lower Hunter Water Plan have a strategy of investing in water conservation, in addition to other water supply and demand measures, to ensure water supply is secure and affordable.⁹¹

PWUs have water conservation obligations in their operating licences. For bulk water supply both Hunter Water and WaterNSW are required to submit a Water Conservation Strategy.⁹² Under their licences, Hunter Water and Sydney Water are also required to develop a methodology for determining the economic level of water conservation (ELWC) within and downstream of their water treatment plants.⁹³ All PWUs are required to submit a water conservation work program to IPART and report on the outcomes of the program regularly.⁹⁴

In addition to reporting on water conservation obligations, PWUs also report on water resource indicators, including volumes of water sourced, water supplied (including recycled water) and sewage collected.⁹⁵

One of the purposes of the WIC Act is to facilitate the development of infrastructure for the production and reticulation of recycled water. The WIC Act and WIC Regulation require the network operators to inform to IPART each source from which the water handled by the infrastructure is derived and also the authorised purposes for that water, in the case of non-potable water.⁹⁶ With regard to volume of water supplied (including recycled water) and sewage collected, we propose to include this information in our Licence Data reporting requirements for WIC Act licensees as it is necessary to determine licence fees (see section 4.8).

We consider that although the collection of information regarding the volumes of water sourced, water supplied (including recycled water) and sewage collected has a regulatory purpose and aligns with the desired outcomes, this information is collected and published through other means (see our assessment of these performance indicators in Figure 5.3). We do not have sufficient data to determine whether the benefits of collecting and publishing the data would outweigh the cost of collecting it. On this basis we propose to not collect performance indicators related to water conservation or volumes of water and wastewater.

⁹¹ NSW Government, Metropolitan Water Plan, 2017; NSW Government, Lower Hunter Water Plan, April 2017.

⁹² Hunter Water Operating Licence 2017-2022, cl 2.1.3; Water NSW Operating Licence 2017-2022 cl 2.7.2.

⁹³ Hunter Water Operating Licence 2017-2022, cl 2.2.3; Sydney Water Operating Licence 2015-2020 cl 3.2.1.






⁹⁴ Hunter Water Operating Licence 2017-2022, cl 2.1.4 and 2.2.4; Sydney Water Operating Licence 2015-2020, cl 3.2.6 and cl 3.2.7; Water NSW Operating Licence 2017-2022 cl 2.7.3.

⁹⁵ Bureau of Meteorology, *National urban water utility performance reporting framework: Indicators and definitions handbook*, January 2018.

⁹⁶ *Water Industry Competition Act 2006*, s 20; *Water Industry Competition (General) Regulation 2008*, cl 18(2).

Figure 5.3 Assessment of volume of water performance indicators

► Volume of water performance indicators

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the volume of water indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

There are other ways for water utilities to provide detailed water conservation, usage and demand forecast information

DPE recommended that we explore options around best-practice performance metrics for water conservation and water usage, and demand forecast lead indicators.⁹⁷

We have investigated this proposal and consider that this information is a detailed data set and is better provided through a data sharing arrangement between water utilities and DPE (Figure 5.4). We understand DPE's focus is on information from Sydney Water and WaterNSW.

At our Stakeholder Roundtable, DPE noted that it uses water quantity performance indicators to develop water supply and demand measures in the Metropolitan Water Plan.⁹⁸ DPE currently sources this information from the Urban NPR, and DPE notes the delay in that information (released by the Bureau of Meteorology for the 2016-17 year in March 2018).⁹⁹ DPE is seeking access to disaggregated data around water usage. For example quantities attributed to dwelling or household types, local government areas, and indoor and outdoor usage¹⁰⁰ This type of information is a detailed data set, rather than a set of performance indicators.

⁹⁷ DPE, Submission on water utility performance indicators review, 9 March 2018, p2.

⁹⁸ IPART Transcript, Stakeholder Roundtable, 20 March 2018, p10.

⁹⁹ Ibid, p10.

¹⁰⁰ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp10-11; DPE, Email correspondence with IPART Secretariat, 3 April 2018.

DPE also specifically identified the water demand data related to Figure 4-4¹⁰¹ in Sydney Water's Water Conservation Report 2016-17 (provided to IPART under the Sydney Water reporting manual and published by Sydney Water online in a PDF format).¹⁰²

We understand that Sydney Water has previously shared the water demand data as part of the metropolitan water planning process which both Sydney Water and DPE participate in.¹⁰³ Sydney Water and WaterNSW are participating in a technical working group shared by DPE, the agenda includes DPE's specific data requests regarding water usage and demand forecasts.¹⁰⁴

We consider the Roles and Responsibilities Protocol obligation in the Sydney Water Operating Licence 2015-2020¹⁰⁵ and the Memorandum of Understanding obligation in the Water NSW Operating Licence 2017-2022¹⁰⁶ would also facilitate data sharing between the utilities and DPE. However, we note that the requirements on Sydney Water and WaterNSW are that they must use their best endeavours to establish and maintain these instruments. We understand that recently DPE has informed both parties that these instruments are no longer necessary.¹⁰⁷ Instead, DPE has established the Water Coalition, a decision-making forum which includes both Sydney Water and WaterNSW, as part of the metropolitan water governance structure.¹⁰⁸ We understand this will facilitate DPE and the water utilities to deal with all of the issues intended to be covered in a protocol or MoU.

We assess demand forecast performance indicators against our performance indicator criteria in Figure 5.4.

¹⁰¹ Sydney Water, Figure 4-4 – Monitoring and forecasting the demand for drinking water, Water Conservation Report 2016-17, p55.

¹⁰² DPE, Email correspondence with IPART Secretariat, 3 April 2018.

¹⁰³ Sydney Water, Email correspondence with IPART Secretariat, 5 April 2018.

¹⁰⁴ Sydney Water, Email correspondence with IPART Secretariat, 5 April 2018; DPE, Email correspondence with IPART Secretariat, 5 April 2018.

¹⁰⁵ Clause 3.1.






¹⁰⁶ Clause 6.15.

¹⁰⁷ Email correspondence between DPE and Sydney Water, 12 January 2018 provided by Sydney Water to IPART on 28 February 2018; WaterNSW, Letter to IPART, 2016-17 Operational Audit Recommendations Status and Notification of Significant Changes, 29 March 2018.

¹⁰⁸ Email correspondence between DPE and Sydney Water, 12 January 2018 provided by Sydney Water to IPART on 28 February 2018; WaterNSW, Letter to IPART, 2016-17 Operational Audit Recommendations Status and Notification of Significant Changes, 29 March 2018.

Figure 5.4 Assessment of demand forecast performance indicators

► Demand forecast performance indicators

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the demand forecast performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

6 Performance – Assets

This Chapter discusses the assets performance area, which relates to ensuring water utilities maintain assets to provide appropriate and consistent levels of water and wastewater network services to their customers. To do this, we expect water utilities to meet the obligations outlined in relevant service standards, and implement management systems or plans, to track and maintain asset condition.

PWUs' licences require them to have an asset management system in place for carrying out the functions required of the utilities. Their management system must be consistent with the standard *ISO 55001:2014*. The water utilities must ensure that the management system is fully implemented and that all relevant activities are carried out in accordance with the management system.¹⁰⁹

The WIC Regulation requires WIC Act licensees to have an infrastructure operating plan (IOP) before commencing to operate water infrastructure commercially.¹¹⁰ The IOP sets out the required arrangements in relation to the licensee's physical assets, including:

- ▼ design, construction, operation and maintenance
- ▼ particulars as to the life-span of the infrastructure
- ▼ the system redundancy built into the infrastructure and its renewal
- ▼ safe and reliable performance, and
- ▼ the monitoring and reporting of standards of service.

WIC Act licensees must also ensure that their infrastructure is properly designed, constructed and operated in a safe and reliable manner and maintained in a proper condition. The licensee must also have regard to any publicly available standards and codes.¹¹¹

6.1 Service interruptions

We consider the desired outcome for service interruptions is for water utilities to provide a level of service consistent with their performance standards.

We propose performance indicators which align with performance standards

We propose to include performance indicators for service interruptions for water utilities which provide information on the extent that customers are impacted by service interruptions. Our proposed performance indicators align with water utilities' existing

¹⁰⁹ Hunter Water Operating Licence 2017-2022, cl 4.1; Sydney Water Operating Licence 2015-2020, cl 4.1; WaterNSW Operating Licence 2017-2022, cl 5.1.

¹¹⁰ *Water Industry Competition (General) Regulation 2008*, Sch 1, cls 6 and 13.

¹¹¹ *Water Industry Competition (General) Regulation 2008*, Sch 1, cl 3.

performance standards. These performance standards are related to management of assets, and relate to the level of service provided to customers. Water utilities and other stakeholders broadly supported the approach of aligning performance indicators with performance standards, although some stakeholders considered that there should be indicators in addition to those related to the service interruption performance standard.

Draft Decisions

10 Hunter Water, Sydney Water and WIC Act licensees must report on the following IPART performance indicators related to service interruptions:

- A1 Number of properties that experience an unplanned water interruption that lasts for more than five continuous hours
- A2 Number of properties that experience three or more unplanned water interruptions that each lasts for more than one hour

11 WIC Act licensees must report on the following IPART performance indicators related to service interruptions:

- A3 Total number of unplanned interruptions – water supply
- A4 Average duration of unplanned water interruptions – water supply

12 Sydney Water must report on the following IPART performance indicators related to service interruptions:

- A5 Percent of priority 6 breaks/leaks in drinking water mains that the water utility responded to within 3 hours
- A6 Percent of priority 5 breaks/leaks in drinking water mains that the water utility responded to within 6 hours
- A7 Percent of priority 5 breaks/leaks in drinking water mains that the water utility responded to within 24 hours
- A8 Percent of priority 4 breaks/leaks in drinking water mains that the water utility responded to within 5 days

13 WaterNSW must report on the following IPART performance indicators related to service interruptions:

- A9 Percent 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

We considered both average and threshold approaches to monitoring performance

There are two alternatives for measuring performance in relation to this outcome:

- ▼ number of customers interrupted for longer than a particular threshold (this can also be based on a number of repeat interruptions), or
- ▼ average duration for all interruptions.

As we discussed in our Issues Paper, there are positives and negatives with each approach. The threshold approach can highlight instances of poor performance and focus utilities' attention to improve those instances. However, it could inadvertently result in water

utilities not placing sufficient urgency on those incidents that are likely to fall below the threshold. Alternatively, using an average of all incidents can provide an incentive for utilities to focus on improving all incidents and reduces the impact of one-off events, however this approach gives poor performance outliers a lower weighting, and therefore limits the use of the indicator in targeting events.

The current approach for the Hunter Water and Sydney Water performance indicators is to use the threshold approach. However, under our existing performance indicator set WIC Act licensees have 14 indicators related to service interruptions.¹¹² In contrast to the PWU equivalent performance indicators, each of the basis of each of the existing WIC Act licensee performance indicators is the average approach.

There is no clear difference between the services provided by the different water utilities (PWU and WIC Act licensees) which would justify a different approach to performance indicators.

In our Issues Paper we sought views from stakeholders regarding the preferred approach. Flow Systems and DPE prefer the threshold approach, indicating it would result in a better measure of performance.¹¹³ Hunter Water prefers a combination of both average and threshold indicators, which is the status quo with a combination of indicators related to performance standards (threshold approach) and the NWI indicators (includes average indicators).¹¹⁴ Sydney Water did not indicate a preference for either approach, noting that the current threshold approach for PWUs does not allow for normalisation across the customer or asset base, and that an average approach would allow a greater ability to compare performance of water utilities.¹¹⁵

We propose primarily threshold indicators, combined with one average indicator (A4). We note that although our proposed performance indicator A4 would only apply to WIC Act licensees, both Hunter Water and Sydney Water are already required to report on average indicators through the NWI indicators (we discuss this further below).

Most of our proposed service interruptions indicators relate to water continuity performance standards

Most of our proposed service interruptions indicators (A1, A2, A3, A4 and A9) are developed with regard to existing performance standards. We consider that where water utilities provide the same service, each water utility should be reporting on the same indicators for service interruptions, regardless of whether it is a PWU or WIC Act licensee.

¹¹² IPART, *Retail Supplier's Reporting Manual*, June 2016, p 44.

¹¹³ Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p2; DPE, Submission on water utility performance indicators review, 9 March 2018, p2;

¹¹⁴ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p14.

¹¹⁵ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p7

We propose the same performance indicators for water utilities with a network or retail function

The operating licences for both Hunter Water and Sydney Water require the utilities to have two system performance standards¹¹⁶ regarding water continuity:¹¹⁷

- ▼ Number of properties that experience an unplanned water interruption that lasts for more than five continuous hours, in the preceding financial year, as defined in the licence.
- ▼ The number of properties that experience three or more unplanned water interruptions that each lasts for more than one hour, in the preceding financial year, as defined in the licence.

These utilities are required to report on their performance in relation to these standards.

Where relevant, WIC Act licensees' IOPs include provisions about performance standards for service interruptions.¹¹⁸ The IOP is also required to outline the maintenance, monitoring and reporting of standards of service.¹¹⁹ The customer contract for WIC Act licensees' small retail customers must include (amongst other things) the circumstances in which water or sewerage services may not be available to the customer's premises, the notice that will be given to customers and the arrangements in place for the supply of water and sewerage services in those circumstances.¹²⁰

Flow Systems proposes that the water utility that causes a service interruption should have the service interruption attributed to it.¹²¹ In our view where a customer's service is interrupted, the service interruption should be attributed to the water utility that has the obligation to supply that customer.

Our proposed approach is to require reporting on performance indicators aligned to the system performance standards in the Hunter Water and Sydney Water operating licences for those water utilities that have a network or retail function, ie, Hunter Water, Sydney Water and WIC Act licensees. These indicators are:

- A1 Number of properties that experience an unplanned water interruption that lasts for more than five continuous hours
- A2 The number of properties that experience three or more unplanned water interruptions that each lasts for more than one hour
- A3 Total number of unplanned interruptions – water supply
- A4 Average duration of unplanned water interruptions – water supply

Hunter Water and Sydney Water report the information we would collect through A3 and A4 through the NWI indicators (IC17 and C15 respectively), therefore we propose to limit the collection of these proposed IPART performance indicators to WIC Act licensees. These indicators also reduce the duplication of reporting for both PWUs and WIC Act retail suppliers in comparison to the existing requirements.

¹¹⁶ The setting of performance standards does not form part of this review.

¹¹⁷ Hunter Water Operating Licence 2017-2022, cl 3.3.2; Sydney Water Operating Licence 2015-2020, cl 4.2.2.

¹¹⁸ Service interruptions performance standards may not be relevant for some WIC Act licensees, it would depend on the infrastructure licenced.

¹¹⁹ *Water Industry Competition (General) Regulation 2008*, cl 6(1).

¹²⁰ *Water Industry Competition (General) Regulation 2008*, Sch 2, cls 14(2) and 19(2).






¹²¹ Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p2.

We consider that collecting performance indicator information regarding this performance standard provides transparency to customers and stakeholders. Further it does not result in any additional costs to PWUs due to the existing broader reporting requirements regarding public water utility system performance standards. Although it would result in minor additional costs to WIC Act retail suppliers, offset by the reduced reporting obligations for asset performance indicators (Figure 6.1).

Hunter Water and Sydney Water support our position to require reporting on indicators linked to performance standards.¹²² Sydney Water suggested including average duration of unplanned water interruptions as an indicator.¹²³ Flow Systems supports WIC Act licensees having the same performance indicators to PWUs for service interruptions.¹²⁴

Figure 6.1 Assessment of service interruption performance indicators – network or retail function

► Service interruptions – network or retail function

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the service interruptions performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

Note: Hunter Water and Sydney Water report on NWI indicators which align with IPART proposed indicator A3 and A4.

We agree with WaterNSW's suggestion for a service interruption performance indicator

Under its licence WaterNSW must manage service interruptions in accordance with its asset management system¹²⁵ and must also meet the CSR Water Service Interruptions Performance Standard.¹²⁶ WaterNSW is required to provide IPART with an annual

¹²² Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, pp14-15; Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

¹²³ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

¹²⁴ Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p2.

¹²⁵ Water NSW Operating Licence 2017-2022, cl 4.2.3.

¹²⁶ Water NSW Operating Licence 2017-2022, cl 4.2.3.

compliance and performance report with respect to WaterNSW's performance regarding service interruptions.¹²⁷ There are not any existing service interruption performance indicators required by the WaterNSW Reporting Manual.






We agree with WaterNSW's suggestion that we could create a measure of service interruption based on its existing CSR Water Service Interruptions Performance Standard related to rescheduling of water orders.¹²⁸ Our proposed performance indicator A9 aligns with the CSR Water Service Interruptions Performance Standard:

A9 Percent 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

We consider collecting performance indicator information regarding this performance standard provides transparency to customers and stakeholders, and does not result in any additional costs due to the existing broader reporting requirements regarding WaterNSW's system performance standards (Figure 6.2).

Figure 6.2 Assessment of service interruption performance indicators – WaterNSW CSR Water

► Service interruptions – WaterNSW CSR Water

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the service interruptions performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

As discussed above, we are not considering changes to WaterNSW's performance standards in this review. In relation to the Supply of Water (as defined in WaterNSW's operating licence), based on our recommendations in our 2017 review of WaterNSW's operating licences, the current licence includes systems based standards for water quality and service interruptions. That is, the operating licence sets performance standards that link to the Water Quality Management System for managing the quality of water Supplied, and to the

¹²⁷ Defined as 100% of Water Orders rescheduled are rescheduled in consultation with an affected customer within 1 working day of an expected water shortage; or other delivery delay in the Water NSW Operating Licence 2017-2022, cl 4.3.4.

¹²⁸ WaterNSW, Submission to the IPART review of water utility performance indicators, March 2018, p8.

Asset Management System for managing service interruptions.¹²⁹ We do not propose any performance indicators regarding these management system performance standards at this time.

Sydney Water will continue to report on main break response times

As a result of the most recent review of Sydney Water's operating licence the main break response times were included in the reporting manual as performance indicators rather than being included in the licence as system performance standards. Sydney Water's licence also requires it to report, in accordance with the Reporting Manual, on response times for water main breaks and leaks.¹³⁰

We note that Hunter Water and Sydney Water report on some NWI indicators related to main breaks and leaks which are different to the current Sydney Water indicators. These NWI indicators include the total number of water mains breaks, burst and leaks¹³¹, the infrastructure leakage index¹³², and real losses reported per service collection¹³³ and per kilometre of water main¹³⁴. The Urban NPR report also includes a derived indicator which normalises the number of water mains breaks, bursts and leaks per 100 kilometre of water mains.¹³⁵

We propose to retain the mains breaks and leaks indicators that were previously incorporated into the Reporting Manual for Sydney Water.¹³⁶ As discussed above, these indicators recently changed from system performance standards to performance indicators. We propose to retain them as performance indicators for Sydney Water in the short-term to determine the continued effectiveness of the information (see Figure 6.3 for our assessment), we intend to review this position in the upcoming Sydney Water operating licence review (due to commence in mid-2018). Sydney Water did not comment on our proposal to maintain its main breaks and leaks indicators.¹³⁷

¹²⁹ Water NSW Operating Licence 2017-2022, cl.4.2.

¹³⁰ Sydney Water Operating Licence 2015-2020, cl 4.3, other water utilities do not have this requirement.

¹³¹ NWI indicator IA8.

¹³² NWI indicator A9.

¹³³ NWI indicator A10.

¹³⁴ NWI indicator A11.






¹³⁵ NWI indicator A8.

¹³⁶ IPART, *Sydney Water Reporting Manual*, August 2017, IPART performance indicators I9 – I12

¹³⁷ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

Figure 6.3 Assessment of main break and leaks performance indicators – Sydney Water

► Sydney Water main break and leaks performance indicators

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the water quantity performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

We considered performance indicators for planned service interruptions

In its submission Sydney Water proposed the following indicators as relevant indicators for planned service interruptions:¹³⁸

- ▼ Occurrence of water interruptions to affected properties (i.e. the number of properties experiencing 3 or more planned or unplanned water interruptions of more than one hour duration) – per 1,000 properties supplied by the utility.¹³⁹
- ▼ Average duration of planned water interruption (minutes).






We consider that in the absence of a performance standard there is no reason to include a performance indicator related to planned service interruptions. We have not received information from stakeholders to suggest that stakeholders are using performance indicators related to planned interruption. We monitor the compliance of Sydney Water and other water utilities with asset management obligations, including the implementation of Asset Management Systems and WIC Act licensee IOPs. We consider our compliance-based approach to provide us with sufficient performance monitoring information. We assessed the planned interruption performance indicators proposed by Sydney Water in Figure 6.4.

¹³⁸ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

¹³⁹ This is an amended version of the current Hunter Water and Sydney Water IPART performance indicator I2.

Figure 6.4 Assessment of planned service interruption indicators

► Planned service interruption performance indicators

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the planned interruption performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

In Sydney Water's view, it would also be useful to distinguish between planned interruptions due to system enhancements (eg, renewals or modifications) versus planned interruptions due to development (eg, new connections or large infrastructure projects).¹⁴⁰ In Sydney Water's view this would provide better clarity on the drivers for planned interruptions, rather than explaining any apparent variation in performance after the fact.¹⁴¹

Regarding providing clarity to customers and stakeholders about performance, we consider water utilities are always in a position to provide commentary regarding reasons for a variation in performance or reasons for performance trends. We have updated the water utility reporting manuals to reflect that water utilities have the option to provide further information regarding:

- ▼ major factors (both positive and negative) that have influenced the water utility's performance, both within and beyond the water utility's control, and
- ▼ reasons for any variation (both positive and negative) between water utility's performance in the financial year and with performance in prior years.

We note however, that we do not propose to collect information against performance indicators on planned service interruptions, which resolves Sydney Water's concern. Where Sydney Water or any other water utility considers it useful to customers or other stakeholders to provide information about the reasons for planned interruptions, we consider there is no impediment to a water utility making that information available.

¹⁴⁰ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p8.

¹⁴¹ Ibid, p8.

6.2 Water pressure

We consider the desired outcome for water pressure is for water utilities to provide a level of service consistent with their performance standards.

We propose one indicator related to water pressure performance standards

We propose to include one performance indicator for water pressure to provide information on the extent that customers are impacted by water pressure failure. This indicator aligns with water utilities' current performance standards. Water utilities and other stakeholder broadly support this approach.

Draft decision

14 Hunter Water, Sydney Water and WIC Act licensees must report on the following IPART performance indicator for water pressure:

- A10 Number of properties that experience a water pressure failure (as defined in the water utility's licence)






We consider this water pressure indicator is sufficient in monitoring the performance of water utilities against this outcome and there is no need for any additional performance indicators.

We consider collecting performance indicator information regarding this performance standard provides transparency to customers and stakeholders. Further it does not result in any additional costs due to the existing broader reporting requirements regarding public water utility system performance standards. The addition of this indicator changes the focus for the reporting on water pressure from the existing indicators. This may result in minor additional costs to WIC Act licensees, offset by the reduced reporting obligations for asset performance indicators.

We assess the water pressure performance indicators against our performance indicator criteria in Figure 6.5.

Figure 6.5 Assessment of water pressure performance indicator

► Water pressure performance indicator

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the water pressure performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

Water pressure failure is defined differently for each water utility

A water pressure failure is defined differently for each water utility depending on the performance standard in its licence or where relevant a WIC Act licensee's IOP (see definitions in Appendix A).

The operating licences for both Hunter Water and Sydney Water require the utilities to have a system performance standard regarding water pressure.¹⁴² Each standard is based on the:

- ▼ Number of properties that experience a water pressure failure in the preceding year, as defined in the licence.

Where relevant, WIC Act licensees' IOPs include provisions about performance standards for water pressure.¹⁴³ The IOP is also required to outline the maintenance, monitoring and reporting of standards of service. The customer contract for WIC Act licensees' small retail customers must include (amongst other things) the minimum pressure at which water is to be supplied.¹⁴⁴

We consider a performance indicator for both PWUs and WIC Act licensees could be related to the current PWU water pressure performance standard. That is, reporting on the number of properties that experience a water pressure failure in the preceding year, as defined in the

¹⁴² Sydney Water Operating Licence 2015-2020, cl 4.2.1; Hunter Water Operating Licence 2017-2022, cl 3.3.1.

¹⁴³ Water pressure performance standards may not be relevant for some WIC Act licensees, it would depend on the infrastructure licenced.

¹⁴⁴ *Water Industry Competition (General) Regulation 2008*, Sch 2, cl 14(2).

licence or IOP. We note, setting a performance standard for WIC Act licensees is outside the scope of this review.

Water utilities support our approach to water pressure performance indicators

Flow Systems, Hunter Water, and Sydney Water¹⁴⁵ support our view that if we align a performance indicator to a water pressure performance standard, there is no need for any additional performance indicators related to water pressure.

Fire & Rescue NSW (FRNSW) also supports our inclusion of a water pressure performance indicator; however it also recommends we collect further information on water pressure and water flows (we discuss this in more detail below).¹⁴⁶

We did not receive submissions on water pressure performance indicators from other stakeholders.

Fire & Rescue NSW recommend we collect further information on water pressure and flows

FRNSW recommend we include in our performance indicator set a requirement that PWUs and WIC Act licensees detail the areas of their water supply network where pressure and flow is less than 150 kilopascals at 10 litres per second.¹⁴⁷ We understand that FRNSW seeks a mapping tool or set of maps that shows this information.¹⁴⁸

FRNSW has raised concerns around meeting water flow required for firefighting from the drinking water network and the potential for large infrastructure solutions in some instances to be more efficient than solutions at the individual premises or development scale.¹⁴⁹ Structured Project Management (Australia) Pty Ltd (SPMA), who is currently assisting two strata plans in North Bondi with meeting the requirements for firefighting under the Building Code of Australia, generally supported the position of FRNSW.¹⁵⁰ SPMA estimate the cost to meet the requirements is estimated to be in excess of \$400,000 for each site in North Bondi.¹⁵¹

At present there is no regulatory requirement for NSW water utilities to provide water for firefighting purposes. The Building Code of Australia (BCA) places a responsibility for provision of water for firefighting on the owners of certain classes of buildings,¹⁵² however it is not always clearly defined and some classes of buildings do not have any obligations placed on the building owner.

¹⁴⁵ Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p2,

¹⁴⁶ Fire & Rescue NSW, Submission to Issues Paper – Review of Water Utilities Performance Indicators, 14 March 2018, pp9-10.

¹⁴⁷ Ibid, pp9-10.

¹⁴⁸ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp14-18.

¹⁴⁹ Fire & Rescue NSW, Submission to Issues Paper – Review of Water Utilities Performance Indicators, 14 March 2018, pp9-10.

¹⁵⁰ SPMA, Submission to Water Utility Performance Indicators Review – Re: 204 & 206 Hastings Pde, North Bondi NSW, 19 March 2018.

¹⁵¹ Ibid, p2.

¹⁵² Australian Building Code Board 2014, National Construction Code volume one and two - Building Code of Australia (BCA). Canberra, ACT.

In its submission, FRNSW note that it has not consulted with PWUs or WIC Act licensees regarding the cost of reporting this information. However, FRNSW consider requiring additional water pressure and flows information would result in the following benefits:¹⁵³

- ▼ Enable FRNSW to have more informed preplanning decisions relating to response protocols in areas where the water infrastructure provides reduced pressure and flow.
- ▼ Enable FRNSW Fire Safety Unit to provide a more informed service to planning bodies, industry and the community regarding the requirements for fire protection.
- ▼ Enable planning bodies and consent authorities to make more informed decisions regarding new zoning areas.
- ▼ Enable consent authorities to make more considered decisions regarding the issuing of and compliance with Fire Safety Orders.
- ▼ May incentivise PWUs and WIC Act licensees to undertake water infrastructure improvements where a clear disconnect exists between the performance of their water infrastructure, land zoning requirements and the development occurring in areas of low pressure and flow.
- ▼ Enable regulators to make a more informed decision about the possibility of including a lagging indicator for flow in the operating licence of PWUs and WIC Act Licensees.

We considered this issue in our 2015 review of Sydney Water's operating licence and in our 2017 review of Hunter Water's operating licence.¹⁵⁴ Following our reviews, the licences for Sydney Water and Hunter Water include obligations for the water utilities to use best endeavours to develop and maintain a Memorandum of Understanding (MoU) with FRNSW, and an obligation to comply with the MoU.¹⁵⁵

We understand from FRNSW and Sydney Water that their MoU is in place and is working well.¹⁵⁶ In our 2015-16 operational audit, we awarded Full Compliance to Sydney Water for the licence clauses related to the FRNSW MoU.¹⁵⁷

We understand from Hunter Water and FRNSW that the establishment of their MoU is progressing and they have established a good relationship prior to the execution of the MoU.¹⁵⁸

In our review of Sydney Water's operating licence, we also made the following recommendation:¹⁵⁹

That the Government undertake a comprehensive review examining firefighting water capacity requirements within NSW. This review should identify any "regulatory gaps" or necessary improvements to regulatory arrangements. It should also examine water distribution network solutions and other options to enhance water availability for firefighting.

¹⁵³ Fire & Rescue NSW, Submission to Issues Paper – Review of Water Utilities Performance Indicators, 14 March 2018, pp9-10.

¹⁵⁴ IPART, Sydney Water Corporation Operating Licence - End of Term Review, Report to The Minister, May 2015, pp19-21; IPART, Hunter Water Corporation Operating Licence Review, May 2017, pp78-81.

¹⁵⁵ Sydney Water Corporation Operating Licence 2015-2020, cl.9.4; Hunter Water Corporation Operating Licence 2017-2022, cl.5.11

¹⁵⁶ Fire & Rescue NSW, Submission to Issues Paper – Review of Water Utilities Performance Indicators, 14 March 2018, pp9-10; IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp14-18.

¹⁵⁷ IPART, Sydney Water Corporation Operational Audit 2015-16, pp28-30.

¹⁵⁸ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp14-18.

¹⁵⁹ Recommendation 3, IPART, Sydney Water Corporation Operating Licence Review, May 2015.

To date a review has not been undertaken.

We consider information on water pressure and flows can be provided in other ways

As discussed above, there is no regulatory requirement for Sydney Water or Hunter Water to provide water for firefighting purposes.






We consider a mapping tool or set of maps is not a performance indicator and can be developed and shared between water utilities and FRNSW under a bilateral agreement. The MoUs could facilitate this process. We assess water flows performance indicators against our performance indicator criteria in Figure 6.6.

We are uncertain of the broader costs and benefits associated with this proposal. For this reason we proposed the Government undertake a comprehensive review examining firefighter water capacity requirements in NSW.

We are considering firefighting requirements in our current review of developer charges and backlog sewerage charges for metropolitan water agencies. We will also consider this matter further as part of the upcoming Sydney Water operating licence review.

Figure 6.6 Assessment of water quality performance indicators

► Water flows performance indicators

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the water flows performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

6.3 Wastewater overflows

We consider the desired outcome for wastewater overflows is for water utilities to provide a level of service consistent with their performance standards.

We propose indicators that align to wastewater overflow performance standards

We propose to include two performance indicators for wastewater overflows to provide information on the extent that customers are impacted by uncontrolled wastewater overflows in dry weather. This indicator aligns with water utilities' current performance standards. Water utilities and other stakeholders broadly support this proposal.

Draft decision






15 Hunter Water, Sydney Water, and WIC Act licensees must report on the following IPART performance indicators related to wastewater overflows:

- A11 Number of properties (other than public properties) that experience an uncontrolled wastewater overflow in dry weather
- A12 Number of properties (other than public properties) that experience three or more uncontrolled wastewater overflows in dry weather

We assess wastewater overflow performance indicators (related to the performance standards) against our performance indicator criteria in Figure 6.7.

Figure 6.7 Assessment of wastewater overflows performance indicator

► Wastewater overflows performance indicator

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the wastewater overflows performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

We propose the same indicators for water utilities with a network or retail function

Our proposed wastewater overflows indicators are developed with regard to existing performance standards. We consider that where water utilities provide the same service, each water utility should be reporting on the same performance indicators for wastewater overflows, regardless of whether it is a PWU or WIC Act licensee.

The operating licences for both Hunter Water and Sydney Water require the utilities to have two system performance standards regarding wastewater overflows in dry weather.¹⁶⁰ These are based on:

- ▼ Number of properties (other than public properties) that experience an uncontrolled wastewater overflow in dry weather in the preceding financial year, as defined in the licence, and
- ▼ Number of properties (other than public properties) that experience three or more uncontrolled wastewater overflows in dry weather in the preceding financial year, as defined in the licence.

These utilities are required to report on their performance in relation to these standards.

Where relevant, WIC Act licensees' IOPs include provisions about performance standards for wastewater overflows. The IOP is also required to outline the maintenance, monitoring and reporting of standards of service.¹⁶¹ Further, the wastewater service contracts to small retail customers must indicate the arrangements that are in place to deal with wastewater blockages or overflows, amongst other things.¹⁶²

We considered other performance indicators related to wastewater overflows

In our Issues Paper we identified that in addition to indicators related to the performance standards for wastewater overflows in dry weather there could be other performance indicators monitoring:

- ▼ number of customers being impacted multiple times within the year
- ▼ number of overflow instances occurring throughout the network
- ▼ duration of wastewater overflows, and
- ▼ response time to contain wastewater overflows.

Water utilities did not strongly support collecting performance indicators in addition to those related to performance standards.¹⁶³

Hunter Water considers that incidences of wastewater overflows in dry weather are adequately covered by system performance standards and existing NWI indicators. Sydney Water provided feedback on, but did not generally support the inclusion of additional indicators. Sydney Water did note that there may be an opportunity to consider a separation of some wastewater overflow indicators to provide further understanding of impact or type of overflow, for example:¹⁶⁴

- ▼ Private vs public properties.
- ▼ Dry weather vs wet weather vs internal surcharges.

¹⁶⁰ Hunter Water Operating Licence 2017-2022, cl 3.3.3; Sydney Water Operating Licence 2015-2020, cl 4.2.3.

¹⁶¹ *Water Industry Competition (General) Regulation 2008*, cl 6(1).

¹⁶² *Water Industry Competition (General) Regulation 2008*, Sch 2, cl 19.

¹⁶³ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp13-14; Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, pp16-17; Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p9.

¹⁶⁴ Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p9.

Hunter Water also noted that this was an area where providing clarity and transparency on definitions was important.¹⁶⁵

In its submission to our Issues Paper, Flow Systems propose adopting additional wastewater overflows that are categorised, for example, a separation of overflows that are caused by third party damage to water utility assets.¹⁶⁶

As we previously discussed, we consider water utilities are always in a position to provide commentary regarding reasons for a variation in performance or further information regarding performance. We have updated the water utility reporting manuals to reflect that water utilities have the option to provide further information regarding:

- ▼ major factors (both positive and negative) that have influenced the water utility's performance, both within and beyond the water utility's control, and
- ▼ reasons for any variation (both positive and negative) between water utility's performance in the financial year and with performance in prior years.

Further, where a water utility considers it useful to customers or other stakeholders to provide further information about wastewater overflows, we consider there is no impediment to a water utility making that information available.

We also sought feedback from the EPA on these potential wastewater overflow indicators. The EPA considers that these indicators should be included and are highly relevant, however the EPA confirmed that it does not use the existing wastewater overflow indicators, although it may use this type of information in the future.¹⁶⁷ Without further information on the use or potential benefits of these potential performance indicators we propose not to collect wastewater overflow data beyond those related to the performance standards.

We assess other wastewater overflow performance indicators against our performance indicator criteria in Figure 6.8.






¹⁶⁵ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, pp16-17.

¹⁶⁶ Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p2.

¹⁶⁷ NSW EPA, Email correspondence, 29 March 2018; NSW EPA, Email correspondence, 13 April 2018.

Figure 6.8 Assessment of other wastewater overflows performance indicators

► Other wastewater overflow performance indicators

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the other wastewater overflow indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

7 Performance – Environment

This Chapter discusses the environment performance area, which relates to requiring the water utilities to manage any adverse impacts that their operations could have on the environment. This occurs primarily through meeting the requirements of environmental legislation and licence obligations, including in some cases the maintenance of an environmental management system (EMS) or environmental management plans.

7.1 Environmental management

The desired outcome for the environment performance area is for water utilities to appropriately manage their impact on the environment.

Under the operating licences, each PWU is required to have an EMS certified to *Australian Standard ISO 14001: Environmental Management Systems*.¹⁶⁸ An EMS is a structured system designed to help organisations manage their environmental impacts. PWUs are also required to carry out all activities in accordance with their EMS.

The WIC Act requires the Minister to consider certain principles before the Minister grants a WIC Act licence, including the protection of the environment.¹⁶⁹ Where appropriate, licences granted under the WIC Act include conditions in relation to the protection of the environment. In some cases there are specific licence conditions relating to environmental management plans.

We use compliance monitoring (including self-reporting, public disclosure of information, and audits) to monitor the performance of water utilities with the environment obligations in their licences.

All water utilities are required to comply with the requirements of NSW environment legislation administered by the EPA and the OEHL. Where relevant, the EPA issues Environment Protection Licences to water utilities. These licences require the water utilities to collect and publish pollution monitoring data as determined by the EPA.

The legislative frameworks of Sydney Water and WaterNSW require environmental indicators to be compiled, this is discussed in more detail below.

¹⁶⁸ Hunter Water Operating Licence 2017-2022, cl 4.2.1; Sydney Water Operating Licence 2015-2020, cl 6.1.1; Water NSW Operating Licence 2017-2022, cl 5.2.1.

¹⁶⁹ *Water Industry Competition Act 2006*, s 7(1)(a). Before granting a licence, the Minister must also be satisfied that the applicant has the capacity to carry out the activities in a manner that does not represent a significant risk of harm to the environment: *Water Industry Competition (General) Regulation 2008*, cls 7 and 11.

We propose no environment performance indicators unless there is a legislative requirement

At present, we publish, but do not use, the information that water utilities provide in relation to the environmental indicators.

We consider water utilities would meet the desired environment outcomes if the water utilities comply with the environmental legislative framework administered by the EPA and the environmental obligations in their licences (eg, the PWU licence requirement to have and implement an EMS) (Figure 7.1). However, there are legislative requirements that Sydney Water and WaterNSW's operating licences require them to report on environmental indicators.

We would continue to monitor the compliance of all water utilities with the environment obligations in their licences.

There is broad support from water utilities for our proposed approach.¹⁷⁰ Other stakeholders did not provide submissions on this issue.

We propose no environment indicators for Hunter Water, WIC Act network operators and WIC Act retail suppliers.

Draft decision






16 Hunter Water, WIC Act network operators and WIC Act retail suppliers are not required to report on IPART performance indicators related to environment.

We assess environment performance indicators for Hunter Water and WIC Act licensee against our performance indicator criteria in Figure 7.1.

¹⁷⁰ Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p3; Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p19; Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p11; WaterNSW, Submission to the IPART review of water utility performance indicators, March 2018, p8.

Figure 7.1 Assessment of environment performance indicators – Hunter Water and WIC Act licensees

► Environment performance indicators

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the environment performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

Sydney Water's obligations to report against environmental performance indicators

Sydney Water's operating licence requires it to: ¹⁷¹

- ▼ prepare indicators of the direct impact of its activities on the environment
- ▼ monitor and compile data on those indicators, and
- ▼ report on those indicators in accordance with the Reporting Manual.

Under the existing performance indicators set Sydney Water reports on 14 IPART environment indicators.

We propose a reduction in the number of environment performance indicators for Sydney Water

We propose a reduction from 14 to ten environment performance indicators for Sydney Water. This reduction arises by removing environment indicators that are reported elsewhere.

Draft decision

17 Sydney Water must report on the following IPART performance indicators related to environment:

¹⁷¹ *Sydney Water Act 1994*, s. 14(1)(d) requires that the operating licence contain a condition requiring Sydney Water to compile indicators to enable preparation of an annual report on its performance, and to provide information for a year to year comparison in relation to its performance in this area; Sydney Water Operating Licence 2015-2020, cl 6.2.1.

- E1 Total energy consumption by the water utility (electricity, fuel and gas) in units provided on energy bills
- E2 Electricity consumption from renewable resources or generated by the water utility expressed as a total percentage of electricity consumption
- E3 Total number of controlled wastewater overflows that occur in dry weather that discharged to the environment, per km of sewer main
- E4 Total number of uncontrolled wastewater overflows that occur in dry weather that discharged to the environment, per km of sewer main
- E5 Total mass of biosolids produced by the water utility
- E6 Percent of solid waste recycled or reused expressed as a percentage of solid waste generated
- E7 Total mass of solid waste generated by the water utility
- E8 Total area of clearing of native vegetation
- E9 Total area of native vegetation rehabilitated, including due to replanting and protection by the water utility
- E10 Total area of native vegetation gain due to rehabilitation, replanting and protection by the water utility

As we do not use the information relating to Sydney Water's current environmental performance indicators, our Issues Paper sought stakeholder views on the most appropriate environmental indicators for Sydney Water to compile. In response Sydney Water provided a comprehensive assessment of its current environment indicators (Table 7.1).¹⁷²

Table 7.1 Sydney Water response to current IPART environment indicators

Current IPART performance indicator - Sydney Water		Sydney Water comment
E1	Total number of proceedings and Penalty Notices under the Protection of the <i>Environment Operations (POEO) Act 1997</i> issued to the water utility.	No suggested change. Information also publically available at NSW EPA Public register at epa.nsw.gov.au
E2	Total number of proceedings and Penalty Notices under the <i>Protection of the Environment Operations (POEO) Act 1997</i> issued to contractors engaged by the water utility.	No suggested change. Information also publically available at NSW EPA Public register at epa.nsw.gov.au
E3	Total electricity consumption by water assets (kWh/ML of water supplied to be included).	No suggested change.
E4	Total electricity consumption by sewer assets (KWh/ML of sewage collected).	No suggested change.
E5	Electricity consumption from renewable sources or generated by the water utility expressed as a percentage of total electricity consumption.	No suggested change.
E6(S)	Total volume of Controlled Sewage Overflows that occur in dry weather, expressed as a	The indicator does not adequately reflect Sydney Water's performance and should be changed for

¹⁷² Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, pp11-14.

Current IPART performance indicator - Sydney Water		Sydney Water comment
	percentage of total sewage effluent discharged to the environment.	<p>the following reasons:</p> <p>The total volume of effluent discharged from our treatment plants is so large, that sewage overflow volumes when reported as a proportion of the total become a relatively insignificant percentage (0.01%). This provides little value and does not drive performance improvements.</p> <p>The definition of controlled overflow means from a designed overflow structure. Very few overflows in dry weather occur from designed overflow structures. In addition, we only capture the volume if the overflow has been deemed non-compliant (ie Priority 6 > 3hrs to cease the overflow, or Priority 5 > 5hrs to cease the overflow). This means that we are only capturing a proportion of the volume discharged from controlled overflows in our reporting.</p> <p>Suggest removing this indicator and replacing it with a combination of the following possible indicators:</p> <ul style="list-style-type: none"> ▼ Total number of controlled sewage overflows that occur in dry weather that discharged to the environment, per km of sewer main ▼ Total number of uncontrolled sewage overflows that occur in dry weather that discharged to the environment, per km of sewer main
E7 (S)	Percentage of trade waste customers in compliance with their wastewater discharge limits as outlined in their water utility trade waste agreements.	No suggested change.
E8	Total mass of biosolids produced by the water utility.	Biosolids are a waste product of existing activities and data could be captured under E9.
E9	Percent of solid waste recycled or reused expressed as a percentage of solid waste generated.	<p>Suggest changing indicator to only report on the percent recycled/reused of waste streams that can be recycled (eg. Contaminated land, asbestos waste, acid solvate soils would be excluded from total).</p> <p>We suggest separating this indicator into:</p> <ul style="list-style-type: none"> ▼ utility generated and controlled waste ▼ contractor generated and controlled waste.
E10 (S)	Total mass of solid waste generated by the water utility	<p>We suggest removing this indicator as it does not drive performance improvements. The quantity of waste generated is subject to the number and type of capital works projects that are delivered across the organisation year to year.</p> <p>Data will still be captured as part of E9.</p>
E11	Total area of clearing of native vegetation	<p>No suggested change to the indicators E11, E12 and E13.</p> <p>Further definition of what should be included under E12 and E13 due to rehabilitation, replanting and protection would be useful. Sydney Water owns and has plans of management for land that is not currently being</p>
E12	Total area of native vegetation rehabilitated, including due to replanting and protection by the water utility.	
E13	Total area of native vegetation gain due to rehabilitation, replanting and protection by the water utility.	

Current IPART performance indicator - Sydney Water		Sydney Water comment
		captured under these indicators. To better reflect Sydney Water's land management practices, it is suggested areas weeded and rehabilitated are included in E12 and E13.
E14	Total number and nature of proceedings or Penalty Notices of conditions under licences issued to the water utility by NOW for water management.	No suggested change.

Source: Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, pp11-13.

We sought feedback from the NSW Environment Protection Authority (EPA) and the NSW Office of Environment and Heritage (OEH) (the relevant NSW environment regulators) on Sydney Water's comments and suggested changes to the indicators.

The EPA provided feedback on the environment performance indicators related to wastewater overflows and waste. The EPA agrees with Sydney Water's position and suggested changes to the current IPART environment indicator for sewage (wastewater)¹⁷³ overflows E6(S).¹⁷⁴

The EPA does not agree with Sydney Water's positions regarding the current biosolids and solid recyclable waste performance indicators.¹⁷⁵ The EPA considers that it is relevant for Sydney Water to report on the percent of solid waste recycled or reused expressed as a percentage of solid waste generated (current performance indicator E8). In the EPA's view the current indicator E10(S) should be maintained as it is a relevant indicator of generated waste. We understand this is because other industries report on waste in using these indicators, allowing comparison with other organisations.¹⁷⁶

We propose to accept the EPA's position on appropriate environment performance indicators for wastewater overflows and waste.

We propose changes to the existing energy consumption indicator (existing indicator E3 and E4). Currently these indicators separate the electricity consumption from water and sewer assets. We propose to broaden from electricity consumption to energy consumption (electricity, fuel and gas), and to apply it to the energy consumption of the entire water utility. This is aligned to the existing (and proposed) WaterNSW environment indicator for energy consumption and provides a consistent approach.

Sydney Water suggests that further definition of what should be included in the definition of native vegetation rehabilitation, replanting and protection would be useful (in relation to existing indicators E11, E12 and E13, which are equivalent to proposed indicators E8, E9 and E10).¹⁷⁷ These indicators are not currently capturing information where Sydney Water owns and has plans of management for land.¹⁷⁸ To better reflect Sydney Water's land

¹⁷³ The existing indicators use the term sewage, we propose updating to wastewater.

¹⁷⁴ EPA, Email correspondence, 29 March 2018.

¹⁷⁵ EPA, Email correspondence, 29 March 2018.

¹⁷⁶ EPA, Email correspondence, 13 April 2018.

¹⁷⁷ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, pp11-13.

¹⁷⁸ Ibid, pp11-13.

management practices, Sydney Water suggests that areas weeded and rehabilitated are included in the definitions.¹⁷⁹ We have been unable to confirm whether this change in definition is appropriate and intend to liaise with Sydney Water and the OEH prior to the release of our final environment indicator set and reporting manuals regarding these indicators.

Other than from Sydney Water (see Table 7.1), we did not receive stakeholder responses to our Issues Paper regarding the existing Sydney Water environment indicators related to energy consumption and native vegetation clearing. We consider that since these environment indicators have the support of Sydney Water¹⁸⁰, we will continue to collect them at this time. We intend to review this environment indicator set again in the upcoming Sydney Water operating licence review (due to commence in mid-2018). We may make further changes to the environment indicator set as a result of the licence review.

We considered the current environment performance indicators E1, E2 and E14 which relate to the total number of proceedings and penalty notices under the *Protection of the Environment Operations Act 1997* and the *Water Management Act 2000*. This information is otherwise available from the relevant regulator (the EPA and Department of Industry – Water respectively).¹⁸¹ Therefore we propose to not collect performance indicators related to Sydney Water’s compliance with other regulatory regimes.

Sydney Water propose no change to current performance indicator E7(S) which is the percent of trade waste customers in compliance with their wastewater discharge limits as outlined in their water utility trade waste agreements.¹⁸² However, we consider that this indicator represents an internal business indicator for Sydney Water, which does not provide any additional detail on the environment performance of Sydney Water. We propose to not collect performance indicators related to the compliance of trade waste customers.

We provide a summary of our proposed environment indicators for Sydney Water with stakeholder positions in Table 7.2.

Table 7.2 Summary of proposed environment indicators for Sydney Water

Proposed indicator number	Proposed indicator	Comparison to existing Sydney Water environment indicators	Stakeholder feedback on existing indicator
E1	Total energy consumption by the utility (electricity, fuel and gas) in units provided on energy bills	Similar to existing indicator E3, which is limited to electricity consumption	Sydney Water suggested no changes to E3 and E4, and are yet to provide comment on our proposed change.
E2	Electricity consumption from renewable resources or generated by the water utility expressed as a total percentage of electricity consumption	Same as existing indicator E5	Sydney Water did not suggest any changes.

¹⁷⁹ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, pp11-13.

¹⁸⁰ Ibid, pp11-13.

¹⁸¹ Ibid, pp11-13.

¹⁸² Ibid, pp11-13.

E3	Total number of controlled wastewater overflows that occur in dry weather that discharged to the environment, per km of sewer main	Change to indicator E6(S)	Proposed by Sydney Water, supported by the EPA.
E4	Total number of uncontrolled wastewater overflows that occur in dry weather that discharged to the environment, per km of sewer main	Change to indicator E6(S)	Proposed by Sydney Water, supported by the EPA.
E5	Total mass of biosolids produced by water utility	Same as existing indicator E8	Sydney Water propose removal. EPA supported making no change.
E6	Percent of solid waste recycled or reused expressed as a percentage of solid waste generated	Same as existing indicator E9	Sydney Water propose change. EPA supported making no change.
E7	Total mass of solid waste generated by the water utility	Same as existing indicator E10(S)	Sydney Water propose removal. EPA supported making no change.
E8	Total area of clearing of native vegetation	Same as existing indicator E11	Sydney Water did not suggest any changes.
E9	Total area of native vegetation rehabilitated, including due to replanting and protection by the water utility	Same as existing indicator E12	Sydney Water suggest a change to the definition.
E10	Total area of native vegetation gain due to rehabilitation, replanting and protection by the water utility	Same as existing indicator E13	Sydney Water suggest a change to the definition.

Source: Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, pp11-13; NSW EPA, Email correspondence, 29 March 2018.

WaterNSW's obligations to report against environmental performance indicators

WaterNSW's operating licence requires WaterNSW to:¹⁸³

- ▼ monitor, record and compile data on environmental indicators relevant to declared catchment areas (the environmental indicators are set out in Appendix C of the Reporting Manual), and
- ▼ report on those indicators in accordance with its Reporting Manual.

WaterNSW currently reports on four IPART environment indicators for the declared catchment areas only.

¹⁸³ *Water NSW Act 2014*, s 12(2)(b) requires Water NSW to compile indicators of the direct impact of its activities (including but not limited to the impact of energy that is used and the waste which is generated) on the environment so as to provide information about its performance and enable reports to be prepared; Water NSW Operating Licence 2017-2022 cl 2.3.1(b).

WaterNSW has indicated that in some circumstances it is onerous for it to report on indicators relating solely to the Greater Sydney Catchment area¹⁸⁴, as it collects data across its entire area of operations (ie, statewide).¹⁸⁵ WaterNSW argues reporting on this limited data set is not only challenging and resource intensive, it is of limited value given the declared catchment area it only captures a portion of WaterNSW's area of operations.¹⁸⁶ WaterNSW recommends that it be required to report on the four IPART environment indicators cross its entire area of operations.¹⁸⁷

We have considered WaterNSW's proposal and agree with its position that reporting on its environment performance across the entire area of operations may be a more useful reflection of its environmental performance as a water utility. However, we consider in order meet the requirements of s 12(2)(b) of the Water NSW Act, the operating licence must require WaterNSW to compile environment indicators in such a way that the information specific to a declared catchment area can readily be identified from the data.

WaterNSW could report on its environment indicators across its entire area of operations, however this would be in addition to its reporting obligation for the declared catchment areas. We consider there is no legislative requirement for WaterNSW to report on environment indicators for its entire area of operations, and therefore outside the declared catchment areas a compliance-based approach is all that is required. This is consistent with our approach for Hunter Water and WIC Act licensees that also do not have a legislative requirement to report on environment indicators.

We propose to maintain the number of environment performance indicators for WaterNSW

We propose to maintain the four environment performance indicators for WaterNSW.

Draft decision

18 WaterNSW must report on the following IPART performance indicators related to environment, applicable to the Declared Catchment Areas only:

- E1 Total energy consumption by the water utility (electricity, fuel and gas) in units provided on energy bills
- E2 Electricity consumption from renewable resources or generated by the water utility expressed as a total percentage of electricity consumption
- E6 Percent of solid waste recycled or reused expressed as a percentage of solid waste generated
- E7 Total mass of solid waste generated by the water utility

We do not use the information relating to WaterNSW's current environmental performance indicators, so prior to releasing our Issues Paper did not have a strong view as to the most appropriate indicators that should be adopted. We sought stakeholder views on the most appropriate environmental indicators for WaterNSW to report on.

¹⁸⁴ Currently the only Declared Catchment Area.

¹⁸⁵ WaterNSW, Submission to the IPART review of water utility performance indicators, March 2018, p4.

¹⁸⁶ Ibid, p4.

¹⁸⁷ Ibid, p4.

As discussed above, WaterNSW propose to apply its current environmental indicators across its entire area of operations¹⁸⁸, which we do not support. WaterNSW did not provide any other feedback on the current indicators.¹⁸⁹

As the relevant NSW environment regulator, we sought feedback from the EPA and Office of Environment and Heritage on WaterNSW's current environment indicators.

The EPA supports the current waste indicators, the percent of solid waste recycled or reused expressed as a percentage of solid waste generated (current performance indicator E3) and the total mass of solid waste generated by the water utility (current performance indicator E4). We understand that the EPA's position is because other industries report on waste in using these indicators.¹⁹⁰

We propose to accept the EPA's position on appropriate environment performance indicators for waste.

We propose changes to the existing green electricity consumption indicator (existing indicator E2). We propose changing the indicator to align with the existing (and proposed) Sydney Water environment indicator for renewable energy to provide a consistent approach.

Other than from Sydney Water (see Table 7.1), we did not receive stakeholder responses to our Issues Paper regarding the existing Sydney Water environment indicators related to energy consumption and native vegetation clearing. We consider that since these environment indicators have the support of Sydney Water¹⁹¹, we will continue to collect them at this time. We intend to review this environment indicator set again in the upcoming Sydney Water operating licence review (due to commence in mid-2018). We may make further changes to the environment indicator as a result of this review.

¹⁸⁸ WaterNSW, Submission to the IPART review of water utility performance indicators, March 2018, p4.

¹⁸⁹ Ibid, p4.

¹⁹⁰ NSW EPA, Email correspondence, 13 April 2018.

¹⁹¹ Ibid, pp11-13.

8 Performance – Customers

This performance area relates to water utilities' responsibilities toward their customers. This includes meeting certain standards of service and implementing appropriate processes, policies and protocols for managing or dealing with customers. It also relates to ensuring customers are satisfied with the overall performance of their water utility.

8.1 Customer service

The desired outcome for customer service is for water utilities to provide an appropriate level of service to its customers, and to ensure the protection of customers.

We propose no performance indicators related to customer service outcomes

We assess customer service outcomes through regular monitoring and reporting as well as regular expert audit against licence requirements. There appears to be a limited need to incorporate performance indicators to monitor performance of water utilities in relation to customer service because:

- ▼ Water utilities are required to develop, implement and maintain a range of measures and mechanisms relating to their customers, including customer contracts, financial hardship and non-payment policies and procedures, complaints and dispute resolution procedures and provide information to the public.
- ▼ PWUs must be members of the Energy and Water Ombudsman of NSW,¹⁹² and WIC Act licensees that supply water or provide sewerage services (or both) to small retail customers must be members of an approved ombudsman scheme.¹⁹³
- ▼ All of the water utilities are required to report on any non-compliance.
- ▼ Hunter Water and WaterNSW are also required to provide an annual compliance and performance report to IPART regarding their customer and stakeholder relations.¹⁹⁴
- ▼ Water utilities' performance in meeting these obligations is generally good.

Draft decision

19 IPART will remove IPART performance indicators related to customer service.

We assess customer service performance indicators against our performance indicator criteria in Figure 8.1.






¹⁹² Hunter Water Operating Licence 2017-2022, cl. 5.6.1; Sydney Water Operating Licence 2015-2020 cl 5.7.1; Water NSW Operating Licence 2017-2022, cl 6.10.1.

¹⁹³ *Water Industry Competition Act 2006*, s 50.

¹⁹⁴ IPART, *Hunter Water Reporting Manual*, May 2017, cl 5.1 and IPART, *Water NSW Reporting Manual*, February 2018, cl 6.1.

Figure 8.1 Assessment of customer service performance indicators

► Customer service performance indicators

Criteria	Proposed Indicators
Is there a regulatory purpose for the performance indicator?	
Do the customer service performance indicators align with the desired outcome?	
Do the benefits of the information outweigh the costs of collecting the information?	
Is the information not currently collected through other means?	
Is the water quantity performance indicator consistent with SMART criteria ?	

Stakeholders generally agreed that customer service indicators are not required

We did not receive any feedback from stakeholders that are using the existing customer service indicators.

Hunter Water and Sydney Water support our view, and consider the existing customer service requirements and our compliance-based approach adequately covers the customer service performance area.¹⁹⁵

Flow Systems raised issues related to the funding of financial hardship polices and rebates.¹⁹⁶ Flow Systems notes it would agree with our approach if the funding of financial hardship polices and rebates was consistent across all water utilities.¹⁹⁷ We consider the funding to be out of scope for this review and unrelated to our decision about performance indicators.

Water NSW did not specifically respond to our position on customer service indicators, instead recommending the development of minimum performance standards for WaterNSW's market functions.¹⁹⁸ As we discussed in section 4.4, changes to performance standards is outside the scope of this review.

¹⁹⁵ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p20; Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, p15;

¹⁹⁶ Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p3.

¹⁹⁷ Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p3.

¹⁹⁸ WaterNSW, Submission to the IPART review of water utility performance indicators, March 2018, p9.

We sought feedback from the Public Interest Advocacy Centre (PIAC) and it considers a compliance-based approach is suitable to ensure water utilities' are meeting their responsibilities to their consumers.¹⁹⁹

As we discussed in our Issues Paper, the current quantitative customer service performance indicators PWUs and WIC Act licensees are currently required to collect measure outputs that potentially impact on customer satisfaction, such as percentage of complaints resolved within 10 business days, percent of calls abandoned, and number of complaints. We consider that the current customer-related reporting mechanisms are largely compliance-based, focussing on whether water utilities have adequate systems and policies in place to meet certain levels of customer service. Water utilities' customer contracts set out the levels of customer service that customers can expect (for example, how quickly a water utility deals with enquiries).

In response to our discussion, DPE put forward its view that it is prudent to maintain quantitative performance indicators for all water utilities whilst qualitative measures of customer satisfaction are developed.²⁰⁰ DPE considers that this would allow the two approaches to be compared to make an evidence based decision in relation to whether any particular approach better reflects customer satisfaction.²⁰¹ DPE did not provide any information regarding whether it uses the existing customer service indicators.

We discuss customer satisfaction performance indicators below. However, we consider that a compliance-based approach to customer service outcomes is appropriate now, with or without qualitative measures of customer satisfaction in place.

We are interested in measuring customer satisfaction

The vast majority of customers of the water utilities in NSW cannot change their provider if they are unhappy with the service they receive. For this reason, there are customer service obligations in water utility licences. However, water utilities meeting their customer service obligations does not necessarily mean that customers are satisfied.

In our Issues Paper we sought stakeholder views on the application of customer satisfaction performance indicator(s) to help drive improvement of water utilities' customer service and delivery of other outcomes. See Box 8.1 for an explanation of why we are interested in customer satisfaction indicators.

We propose to review measurements of customer satisfaction in 2018-19

We propose to continue to investigate the potential for customer satisfaction indicators and engage with water utilities and other stakeholders on this matter throughout 2018-19.

We are interested in collecting a measure of customer satisfaction based on a customer survey. As we explained in our Issues Paper we do not currently have a preference for the exact design of a qualitative customer satisfaction performance indicator. We are aware that the collection of a customer survey may pose issues across PWU and WIC Act licensees due

¹⁹⁹ PIAC, Email correspondence, 5 April 2018.

²⁰⁰ DPE, Submission on water utility performance indicators review, 9 March 2018, p2.

²⁰¹ Ibid, p2.

to the need to collect a statistically significant number of responses. As some WIC Act licensees have very few customers, this may not be feasible. It will be necessary to carefully consider how customer service indicator(s) can be best applied across the water utilities we regulate.

Draft decision

20 IPART will review customer satisfaction indicators for water utilities in 2018-19.

Box 8.1 Why are we interested in customer satisfaction?

A customer-centric focus has become an increasing priority for service providers – even organisations that operate in regional monopolies, as water utilities do. Service providers that operate at the highest standard of customer service:

- ▼ can understand customers and align services to meet customer preferences
- ▼ can make better decisions about the investment of scarce resources through customer engagement, and
- ▼ can enjoy reputational advantage, whereby customers are more willing to accept temporary reductions in service performance.

Increasingly other jurisdictions are applying performance indicators relating to customer satisfaction to drive improvement in the customer service provided by monopoly service providers.

As noted above, current customer-related reporting mechanisms are largely compliance-based, focussing on whether water utilities have adequate systems and policies in place to meet certain levels of customer service. Water utilities' customer contracts set out the levels of customer service that customers can expect (for example, how quickly a water utility deals with enquiries)

We consider that these factors contribute to customer satisfaction. In fact, many of these elements lay the foundation for satisfied customers. However, this information alone does not necessarily indicate whether a water utility's customers are satisfied with the service they receive.

Customer satisfaction is becoming an important focus in the water industry as water utilities respond to customer's growing expectations about customer service. Economic regulators in other jurisdictions are now collecting performance indicators relating to customer satisfaction to monitor and drive improvement in water utilities' customer service. While the design of indicators varies, they typically include a qualitative customer survey of a water utility's perceived performance in relation to its customers. Qualitative customer surveys and quantitative indicators could be combined to provide a snapshot of customer interactions (for example, the number of complaints made).

Stakeholders generally support investigating measurement of customer satisfaction

Hunter Water, Sydney Water, WaterNSW, DPE and Department of Industry – Water support our interest in considering customer satisfaction surveys as performance indicators.²⁰² However, there was also agreement that further investigation is required.

PIAC also provided feedback that it considers qualitative customer satisfaction surveys an appropriate indicator for water utilities as long as the survey is robust in its design, and includes considerations of how we ask the questions, how we interpret answers and the quality of data that is collected.²⁰³

In its response to our Issues Paper, Flow Systems stated that it considers qualitative surveys are not an appropriate performance indicator for water utilities, due to the relative scale of customers serviced by WIC Act licensees compared to PWUs.²⁰⁴ However, at our Stakeholder Roundtable, Flow Systems was open to discussion about customer satisfaction indicators, noting that it would require a lot more discussion if benchmarking was an intention.²⁰⁵

NSW water utilities value and measure customer satisfaction

Water utilities currently undertake customer satisfaction surveys and increasingly consider customer satisfaction to be a driver for their business.

The Department of Industry – Water, which regulates regional urban water utilities (local water utilities) does not measure customer satisfaction, however the local water utilities generally undertake customer satisfaction surveys every two to three years.²⁰⁶

Customer satisfaction is a driver for Flow Systems.²⁰⁷ Flow Systems are competing with PWUs, local water utilities and other WIC Act licensees for the water, recycled water and sewerage services market. When a developer is selecting the water utility for its development, a consideration is the impact of the water utility on the developer's ability to sell property. Flow Systems is aware that its reputation regarding customer satisfaction could affect future business with a developer: "if word gets around that Flow [Systems'] customers are not very happy...it affects our future business, so [customer satisfaction] is a big driver for us".²⁰⁸ Flow Systems measures customer satisfaction through customer service surveys, including seeking feedback where customers have had an interaction or experience with Flow Systems (eg, where there has been a service issue).²⁰⁹

Hunter Water and Sydney Water also discussed this impact of the 'customer experience' on a water utility. Both utilities are seeking to understand how they impact on customer

²⁰² IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp24-31; Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p22; Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, pp15-16; Department of Planning and Environment, Submission on water utility performance indicators review, 9 March 2018, p2.

²⁰³ PIAC, Email correspondence, 5 April 2018.

²⁰⁴ Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p3.

²⁰⁵ IPART Transcript, Stakeholder Roundtable, 20 March 2018, p26.

²⁰⁶ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp27.

²⁰⁷ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp29.

²⁰⁸ Ibid, p29.

²⁰⁹ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp26.

satisfaction through the way they interact with customers in addition to the services provided.²¹⁰

Under Hunter Water's 2017+3 Strategy, Hunter Water is planning and/or undertaking a number of initiatives, such as trialling a new monthly telephone survey to better understand how Hunter Water is performing relative to community expectations.²¹¹ Hunter Water has based its survey questions on those used by Victorian water utilities as part of their reporting to regulators.²¹²

Customers are a focus of Sydney Water's Corporate Strategy with one of its three corporate objectives "customer at the heart" capturing its intent to ensure the voice of customers drives its business.²¹³ ²¹⁴ In measuring customer satisfaction, Sydney Water intends to use a mix of:²¹⁵

- ▼ Outbound 'brand' survey capture of perceptual indicators (i.e. a brand level survey, targeting a representative sample of the target populations, most likely primarily online but potentially multi-channel to capture hard to reach populations.)
- ▼ 'Touchpoint' post interaction experiential surveys, to capture customer sentiment and experiential indicators relevant to and triggered by an interaction with Sydney Water – for example, an inbound call request for a fault to be remediated, or after a customer pays their bill.

WaterNSW undertakes an annual survey which asks customers to rate WaterNSW on customer service, reputation and value for money.²¹⁶

Stakeholders do not have a preference for a particular measure or methodology

Stakeholders did not express a preference for applying a particular measure of customer satisfaction, or a particular methodology. Instead, stakeholders usefully provided recommendations for the scope, purpose, and approach of a review into customer satisfaction performance indicators. As well as highlighting areas that may need particular focus. We intend to consider this information as we further develop our approach and undertake our review in 2018-19.

Hunter Water propose a scope for our investigation, which could include an assessment of jurisdictional approaches (both within and outside of the water sector) and current initiatives undertaken by NSW utilities. Hunter Water suggests our review could:²¹⁷

²¹⁰ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp24-31.

²¹¹ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p22; IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp24-31.

²¹² Ibid, p22.

²¹³ Sydney Water's three objectives in its Corporate Strategy are Customer at the heart, world class performance, and high performance culture. Sydney Water, *Sydney Water Summary Annual Report 2015-16*.

²¹⁴ We note the three objectives in Sydney Water's Corporate Strategy are different to the objectives in the *Sydney Water Act 1994*, which relate to Sydney Water's objectives to be a successful corporation, to protect the environment, and to protect public health (s21).

²¹⁵ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, pp15-16.

²¹⁶ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp25-26.

²¹⁷ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p22.

- ▼ clarify the purpose(s) of customer satisfaction indicators within the NSW regulatory context
- ▼ identify any significant differences in jurisdictional operational, business and regulatory environments that may be relevant to the design of their specific customer satisfaction performance indicators and their applicability within the NSW context
- ▼ quantify the administrative costs associated with different approaches
- ▼ examine any unintended consequences, both positive and negative, of approaches that have been implemented to date
- ▼ identify any clear evidence of benefits in terms of improved customer performance outcomes associated with the different approaches
- ▼ consider the pros and cons of linking customer satisfaction indicators to financial incentives and penalties, taking into account possible funding mechanisms and bill impacts, and
- ▼ identify preferred options for introducing or trialling recommended customer satisfaction performance indicators.

Sydney Water cautions that we ensure consistency across utilities if customer satisfaction indicators are to be used for comparison or benchmarking.²¹⁸ As discussed above, Flow Systems have a similar view.²¹⁹

DPE welcomes consideration of customer satisfaction in performance monitoring to drive more responsive performance provision.²²⁰

PIAC notes that when surveying consumers, we should have regard to understanding consumers and their biases. For example, if a customer does not understand the question, they are more likely to agree with the status quo.²²¹

We would investigate how to measure customer satisfaction when customer numbers are small or geographic areas overlap

Due to the relative scale of WIC Act licensees compared to PWUs, Flow Systems' view is that at this stage qualitative customer satisfaction surveys are not an appropriate performance indicator for water utilities.²²² We intend to investigate how we could effectively measure customer satisfaction for WIC Act licensees in a way that the benefits outweighed the costs.

In some cases, water utilities operate in the same geographical area, for example WaterNSW operates across NSW in areas where other PWUs, WIC Act licensees and local water utilities also operate. WIC Act licensees also generally operate within the existing areas of operation of PWUs and local water utilities. This can cause difficulties in assigning customer

²¹⁸ Sydney Water Corporation, Sydney Water submission to IPART Issues Paper, IPART review of water utility performance indicators, March 2018, pp15-16; IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp24-31.

²¹⁹ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp24-31.

²²⁰ DPE, Submission on water utility performance indicators review, 9 March 2018, p2.

²²¹ PIAC, Email correspondence, 5 April 2018.

²²² Flow Systems, Submission to IPART review of water utility performance indicators, 13 March 2018, p3.

satisfaction responses to the correct utility. WaterNSW is aware of an example which incorrectly assigned a customers' response using a postcode approach.²²³

We intend to consider customer satisfaction indicators in 2018-19

In its submission to our Issues Paper, Hunter Water stated that it considers that it would be practical to undertake this review following the completion of the next price reviews for Hunter Water and Sydney Water with a view to potential implementation in the following price path (which we interpret to mean post 1 July 2024).²²⁴ At our Stakeholder Roundtable, Hunter Water indicated it was comfortable with an investigation commencing after 1 July 2018.²²⁵ We consider that a review of customer satisfaction indicators can proceed prior to our next Hunter Water and Sydney Water price reviews, and intend to undertake this review in 2018-19.

²²³ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp25-26.

²²⁴ Hunter Water Corporation, Response to Issues Paper, IPART review of water utility performance indicators, March 2018, p22.

²²⁵ IPART Transcript, Stakeholder Roundtable, 20 March 2018, pp25.

A IPART proposed performance indicators – definitions

Table A.1 Proposed IPART performance indicators - definitions

Performance area	Indicator number	Indicator	Definition
Water quality	No indicators required. IPART will monitor water utility performance via compliance monitoring.		
Water quantity	W1	Percent of customers who place a Non-complying Water Order are contacted within one working day to rectify that order	Percent of customers who place a Non-complying Water Order are contacted within one working day to rectify that order, calculated as a percentage of all Non-complying Water Orders placed in the financial year.
	W2	Percent of Water Orders are Delivered within one day of the scheduled day of Delivery	Percent of Water Orders are Delivered within one day of the scheduled day of Delivery, calculated as a percentage of all complying Water Orders placed in the financial year.
	W3	Percent 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	Percent 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.
	W4	Percent 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	Percent 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.
	W5	Percent 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	Percent 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.
Assets	A1	Number of properties that experience an unplanned water interruption that lasts for more than five continuous hours	Number of properties that experience an unplanned water interruption that lasts for more than five continuous hours in the financial year.
	A2	Number of properties that experience three or more unplanned water interruptions that each lasts for more than one hour	Number of properties that experience three or more water interruptions that each lasts for more than one hour in the financial year.
	A3 ^a	Total number of unplanned water interruptions – water supply	The total number of unplanned interruptions where customers are without potable water supply, during the reporting year (interruptions).
	A4 ^b	Average duration of unplanned water interruptions – water supply	The average duration for which a customer is without potable water, due to an unplanned supply interruption during the reporting year minutes (minutes).
	A5 ^c	Percent of priority 6 breaks/leaks in drinking	Percent of priority 6 breaks/leaks in drinking water mains that the water utility responded to

		water mains that the water utility responded to within 3 hours	within 3 hours in the financial year.
	A6 ^d	Percent of priority 5 breaks/leaks in drinking water mains that the water utility responded to within 6 hours	Percent of priority 5 breaks/leaks in drinking water mains that the water utility responded to within 6 hours in the financial year.
	A7 ^e	Percent of priority 5 breaks/leaks in drinking water mains that the water utility responded to within 24 hours	Percent of priority 5 breaks/leaks in drinking water mains that the water utility responded to within 24 hours in the financial year.
	A8 ^f	Percent of priority 4 breaks/leaks in drinking water mains that the water utility responded to within 5 days	Percent of priority 4 breaks/leaks in drinking water mains that the water utility responded to within 5 days in the financial year.
	A9	Percent 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	Percent 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, calculated as a percentage of all Water Orders rescheduled in the financial year due to an expected shortage or Delivery delay.
	A10	Number of properties that experience a water pressure failure	Number of properties that experience a water pressure failure in the financial year.
	A11	Number of properties (other than public properties) that experience an uncontrolled wastewater overflow in dry weather	Number of properties (other than public properties) that experience an uncontrolled wastewater overflow in dry weather in the financial year.
	A12	Number of properties (other than public properties) that experience three or more uncontrolled wastewater overflows in dry weather	Number of properties (other than public properties) that experience three or more uncontrolled wastewater overflows in dry weather in the financial year.
Environment	E1 ^g	Total energy consumption by the water utility (electricity, fuel and gas) in units provided on energy bills	Total energy consumption by the water utility (electricity, fuel and gas) in units provided on energy bills in the financial year.
	E2 ^h	Electricity consumption from renewable resources or generated by the water utility expressed as a total percentage of electricity consumption	Electricity consumption from renewable resources or generated by the water utility expressed as a total percentage of electricity consumption in the financial year.
	E3	Total number of controlled wastewater overflows that occur in dry weather that discharged to the environment, per km of sewer main	Total number of controlled sewage overflows that occur in dry weather that discharged to the environment, per km of sewer main in the financial year.

	E4	Total number of uncontrolled wastewater overflows that occur in dry weather that discharged to the environment, per km of sewer main	Total number of uncontrolled sewage overflows that occur in dry weather that discharged to the environment, per km of sewer main in the financial year.
	E5 ⁱ	Total mass of biosolids produced by the water utility	Total mass of biosolids produced by the water utility in the financial year.
	E6 ^j	Percent of solid waste recycled or reused expressed as a percentage of solid waste generated	Percent of solid waste recycled or reused expressed as a percentage of solid waste generated in the financial year.
	E7 ^k	Total mass of solid waste generated by the water utility	Total mass of solid waste generated by the water utility in the financial year.
	E8 ^l	Total area of clearing of native vegetation	Total area of clearing of native vegetation in the financial year.
	E9 ^m	Total area of native vegetation rehabilitated, including due to replanting and protection by the water utility	Total area of native vegetation rehabilitated, including due to replanting and protection by the water utility in the financial year.
	E10 ⁿ	Total area of native vegetation gain due to rehabilitation, replanting and protection by the water utility	Total area of native vegetation gain due to rehabilitation, replanting and protection by the water utility in the financial year.
Customers	No indicators required. IPART will monitor water utility performance via compliance monitoring.		

a NWI indicator IC17

b NWI indicator C15

c Existing indicator I 9 in Sydney Water Reporting Manual

d Existing indicator I 10 in Sydney Water Reporting Manual

e Existing indicator I 11 in Sydney Water Reporting Manual

f Existing indicator I 12 in Sydney Water Reporting Manual

g Existing indicator Environment IPART E1 in Water NSW Reporting Manual

h Existing indicator E 5 in Sydney Water Reporting Manual

i Existing indicator E 8 in Sydney Water Reporting Manual

j Existing indicator E 9 in Sydney Water Reporting Manual

k Existing indicator E 10 (S) in Sydney Water Reporting Manual

l Existing indicator E 11 in Sydney Water Reporting Manual

m Existing indicator E 12 in Sydney Water Reporting Manual

n Existing indicator E 13 in Sydney Water Reporting Manual

Performance indicators definitions

Property

Sydney Water²²⁶

Means:

- a) an individual dwelling or individual premises for any purpose;
- b) land whether built on or not, which is owned by a person (whether jointly or individually);
- c) a lot in a strata plan that is registered under the Strata Schemes (Freehold Development) Act 1973 (NSW) or the Strata Schemes (Leasehold Development) Act 1986 (NSW), which is:
 - i) connected to, or for which a connection is available to Sydney Water's water supply system or the sewerage system;
 - ii) within an area of land declared by an Order of the Governor to be a drainage area for the purpose of section 65 of the Act; or
[Note: For the purpose of the Wastewater Overflow Standard, a Multiple Occupancy Property may be considered a Property.]
 - iii) within the Rouse Hill Stormwater Catchment Area

Hunter Water²²⁷

Means real property within the Area of Operations, excluding Public Property, which is owned by a person (whether individually or otherwise) and, for the avoidance of any doubt, includes the following: a) an individual dwelling or individual premises used for any purpose, which forms part of the land; and b) a lot in a strata plan that is registered under the Strata Schemes Development Act 2015 (NSW).

WICA

Means any single real property which is connected to the water utility's drinking water supply system, to the water utility's sewerage system or to the water utility's non-potable (or recycled) water system and a charge for the services provided by one or more of those systems is levied on the owner of the real property;

Biosolids means the stabilised organic solids derived from sewage treatment processes.

Total Mass means the quantity in dry tonnes of biosolids captured and removed from sewage treatment plants.

Solid Waste is any solid substance that is discarded, rejected, unwanted, in surplus or abandoned. It does not include gas, energy, water, wastewater, biosolids diverted for beneficial reuse and reuse water.

²²⁶ Sydney Water Operating Licence 2015-2020 12.1 Definitions

²²⁷ Hunter Water Operating Licence 2017-2022 7.1 Definitions

Recycled means the conversion of waste materials into a usable product or resource. The process of recycling includes: the diversion or extraction of the material from the waste stream; the collection and sorting of recyclable materials; and the processing of those materials into products which can then be used (or sold for use). Materials are deemed to have been recycled when they are transferred to a facility for processing or manufacturing (eg, a recycling centre). Energy recovery (or waste-to-energy) is another form of recycling, which involves recovery of latent energy rather than a physical resource.

Re-use is the application of a diverted waste product to a subsequent use which may be the same or different from the original purpose and which extends the life of the product, but without further manufacture. Beneficial re-use is generally taken to mean that the form of re-use delivers some benefit (economic, social or environmental).

Note: Native vegetation indicators will be an estimate based on the production of the water utility's Environmental Management Plans and documents, or triggered by Flora and Fauna studies. It will only be reported above 0.01 Hectares. The definition of Native Vegetation will be derived from the Native Vegetation Act 2003 (NV Act). The Objects of the NV Act provide guidance as to what needs to be considered when assessing whether an area will be included in the vegetation loss figures. Note: Indicator will include works undertaken by or on behalf of the water utility on land that is not owned by the water utility, such as offsetting impacts to one area by rehabilitation or replanting at another site. This is to be reported on a financial year basis only. Planned rehabilitation or clearing works are not to be included until such time as the works are completed.

Uncontrolled wastewater overflow

Sydney Water²²⁸

Is a sewage overflow that is not a Controlled Wastewater Overflow and will be taken to have commenced on the earlier of the following:

- a) when a person notifies Sydney Water that a Property (which may include a Public Property) has experienced a sewage overflow which Sydney Water confirms is an uncontrolled wastewater overflow; and
- b) when Sydney Water's systems (which may include modelling undertaken by Sydney Water) identify that a Property (which may include a Public Property) has experienced an uncontrolled sewage overflow.

Hunter Water²²⁹

Means an overflow of Wastewater that is not a Controlled Wastewater Overflow and will be taken to have commenced on the earlier of the following:

- a) when a person notifies Hunter Water that a Property has experienced a Wastewater overflow which Hunter Water confirms is an Uncontrolled Wastewater Overflow; and
- b) when Hunter Water's systems identify that a Property has experienced an Uncontrolled Wastewater Overflow

²²⁸ Sydney Water Operating Licence 2015-2020 12.1 Definitions

²²⁹ Hunter Water Operating Licence 2017-2022 7.1 Definitions

WICA

Refer to the WIC Act utility's current Infrastructure Operating Plan for a definition of when a property is taken to have experienced an Uncontrolled Wastewater Overflow.

Water Pressure Failure

Sydney Water

Means a situation in which a Property experiences a pressure of less than 15 metres head of pressure for a continuous period of 15 minutes or more measured at the point of connection of the Property to Sydney Water's Drinking Water supply system, usually at the point of connection known as the 'main tap'.²³⁰ A Property is taken to have experienced a Water Pressure Failure:²³¹

- a) when a person notifies Sydney Water that the Property has experienced a Water Pressure Failure and Sydney Water confirms that the Property has experienced a Water Pressure Failure; or
- b) when Sydney Water identifies that the Property has experienced a Water Pressure Failure (including through its data collection systems and hydraulic analysis).

Despite above, a Property will not be taken to have experienced a Water Pressure Failure if that Water Pressure Failure occurred only because of:

- a) water usage in the case of a fire or other abnormal demand; or
- b) a short term or temporary operational problem (such as a main break) which is remedied within Four days of its commencement.

Hunter Water²³²

Means a situation in which a Property experiences water pressure of less than 20 metres head for a continuous period of 30 minutes or more measured at the point of connection of the Property to the Water Supply System (usually at the point of connection known as the 'main tap'), but does not include a situation in which the Property experiences low water pressure on a day when peak day demand exceeds 370 megalitres per day.

For the purpose of this indicator:²³³

- a) where connected properties are in multiple occupancy, each separately billed or occupied part shall be counted as one connected property. Connected properties currently unoccupied shall be included.
- b) a Property is taken to have experienced a water pressure failure at each of the following times:
 - i) when a person notifies the water utility that the Property has experienced a water pressure failure and that water pressure failure is confirmed by the water utility; or

²³⁰ Sydney Water Operating Licence 2015-2020 12.1 Definitions

²³¹ Sydney Water Operating Licence 2015-2020 4.2.1 Water Pressure Standard

²³² Hunter Water Operating Licence 2017-2022 7.1 Definitions

²³³ Existing indicator I 5 in Hunter Water Reporting Manual

- ii) when the water utility's systems identifies that the Property has experienced a water pressure failure; and
- c) a property will not be taken to have experienced a water pressure failure if that water pressure failure occurred only because of:
 - i) a planned water interruption or unplanned water interruption;
 - ii) water usage by authorised fire authorities in the case of a fire; or
 - iii) a short term or temporary operational problem (such as a main break) which is remedied within 4 days of its occurrence.

WICA utilities

Refer to the WICA utility's current Infrastructure Operating Plan for a definition of when a property is taken to have experienced Water Pressure Failure if it breaches the System Performance Standard for water pressure.

For the purpose of this indicator:

A Property is taken to have experienced a Water Pressure Failure:

- a) when a person notifies the water utility that the Property has experienced a Water Pressure Failure and the water utility confirms that the Property has experienced a Water Pressure Failure; or
- b) when the water utility identifies that the Property has experienced a Water Pressure Failure (including through its data collection systems and hydraulic analysis).

Despite above, a Property will not be taken to have experienced a Water Pressure Failure if that Water Pressure Failure occurred only because of:

- a) water usage in the case of a fire or other abnormal demand; or
- b) a short term or temporary operational problem (such as a main break) which is remedied within Four days of its commencement.

Unplanned Water Interruption

Means an event which:²³⁴

- a) commences when the supply of Drinking Water at the first cold water tap of a Property is interrupted without the Customer or Consumer having received prior notice of that interruption from Sydney Water; and
- b) ceases when a normal supply of Drinking Water is restored to the Property referred to in paragraph (a).

Renewable energy is electricity sourced from non-fossil fuel sources.

Water Main Breaks/Leaks refers to the trunk and reticulation components of Sydney Water's drinking water supply system between water treatment plants and a property. **Response time** is measured from when Sydney Water receives notification of a break or leak to the time Sydney Water stops the loss of water.

²³⁴ Sydney Water Operating Licence 2015-2020 12.1 Definitions and Hunter Water Operating Licence 2017-2022 7.1 Definitions

Priority level 6 A high flow of water causing an immediate danger to people, property or the environment. A leak that:

- a) is to result or results in a major loss of water
- b) is to cause or causes damage to property, or
- c) c) is to pose or poses immediate danger to the environment or people.

An example of a Priority 6 leak is water gushing or spurting from the ground and resulting in a major loss of water.

Priority level 5 A moderate flow of water representing a risk to people, property or the environment. A leak that:

- a) is to result or results in the moderate loss of water
- b) is to cause or causes service disruption to a customer or customers
- c) is to threaten or may threaten damage to property, or d) is to pose or poses a potential risk to the environment or people.

An example of a Priority 5 leak is a leak that results in a moderate loss of water. A leak classified as a Priority 5 would be running at a rate greater than the full flow of a garden tap.

Priority level 4 A low flow of water that does not represent a risk to people, property or the environment. A leak that

- a) is to result or results in a minor loss of water
- b) is to cause or causes a limited service disruption to: – customers, ie lower pressure than normal or a reported – minor leak on a roadway, and
- c) is not a danger to the environment or people.

An example of a Priority 4 leak is a leak which results in a minor loss of water. A leak classified as a Priority 4 would be running at a rate less than the full flow of a garden tap. [Note: Priority level 3 breaks are those defined as creating a visible damp or wet area with no apparent flow of water. Leaks at or below Priority 3 level are not included in the above definition.]

B IPART licence data – definitions

Table B.1 Licence data - definitions

Data number	Licence data	Definition
L1 ^a	Total volume of water supplied (ML)	The total volume of drinking and non-potable water supplied, including for environmental flows and bulk water exports in the financial year.
L2 ^b	Total volume of non-potable water supplied (ML)	The total volume of non-potable water supplied by the utility during the reporting year, in megalitres (ML).
L3 ^c	Total volume of wastewater collected (ML)	The total volume of wastewater collected by the utility during the reporting year, in megalitres (ML).
L4 ^d	Connected residential properties – water supply (000s)	The number of connected residential properties receiving water supply services from the utility during the reporting year (properties 000s).
L5 ^e	Connected non-residential properties – water supply (000s)	The number of connected non-residential properties receiving water supply services from the utility during the reporting year (properties 000s).
L6	Connected residential properties – wastewater (000s)	The number of connected residential properties receiving wastewater services from the utility during the reporting year (properties 000s).
L7	Connected non-residential properties – wastewater (000s)	The number of connected non-residential properties receiving wastewater services from the utility during the reporting year (properties 000s).
L8 ^f	Connected residential properties – recycled water supply (000s)	The number of connected residential properties receiving recycled water services from the utility during the reporting year (properties 000s).
L9 ^g	Connected non-residential properties – recycled water supply (000s)	The number of connected non-residential properties receiving recycled water services from the utility during the reporting year (properties 000s).

^a Existing indicator WICA#18 in NOL and RSL Reporting Manuals

^b NWI indicator W26

^c NWI indicator W18

^d NWI indicator C2

^e NWI indicator C3

^f NWI indicator C6

^g NWI indicator C7

Licence data definitions

Property: as per performance indicators definitions.

Connected residential properties include:²³⁵

- ▼ each apartment in a high-rise apartment complex
- ▼ each property in a department of housing unit complex
- ▼ each individual stand-alone residential property within a retirement village.

Connected non-residential properties include:²³⁶

- ▼ commercial and municipal properties
- ▼ shopping centres
- ▼ schools, universities, and technical colleges (TAFEs),
- ▼ hospitals and nursing homes
- ▼ shopping centres with separate connections for each shop are to be counted as one non-residential connection.

²³⁵ Supporting notes to NWI indicator C2, National urban water utility performance reporting framework: indicators and definitions handbook, January 2018

²³⁶ Supporting notes to NWI indicator C3, *ibid*