Australian Government
National Water Commission

2013 - 14 National Performance Framework:

Urban performance reporting indicators and definitions handbook

ISBN: 978-1-922136-20-6

National Performance Framework: 2013–14 urban performance reporting indicators and definitions handbook (online copy).

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Date of publication: July 2014

Purpose of this handbook

This Handbook provides detailed definitions for all indicators included in the National Performance Report to ensure consistency in reporting across jurisdictions.

For example:

Reported indicators	Indicator number	Auditable
Water main breaks (No. per 100 km of water main)	A8	Yes

Eligibility

Water utilities with more than 10 000 total water connected properties or 10 000 sewerage connected properties (except connections for rural water) are expected to participate in the urban National Performance Report. For bulk water utilities, it is those that provide bulk water to water utilities with more than 10,000 connected properties.

Reporting period

The reporting period is the financial year: 1 July 2013 to 30 June 2014.

Revision history

This document is revised every year to ensure definitions, calculations and examples of indicators are consistently interpreted and applied.

For consistency, each release of a national performance report document is accompanied by a set of indicator definitions for that particular year. These definitions provide the basis for water utilities to supply data in that time period.

This document is based on the 2012-13 National Performance Reporting Framework with revisions to June 2014.

Key interchangeable terms

Due to differing terms used in legislation in various jurisdictions, the following are considered interchangeable terms:

1. ‘wastewater’ and ‘sewage’ – the term ‘sewage’ has been used throughout the document
2. connected properties and customers
3. sewer blockages and sewer chokes
4. sewer spills and sewage overflows
5. treatment plants and treatment works
6. supply and consumption
7. property service and mains to meter connections.

Auditing requirements

The *National Performance Framework 2013-14 Auditing Requirements* and *Audit Report Template* sets out the requirements which a water utility must meet in order to report its results in the *National Performance Report 2013 -14*.

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Foreword

This data handbook contains performance indicators and definitions that are required as part of the commitment under the National Water Initiative (NWI) to report independently, publicly, and on an annual basis benchmarking of pricing and service quality for metropolitan, non-metropolitan and rural water delivery agencies.

WSAA New Zealand members can voluntarily participate in this report.

The performance indicators provided in this data handbook are grouped under the following headings:

1. Water resources
2. Asset data
3. Customers
4. Environment
5. Public health
6. Finance
7. Pricing

The performance indicators and definitions provided in this handbook are a collaborative effort between the National Water Commission, WSAA, the NWI Parties and the Bureau of Meteorology (BOM). Water utilities have also been consulted in the process.

Guidelines for reporting

The following principles apply for the *National Performance Report 2013–14*.

Changing historical data

- Under no circumstance should a utility change its historical data.
- Where a definition has changed materially, the Part A comparative analysis will either provide commentary that the time series is not comparable or may exclude the time series altogether. The National Performance Report (NPR) Technical Group will assess materiality for a definition change and determine whether the time series will be included in the comparative analysis.
- Where a utility notices an obvious error or has identified data quality issues, this should be raised in a separate document along with its submission.

Changing data after submission deadline

- The submission date for data (i.e. when the Data Coordinator pushes the button in the database to say 'ready for review') is the last date where data can be changed. Data can be changed after this time if there is an error during data handling in the database or through a submission to the National Water Commission.
- The deadline for submission of data is expected to be 31 October 2014. The exact date will be notified to utilities at the earliest opportunity.
- Data that are found to be erroneous after the submission date will be subsequently reported as erratum.
- Changes allowed in the 'review phase' of the National Performance Report (i.e. when the draft of Part A is circulated) are:
  - changes to analysis / text
  - data errors that occurred in transmission from the database to the drafts.

When is an audit required in a non-auditing year?

- For non-auditing years, an auditable indicator is required to be audited only where the utility has not reported the indicator in previous years.
- When a water utility first reports it must audit all auditable indicators for them to be published.

Treatment of data gaps in time series

- All time series information should be continuous – there should be no data gaps.
- If a utility is unable to report for any given year, they are to delete all the results prior to the year of the missing value (e.g. if the missing value occurs in 2013–14, then 2005-06, 2006-07, 2008–09, 2009-10, 2010–11, 2011-12 and 2012-13 results are deleted).
- In exceptional circumstances, a data gap may be allowed by the Data Coordinator. Sufficient justification must accompany the data submission. A footnote will then be included in the National Performance Report for the data gap.

Footnotes

A footnote (of no more than 200 characters) should be used for a result in the report in the following circumstances:

- when a result has varied significantly from the previous year
- where the utility knows that an issue is significantly affecting the result.

Operation of the Issues Register

The National Performance Report Issues Register is the primary means of raising and resolving issues throughout the process of utility data collection (after the Definitions Handbook has been finalised).

- Any entity (state and territory Data Coordinators and utilities) wishing to raise an issue must complete the Issues Register template (see example below). For utilities this is then forwarded to their state Data Coordinator, which is then passed on to the NPR Technical Group.
- Issues are then resolved through the NPR Technical Group.
- Any issues that require a change to the definition will be addressed in the next reporting year (i.e. definitions will remain unchanged and the Handbook will not be updated once it is finalised for 2013-14).
- Any issues that are a matter of clarification or interpretation (not definition change) will be resolved by the NPR Technical Group, and a 'list of clarifications' will be distributed to utilities by email through the state Data Coordinator.

Template for raising issues

Indicator number and title	e.g. W8 – Volume of water supplied – residential
Key contact	e.g. John Citizen, Metropolis City Water
Date issue raised	e.g. 2 August 2014
Issue description	e.g. Does this indicator include recycled water? The definition is not clear.
Recommendation (if any)	e.g. The indicator should include recycled water as it is a legitimate source of water for residential purposes.
Resolution (NPR Technical Group to complete)	e.g. The Technical Group supports the recommendation.

Definitions – water types

Potable water is water that is intended for use as a drinking water supply. Potable water should materially meet the Australian Drinking Water Guidelines 2011 (ADWG) or equivalent.

Non-potable water is water that is not intended for use as a drinking water supply.

Raw water is water that is untreated water.

Urban stormwater is water within the urban stormwater drainage system. Urban stormwater may be received from (W28.2) or supplied to (W28.1) other infrastructure operators. It may also be supplied for managed aquifer recharge (W28.3).

Recycled water is treated sewage effluent, including sewer mining and it may be potable or non-potable. It excludes any urban stormwater use.

Urban stormwater used (W28.4) is treated urban stormwater used by the utility for urban water supply and it may be potable or non-potable.

Desalination water is the volume of water sourced from desalination processes and is not confined to marine desalination.

Note

The National Performance Framework (NPF) data set has been extended by an additional 30 performance indicators to address the Bureau of Meteorology (BOM) requirements for Category 7 data in accordance with the Water Amendment Regulations 2012 (No. 1) for Category 7.[1] This has aligned the definitions in this Handbook and those in the regulations.

Figure 1 on page 39 shows the interrelationship between the NPF water performance indicators. Table 1 on page 20 lists all 57 NPF water performance indicators. Table 2 on page 22 provides equations for the NPF water performance indicators and Table 3 on page 23 highlights the inclusion and exclusions for the key indicators. Example calculations are provided on page 10 and pages 14 to 18.

[1] The Water Amendment Regulations 2012 (No. 1) are available at http://www.comlaw.gov.au/Details/F2012L01015/Explanatory%20Statement/Text. BOM's 51 Category 7 indicators and their interrelationship with the National Performance Framework indicators are shown on pages 10 to 17 of *BOM Bulletin* 8, April 2012, which is available at http://reg.bom.gov.au/water/about/publications/document/Water_Information_Bulletin_Issue_8_April_2012.pdf.

Water Resources

Sources of water

Reported indicators	Indicator number	Auditable
Volume of water sourced from surface water (ML)	W1	No (audit required if not reporting total W7)
Volume of water sourced from groundwater (ML)	W2	No (audit required if not reporting total W7)
Volume of water sourced from desalination (ML)	W3	No (audit required if not reporting total W7)
Volume of water sourced from desalination of marine water (ML)	W3.1	No (audit required if not reporting total W7)
Volume of water sourced from desalination of groundwater (ML)	W3.2	No (audit required if not reporting total W7)
Volume of water sourced from desalination of surface water such as dams, rivers or irrigation channels (ML)	W3.3	No (audit required if not reporting total W7)
Volume of water sourced from recycling (ML)	W4	No (audit required if not reporting total W7)
Volume of water received from bulk supplier (ML)	W5	No (audit required if not reporting total W7)
Volume of potable water received from bulk supplier (ML)	W5.1	No (audit required if not reporting total W7)
Volume of non-potable water received from bulk supplier (ML)	W5.2	No (audit required if not reporting total W7)
Volume of bulk recycled water purchased (ML)	W6	No (audit required if not reporting total W7)
Total sourced water (ML)	W7	Yes

Purpose

To report the volumes of water abstracted from various water sources to supply the utility's customers in the reporting period. It may also provide an indication of the diversity of supply sources, potential environmental issues, water treatment issues and a partial explanation for the relative operating and total cost of water of the utility compared to other utilities (e.g. a utility supplied mostly by desalination may have a higher cost structure than one relying mostly on gravity-fed water from dams).

Definitions

'Potable water' is intended for use as a drinking water supply and should materially meet the ADWG or equivalent (page 8).

W1 – Volume of water sourced from surface water

The total volume of water (potable and non-potable) abstracted by the utility from surface water sources such as dams, rivers or irrigation channels during the reporting period.

Includes surface water desalination (W3.3).

W2 – Volume of water sourced from groundwater

The total volume of water (potable and non-potable) abstracted from groundwater during the reporting period.

To avoid double counting, this excludes volumes sourced from groundwater supplies that have been artificially recharged using sources of water that have been counted elsewhere, namely:

- rivers
- desalination plants
- sewage treatment plants (recycling).

Other forms of artificial recharge (stormwater) not counted elsewhere are to be included.

Includes groundwater desalination (W3.2).

Excludes recycled managed aquifer recharge (W25.1).

W3 – Volume of water sourced from desalination

The total volume of water (potable and non-potable) sourced from desalination plants during the reporting period. Includes desalination from marine, groundwater and surface water sources.

W3 = W3.1 + W3.2 + W3.3

W3.1 –Volume of water sourced from desalination of marine water

The total volume of water (potable and non-potable) sourced from desalination of marine water.

W3.2 – Volume of water sourced from desalination of groundwater

The total volume of water (potable and non-potable) sourced from desalination of groundwater.

W3.3 – Volume of water sourced from desalination of surface water such as dams, rivers or irrigation channels

The total volume of water (potable and non-potable) sourced from desalination of surface water from sources such as dams, rivers or irrigation channels during the reporting period.

W4 – Volume of water sourced from recycling

The total volume of recycled water sourced by the water utility during the reporting period, including recycled water from direct or indirect reuse.

This should be the sum of residential (W20), industrial, commercial, municipal irrigation (W21) and on-site substitution (W24 where it replaces potable water). Water for agribusiness should also be included (W22) where potable water (or untreated water in storage) would normally be used.

Includes water discharged to a waterway for environmental purposes as prescribed by the environmental regulator (W23 - where it replaces potable water). Excludes managed aquifer recharge (W25.1).

Excludes urban stormwater use.

Exclude from W4 if otherwise wouldn't have to bring water in.

Note: This differs from Indicator W26 – Total recycled water supplied (ML) where any agricultural and on-site uses are counted. Only agricultural and on-site uses that meet the above qualifications are included in Indicator W4. W4 excludes urban stormwater used (W28.4) but it is otherwise based on the existing definition for W4.

W5 – Volume of water received from bulk supplier

The total volume of water (potable and non-potable) received from another utility or entity outside this utility's geographic area of responsibility. Includes water from recycled sewage and urban stormwater received. The volume of water will include water that is subsequently exported to another utility.

W5 = W5.1 + W5.2 + W6 + W28.2

W5.1 – Volume of potable water received from bulk supplier

Volume of potable water received from other infrastructure operators, excluding water from bulk recycled sewage (W6) and from urban stormwater (W28.2). This is a component of W5.

W5.2 – Volume of non-potable water received from bulk supplier

Volume of non-potable water received from other infrastructure operators, excluding water from bulk recycled sewage (W6) and from urban stormwater (W28.2). This is a component of W5.

W6 – Volume of bulk recycled water purchased

The total volume of recycled water (potable and non-potable) received from another utility or another entity outside this utility's geographic area of responsibility. This is a component of W5. Excludes urban stormwater received (W28.2).

W7 – Total sourced water

This is the sum of the volumes reported above as supplied from surface water (dams and river extraction – W1), groundwater (W2), marine desalination (W3.1), recycling (W4), bulk supplier (W5) and urban stormwater used (W28.4). Excludes managed aquifer recharge from recycled water (W25.1) and from urban stormwater (W28.3).

W7 = W1 + W2 + W3.1 + W4 + W5 + W28.4.

Units

megalitres (ML)

Uses of water supplied

Reported indicators	Indicator number	Auditable
Volume of water supplied – Residential (ML)	W8	Yes
Volume of potable water supplied – Residential (ML)	W8.1	No (audit required if not reporting total W8)
Volume of non-potable water supplied – Residential (ML)	W8.2	No (audit required if not reporting total W8)
Volume of water supplied – Commercial, municipal and industrial (ML)	W9	No (audit required if not reporting total W11)
Volume of potable water supplied – Commercial, municipal and industrial (ML)	W9.1	No (audit required if not reporting total potable)
Volume of non-potable water supplied – Commercial, municipal and industrial (ML)	W9.2	No (audit required if not reporting total non-potable)
Volume of water supplied – Other (ML)	W10	No (audit required if not reporting total W11)

Volume of Non-revenue water (ML)	W10.1	No (audit required if not reporting total non-potable)
Volume of non-potable water supplied – Other (ML)	W10.2	No (audit required if not reporting total non-potable)
Volume of water supplied – Managed aquifer recharge (ML)	W10.3	No (audit required if not reporting total W11)
Volume of water supplied – Agricultural irrigation (ML)	W10.4	No (audit required if not reporting total W11)
Total urban water supplied (ML)	W11	Yes
Total urban potable water supplied (ML)	W11.1	Yes
Total urban non-potable water supplied (ML)	W11.2	Yes
Total volume of potable water produced (ML)	W11.3	Yes (derived audit)
Average annual residential water supplied (kL/property)	W12	Yes (derived audit)
Volume of water supplied – Environmental flows (ML)	W13	No
Volume of bulk water exports (ML)	W14	Yes
Volume of potable bulk water exports (ML)	W14.1	No (audit required if not reporting total W14)
Volume of non-potable bulk water exports (ML)	W14.2	No (audit required if not reporting total W14)
Volume of bulk recycled water exports (ML)	W15	No (audit required if not reporting total W14)

Purpose

To report potable, non-potable and total urban water supplied (potable and non-potable) by the water utility from all water sources, including any recycled water and stormwater.

To report the average annual residential water supplied per property.

It may also be used to report the distribution of total water supplied and the water supplied per total property.

Definitions

W8 – Volume of water supplied – Residential

Total metered and estimated non-metered, potable and non-potable water supplied to residential properties for the reporting period. Any volumes that are estimated should be noted on the data records. Includes recycled water and urban stormwater use.

W8 = W8.1 + W8.2 + W20 + residential component of W28.4

W8.1 – Volume of potable water supplied – Residential

This is the potable component of W8, excluding recycled water and urban stormwater use.

W8.2 – Volume of non-potable water supplied – Residential

This is the non-potable component of W8, excluding recycled water and urban stormwater use.

W9 – Volume of water supplied – Commercial, municipal and industrial

Total metered and estimated non-metered, potable and non-potable water supplied to commercial, municipal and industrial properties for the reporting period (if some volumes are estimated, this should be noted on the data.) Includes recycled water and urban stormwater use.

W9 = W9.1 + W9.2 + W21 + commercial, municipal and industrial component of W28.4

W9.1 – Volume of potable water supplied – Commercial, municipal and industrial

This is the potable component of W9, excluding recycled water and urban stormwater use.

W9.2 – Volume of non-potable water supplied – Commercial, municipal and industrial

This is the non-potable component of W9, excluding recycled water and urban stormwater use.

W10 – Volume of water supplied – Other

Other components of water supplied, consisting of unbilled authorised consumption (fire-fighting, water treatment process water, flushing and other consumption due to operations), unauthorised consumption (from hydrants, fire services, etc.), customer metering errors (including under-registration) and real losses (leaks and overflows from service reservoirs, leaks and bursts from mains and services up to customer meters). Excludes agricultural irrigation and environmental water. Also excludes managed aquifer recharge (W10.3).

W10 = W10.1 + W10.2 +W25 - W25.1 + other component of W28.4

W10.1 – Volume of Non-revenue water

Volume of Non-revenue water is the potable water supplied, excluding residential, commercial, municipal and industrial water. This is the potable component of W10.

W10.2 – Volume of non-potable water supplied – Other

Volume of non-potable water supplied, excluding residential, commercial, municipal and industrial water. This is the non-potable component of W10.

W10.3 – Volume of water supplied – Managed aquifer recharge

Volume of non-potable water supplied to manage aquifer recharge, excluding recycled water and urban stormwater.

W10.4 – Volume of water supplied – Agricultural irrigation

Volume of non-potable water supplied to agricultural irrigation, excluding recycled water and urban stormwater.

W11 – Total urban water supplied

W11 = W8 + W9 + W10
W11 = W11.1 + W11.2 + (W20 +W21 + W25 – W25.1) + W28.4

The total metered volume of water (potable or non-potable) supplied to customers during the reporting period plus estimated non-metered water supplied. This comprises the sum of residential water supplied, commercial, municipal and industrial water supplied and other water supplied (includes estimated non-metered water supplied). Includes urban recycled water supplied (W20 +W21 + W25 – W25.1) and urban stormwater used. Excludes agricultural irrigation, environmental water and managed aquifer recharge (as noted for W10 above).

W11.1 – Total urban potable water supplied

W11.1 is the sum of the total volume of potable water supplied, excluding recycled water and urban stormwater use. This indicator refers to water supplied by a utility to its customers, and not exported to another utility or to others outside the area the utility is responsible for.

W11.1 = W8.1 + W9.1 + W10.1

W11.2 – Total urban non-potable water supplied

W11.2 is the sum of the total volume of non-potable water supplied, excluding recycled water and urban stormwater.
W11.2 = W8.2 + W9.2 + W10.2

W11.3 – Total volume of potable water produced

The total volume of potable water produced by the water utility, excluding recycled water and urban stormwater.

W12 – Average annual residential water supplied

W12 = W8/C2

W13 – Volume of water supplied – Environmental flows

Wholesale flow allocations to the environment, generally upstream of the master meter, for the reporting period as specified in the environmental flow management regime generally required by the relevant natural resource management agency. Accidental or unintentional releases should not be included unless they can be incorporated into the environmental flow management regime. Excludes recycled water (W23), managed aquifer recharge and urban stormwater use. Not a component of W10.

W14 – Volume of bulk water exports

The total volume of water (potable and non-potable) supplied to another utility or another entity outside this utility's geographic area of responsibility. Includes recycled water (W15) and urban stormwater supplied (W28.1). The volume of water will include water originated from another source (see example 1).

Note: where water is banked (ie. water is sourced but stored for future use), footnotes should describe the volume banked eg. 5,000 ML pumped for managed aquifer recharge or 10,000 ML pumped to offstream storage. The volume shown in the footnote should be the volume banked. Eg. if 30,000ML was pumped to offstream storage, 20,000ML of which was used to supply customers, the volume banked would be 10,000ML (30,000ML – 20,000ML).

W14 = W14.1 + W14.2 + W15 +W2 8.1

W14.1 – Volume of potable bulk water exports

This is the potable component of W14, excluding recycled water and urban stormwater.

W14.2 – Volume of non-potable bulk water exports

This is the non-potable component of W14, excluding recycled water and urban stormwater.

W15 – Volume of bulk recycled water exports

The total volume of recycled water supplied to another utility or another entity outside this utility's geographic area of responsibility. W15 is a component of W14.

Units

megalitres (ML)

kilolitres per property (kL/property)

Note

Environmental flows (W13) and bulk water exports (W14) are not included in the total urban water supplied calculation.

W12 – Average annual residential water supplied =
(W8 – Residential water supplied) / (C2 – Residential water connected properties)

Examples

1. Utility A Bulk supplier sells 100 ML water sourced from surface water to Utility B Retailer, who then treats the total volume to potable water standard. Utility B Retailer then sells 60 ML to Utility C Retailer, who in turn sells 20ML to Utility D Retailer.

   In this example, Utility A Bulk supplier would include 100 ML water as bulk water exports (W14.2 and W14) and would report this water as sourced from surface water (W1).

   Utility B Retailer would include 100 ML water as bulk of water purchased from a bulk supplier (W5.2 and W5) but would not report the water as sourced from surface water. Utility B would also report 60ML of potable water exports (W14.1 and W14) and 100ML of potable water produced (W11.3). The potable water supplied (W11.1) by Utility B is 40 ML, as this is the difference between the potable water produced of 100ML (W11.3) and the potable water exports of 60ML (W14.1).

   Utility C would report 60ML of potable water received from bulk supplier (W5.1 and W5) and 20ML of potable water exports (W14.1 and W14).

   Utility D would report 20ML of potable water received from bulk supplier (W5.1 and W5).

Sewage collected

Reported indicators	Indicator number	Auditable
Volume of sewage collected – Residential sewage, non-residential sewage and non-trade waste (ML)	W16	No (audit required if not reporting total)
Volume of sewage collected –Trade waste (ML)	W17	No (audit required if not reporting total)
Total sewage collected (ML)	W18	Yes
Volume of sewage supplied to other infrastructure operators (ML)	W18.1	No
Volume of sewage received from other infrastructure operators (ML)	W18.2	No
Volume of sewage taken from sewer mining (ML)	W18.3	No
Volume of sewage measured at inlet to treatment works (ML)	W18.4	No
Volume of treated sewage effluent (ML)	W18.5	Yes
Sewage collected per property (kL/property)	W19	Yes (derived audit)

Purpose

To provide an overview of the volume of sewage collected by the utility.

Definitions

W16 – Volume of sewage collected – Residential sewage, non-residential sewage and non-trade waste

Sewage received from the utility's residential, non-residential and non-trade waste customers. This also includes any volumes collected in the sewage system due to stormwater, illegal connection inflow and infiltration to the sewerage system. Residential (domestic) sewage is the waterborne waste derived from human origin such as faecal matter, urine and liquid household waste from water closet pans, sinks, baths, basins and similar fixtures designed for use in private dwellings. Refer also to W18.3.

W17 – Volume of sewage collected – Trade waste

Total volume of estimated and metered trade waste from the utility's customers that is collected and treated by the water utility or on behalf of the water utility. This includes any volumes of stormwater collected in the trade waste system. Trade waste (industrial waste) is the liquid waste generated from any industry, business, trade, or manufacturing process. It does not include domestic sewage. Refer also to W18.3.

W18 – Total sewage collected

Total volume of sewage collected by the utility, which is the sum of volumes reported for residential, non-residential and non-trade waste collected and trade waste collected.

W18 = W16 + W17

W18.1 – Volume of sewage supplied to other infrastructure operators

Total volume of sewage supplied to other infrastructure operators.

W18.2 – Volume of sewage received from other infrastructure operators

Total volume of sewage received from other infrastructure operators. Trade waste is included.

W18.3 – Volume of sewage taken from sewer mining

Any sewage taken from sewer mining does not affect the volumes collected by the utility in W16 and W17.

W18.4 – Volume of sewage measured at inlet to treatment works

Includes sewage taken from other infrastructure operators. Excludes sewage supplied to other infrastructure operators. Refer also to W18.3.

W18.4 = W16 +W17 – W18.1 + W18.2 – W18.3

W18.5 – Volume of treated sewage effluent

Measured as output from sewage treatment works. Includes volume of recycled water supplied on-site (W24).

Note: Residential and non-residential sewage and trade waste are defined in *The National Water Management Strategy Guidelines for Sewerage Systems 1994* or in state-based legislation.

Units

megalitres (ML)

kilolitres per property (kL/property)

Calculations

W19 – Sewage collected per property (kL per property) =
(W18 – Total sewage collected) / (C8 – Total sewerage connected properties)

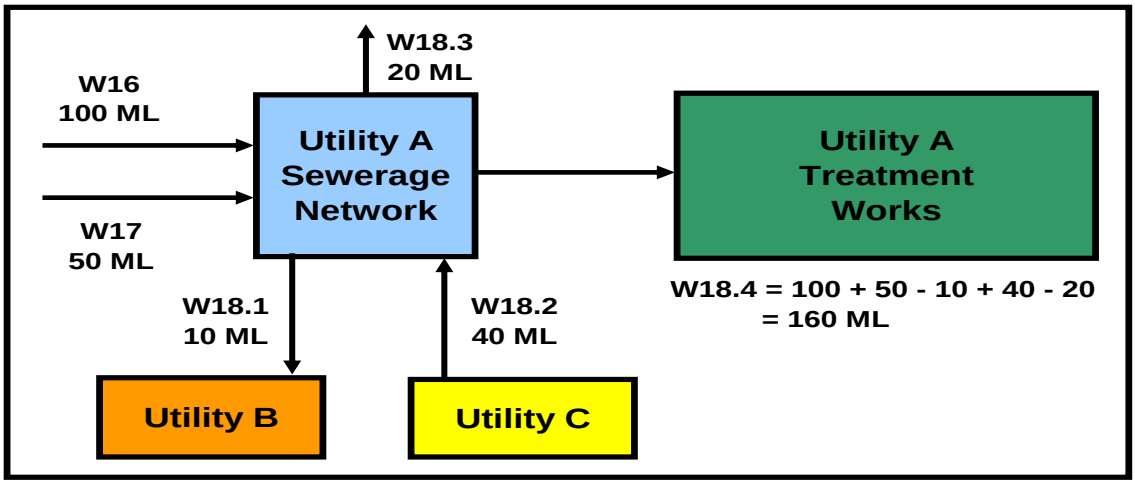
Example

Utility A collected 100 ML of sewage in its sewerage network from its residential, non-residential and non-trade waste customers (W16) and 50 ML from its trade waste customers (W17). These totals include volumes taken from sewer mining of 20 ML (W18.3).

Utility A supplied 10 ML of sewage to Utility B (W18.1) and also received 40 ML of sewage from Utility C (W18.2).

In this example, the total volume of sewage collected (W18) equals 150 ML. This comprises 100 ML of sewage collected from residential sewage, non-residential sewage and non-trade waste (W16) plus 50 ML of sewage collected from trade waste (W17).

For Utility A, the volume of sewage measured at the inlet to the treatment works (W18.4) equals 160 ML. This is calculated as 150 ML of total sewage collected (W18) plus 40 ML of sewage received from other infrastructure operators (W18.2) less 10 ML of sewage supplied to other infrastructure operators (W18.1) less 20 ML of sewage taken from sewer mining (W18.3).



Uses of recycled water and stormwater

Reported indicators	Indicator number	Auditable
Volume of recycled water supplied – Residential (ML)	W20	No (audit required if not reporting total W26)
Volume of recycled water supplied – Commercial, municipal and industrial (ML)	W21	No (audit required if not reporting total W26)
Volume of recycled water supplied – Agricultural (ML)	W22	No (audit required if not reporting total W26)
Volume of recycled water supplied – Environmental (ML)	W23	No (audit required if not reporting total W26)
Volume of recycled water supplied – On-site (ML)	W24	No (audit required if not reporting total W26)
Volume of recycled water supplied – Other (ML)	W25	No (audit required if not reporting total W26)
Volume of recycled water supplied – Managed aquifer recharge (ML)	W25.1	No (audit required if not reporting total W26)
Total recycled water supplied (ML)	W26	Yes
Recycled water (per cent of effluent recycled) (%)	W27	Yes (derived audit)
Total volume of urban stormwater discharges from a stormwater discharge point (ML)	W28	No
Volume of urban stormwater supplied to other infrastructure operators (ML)	W28.1	No
Volume of urban stormwater received from other infrastructure operators (ML)	W28.2	No
Volume of urban stormwater supplied for managed aquifer recharge (ML)	W28.3	No
Volume of urban stormwater used (ML)	W28.4	No
Total volume of treated and untreated sewage discharges from a sewage discharge point (ML)	W29	No

Purpose

To report the volume of recycled water supplied and urban stormwater used by the facility and received from or supplied to others. It may also be used to report the distribution of recycled water in the business.

Definitions

W20 – Volume of recycled water supplied – Residential

Total metered and estimated non-metered consumption of recycled water by residential properties for the reporting period. (Any volumes that are estimated should be noted on the data.) This would generally occur by a third-pipe system. Includes potable and non-potable water. Excludes urban stormwater. Includes volumes taken by sewer mining.

W21 – Volume of recycled water supplied – Commercial, municipal and industrial

Total metered and estimated non-metered consumption of recycled water by commercial, municipal and industrial properties for the reporting period. (Any volumes that are estimated should be noted on the data.). Includes recycled water supplied to golf courses, heavy industry and commercial areas. Includes potable and non-potable water. Excludes urban stormwater used. Includes volumes taken by sewer mining.

W22 – Volume of recycled water supplied – Agricultural

Total metered and estimated non-metered consumption of recycled water supplied for agricultural purposes (Any volumes are estimated should be noted on the data.) Includes irrigation of crops, recycled water supplied to forestry, agricultural products including livestock. Includes potable and non-potable water. Excludes urban stormwater used. Includes volumes taken by sewer mining.

W23 – Volume of recycled water supplied – Environmental

Recycled water discharged to a waterway for environmental purposes as prescribed by the environmental regulator. There must be a quality characteristic that is a net benefit to the environment as determined by the relevant regulator. (Any volumes that are estimated should be noted on the data.) Includes water discharged to rivers, the sea, natural wetlands. This may exclude non-harvestable forests and bushland if the regulator determines there is ‘disposal’ rather than ‘beneficial use’. Includes potable and non-potable water. Excludes urban stormwater used. Includes volumes taken by sewer mining.

W24 – Volume of recycled water supplied – On-site

Recycled water used on-site external to the treatment process. (Any volumes that are estimated should be noted on the data.) Total volumes of recycled water supplied within the period; this means that volumes must capture total water supplied in a continuous process irrespective of whether it is reused within a cycle. Includes potable and non-potable water. Excludes urban stormwater used. Includes volumes taken by sewer mining.

W25 – Volume of recycled water supplied – Other

Total metered and estimated non-metered recycled water supplied to other users. This would include, but may not be limited to, managed aquifer recharge, an estimate of water used for fire-fighting, mains flushing, losses due to customer meter errors, leakage or contractors and any other consumption due to operations. Includes volumes taken by sewer mining.

W25.1 – Volume of recycled water supplied – Managed aquifer recharge

Volume of recycled water supplied for managed aquifer recharge, excluding environmental water and urban stormwater. This is a component of W25 and is excluded from W11.

W26 – Total recycled water supplied

The sum of all treated effluent that is used by either the water utility itself, a business supplied by the water utility, or supplied through a third-pipe system for urban reuse. Evaporation is excluded. The parameters are the total sewage collected and the volume of effluent recycled (see examples 1, 2, 3 and 4).

Recycled water can be provided for on-site reuse, agriculture, irrigation, industry, potable or other use external to the treatment process.

Includes potable and non-potable water. Excludes urban stormwater.

Includes volumes taken by sewer mining.

W26 = W20 + W21 + W22 + W23 + W24 + W25

W27 – Recycled water (per cent (%) of effluent recycled)

The percentage of all treated effluent that is used by either the water utility itself, a business supplied by the water utility, or supplied through a third-pipe system for urban reuse. The total volume of treated effluent should exclude the volume of bulk recycled water purchased from another utility or business (W6) and treatment plant evaporation.

The parameters are the total sewage collected and the volume of effluent recycled (see examples 1, 2 and 3).

Recycled water can be provided for on-site reuse, agriculture, irrigation, industry, potable or other use external to the treatment process.

W27 = (W26 + W15 – W6) / W18.5*100

Note:

1. Recycled water supplied to clubs, sporting fields, or other businesses is included.
2. Environmental flows are included if they are approved by the relevant state and territory Environmental Protection Authority/Agency and substitute raw water abstraction or if they are recognised as an environmental flow by the regulator or other authority.
3. Sewer mining extracted from the utility's mains is an accepted form of recycling.

W28 – Total volume of urban stormwater discharges from a stormwater discharge point

When reporting urban stormwater discharge, please report all urban stormwater discharge, including discharge to:

1. surface water or the ocean within or adjacent to the organisation's geographic area of responsibility
2. an urban stormwater drainage system operated by another organisation.

This indicator includes all discharges of stormwater into watercourses and marine waterbodies and stormwater exported to another stormwater drainage system operator.

W28.1 – Volume of urban stormwater supplied to other infrastructure operators

Includes water for potable and for non-potable urban stormwater supplied to other infrastructure operators. Component of W14.

W28.2 – Volume of urban stormwater received from other infrastructure operators

Includes water for potable and for non-potable urban stormwater reuse received from other infrastructure operators. Component of W5.

W28.3 – Volume of urban stormwater supplied for managed aquifer recharge

W28.4 – Volume of urban stormwater used

Includes potable and non-potable urban stormwater used by the utility for urban water supply. Excludes W28.3.

W29 – Total volume of treated and untreated sewage discharges from a sewage discharge point

When reporting sewage discharge, please report all sewage discharge including:

1. discharges to surface water or the ocean within or adjacent to the organisation's geographic area of responsibility
2. discharges from sewage infrastructure operated by another organisation and discharged into your organisation's geographic area of responsibility
3. all other sewage discharge.

Sewage is waste from residential and non-residential properties collected or treated via sewerage infrastructure. It includes any volumes collected in the sewerage system due to stormwater, illegal connection overflow and infiltration to the system.

Units

megalitres (ML)

per cent (%)

Examples

Example 1: Total urban water supplied

A utility produces a total of 5000 ML of potable water (W11.3). Total recycled water supplied is nil (W26) and the volume of stormwater used is nil (W28.4). The utility supplies a total of 4000 ML potable water (W11.1), and the remainder (1000 ML) is mixed with 2000 ML from a non-potable supply to supply a total of 3000 ML of non-potable water (W11.2).

Thus: W11.3 = 5000 ML of potable water produced

W11.1 = 4000 ML of potable water supplied

W11.2 = 3000 ML of non-potable water supplied

W11 = W11.1 + W11.2 + (W20 +W21 + W25 – W25.1) + W28.4

= 4000 ML + 3000 ML + 0 ML + 0 ML

= 7000 ML

Example 2: Total urban water supplied

A utility produces a total of 5000 ML of potable water (W11.3). Residential recycled water supplied is 1000 ML (W20), and the volume of stormwater used is 500 ML (W28.4). The utility supplies a total of 4000 ML of potable water (W11.1), and the remainder (1000 ML) is mixed with 2000 ML from a non-potable supply to supply a total of 3000 ML of non-potable water (W11.2).

Thus: W11.3 = 5000 ML of potable water produced

W11.1 = 4000 ML of potable water supplied

W11.2 = 3000 ML of non-potable water supplied

W11 = W11.1 + W11.2 +(W20 +W21 + W25 – W25.1) + W28.4

= 4000 ML + 3000 ML + 1000 ML + 500 ML

= 8500 ML

Note:

Only residential (W20), commercial, municipal, industrial (W21) and other recycled water (W25) are included in urban water supplied (W11). Managed aquifer recharge (W25.1), which is a component of W25 is also excluded.

Example 3: Total urban water supplied

A utility produces a total of 5000 ML of potable water (W11.3). Total recycled water supplied is nil (W26) and the volume of stormwater used is nil (W28.4). The utility supplies a total of 5000 ML of potable water (W11.1) and nil non-potable water (W11.2).

Thus: W11.3 = 5000 ML of potable water produced

W11.1 = 5000 ML of potable water supplied

W11 = W11.1 + W11.2 + (W20 +W21 + W25 – W25.1) + W28.4

= 5000 ML + 0 ML + 0 ML + 0 ML

= 5000 ML

Example 4: percentage of effluent recycled

A utility collects 100 ML of sewage at the inlet to its treatment works (W18.4). 20 ML of recycled water is reused on-site (W24). 10 ML of recycled water is supplied for agricultural reuse (W22), and 50 ML is supplied for commercial, municipal and industrial reuse (W21). 30 ML of the treated effluent is not reused. The total volume of treated sewage effluent is 110 ML (W18.5), including on-site reuse. Bulk recycled water imports and exports are 0 ML.

Thus: W18.4 = 100 ML

W24 = 20 ML

W22 = 10 ML

W21 = 50 ML

Treated effluent not reused = 30 ML

W15 and W6 = 0 ML

W18.5 = W24 + W22 + W21 + treated effluent not used

= 20 ML + 10 ML + 50 ML + 30 ML

= 110 ML [2]

W26 = W21 + W22 + W24

= 50 ML + 10 ML + 20 ML

= 80 ML

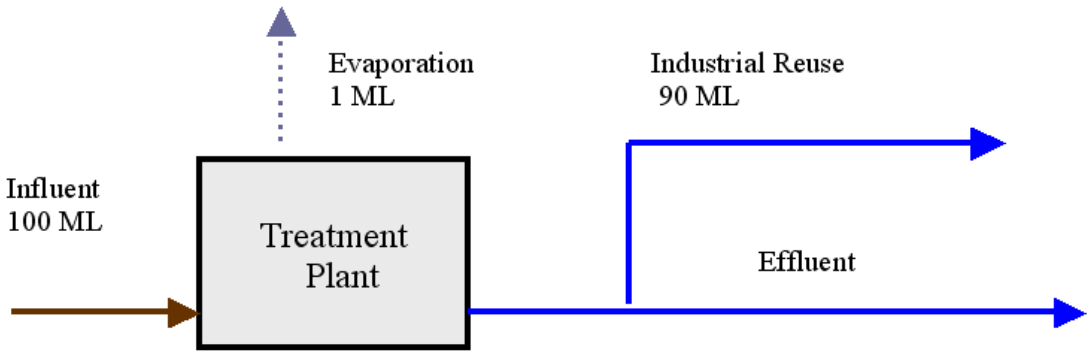
W27 = (W26 + W15 – W6) / W18.5 * 100

= (80 ML + 0ML – 0 ML) / 110 ML * 100

= 73%

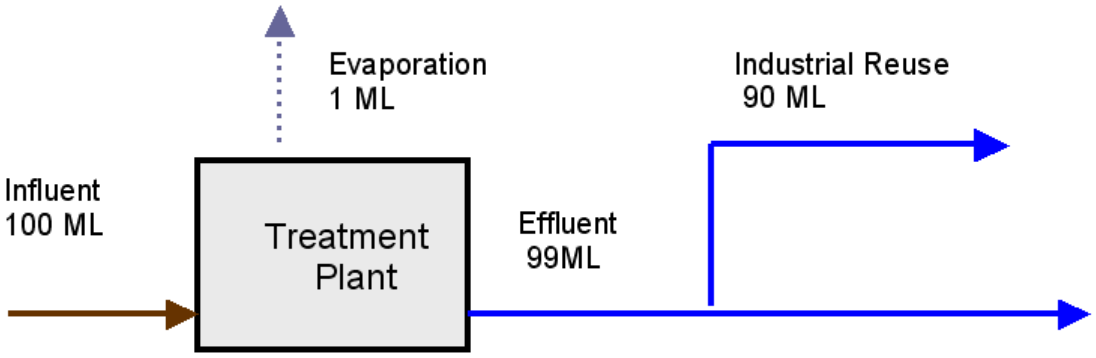
[2] The treated sewage effluent (W18.5) exceeds the volume of sewage collected (W18.4) in this example due to the non-consumptive, on-site reuse of recycled water (W20), e.g. for wash-down purposes or for a truck wash facility.

Example 5: Recycled water is supplied to industry for use. No on-site reuse



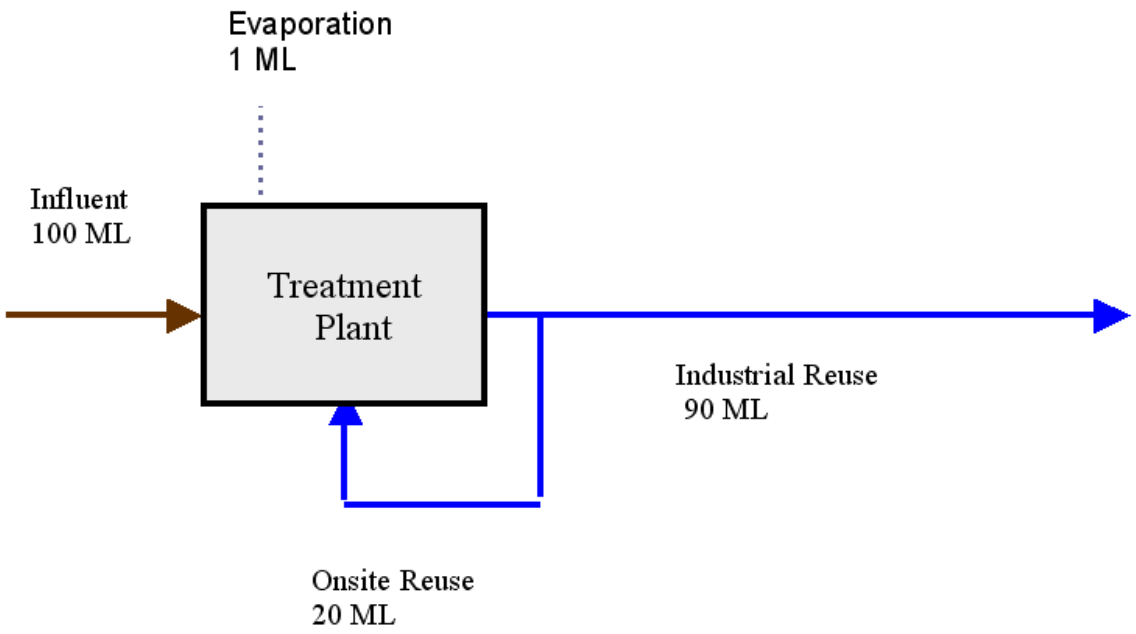
Per cent of water recycled = $\frac{\text{Volume of water recycled}}{\text{Volume of influent – net evaporation}} = \frac{90}{(100–1)} = 90.9\%$

Example 6: Recycled water is supplied to industry for use. No on-site reuse



Per cent of water recycled = $\frac{\text{Volume of water recycled}}{\text{Volume of effluent}} = \frac{90}{99} = 90.9\%$

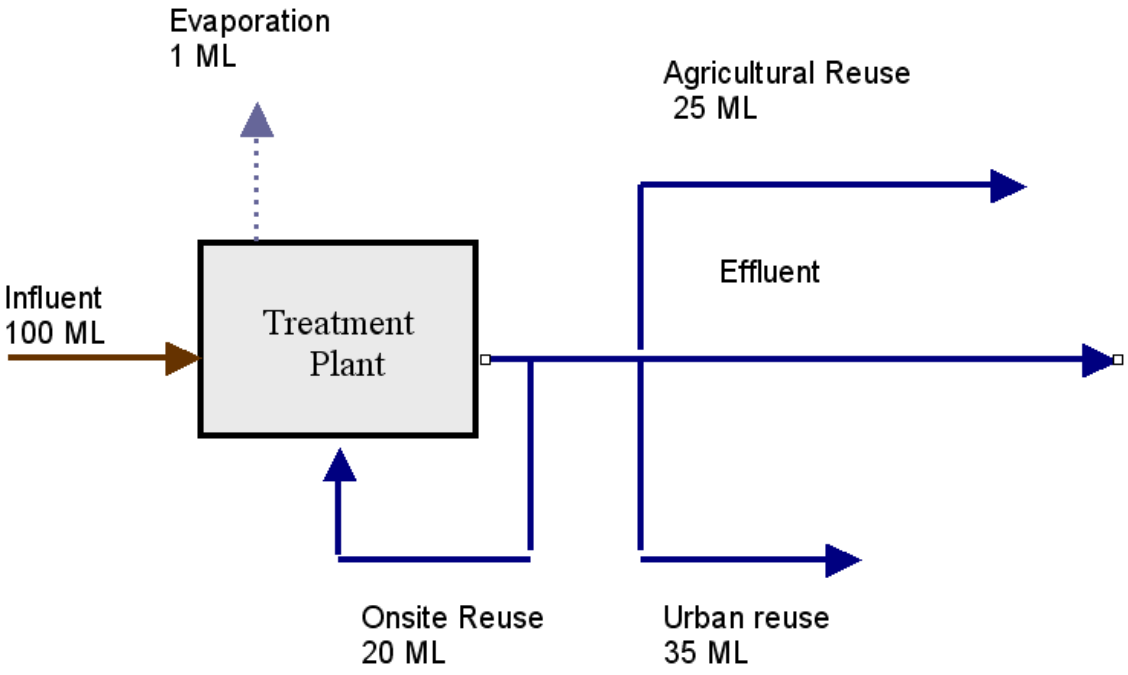
Example 7: Recycled water is used on site and supplied to industry for use



Per cent of water recycled = $\frac{\text{Vol of water recycled}}{\text{Vol of influent – net evaporation}} = \frac{(20+90)}{(100-1)} = 111.1\%$

Note: Where a percentage greater than 100% is achieved, please provide a footnote to explain the figure and help readers understand the process.

Example 8: Recycled water is used on-site, supplied for agricultural reuse and supplied for urban reuse through a third-pipe system to urban households for toilet flushing and garden watering and for irrigation of open space community facilities



$$\text{Per cent of water recycled} = \frac{\text{Vol of water recycled}}{\text{Vol of influent – net evaporation}} = \frac{(20+25+35)}{(100-1)} = 80.8\%$$

Example 9: A market garden

A market garden historically abstracts 40 ML of river water per year for irrigation purposes. In the reporting period, the water utility supplies 30 ML of recycled water to the market garden, which subsequently abstracts only 10 ML of river water. The volume of recycled water substituting raw water abstraction is 30 ML.

Example 10: Water supplied per residential property within a water utility's service area

Water supplied per residential property within a water utility's service area is 220 kL/year (W12). The water utility supplies 30 000 kL of recycled water to 1000 properties by a third-pipe system for toilet flushing and garden watering. Whilst the total water supplied per property remains unchanged, potable water consumption for properties also supplied with recycled water decreases by 30 kL per year (190 potable + 30 recycled = 220 kL residential water supplied per property). The 30 000 kL of recycled water supplied therefore is included as BOTH residential water supplied and total recycled water supplied.

Figure 1: Interrelationship between NPF Indicators

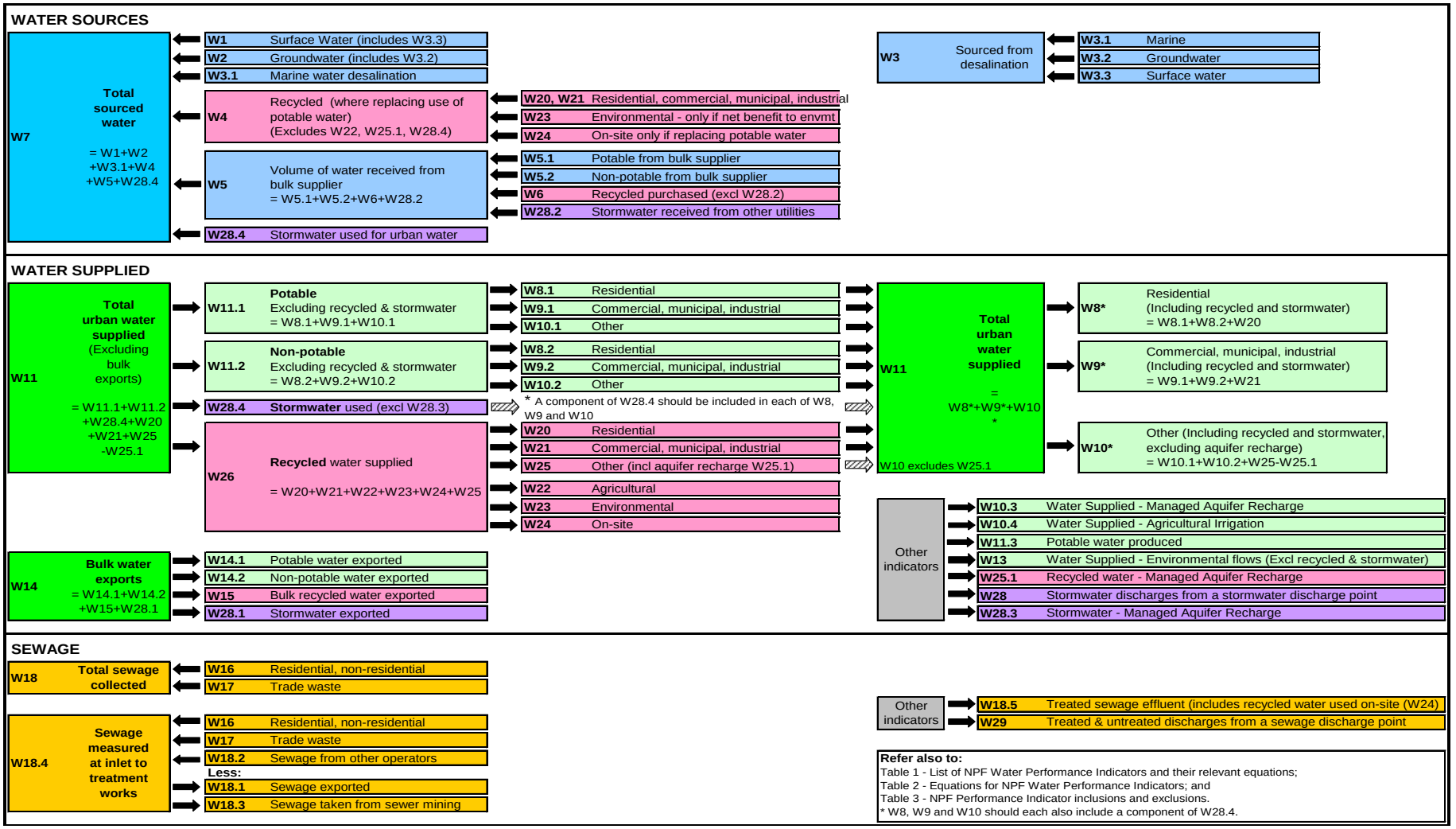


Table 1. List of NPF Water Performance indicators and their relevant equations

Indicator No.	Indicator	Relevant Equation
W1	Volume of water sourced from surface water (ML)	[3]
W2	Volume of water sourced from groundwater (ML)	[3]
W3	Volume of water sourced from desalination (ML)	[1]
W3.1	Volume of water sourced from marine desalination (ML)	[1], [3]
W3.2	Volume of water sourced from groundwater desalination (ML)	[1]
W3.3	Volume of water sourced from surface water desalination (ML)	[1]
W4	Volume of water sourced from recycling (ML)	[3]
W5	Volume of water received from bulk supplier (ML)	[2], [3]
W5.1	Volume of potable water received from bulk supplier (ML)	[2]
W5.2	Volume of non-potable water received from bulk supplier (ML)	[2]
W6	Volume of bulk recycled water received (ML)	[2], [13]
W7	Total sourced water (ML)	[3]
W8	Volume of water supplied – Residential (ML)	[3_A, 5]
W8.1	Volume of potable water supplied – Residential (ML)	[7]
W8.2	Volume of non-potable water supplied – Residential (ML)	[8]
W9	Volume of water supplied – Commercial, municipal and industrial (ML)	[3_B, 5]
W9.1	Volume of potable water supplied – Commercial, municipal and industrial (ML)	[7]
W9.2	Volume of non-potable water supplied – Commercial, municipal and industrial (ML)	[8]
W10	Volume of water supplied – Other (ML)	[4], [5]
W10.1	Volume of potable water supplied – Other (ML)	[4], [7]
W10.2	Volume of non-potable water supplied – Other (ML)	[4], [8]
W10.3	Volume of water supplied – Managed aquifer recharge (ML)	
W10.4	Volume of water supplied – Agricultural irrigation (ML)	
W11	Total urban water supplied (ML)	[5], [6]
W11.1	Total potable urban water supplied (ML)	[6], [7]
W11.2	Total non-potable urban water supplied (ML)	[6], [8]
W11.3	Total volume of potable water produced (ML)	
W12	Average annual residential water supplied (kL/property) (W8/C2)	
W13	Volume of water supplied – Environmental flows (ML)	
W14	Volume of bulk water exports (ML)	[9]
W14.1	Volume of potable bulk water exports (ML)	[9]

Indicator No.	Indicator	Relevant Equation
W14.2	Volume of non-potable bulk water exports (ML)	[9]
W15	Volume of bulk recycled water exports (ML)	[9], [13]
W16	Volume of sewage collected – Residential sewage, non-residential sewage & non-trade waste (ML)	[10], [11]
W17	Volume of sewage collected – Trade waste (ML)	[10], [11]
W18	Total sewage collected (ML)	[10]
W18.1	Volume of sewage supplied to other infrastructure operators (ML)	[11]
W18.2	Volume of sewage taken from other infrastructure operators (ML)	[11]
W18.3	Volume of sewage taken from sewer mining (ML)	[11]
W18.4	Volume of sewage measured at inlet to treatment works (ML)	[11]
W18.5	Volume of treated sewage effluent (ML)	[13]
W19	Sewage collected per property (kL/property) (W18/C8)	
W20	Volume of recycled water supplied – Residential (ML)	[12]
W21	Volume of recycled water supplied – Commercial, municipal and industrial (ML)	[12]
W22	Volume of recycled water supplied – Agricultural (ML)	[12]
W23	Volume of recycled water supplied – Environmental (ML)	[12]
W24	Volume of recycled water supplied – On-site (ML)	[12]
W25	Volume of recycled water supplied – Other (ML)	[12]
W25.1	Volume of recycled water supplied – Managed Aquifer Recharge (ML)	
W26	Total recycled water supplied (ML)	[6], [12], [13]
W27	Recycled water (per cent of effluent recycled) (%)	[13]
W28	Total volume of urban stormwater discharges from a stormwater discharge point (ML)	
W28.1	Volume of urban stormwater supplied to other infrastructure operators (ML)	[9]
W28.2	Volume of urban stormwater received from other infrastructure operators (ML)	[2]
W28.3	Volume of urban stormwater supplied for managed aquifer recharge (ML)	
W28.4	Volume of urban stormwater used (ML)	[3], [6]
W29	Total volume of treated and untreated sewage discharges from a sewage discharge point (ML)	

Table 2. Equations for National Performance Report water performance indicators

Indicator No.	Indicator	Equation
W3	Volume of water sourced from desalination	[1] W3 = W3.1 + W3.2 + W3.3
W5	Volume of water received from bulk supplier	[2] W5 = W5.1 + W5.2 + W6 + W28.2
W7	Total sourced water	[3] W7 = W1 + W2 + W3.1 + W4 + W5 + W28.4 *Excludes managed aquifer recharge from recycled water (W25.1)
W8	Volume of water supplied – Residential	[3_A] W8.1 + W8.2 + W20 + component of W28.4
W9	Volume of water supplied – Commercial, municipal and industrial	[3_B] W9.1 + W9.2 + W21+ component of W28.4
W10	Volume of water supplied –Other	[4] W10 = W10.1 + W10.2 +W25 – W25.1 + component of W W28.4 *Excludes managed aquifer recharge (W10.3), agricultural irrigation water and environmental water (W13)
W11	Total urban water supplied	[5] W11 = W8 + W9 + W10 [6] W11 = W11.1 + W11.2 + (W20 +W21 + W25 – W25.1) + W28.4
W11.1	Total urban potable water supplied	[7] W11.1 = W8.1 + W9.1 + W10.1 *Excludes recycled water (W26) and urban stormwater used (W28.4)
W11.2	Total urban non-potable water supplied	[8] W11.2 = W8.2 + W9.2 + W10.2 *Excludes recycled water (W26) and urban stormwater used (W28.4)
W14	Volume of bulk water exports	[9] W14 = W14.1 + W14.2 + W15 + W28.1
W18	Total sewage collected	[10] W18 = W16 + W17
W18.4	Sewage measured at inlet to treatment works	[11] W18.4 = W16 + W17 – W18.1 + W18.2 – W18.3
W26	Total recycled water supplied	[12] W26 = W20 + W21 + W22 + W23 + W24 + W25
W27	Recycled water (per cent of effluent recycled)	[13] W27 = (W26 + W15 – W6) / W18.5 * 100

Table 3. National Performance Report Performance indicator inclusions and exclusions

Indicator No.	Indicator	Inclusions / Exclusions
W1	Volume of water sourced from surface water	Includes surface water desalination (W3.3)
W2	Volume of water sourced from groundwater	Includes groundwater desalination (W3.2
W4	Volume of water sourced from recycling	Excludes urban stormwater used (W28.4) Includes environmental water (W23)
W5.1, W5.2	Volume of potable/non-potable water received from bulk supplier	Excludes urban stormwater received (W28.2) and recycled water (W6)
W6	Volume of bulk recycled water received	Component of W5 Excludes W28.2
W8.1, W8.2	Volume of potable/non-potable water supplied – Residential	Components of W8
W9.1, W9.2	Volume of potable/non-potable water supplied – Commercial, municipal and industrial	Components of W9
W11.3	Total volume of potable water produced	Component of W11 or W14
W13	Volume of water supplied – Environmental flow	Not a component of W18
W14.1, W14.2	Volume of potable/non-potable bulk water exports	Components of W14
W15	Volume of bulk recycled water exports	Component of W14
W18.5	Volume of treated sewage effluent	Component of W18
W20-W24	Volume of recycled water supplied	Excludes urban stormwater used Includes sewer mining volumes
W23	Volume of recycled water supplied – Environmental	Component of W4
W24	Volume of recycled water supplied – On-site	Component of W18.5
W25.1	Volume of recycled water supplied – Managed aquifer recharge	Component of W25
W26	Total recycled water supplied	Excludes urban stormwater used
W28.1	Volume of urban stormwater supplied to other infrastructure operators	Component of W14
W28.2	Volume of urban stormwater received from other infrastructure operators	Component of W5
W28.4	Volume of urban stormwater used	Excludes urban stormwater supplied for managed aquifer recharge (W28.3)

Asset Data

Water treatment plants

Reported indicators	Indicator number	Auditable
Number of water treatment plants providing full treatment (No.)	A1	No

Purpose

To report the level of treatment and complexity of treatment provided to bring water quality to an acceptable level for the customer. This indicator can also provide a partial explanation of a utility's relative operating cost and total cost – e.g. a utility providing full treatment for most of its supply would have a significantly higher cost structure than one providing lesser treatment such as disinfection only or 'further treatment'.

Definitions

Water treatment plant

An individual location receiving raw or partially treated water for treatment and ultimate delivery to customers. There may be more than one water treatment plant at an individual facility. Secondary or booster disinfection plants are not included, even if they have pH correction. Water treatment plants that provide disinfection and fluoridation only should be classified as disinfection only.

Full treatment

Generally, the water treatment plant is a substantial structure involving multiple treatment methods to achieve high quality water. The treatment plant would generally include processes that remove colour and turbidity as well as providing filtration and disinfection. In addition to the above, it may include processes for taste and odour reduction, softening, pH correction and the targeted removal of elements and compounds such as iron, manganese, nitrates and pesticides (see example 3).

Note:

1. Secondary disinfection plants should be excluded, even when they have pH correction as well.
2. Built, owned, operated, and transferred (BOOT) schemes should be included.

Examples

1. Typical disinfection-only processes include chlorination, chloramination, ozonation and ultraviolet treatment and should be excluded.
2. Typical further treatment processes include pH correction, softening and taste or odour reduction and should be excluded.
3. Typical full treatment processes – generally in addition to pH correction, taste reduction, and odour reduction – include coagulation, flocculation, sedimentation, filtration, disinfection, membrane filtration and reverse osmosis.

Other water assets

Reported indicators	Indicator number	Auditable
Length of water mains (km)	A2	Yes
Properties served per km of water main (No./km)	A3	Yes (derived audit)

Purpose

To report on the scale of the utility's water mains distribution and reticulation network and the spatial density of properties served. It also provides an indication of the ease or difficulty of delivery of water to customers and is used as a normaliser for a number of other indicators. It is independent of source assets to facilitate a comparison of water schemes.

Definitions

A2 – Length of water mains

The total length of water mains including; all transfer, distribution, reticulation mains and recycled water distribution and reticulation mains delivering water for urban areas. The length of water mains excludes:

- mains associated with property water service (mains to meter) connections
- mains delivering recycled water for non-urban uses, e.g. agriculture reuse
- disused pipe lengths should not be counted, even if they are maintained by the water utility for possible future use
- privately owned mains
- mains associated with source works, e.g. borefield mains
- mains and channels associated with sources that transfer raw water
- recycled water mains not supplying water direct to customers
- mains associated with facilities, e.g. mains within pump stations, storage facilities or treatment plants

Note:

1. Utilities that provide water services to a number of urban centres either within a region, local government, or statewide and are reporting the performance of these urban centres as part of the national performance framework either separately or aggregated must also report length of water mains used in providing the services to those urban centres. If the assets are used for multiple urban centres that are reported separately, then they must be apportioned in a manner that is consistent with their use. Apportionment in line with the volume of water supplied to the urban centre reported is an acceptable way to apportion the length of these mains.
2. The definition for length of water mains refers to 'delivery of potable water and non-potable water to customers'.
3. Ferrule is part of the service connection.

Units

kilometres (km)

number of connected properties per km.

Calculations

A3 – Properties served (per km of water main) =
(Total water connected properties) / Length of water mains)

Sewerage assets

Reported indicators	Indicator number	Auditable
Number of sewage treatment plants (No.)	A4	No
Length of sewerage mains and channels (km)	A5	Yes
Properties served per km of sewer main (No./km)	A6	Yes (derived audit)

Purpose

To report on the scale of the utility's sewerage network and the spatial density of properties served.

Definitions

A4 – Number of sewage treatment plants

The total number of sewage treatment plants providing sewage services to customers. This includes all primary, secondary and tertiary level treatment plants.

Note: BOOT schemes should be included.

A5 – Length of sewer mains and channels

The total length of mains and channels, including all trunk, pressure and reticulation mains. It does not include lengths associated with property connection sewers or conduits carrying treated effluent.

Note: Combined sewerage and stormwater mains are included.

Conduits and pipelines (e.g. feeding paddocks for grass and land filtration) downstream from the treatment plant should be excluded.

Units

kilometres (km)

properties per km

Calculations

A6 – Properties served per km of sewer main =
(Total sewerage connected properties / Length of sewer mains and channels)

Recycled water treatment plants

Reported indicators	Indicator number	Auditable
Number of recycled water treatment plants (No.)	A7	No

Purpose

This indicator provides information on the assets, level of additional treatment and complexity necessary to bring recycled water quality to an acceptable level for the customer. This indicator can also provide a partial explanation of relative operating and total costs.

Raw data collected

1. Number of recycled water treatment plants.

Definitions

A7 – Recycled water treatment plant

Any processes required in addition to sewage treatment requirements to bring the sewage quality to a level appropriate for recycling to meet the customer needs. If the level required for recycling is equal or less stringent than that required for discharge, i.e. no additional treatment is required, this is not included as a recycled water treatment plant.

A recycled water treatment plant takes sewage exclusively for recycling. In the event the treatment plant has a dual purpose (used both as a sewage treatment plant and as a recycled water treatment plant) then the predominant use (more than 50%) should be used to classify the plant to avoid double counting. Predominant usage may change over time due to upgrades; a change in use may also be driven by demand.

There may be more than one additional process step at an individual facility; however, this is treated as one recycling water treatment plant.

Examples

1. Effluent is discharged from a sewage treatment plant into an inland waterway. The level of treatment required is greater than that required for land application of recycled water. All water recycled from the sewage treatment plant is applied to land, hence the sewage treatment plant IS NOT included in the recycled water treatment plant figure as no additional treatment is required.
2. An inland sewage treatment plant treats effluent to a tertiary standard for discharge to an inland waterway. Half (50%) of the tertiary treated effluent is further processed through a membrane treatment for reuse by an industrial customer. The membrane treatment unit is a recycled water treatment plant.

Water main breaks

Reported indicators	Indicator number	Auditable
Water main breaks (No. per 100 km of water main)	A8	Yes (partially derived)

Purpose

To report the number of breaks in potable and non-potable water mains as a proportion of the total length of such mains serviced by the water utility. It is a partial indicator of customer service and the condition of the water main network.

Note: The interpretation and definition of 'main breaks' was changed in the *National Performance Report 2005–06* and is now similar to *WSAA Facts 2005*, but includes both potable and non-potable water mains. Historical data can be published if in line with this definition.

Definitions

Total number of water main breaks

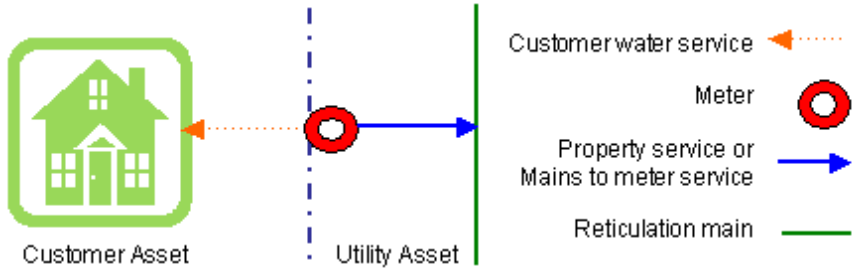
The total number of main breaks, bursts and leaks in all diameter water distribution and reticulation mains for the reporting period.

Breaks exclude those in the property service (i.e. mains to meter connection), , and weeps or seepages associated with above ground mains that can be fixed without shutting down the main.

Note: The 'property service' includes any water infrastructure between the water main and the meter connection or other connection assembly and the internal plumbing of the property. It may be owned by the water utility, and it is often referred to as the 'mains to meter' service or connection. All water plumbing downstream of the meter is usually the property owner's asset.

Calculations

A8 – Water main breaks per 100 km of water main =
(Total number of water main breaks) / (Total length of water mains) x 100



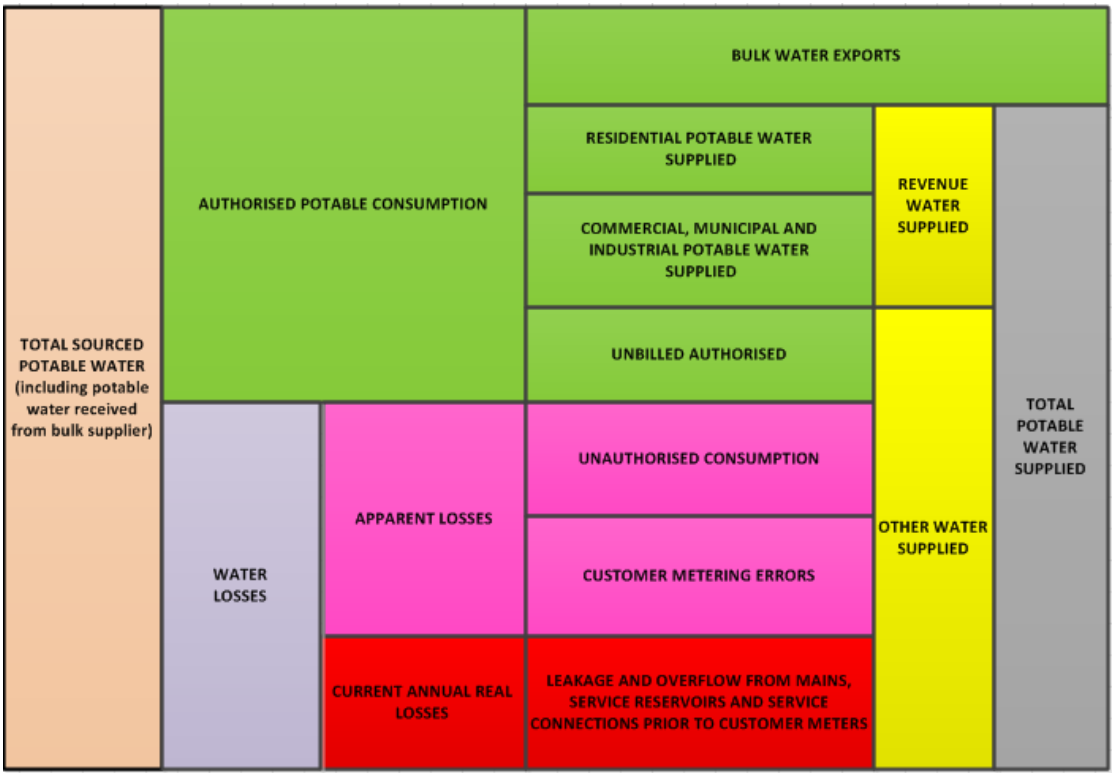
Water loss

Reported indicators	Indicator number	Auditable
Infrastructure leakage index (ILI)	A9	Yes (process)
Real losses (L/service connection/day)	A10	Yes (partially derived)
Real losses (kL/km water main/day)	A11	Yes (partially derived)

Purpose

To report the utility's real losses in the potable water distribution system (excluding recycled water). Water losses in the distribution system (see figure below) can be classified as either apparent losses (unauthorised consumption, retail metering errors) or real losses (leakage and overflows from mains, service reservoirs and service connections prior to customer meters).

Note: The definition was clarified in 2009–10 – . There is no material change to the definition and thus historical data may be reported.



Real losses represent a wasted resource, reduce the effective capacity of a water supply system, and may result in unnecessary operating costs.

The infrastructure leakage index (ILI) is an indicator of how effectively real losses in the distribution system are being managed at the current operating pressures. It is the preferred indicator for state and national comparisons (metric benchmarking), and has been adopted by the International Water Association as the preferred indicator for international comparisons.

Real losses in litres/service connection/day, or kL/km of mains/day, are preferred for measuring progress towards individual utility targets for real losses (process benchmarking). Litres/service connection/day is preferred for service connection densities exceeding 20 connections/km of mains.

Definitions

A9 – Infrastructure leakage index (ILI)

The infrastructure leakage index (ILI) is the ratio of the current annual real losses (CARL, calculated from a water balance as shown in the figure above) to the unavoidable annual real losses (UARL, calculated from an equation developed by the IWA Water Losses Task Force).

Note: An ILI value of less than 1.0 is likely to be an error and should be rechecked.

Real losses

Leakage and overflows from mains, service reservoirs and service connections prior to customer meters.

Current annual real losses (CARL):

The numerator of the ILI calculation – real losses as measured in the pressurised distribution system up to the point of customer metering.

When calculating CARL, it is necessary to make assumptions about errors in metered components of the water balance and estimates of unmetered components. For unbilled authorised consumption, unauthorised consumption and customer metering errors, water utilities may elect to use the default values prescribed below, or utilities may determine the actual values for their operations. Should the latter be chosen the water utility will need to satisfy an auditor that the input is not excessive and is within the error bands of ±25%. The defaults presented below have been chosen to represent best practice for Australian conditions.

Current annual real losses (CARL) defaults

Note: The default calculations assume:

Water Supplied = System input volume – Bulk water exports

1. Unbilled unmetered authorised consumption = 0.5% of water supplied (see definition below). The default for unbilled unmetered authorised consumption does not include any allowance for process water at water treatment works, which should normally be metered.
2. Unauthorised consumption = 0.1% of Water Supplied (see definition below).
3. Under-registration of retail meters:
   – residential meters = 2.0% of residential metered consumption
   – non-residential meters = 2.0% of non-residential metered consumption.

If a water utility uses values greater than the above defaults, sufficient data must be provided to satisfy an auditor about the accuracy of those values used. As a minimum, for under-registration of retail meters, the following must be provided:

- a profile of the meter fleet, including age and type
- the sampling regime used to determine accuracy.

Unbilled unmetered authorised consumption

Any unmetered authorised consumption for which a bill is not issued to the consumer (e.g. process water at water treatment works, hydrants for mains flushing, fire services, etc).

Unauthorised consumption

Generally this refers to illegal use.

The water utility should be consistent across reporting years in calculating its CARL and, where appropriate, have supporting documentation to verify assumptions for the purpose of auditing.

Service connections

The number of service connections is not the same as the number of metered accounts or connected properties. The number of service connections can be taken as being the number of metered accounts, minus the total of any sub-meters (after master meters, e.g. to shops and flats), plus the estimated number of unmetered service connections (e.g. fire service connections).

It is not acceptable to use the total connected properties value (C4) for calculating real losses performance indicators.

Notes:

1. Regional water utilities should report the ILI and real losses (L/service connection/day) for the infrastructure providing water services to the major towns only.
2. For comparison purposes water utilities with more than 20 service connections/km report real losses (L/service connection/day)(A10) and water utilities with less than 20 service connections/km report real losses (L/km water main/day) (A11)
3. The software used to calculate the infrastructure leakage index (ILI) often provides the ability to report both operational and financial water loss performance indicators. Indicators A9, A10 and A11 refer to the real loss only.
4. A9, A10 and A11 can be calculated using standard software packages available from WSAA (Benchloss) or Wide Bay Water Corporation (CheckCalcs or PIFastCalcs); or (for water utilities in Queensland) the System Leakage Management Plan (SLMP) software developed by the Queensland Water Directorate. The CheckCalcs software is available free of charge throughout Australia.
5. At low levels of real losses, relatively small percentage errors in bulk metering, and adjustment of retail consumption volumes to correspond to the period of the Water Balance, can have a large influence on the reliability of the calculated real losses. Meter lag calculations should be carried out every year after the end of the first billing cycle in the following year, and software packages with confidence limits are preferred.
6. All water loss indicators (A9, A10, A11) relate only to potable water.

Units

The ILI is a ratio and has no units

Real losses:
L/service connection/day
kL/km of water mains/day

Sewerage breaks and chokes

Reported indicators	Indicator number	Auditable
Sewerage mains breaks and chokes (No. per 100 km of sewer main)	A14	Yes (partially derived)
Property connection sewer breaks and chokes (No. per 1000 properties)	A15	Yes (partially derived)

Purpose

To report the number of sewerage mains breaks and chokes (A14) and the number of property connections sewerage breaks and chokes (A15) operated by the water utility. A14 is a partial indicator

of customer service and the condition of the sewerage network and may also be used to compare customer service.

The sewerage breaks and chokes indicators are affected by many 'non-management' factors including; sewer configuration, soil composition, climate, tree planting, age of infrastructure, sewer depth, sewer materials and sewer diameter.

For completeness, both sewerage mains and property connection indicators will be included in the Part A comparative analysis.

Definitions

Choke

A confirmed partial or total blockage that may or may not result in a spill to the external environment from the sewer system.

Breaks or leaks

A break or leak is a failure of the sewer which results in an interruption to the sewerage service.

A14 – Sewerage mains breaks and chokes

The sewerage mains breaks and chokes indicator includes:

- ✓ all gravity sewer mains
- ✓ all pressure mains (including common effluent pipelines, rising mains, etc.)
- ✓ all vacuum system mains of any diameter.

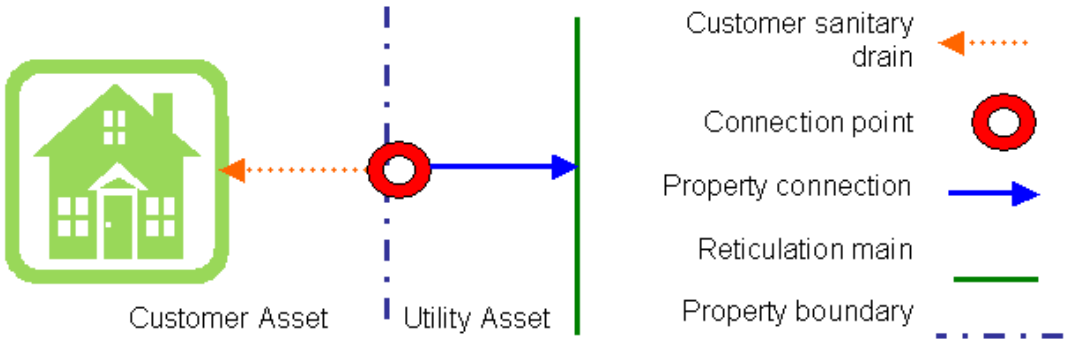
This excludes:

- ✗ property connection sewers
- ✗ pipelines carrying treated effluent
- ✗ recycled water distribution and reticulation mains delivering water for urban areas; such mains are to be reported as water mains (A2).

A15 – Property connection sewer breaks and chokes

The property connection is a short sewer that is owned and operated by the sewerage agency, which connects the sewer main and the customer sanitary drain. It includes a junction on the sewer main, a property connection fitting, a vertical riser (in some cases) and sufficient straight pipes to ensure the property connection fitting is within the lot to be serviced (refer to the WSAA 02 Sewerage Code of Australia).

Note: the connection point (sometimes the inspection point) varies for different utilities and does not necessarily correspond to the customer boundary. The connection point is simply the point where the customer's sanitary drain intersects with the utility's ownership or maintenance of the property connection.



Units

per 100 km

per 1000 properties

Calculations

A14 – Sewerage mains breaks and chokes (per 100 km of sewer main) =
Total number of sewerage mains breaks and chokes / (A5 Total length of sewerage main and channels (km) / 100)

A15 – Property connection sewer breaks and chokes per 1000 properties) =
Total number of property connection sewer breaks and chokes / (C8 Total connected properties – sewerage (000s))/ 1000)

The Customers

Connected properties and population

Reported indicators	Indicator number	Auditable
Population receiving water supply services (000s)	C1	No
Connected Residential properties – Water supply (000s)	C2	Yes
Connected Non-residential properties – Water supply (000s)	C3	No (audit required if not reporting total C4)
Total connected properties – Water supply (000s)	C4	Yes
Population receiving sewage services (000s)	C5	No
Connected Residential properties – Sewerage (000s)	C6	No (audit required if not reporting total)
Connected Non-residential properties – Sewerage (000s)	C7	No (audit required if not reporting total)
Total connected properties – Sewerage (000s)	C8	Yes

Purpose

To report on the scale and composition of the water business. Connected property numbers are also used as a normaliser for many indicators.

Definitions

Water/sewerage properties

(See figure 1 below)

A connected water/sewerage property is:

- ✓ connected to the licensee's water/sewerage system
- ✓ the subject of billing for water supply/sewerage collection – fixed and /or consumption (see examples 1, 2 and 3), and
- ✓ any property which, at the end of the reporting period, is connected to the water/sewerage system and is separately billed for the water/sewerage services – fixed and/or consumption (see examples 1, 2 and 3).
- ✓ state-wide water utilities can also report the number of connected properties for their state-wide operations as a footnote.

This includes:

- ✓ a connected non-rateable property
- ✓ a connected but non-metered property.

It does NOT include:

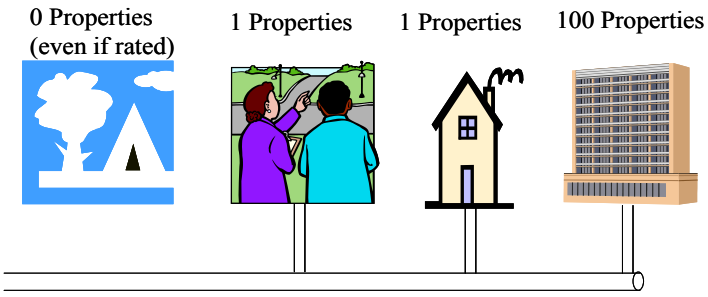
- ✗ a body corporate
- ✗ a rated but unconnected property (eg. vacant lots)

- a non-real property or strata garages, i.e. a master meter for a block of separately metered strata title flats.

Strata title flats or units

Where a utility has 10% or fewer of its properties as strata title flats or units, it is acceptable to report each such block of flats or units as one property. Where this is the case, utilities should include a footnote in the report.

Figure 2



C1 and C5 – Water and sewerage population

The total population receiving water/sewerage services from the water business. The figure may be premised on census data obtained from the Australian Bureau of Statistics.

Notes

- The owner and tenant of a rented property are NOT counted as separate properties.
- A sewerage property which is also a trade sewerage property counts as one non-residential connected property.

Units

thousands (000s)

Calculations

C4 and C8 – Total connected properties receiving water/sewerage services = (Residential connected properties) + (Non-residential connected properties)

Examples

1. A block of 30 units with a single meter = 30 connected properties.
2. A factory building housing five partitioned companies, all with separate water bills = five non-residential connected properties.
3. Properties are classified according to their main purpose. For example, a hotel with a few permanent residential tenants (short-term, long-term or strata titled apartments) = one non-residential connected property, likewise a shopping centre, or a serviced apartment or hotel complex = one non-residential connected property.
4. A TAFE property that extends over two blocks and has six separate connections = one non-residential connected property. Similarly, a school or hospital = 1 non-residential connected property.
5. A high-rise apartment residence with individual connections for each apartment. Each apartment is a separate residential connected property. This also applies to department of housing units.

6. A shopping centre where each shop within the complex has a separate connection = one non-residential connected property.
7. A property that is not connected (i.e. no mains to meter connection), but is on a street with a main running along it, is not counted as a connected property. Similarly, if a vacant lot is being charged/rated, but is not physically connected, it is not to be counted as a connected property.
8. A nursing home or retirement home is counted as one non-residential connected property.
9. With respect to retirement villages, communal buildings count as one non-residential property, whereas stand-alone buildings for residents are each counted as residential properties. For example, 20 stand-alone buildings for residents and a communal building are counted as 20 residential connected properties and one non-residential connected property.
10. Residential apartment buildings where individual residents are shareholders in a company owning the entire building rather than holding individual apartment titles should be counted as individual units. For example, 20 residential units in a building with 20 associated shares = 20 residential connected properties.
11. Where combined commercial and residential dwellings exist, the property should be classified according to its primary purpose where one bill is issued. If two separate bills are issued for the commercial and residential parts of the property, then the property is counted as one residential connected property and one non-residential connected property.

Water quality complaints

Reported indicators	Indicator number	Auditable
Water quality complaints (No. per 1000 properties)	C9	No (audit required if not reporting total C13)

Purpose

To report customer satisfaction with the quality of water provided. It may also be used as an indicator of the suitability of the water treatment process.

Only complaints need to be classified, collected and reported. If dissatisfaction has not been expressed or if the person contacting the utility has not sought resolution, the matter should not be classified and recorded as a complaint.

Definitions

Complaint

Australian Standards define a complaint as an 'expression of dissatisfaction made to an organisation, related to its products, or the complaints-handling process itself, where a response or resolution is explicitly or implicitly expected'. (AS ISO 10002-2006)

A complaint can be a written or verbal expression of dissatisfaction about an action, proposed action or failure to act by the water utility, its employees or contractors.

Note: Whilst complaints about third parties over which the utility has no control should not be counted as complaints, complaints about third parties where the water utility does have control (i.e. contractors) should be included.

A customer includes both residents and visitors receiving the utility's services.

Complaints from separate customers arising from the same cause count as separate complaints, as do multiple complaints from one customer.

Complaints regarding water quality, water recycling, and any other complaints regarding any type of water provided are to be included.

Includes complaints received by the water utility in person, by mail, fax, phone, email or text messaging.

Note: A water utility must be able to differentiate a 'query' *versus* a 'complaint' in order to be materially compliant for this indicator. A query can be defined as 'A request by a customer for information about a product or service provided by the service provider that does not reflect dissatisfaction'.

Water quality complaints

The total number of complaints received by the water business that relate to water quality, including water quality complaints resulting from operational practices. With respect to water quality, this is any complaint regarding:

- ✓ discolouration
- ✓ taste
- ✓ odour
- ✓ stained washing
- ✓ illness
- ✓ cloudy water (e.g. caused by oxygenation).

It excludes complaints relating to:

- ✗ service interruption
- ✗ adequacy of service
- ✗ restrictions
- ✗ water pressure.

Note: It excludes complaints related to these issues, but a complaint where this issue is one component that leads to another issue may be included as a complaint in this or another complaint category.

Note: This definition has been changed to exclude 'any contact that results in a water quality issue is counted as a complaint'.

Examples

1. If a customer complains about milky water and it is found to be caused by mains flushing then this is still counted as a complaint.
2. If a customer rings to ask about the health standards that apply for water quality, this is counted as a query, not a complaint.
3. If a customer rings to complain about a premier's or chief minister's media comments on water quality, this is not counted as a complaint as the complaint is about a third party over whom the water utility has no control.
4. If a customer rings to complain about the premier's or chief minister's media comments on water quality because they have suffered poor water quality, this is counted as a complaint.

5. If the operator is uncertain whether the customer is dissatisfied, the operator should ask 'Do you wish to report a complaint on this matter?'

Calculations

C9 – Water quality complaints (per 1000 properties) =
Total number of water quality complaints / Total water connected properties (000s)

Water service complaints

Reported indicators	Indicator number	Auditable
Water service complaints (No. per 1000 properties)	C10	No (audit required if not reporting total C13)

Purpose

To report customer satisfaction with the water supply service and provide a partial indicator of service reliability.

Only complaints need to be classified, collected and reported. If dissatisfaction has not been expressed or if the customer has not sought resolution, the matter should not be classified and recorded as a complaint.

Definitions

Complaint

Australian Standards define a complaint as an 'expression of dissatisfaction made to an organisation, related to its products, or the complaints-handling process itself, where a response or resolution is explicitly or implicitly expected'. (AS ISO 10002-2006)

A complaint can be a written or verbal expression of dissatisfaction about an action, proposed action or failure to act by the water utility, its employees or contractors.

Note: Whilst complaints about third parties over which the utility has no control should not be counted as complaints, complaints about third parties where the water utility does have control (i.e. contractors) should be included.

A customer includes both residents and visitors receiving the utility's services.

Complaints from separate customers arising from the same cause count as separate complaints.

Includes complaints received by the water utility in person, by mail, fax, phone, email or text messaging.

Note: A water utility must be able to differentiate a 'query' *versus* a 'complaint' in order to be materially compliant for this indicator.

A query can be defined as 'A request by a customer for information about a product or service provided by the service provider that does not reflect dissatisfaction'.

Water service complaints

The total number of water service complaints received by the water utility. This includes all complaints concerning:

- ✓ bursts
- ✓ leaks
- ✓ service interruptions
- ✓ adequacy of service
- ✓ water pressure
- ✓ water reliability.

When a customer reports a service interruption, this is not counted as a complaint unless the customer expresses dissatisfaction about the interruption.

It excludes complaints relating only to:

- ✗ water quality
- ✗ billing and accounts
- ✗ government pricing policy
- ✗ tariff structures.

Note: It excludes complaints related to these issues, but a complaint where this issue is one component that leads to another issue may be included as a complaint in this or another complaint category.

Examples

1. If a customer complains about water pressure and it is found to be caused by a leak in the network, this is counted as a complaint.
2. If a customer rings to ask about the relevant standard for water pressure in their town, this is counted as a query, not a complaint.
3. If a customer rings to ask about the relevant standard for water pressure because they are unhappy about their pressure, this is counted as a complaint.
4. If a customer rings to report a weeping water meter connection, this is not counted as a complaint.
5. If a customer rings to report a burst pipe due to a contractor working on the utility's assets, this is counted as a complaint.
6. If a customer rings to complain about government pricing policy, this is not a complaint; however, if the price has created an affordability issue for the customer who is now unable to meet the payment plan previously negotiated and has been refused renegotiation, this is a complaint but it should be recorded as a billing and account complaint not a service complaint.
7. If the operator is uncertain whether the customer is dissatisfied, the operator should ask 'Do you wish to report a complaint on this matter?'

Calculations

C10 – Water service complaints (per 1000 properties) =
Total number of water service complaints / Total number of water connected properties (000s)

Sewerage service complaints

Reported indicators	Indicator number	Auditable
Sewerage service complaints (No. per 1000 properties)	C11	No (audit required if not reporting total C13)

Purpose

To report customer satisfaction with sewerage service and provide a partial indicator of service quality and reliability.

Only complaints need to be classified, collected and reported. If dissatisfaction has not been expressed or if the person contacting the utility has not sought resolution, the matter should not be classified and recorded as a complaint.

Definitions

Complaint

Australian Standards define a complaint as an 'expression of dissatisfaction made to an organisation, related to its products, or the complaints-handling process itself, where a response or resolution is explicitly or implicitly expected'. (AS ISO 10002-2006)

A complaint can be a written or verbal expression of dissatisfaction about an action, proposed action or failure to act by the water utility, its employees or contractors.

Note: Whilst complaints about third parties over which the utility has no control should not be counted as complaints, complaints about third parties where the water utility does have control (i.e. contractors) should be included.

A customer includes both residents and visitors receiving the utility's services.

Complaints from separate customers arising from the same cause count as separate complaints.

Includes complaints received by the water utility in person, by mail, fax, phone, email or text messaging.

Note: A water utility must be able to differentiate a 'query' *versus* a 'complaint' in order to be materially compliant for this indicator.

A query can be defined as 'A request by a person contacting the utility for information about a product or service provided by the service provider that does not reflect dissatisfaction'.

Sewage service complaints

The total number of complaints received by the sewerage utility that relate to sewerage service quality and reliability. Includes all complaints concerning:

- ✓ sewer blockages and spills
- ✓ trade waste services
- ✓ sewage odours
- ✓ sewerage system reliability
- ✓ all other sewerage issues.

If an operator is doubtful whether the customer is making a query or wishing to lodge a complaint they should ask the customer if they want a complaint to be recorded.

It excludes complaints relating only to:

- property connections
- government pricing policy
- tariff structures
- other non-applicable areas of the business.

Note: It excludes complaints related to these issues, but a complaint where this issue is one component that leads to another issue may be included as a complaint in this or another complaint category.

Examples

1. If a customer rings to report a sewage odour, this is a complaint.
2. If a customer rings to report that a sewage pumping station light is flashing, this is not counted as a complaint.
3. If a customer rings to enquire about the conversion of a septic tank to the mains sewerage system, this is a query, not a complaint.
4. If a customer rings to complain about the way sewerage service bills are calculated, and the bill has been calculated according to government pricing policy, this is not a complaint.
5. If the operator is uncertain whether the customer is dissatisfied, the operator should ask 'Do you wish to report a complaint on this matter?'

Calculations

C11 – Sewage service complaints (per 1000 properties) =
Total number of sewage service complaints / Total number of connected properties – sewerage (000s)

Billing and account complaints

Reported indicators	Indicator number	Auditable
Billing and account complaints – water and sewerage (No. per 1000 properties)	C12	No (audit required if not reporting total C13)

Purpose

To report the level of billing and account complaints received for the utility's water supply and sewerage services.

Only complaints need to be classified, collected and reported. If dissatisfaction has not been expressed or if the customer has not sought resolution, the matter should not be classified and recorded as a complaint.

Definitions

Complaint

Australian Standards define a complaint as an 'expression of dissatisfaction made to an organisation, related to its products, or the complaints-handling process itself, where a response or resolution is explicitly or implicitly expected'. (AS ISO 10002-2006)

A complaint can be a written or verbal expression of dissatisfaction about an action, proposed action or failure to act by the water utility, its employees or contractors.

Note: Whilst complaints about third parties over which the utility has no control should not be counted as complaints, complaints about third parties where the water utility does have control (i.e. contractors) should be included.

A customer includes both residents and visitors receiving the utility's services.

Complaints from separate customers arising from the same cause count as separate complaints.

Includes complaints received by the water utility in person, by mail, fax, phone, email or text messaging.

Note: A water utility must be able to differentiate a 'query' *versus* a 'complaint' in order to be materially compliant for this indicator. A query can be defined as 'a request by a customer for information about a product or service provided by the service provider that does not reflect dissatisfaction'.

Billing and account complaints

This includes all complaints concerning:

- ✓ account payment
- ✓ financial loss or overcharging
- ✓ billing errors
- ✓ affordability.

Where a customer rings to query an account (e.g. 'Could you please explain how the variable sewerage component of my bill is calculated, or could you explain how my bill is calculated?'), this is not to be recorded as a complaint unless the customer identifies that they have rung to make a complaint. If the customer rings to make a query but remains dissatisfied or the enquiry identifies an error in the bill, this should be recorded as a complaint.

If a customer makes repeated contact on the same billing issue this should be recorded as a complaint.

If an operator is doubtful whether the customer is making a query or a complaint they should ask the customer if they want a complaint to be recorded.

It does not include complaints relating only to:

- ✗ government pricing policy
- ✗ tariff structures
- ✗ a correctly calculated bill is too high.

Note: It excludes complaints related to these issues, but a complaint where this issue is one component that leads to another issue may be included as a complaint in this or another complaint category.

Examples

1. If a customer rings to advise their meter has been read incorrectly, this is a complaint.
2. If a customer rings to enquire about how the tariff structure is set, this is a query, not a complaint.

3. If a customer rings to complain about tariff structures, this is not a complaint (where the tariff is set by an external body). If the tariff is set by the utility then it is a complaint.
4. If the operator is uncertain whether the customer is dissatisfied, the operator should ask 'Do you wish to report a complaint on this matter?'

Calculations

C12 – Billing and account complaints (per 1000 properties) =
Total number of billing and account complaints / Total number of water connected properties (000s)

Total water and sewerage complaints

Reported indicators	Indicator number	Auditable
Total water and sewerage complaints (No. per 1000 properties)	C13	Yes (partially derived)

Purpose

To report customer satisfaction with the water and sewerage services and provide an indicator of service quality and reliability.

Only complaints need to be classified, collected and reported. If dissatisfaction has not been expressed or if the customer has not sought resolution, the matter should not be classified and recorded as a complaint.

Note: This may be greater than the total of C9 – C12 as it includes 'other' complaints.

Definitions

Complaint

Australian Standards define a complaint as an 'expression of dissatisfaction made to an organisation, related to its products, or the complaints-handling process itself, where a response or resolution is explicitly or implicitly expected.' (AS ISO 10002-2006)

A complaint can be a written or verbal expression of dissatisfaction about an action, proposed action or failure to act by the water utility, its employees or contractors.

Note: Whilst complaints about third parties over which the utility has no control should not be counted as complaints, complaints about third parties where the water utility does have control (i.e. contractors) should be included.

A customer includes both residents and visitors receiving the utility's services.

Complaints from separate customers arising from the same cause count as separate complaints.

Includes complaints received by the water utility in person, by mail, fax, phone, email or text messaging.

Note: A water utility must be able to differentiate a 'query' *versus* a 'complaint' in order to be materially compliant for this indicator. A query can be defined as 'a request by a customer for information about a product or service provided by the service provider that does not reflect dissatisfaction'.

Total water and sewerage complaints

The total number of complaints received by the water utility that relate to water or sewerage services. This includes all complaints concerning:

- ✓ bursts
- ✓ leaks
- ✓ service interruptions
- ✓ adequacy of service
- ✓ water pressure
- ✓ water quality or reliability
- ✓ sewerage service complaints
- ✓ sewage odours
- ✓ affordability
- ✓ billings
- ✓ behaviour of staff or agents.

When a customer reports a service interruption, this is not counted as a complaint unless the customer expresses dissatisfaction about the interruption.

It excludes complaints relating only to:

- ✗ government pricing policy
- ✗ tariff structures.

Note: It excludes complaints related to these issues, but a complaint where this issue is one component that leads to another issue may be included as a complaint in this or another complaint category.

Calculations

Total water and sewerage complaints (per 1000 properties) =
Total number of water and sewerage complaints / Total number of water connected properties (000s)

Connect time to a telephone operator

Reported indicators	Indicator number	Auditable
Percentage of calls answered by an operator within 30 seconds (%)	C14	Yes

Purpose

To report on the proportion of calls that are answered by an operator within 30 seconds after the customer has selected a relevant operator option.

Definitions

Total number of calls to an operator

The total number of calls received by a retailer that were handled by an operator or customer service operator, and in the case of an interactive voice response (IVR) system covers the number of calls where the customer has selected the relevant operator option (i.e. indicated they wish to be connected to an operator or customer service officer).

This indicator excludes all calls that do not require operator attention:

- IVR calls where the customer does not select an operator option
- calls that are abandoned before the operator option is selected.

Calls after the operator option is selected but are abandoned before 30 seconds should be included in the total number of calls to an operator, but excluded from the calls answered within 30 seconds.

Notes:

1. If appropriate, statewide utilities where only one average connect time to an operator is supplied for the whole water business rather than a value for the metropolitan area only, a footnote should accompany the value.
2. Include only those calls that are answered by an operator who is able to respond to the customer's enquiry rather place the customer in a queue.
3. For IVR systems, the measurement period is calculated from the time that the customer selects an operator option. If the caller's question is answered by the IVR, meaning they don't need to speak to an operator, the call is not counted.
4. For non-IVR systems, the measurement period commences when the call is received by the switchboard until the call is answered by an operator.
5. Calls that are abandoned before 30 seconds are excluded from the calculation.
6. After business hours to be included in calculation.
7. Utilities who have a call-back service should not include calls where, within 30 seconds, a call is offered back at a later time. However, they are encouraged to make a note of this service in the database when reporting for this indicator.

Reporting against these indicators is mandatory for utilities that operate a contact centre that is capable of automatically recording some or all of the responsiveness indicators (for example an automatic call distribution system). Utilities that have other systems to handle customer calls may, on a voluntary basis, report on those responsiveness indicators that they record.

Units

per cent (%)

Calculations

C14 – Percentage of calls answered by an operator within 30 seconds (%) =
(Sum of individual calls answered within 30 seconds) x 100 / (Total number of calls to an operator)

Example

1. A customer telephones a water utility. The call is initially responded to by an automated response, from which the customer elects to speak with an operator. The connect time to operator is calculated as the time from when the call was connected by the automated response to the time the customer is answered by an operator.

Average duration of unplanned water supply interruptions

Reported indicators	Indicator number	Auditable
Average duration of an unplanned interruption – Water (minutes)	C15	Yes

Purpose

To report the average duration a customer is without potable water supply for the reporting period. It is a partial indicator of customer service and the condition of the water network, and how effectively the operation of the network is being managed (e.g. whether operating pressures are too high).

Definitions

Water supply interruption (customer service)

A water supply interruption is any event causing a total loss of water supply due to any cause. Interruptions do not include those caused by bursts or leaks in the property service (mains to meter connection), unless the property connections are owned or maintained by the water utility, or the burst or leak requires the mains to be shut down for repair.

Note:

'Bursts or leaks in the property connection where owned or maintained by the water utility' is included for consistency in the 2013-14 definitions for indicators C15 and C17. If the utility is reporting against property connections for C15, then they should also include the incidence of interruptions due to breaks in property connections in C17.

C15 reports the average duration of unplanned interruptions for each utility's customers which experienced 'an unplanned water supply interruption' in the reporting period. The proportion of customers affected by an unplanned interruption is disclosed by indicator C17 (Incidence of unplanned interruptions per 1,000 properties).

Unplanned water supply interruption

This is when the customer has NOT received at least 24 hours notification (or as otherwise prescribed by regulatory requirements) of the interruption. It also includes situations where the duration of a planned interruption exceeds that which was originally notified. In this circumstance the length of the entire interruption is counted (see example 1). All un-notified interruptions caused by third parties should be included.

(a) Duration of an unplanned water supply interruption

An interruption commences when the water utility is aware that 'water is no longer available at the customer's first cold water tap and ceases 'when "normal" service is restored' (OFWAT Return Reporting Requirements) – this is when the last valve has been opened (see examples 2 and 3). Where the utility is aware of a water supply interruption through its internal systems alarms, the duration commences when the alarm is raised.

If a customer notifies the water utility they are without water, the duration commences at the time of notification. If the water utility is responding to a notification of a broken main, unless this notification also indicates a loss of supply, the duration commences once the break is isolated (if repairs are not being done under pressure).

Average duration of an unplanned water supply interruption

The average duration for which a customer is without supply due to an unplanned interruption.

Units

minutes (min)

Calculations

C15 – Average duration of an unplanned water supply interruption =
Total minutes off water supply / total number of customers affected

Examples

1. A customer calls the water utility advising that they have no water. The interruption commences at the time the call is received.
2. A customer calls the water utility advising of a broken main. The interruption commences when staff arrive at the main and isolate the main break.
3. Mains are shut down due to fire fighting requirements. This interruption is included and commences at the time the mains are shut down.
4. See table below for an example of the calculation.

Interruption	Minutes of interruption	Number of customers affected	Minutes off supply (i.e. Minutes interruption x number of customers affected)	Average duration of an unplanned interruption (minutes) i.e. Total minutes off supply / Number of customers affected
A	240	20	4 800	
B	300	1 000	300 000	
C	120	400	48 000	
D	60	2	120	
E	410	35	14 350	
Total		1 457	367 270	252

Average sewerage interruption

Reported indicators	Indicator number	Auditable
Average sewerage interruption (minutes)	C16	Yes

Purpose

To report for how long, on average, a customer is without sewerage services for the reporting period. It is a partial indicator of customer service and the condition of the sewerage network.

Definitions

Sewerage interruption (customer service)

A sewerage interruption is any event causing a significant reduction of sewerage service due to any cause. Interruptions exclude those caused by breaks or chokes in the property connection sewer.

Unplanned sewerage service interruption

This is when the customer has NOT been notified at least 24 hours before the interruption (or as otherwise prescribed by regulatory requirements). It also includes situations where the duration of a planned interruption exceeds that which was originally notified. In this circumstance the length of the entire interruption is counted. All un-notified interruptions caused by third parties should be included.

Duration of an unplanned sewerage service interruption

An interruption commences when the water utility is aware that sewerage services are no longer available and ceases when 'normal' service is restored

Average sewerage interruption

The average duration for which a customer is without a sewerage service due to unplanned work.

Units

minutes (min)

Calculations

C16 – Average sewerage interruption (minutes) =
Total minutes of interruptions / total number of interruptions

Example:

Interruption	Minutes of interruption
A	240
B	300
C	50
D	70
E	90
Total interruptions = 5	Total minutes of interruptions = 750

Average sewerage interruption = 150 minutes

Incidence of unplanned interruptions

Reported indicators	Indicator number	Auditable
Incidence of unplanned interruptions – Water (No. per 1000 properties)	C17	Yes (partially derived)

Purpose

To report the incidence of customers being without access to the potable water supply service. It is a partial indicator of service quality, reliability and customer satisfaction.

Note: As agreed by the Urban National Performance Report Roundtable Group, from the 2012-13 reporting year onwards C17 will be reported as the Incidence of unplanned interruptions – Water (No. per 1000 properties, not Average frequency of unplanned interruptions – Water (No. per 1000 properties). There is no material difference to the data, simply a clarification of the name.

In addition data from C17 will be reported in Part A, as well as Part B of the Urban National Performance Reports.

Definitions

Average frequency of unplanned interruptions – water

'Customers affected' is the count of individual customers who experience loss of water supply due to an unplanned water supply interruption. For example, a water supply interruption that causes loss of supply to 100 customers is 100 customers affected.

From 2012-13 onwards definitions for indicators C15 and C17, have been moderated for consistency.

C 15 includes unplanned interruptions in the property connections where they are owned or maintained by the water utility, and are included in reporting of C15. If the utility is reporting against property connections for C15, then they should also include the frequency of interruptions due to breaks in property connection in C17.

Excludes:

- property service connection interruptions, unless the burst or leak requires the water main to be shut down for repair and therefore affects multiple customers, or unless the connection is owned or maintained by the water utility, and reported against in C15.
- interruptions that cause some reduction to the level of service but where normal activities (shower, washing machine, toilet flushing etc.) are still possible
- breaks in house connection branches
- planned interruptions.

Interruption

Where the property is without a service due to any cause.

Unplanned water supply interruption

Refer to definition for C15.

Planned interruption

An interruption for which the utility has provided notification at least 24 hours in advance (or as otherwise prescribed by regulatory requirements).

Calculations

C17 – Incidence of unplanned interruptions – water (per 1000 properties) =
Total number of customers affected by unplanned water supply interruptions / C4 Total number of water connected properties (000s)

Restrictions and legal action for non-payment of water bill

Reported indicators	Indicator number	Auditable
Number of restrictions applied for non-payment of water bill (No. per 1000 properties)	C18	Yes (partially derived)
Number of legal actions applied for non-payment of water bill (No. per 1000 properties)	C19	Yes (partially derived)

Purpose

To report on the incidence of water restrictions or legal action applied for non-payment of a water bill.

Note: The indicator name changed in 2007–08, but there was no material change. This indicator was changed in the 2006–07 definitions and is now divided into two indicators, one for restrictions and one for legal action. This does not constitute a material change and historical data may be published if separated out.

Definitions

C18 – Number of customers to which restrictions applied for non-payment of water bill

The total number of restrictions (or disconnections) applied for non-payment of water bills in the reporting period.

Includes all cases where restriction devices are fitted to reduce water flows to a customer due to non-payment of accounts.

If a water business disconnects rather than uses a restriction device, this is also counted.

Includes restrictions taken against both residential and non-residential customers.

It does not include:

- where a business threatens to restrict a supply, but does not undertake the fitting of a restrictor
- disconnections carried out due to unsafe infrastructure connected to the water utility's system
- customers who choose to disconnect from the water utilities supply (e.g. a due to preference for a tank water supply).

C19 – Number of customers to which legal action applied for non-payment of water bill

The total number of legal actions applied for non-payment of water bills in the reporting period.

Includes legal actions taken against both residential and non-residential customers.

Legal action commences from issue of summons. It does not include where a utility threatens to take legal action, but does not proceed.

Note: Multiple restrictions, disconnections and legal actions for one customer should be counted as separate occasions.

Environment

Comparative sewage treatment levels

Reported indicators	Indicator number	Auditable
Per cent of sewage treated to a primary level (%)	E1	Yes
Per cent of sewage treated to a secondary level (%)	E2	Yes
Per cent of sewage treated to a tertiary or advanced level (%)	E3	Yes

Purpose

To report the degree to which sewage is required to be treated. This is an important cost driver for the water utility with respect to both capital costs and operating costs.

Definitions

Primary treatment

The first major treatment process in a sewage treatment facility. It is principally designed to remove a substantial amount of suspended matter, but little or no colloidal or dissolved matter (see example 1).

Secondary treatment

Typically, a biological treatment process that is designed to remove approximately 85% of the biological oxygen demand and influent suspended solids (see example 2). Some nutrients may incidentally be removed, and ammonia may be converted to nitrate.

Tertiary or advanced treatment

Principally designed to remove nutrients, such as phosphorus (typically less than 2 mg/L) and nitrogen (typically less than 15 mg/L). A high percentage of effluent suspended solids (typically more than 95%) is also removed (see example 3). Tertiary treatment may additionally target other contaminants of concern, e.g. toxicants and salt for discharges into sensitive waterways or reuse applications where high quality recycled water is required.

Note:

These definitions are intended to avoid double counting. Water should only be counted on its first pass through the treatment works. Water treated multiple times due to onsite reuse or collection in first flush systems should not be counted. The sum of E1, E2 and E3 should equal a maximum of 100 %. It is important to note that if any volume is untreated the sum may be less than 100 %.

Units

per cent (%)

Calculations

E1 – Per cent of sewage treated to a primary level =
(Total volume of sewage collected receiving only primary treatment) x 100 / Total volume of sewage collected

E2 – Per cent of sewage treated to a secondary level =
(Total volume of sewage collected receiving secondary treatment but not including that secondary treated sewage that is further treated to tertiary level) x 100 / Total volume of sewage collected.

E3 – Per cent of sewage treated to a tertiary level =
(Total volume of sewage collected receiving tertiary treatment) x 100 / Total volume of sewage collected.

Examples

1. Typical primary sewage treatment processes may include clarification (with or without chemical treatment to accomplish solid-liquid separation), grease removal and screens.
2. Typical secondary sewage treatment processes may include sand filtration, disinfection, a polishing step (to lower suspended solids and bacterial levels), activated-sludge processes, anaerobic plus aerobic processes, biological filters and lagoons (aerated, facultative, maturation or polishing).
3. Typical tertiary sewage treatment processes may include biological nutrient removal plants, chemical dosing of secondary plants for nutrient removal (including lagoons), enhanced pond treatment systems for nutrient removal, reverse osmosis and advanced filtration systems, membrane bioreactors and secondary treatment plus grass plots or wetlands for nutrient removal.

Sewage treatment plant compliance

Reported indicators	Indicator number	Auditable
Per cent of sewage volume treated that was compliant (%)	E4	Yes

Purpose

Reporting of sewage treatment plant compliance against the licence limits demonstrates the water utility's ongoing commitment to protection of the environment into which the treatment plant discharges.

Sewage treatment plants are generally licensed to ensure that effluent discharges are compatible with receiving waterways or land based reuse. Three approaches are used by environmental regulators in regard to the setting of licence limits. These take into account:

- ✓ potential toxicity of effluent contaminants
- ✓ the overall environmental load and the capacity of the receiving environment to accept additional loads of nutrients
- ✓ treatment plant performance (operating practices).

Toxicity is generally addressed by setting definitive maximum limits.

Load limits are generally set for a period of time and often relate to particular nutrients. These limits may be to prevent eutrophication in receiving waters. In this case percentile and median limits are often applied.

Regulators also apply percentile limits to take into account the variability of operation of a sewage treatment plant and their expectations of treatment plant performance.

Definitions

Sewage treatment plant compliance

The sewage treatment plant compliance is the number of scheduled samples that complied in the reporting period divided by the total number of scheduled samples in the reporting period (see examples 1, 2 and 3).

One or more failed parameters for a sample means a failed sample.

The sampling schedule is that specified in the utility's licence.

Units

megalitres (ML)

per cent (%)

Calculations

E4 – Sewage treatment plant compliance per reporting period (%) =
(No. of scheduled samples complying with licence limits) x 100 / Total No. of scheduled samples in reporting period

Note: Where the licence limit specifies a 90th percentile limit for the sewage treatment plant (STP) for the reporting period and the number of samples complying divided by the total number of scheduled samples is greater than 90%, then as compliance for that treatment plant is greater than the licence limit, compliance is deemed to be 100%.

Compliance for a utility with more than one treatment plant is calculated as the weighted average of sewage treated at all treatment plants that complied per reporting period =
(STP1 compliance x volume treated + STP2 compliance x volume treated + ……..) / Total volume treated for all treatment plants in reporting period

Examples

1. Treatment plant A

For treatment plant (A), the sewage treatment plant licence specifies routine sampling at twice per month for 12 months and a 90th percentile limit for the year.

Of the 24 samples taken during the 12 months, three exceed the 90th percentile limit. The compliance for treatment plant (A) is therefore 21/24(compliance = 87.5%).

2. Treatment plant B

For treatment plant (B), the sewage treatment plant licence specifies routine sampling at twice per month for12 months and a 90th percentile limit for the year.

Of the 24 samples taken during the 12 months, one exceeds the limit (96% of samples comply). The compliance for treatment plant (B) is therefore 100% as it meets the 90th percentile limit for the 12 months.

3. Treatment plant C

For treatment plant (C), the sewage treatment plant licence specifies routine sampling at once per month and specifies a maximum limit for any scheduled sample taken during the 12 months.

Of the 12 samples taken during the 12 months, one exceeds the maximum limit for the parameter. Treatment plant (B) is therefore compliant for 11/12 months (compliance = 92%).

4. Limits for separable sections of the treatment plant specified in licence

Where the licence specifies limits for separable sections of the treatment plant, the following approach should be adopted:

> Sample 'y' is non-compliant and was taken from a separable section of the treatment plant. In this case, a reasonable estimate of the affected volume of sewage should be made, with assumptions documented for the purposes of auditing.

5. Utility with two treatment plants

A utility has two treatment plants (STP-B) and (STP-C).

The licence for STP-B specifies a 90th percentile limit for the 12 months. Over this period, STP-B treated a volume of 1000 ML for which 11 samples out of 12 (96%) complied. Therefore, the compliance for STP-B is 100% as it meets the 90th percentile limit under the licence conditions.

The licence for STP C specifies a maximum limit for any scheduled sample taken during the 12 months. STP-C treated a volume of 3000 ML for which 11 out of 12 samples complied (92%). Therefore, the compliance for STP-C is 92%.

For this utility, compliance for the 12 months is calculated as the weighted average of the percentage of sewage treated that was compliant for each treatment plant. This is calculated for this utility as follows:

> Compliance = (100% x 1000ML + 92% x 3000ML) / (1000ML + 3000ML) = 94%

Number of sewage treatment plants compliant at all times

Reported indicators	Indicator number	Auditable
Number of sewage treatment plants compliant at all times (e.g. 5 of 6)	E5	Yes

Purpose

To report on the number of sewage treatment plants that were compliant with the licence conditions related to sewage treatment plant effluent at all times during the reporting period. This gives an indication of the overall performance of the utility's sewage treatment and, if problems exist, whether they are localised or widespread. This indicator, together with NWI indicators C2, E4, E6 and E7 provides information on how well the utility is managing its treatment facilities.

Definitions

Sewage treatment plants

Refer to sewerage assets.

Note: Built, owned, operated, and transferred (BOOT) schemes should be included.

Compliance

Compliance is where effluent from the sewage treatment plant meets the licence conditions prescribed by the environmental regulator.

Non-compliance

Non-compliance is where effluent from the sewage treatment plant does not meet such conditions or where a financial (greater than $10 000 per incident) or other penalty has been imposed, or where the business has had any successful litigation against it by the environmental regulator.

Note:

A treatment plant would be non-compliant if it failed to comply with its licence conditions. The backup elements of a financial penalty or litigation against the utility are intended to address the situation where a utility has met its licence condition, but where the treatment works performance is nevertheless considered to be unsatisfactory by the regulator or by a court.

Units

Number of sewage treatment plants compliant at all times as a ratio of total number of sewerage treatment plants (indicator A4), e.g. '5 of 6'.

Public disclosure of sewage treatment plant performance

Reported indicators	Indicator number	Auditable
Public disclosure of your sewage treatment plant's performance (yes/no)	E6	Yes (process)

Purpose

To report on whether the performance of the utility's sewage treatment plants is publicly disclosed and demonstrates transparency and accountability to the community, government and regulators.

Definitions

Sewage treatment plants

Refer to sewerage assets (page 29).

Public disclosure

Public disclosure is demonstrated by publishing the sewage treatment plant performance for the current financial year. Such disclosure could be on a public website or in a report available to the public and should include detailed results for key parameters in the treatment plant licence such as biochemical oxygen demand and suspended solids. Reported test results should be on the basis of tests carried out by a National Association of Testing Authorities (NATA)-accredited laboratory or approved equivalent.

Units

yes or no

Compliance with environmental regulator – sewerage

Reported indicators	Indicator	Auditable

	number	
Compliance with environmental regulator – Sewerage (yes/no)	E7	Yes
Brief explanation if 'no' (text)		

Purpose

To report whether the compliance requirements of the environmental regulator were met for the entire sewerage system.

Definitions

Sewerage system

Includes the collection, conveyance and treatment of wastewater and the disposal of treated effluent.

Compliance

Compliance is where the utility meets the licence conditions prescribed by the environmental regulator.

Non-compliance

Non-compliance is where the utility does not meet such conditions, or has received a financial (greater than $10 000 per incident) or other penalty or had any successful litigation against it by the environmental regulator (or equivalent) or its representative.

Note:

A treatment plant would be non-compliant if it failed to comply with its licence conditions. The backup elements of a financial penalty or litigation against the utility are intended to address the situation where a utility has met its licence condition, but where the treatment works performance is nevertheless considered to be unsatisfactory by the regulator or by a court.

Examples

1. Infringements that may not result in non-compliance include (subject to state regulation) losing a sample or reporting a sample late.
2. Infringements that result in non-compliance may include (subject to state regulation) a spill or discharge contrary to regulatory limits.

The water utility may provide a brief summary to detail any non-compliance. The actual incident may have occurred in a financial year before the penalty is applied.

Units

yes or no

Biosolids reuse

Reported indicators	Indicator number	Auditable
Per cent of biosolids reused (%)	E8	Yes (process)

Purpose

To report on the level of reuse of biosolids.

Definitions

Biosolids

Primarily organic solids derived from sewage treatment processes, which can be managed to sustainably utilise their nutrient, soil conditioning, energy or other value. The solids that do not meet these criteria are defined as sewage sludge.

Biosolids reuse

Reuse involves managing biosolids safely and sustainably to beneficially utilise their nutrient, energy, or other values. This may include biosolids beneficially used for agriculture (e.g. fertiliser), soil conditioning, mine rehabilitation, and other applications recognised as reuse.

The dry weight of biosolids reused may be greater than the dry weight of biosolids produced if the business is also reusing existing stockpiles.

Total dry weight tonnes of biosolids produced

For mechanical or other sewage treatment processes where the biosolids are available for reuse within a short time frame (e.g. less than one year) the volumes produced for the financial year should be included.

For sewage treatment processes where the biosolids are NOT available for reuse within a short time frame (e.g. lagoon processes of 10–30 years), the water utility should account for the accumulation of solids for a financial year. It is suggested that the volume accumulated be calculated using one of the following methodologies:

a. using appropriate sampling techniques, determine the volume of solids entering the lagoon process (or equivalent) in a financial year. After accounting for those solids consumed due to biological activity, determine the total accumulation of solids for the financial year.

b. assess the existing depth of accumulated solids in all lagoons to determine an average annual rate of accumulation. This average figure should then be used.

Note: An estimate of volume using the above methodologies is sufficient for reporting against this indicator.

Units

per cent (%)

Calculations

E8 – Per cent of biosolids reused =
(Total dry weight tonnes of biosolids reused / Total dry weight tonnes of biosolids produced) x 100%

Net greenhouse gas emissions

Reported indicators	Indicator number	Auditable

Greenhouse gas emissions – Water (tonnes CO_2-equivalents per 1000 connected water properties)	E9	No (audit required if not reporting total E12)
Greenhouse gas emissions – Bulk utility water (tonnes CO_2-equivalents per ML)	E9.1	No (audit required if not reporting total E12)
Greenhouse gas emissions – Sewerage (tonnes CO_2-equivalents per 1000 connected sewerage properties)	E10	No (audit required if not reporting total E12)
Greenhouse gas emissions – Bulk utility sewerage (tonnes CO_2-equivalents per ML)	E10.1	No (audit required if not reporting total E12)
Net Greenhouse gas emissions – Other (net tonnes CO_2-equivalents per 1000 connected water properties)	E11	No (audit required if not reporting total E12)
Net greenhouse gas emissions – Bulk utility other (net tonnes CO_2-equivalents per ML)	E11.1	No (audit required if not reporting total E12)
Total net greenhouse gas emissions (net tonnes CO_2-equivalents per 1000 connected water properties)	E12	Yes (process)
Total net greenhouse gas emissions – Bulk utility (net tonnes CO_2-equivalents per ML)	E12.1	Yes (process)

Purpose

To report the contribution of water, sewerage and other activities to greenhouse gas emissions. It is important not to consider a single indicator on its own, but rather to look at the total environmental footprint. For example, increased sewage treatment levels can provide water quality benefits, but they will also consume additional energy, resulting in greater net greenhouse gas emissions.

Note: Conversion factors for greenhouse emissions should be based on those provided by the Department of Climate Change and Energy Efficiency – National Greenhouse Accounts (NGA) Factors (July 2013), available at http://www.climatechange.gov.au/sites/climatechange/files/documents/07_2013/national-greenhouse-accounts-factors-july-2013.pdf

Note : the National Greenhouse Accounts Factors 2013 indicates that both on-site and off-site carbon sequestration offsets should be included. Sale or disposal of RECs is not addressed by the NGA Factors

NGA factors may also point to other info sources such as the National Greenhouse & Energy Reporting System (Measurement Determination) for further technical information.

To ensure consistency with national reporting requirements (e.g. NGERS), scope 1 and scope 2 emissions only are included in the National Performance Framework. Scope 3 emissions are excluded.

Definitions

Greenhouse gas emissions – Water

The greenhouse gas emissions (CO_2-equivalent) generated by the water utility, directly (scope 1) and indirectly (scope 2), through all its operations relating to water supply. Scope 3 emissions are excluded. Conversion factors should be based on those provided by the Department of Climate Change and Energy Efficiency– National Greenhouse Accounts (NGA) Factors (2011) specific to the water utility's location.

Includes bore fields, pipelines and water mains and channels associated with water sources and for the transfer of water from scheme to scheme.

Greenhouse gas emissions – Sewerage

The greenhouse gas emissions (CO_2-equivalent) generated by the water utility, directly (scope 1) and indirectly (scope 2), through all its operations relating to sewerage. Scope 3 emissions (other indirect emissions) are excluded. Conversion factors should be based on those provided by the Department of Climate Change and Energy Efficiency – National Greenhouse Accounts (NGA) Factors (2011) specific to the water utility's location.

Net greenhouse gas emissions – Other

This indicator is a balancing item, which reports the net greenhouse gas emissions generated by the water utility, directly (scope 1) and indirectly (scope 2) relating to other activities such as transport (vehicles) and office buildings. Vehicles whose purpose directly relates to the operations of the water infrastructure should be included in 'scope 1' emissions, rather than 'scope 2. 'Scope 3 emissions are excluded.

This 'Other' category should also include accredited sequestration activities. Please refer to the Department of Climate Change and Energy Efficiency – National Greenhouse Accounts (NGA) Factors (2011) for advice on accounting for sequestration.

Note: Reporting a negative figure is appropriate in the case that the amount of carbon sequestered is greater than the carbon emissions from transport and office buildings.

Sequestration = The amount of carbon sequestered per unit time (e.g. 12 months). It is a measure of the increase in the amount of carbon removed from the atmosphere during the period. The most common form of sequestration is through establishing tree plantations.

Total net greenhouse gas emissions

This indicator is the total net greenhouse emissions from water, sewerage and other.

Note

Electricity consumption records are required for this indicator. Electricity bills generally cover a period of time anywhere between one and six months. It is recommended that water utilities pro-rate the electricity usage in order to obtain a figure for the relevant financial year. If there is a need to extrapolate, the water utility should account for seasonal variations in electricity use. Ideally where pro-rating is used, a suitable footnote will be included.

In the event that pro-rating cannot be done, the utility can provide data based on the 12 months that most closely align with the reporting year. These data should also be provided with a footnote.

The bulk water utility indicators (E9.1, E10.1, E11.1, E12.1,) apply only to bulk water utilities such as Sydney Catchment Authority, Melbourne Water and Rous Water. They do not apply to utilities providing a reticulated supply to their customers .

Units

net tonnes CO_2-equivalents per 1000 properties

CO_2-equivalents are the amounts of carbon dioxide that would have the same relative warming effect as the greenhouse gases actually emitted.

Sewer overflows

Reported indicators	Indicator number	Auditable
Sewer overflows reported to environmental regulator (No. per 100 km of sewer main)	E13	Yes (partially derived)

Purpose

To report the number of sewer overflows that were required to be reported to the environmental regulator.

The number of overflows may be used as a partial indicator of the condition of the sewerage network and how effectively the network is being managed. It may also be used to compare customer service.

It is acknowledged that environmental regulators in the different states and territories may have differing criteria for what they consider an overflow of 'serious nature', such as overflow volumes, location to sensitive areas and repeat cases.

Definitions

Number of sewer overflows reported to environmental regulator

When untreated sewage spills or discharges and escapes from the sewerage system (i.e. pumping stations, pipes, maintenance holes or designed overflow structures) to the external environment. It is required to be reported to the environmental regulator as per the utility's licence.

Overflows are those caused by system faults originating in the system under the water utility's responsibility.

This includes:

- ✓ property service connections that are owned or maintained by the utility.

This does NOT include:

- ✗ spills that are not reported to the environmental regulator
- ✗ spills, discharges or overflows contained within emergency storages where no pollution of the environment occurs, e.g. an emergency storage tunnel.

External environment

External environment is the area surrounding the infrastructure (e.g. pump station) from which a spill occurs, regardless of whether the external environment is owned by the water utility. An overflow structure from which a spill does not escape is not in the external environment.

Calculations

E13 – Number of sewer overflows reported to environmental regulator per 100 km of sewer main = Total number of sewer overflows reported to environmental regulator / (Total length of sewer mains / 100)

Pricing and finance

Residential tariff structure

Reported indicators	Description	Indicator Number	Auditable
Tariff structure (text)	(Description)	P1	
Free water allowance (kL/property)		P1.1	
Fixed charge ($/property)	(Basis for charge)	P1.2	
Usage charge 1st step ($/kl)	Up to kL	P1.3	
Usage charge 2nd step ($/kl)	From kL to kL	P1.4	
Usage charge 3rd step ($/kl)	From kL to kL	P1.5	
Usage charge 4th step ($/kl)	From kL to kL	P1.6	
Usage charge 5th step ($/kl)	From kL to kL	P1.7	
Usage charge 6th step ($/kl)	From kL to kL	P1.8	
Usage charge 7th step ($/kl)	From kL to kL	P1.9	
Usage charge 8th step ($/kl)	From kL to kL	P1.10	
Usage charge 9th step ($/kl)	From kL to kL	P1.11	
Special levies ($/property)	(Description)	P1.12	
Income from special levies retained by utility? (yes/no)		P1.13	
Annual bill based on 200 kL/a ($)		P2	No (audit required if not reporting total P7)
Average annual residential water supplied (kL)		P2.1	
Typical residential bill ($)		P3	No (audit required if not reporting total P8)
Number of meter readings per annum (No.)		P3.1	
Number of bills per annum (No.)		P3.2	
SEWERAGE			
Tariff structure			
Fixed charge ($/property)			
Usage charge ($/kl)			
Special levies ($/property)			
Income from special levies retained by utility? (yes/no)			
Annual bill based on 200kL/a ($)		P5	No (audit required if not reporting total P7)

Reported indicators	Description	Indicator Number	Auditable
Typical residential bill ($)		P6	No (audit required if not reporting total P8)
Number of bills per annum (No.)			
WATER SUPPLY AND SEWERAGE			
Annual bill based on 200kL/a ($)		P7	Yes
Typical residential bill ($)		P8	Yes

Purpose

This indicator covers tariff structures for residential customers. The tariff is divided into fixed and pay-for-use charges. The figures quoted should represent the major town in the utility's service area.

Note: The annual bill based on 250 kL/year was changed in the 2007–08 reporting year to be based on 200 kL/year.

Definitions

Fixed charge

The fixed amount the business levies on a residential property per year. This is the component of each residential property's bill that does not vary with the amount of water used or sewage produced.

The basis for the fixed charge is to be provided (e.g. percentage of property value, meter sizes).

Pay-for-use charge

The charge per unit of consumption levied upon a residential customer for their use. This is expressed as dollars per kilolitre.

Steps

There may be steps in the pay-for-use charge as usage increases past certain levels, meaning the same charge may not apply to each unit used by the customer. The steps of the pricing structure, usually in kilolitres (kL), are the points where the usage charge applied to each customer changes. The steps identified should include free consumption allowances.

Special levies

Special levies are any charges that are directly levied upon properties and are neither a fixed or pay-for-use charge for water or sewage (e.g. environmental improvement levy).

Typical residential bill

The dollar amount of the typical RESIDENTIAL water or sewerage bill for the financial year (see example 1). This information is premised on the average annual residential consumption for a full-paying customer.

Calculation:

Typical Residential Bill =
Residential sewerage charge + residential water fixed charge + special levies + residential water usage charge for the average residential consumption.

Number of meter reads per year

The number of times a residential customer's meter is read per year.

Annual residential bill based on 200kL/a =
Residential sewerage charge + residential water fixed charge + special levies + residential water usage charge for 200kL consumption

(see example 2).

Units

dollars ($),

kilolitres (kL)

dollars per kilolitre ($/kL)

Examples

1. Typical residential bill water and sewerage, where:
   - Sewerage fixed charge = $100/year (no consumption charge)
   - Water fixed charge = $50/year
   - Special levy = $30/year
   - Average residential consumption per property = 300 kL (calculated from 'Average annual residential water supplied per property', indicator W12)
   - Water pay-for-use charge = $1/kL = $1 x 300 kL = $300

   Therefore, the typical residential bill water and sewerage = $100 + $50 + $300 + $30 = $480
2. Annual average residential bill water and sewerage based on 200 kL consumption, where:
   - Sewerage fixed charge = $100/year (no consumption charge)
   - Water fixed charge = $50/year
   - Special levy = $30/year
   - Water pay-for-use charge = $1/kL = $1 x 200 kL = $200

   Therefore, the annual residential bill for 200 kL = $100 + $50 + $200 + $30 = $380

Revenue

Reported indicators	Indicator number	Auditable
Total Revenue – Water ($000)	F1	Yes
Total Revenue – Sewerage ($000)	F2	Yes
Total Income for utility ($000)	F3	Yes
Residential revenue from usage charges – Water (%)	F4	Yes
Revenue per property for water supply services ($/property)	F5	Yes (audit derived)

Revenue for water supply services ($/ML) – Bulk utility	F5.1	Yes (audit derived)
Revenue per property for sewerage services ($/property)	F6	Yes (audit derived)
Revenue for sewerage services – Bulk utility ($/ML)	F6.1	Yes (audit derived)
Income per property for utility ($/property)	F7	Yes (audit derived)
Income for whole of utility – Bulk utility ($/ML)	F7.1	Yes (audit derived)

Purpose

To report the total revenue and revenue per property for water supply and sewerage.

To report the total income and the income per property for the utility as a whole.

Notes:

1. The indicator 'Total revenue for whole of utility' was a NEW INDICATOR in the 2005–06 report. This indicator has been revised to total income for utility, which includes the net gain or loss on disposal of assets (Australian Accounting Standard Board (AASB) 116). Historical data can be published only if it is in line with this definition.
2. Historical data for Australian utilities will be reported in real terms using the eight-state average consumer price index for the reporting year. Only nominal figures are to be entered into the National Performance Report database. Calculations of real figures are completed automatically in the database.

   The headline consumer price index for New Zealand for the reporting year will be used for those reporting utilities.
3. State- and territory-wide water utilities should also report the total income for their entire operations in a footnote.

Definitions

Revenue

The water utility should report total revenue. Revenue will include, but may not be limited to, the following:

- ✓ revenue from pay-for-use and base-rate charges for provision of water (including recycled water) and sewerage services to residential and non-residential customers (AASB 118)
- ✓ special levies
- ✓ all contributed cash and assets (otherwise known as gifted assets, developer charges or headworks contributions)
- ✓ receipts from governments for specific agreed services (e.g. community service obligations)
- ✓ other revenue from operations which would otherwise be included
- ✓ revenue from bulk water sales (for those businesses that supply bulk water)
- ✓ sewerage (including trade waste).

Revenues, where possible or material (in assessing materiality, refer to AASB 1031), should EXCLUDE the following:

- ✗ funds received for specific capital works from governments or other parties

- equity contributions from governments
- investment activities
- non-core utility activities (e.g. consulting, agriculture, property leases)
- income from net asset sales.

Total income for utility

Income from water and sewerage businesses and related activities. Where appropriate this will include non-metropolitan businesses.

Income includes any item that would be classified as income in the 'Income statement'. Related activities should INCLUDE:

- developer charges
- headworks
- insurance recoveries
- private works
- water (including bulk water and recycling)
- administration fees and charges (such as information statements, property plans)
- income from net asset sales (AASB 116).

Related activities should exclude:

- stormwater activities.

Note: Total income is not necessarily the sum of total revenue – water and total revenue – sewerage.

Residential revenue from water usage charges (%)

The water utility should report the residential revenue from water usage charges as a percentage of the residential revenue from water usage charges, access charges and any environmental levies for water supply.

Note:

1. Spikes in revenues caused by large asset sales or by building booms (i.e. unusual amounts of revenues from developer charges) or falls in revenues due to water restrictions may be explained by the use of footnotes.
2. Previously any abnormal revenue, as described by the relevant accounting standard, was overtly excluded under AASB 1031. Given the recent change to AASB 1031, exclusion of these revenues is problematic. If they are excluded, then this should be reflected through a footnote.
3. Interest charged on late payments from customers is included.

The bulk water utility indicators (F5.1, F.6.1, and F7.1) apply only to bulk water utilities such as Sydney Catchment Authority, Melbourne Water and Rous Water. They do not apply to utilities providing a reticulated supply to their customers such as Sydney Water, Yarra Valley Water or Gosford Council

Units

thousands of dollars ($000s)

dollars per property ($/property)

Calculations

F4 – Residential Revenue from usage charges – water (%) =
(Residential revenue from water usage charges) x 100 / (residential revenue from water usage charges + residential revenue from access charges + environmental levies for water supply)

F5 – Revenue per property for water supply services ($/property) =
Total water revenue / connected water properties

F6 – Revenue per property for sewerage services ($/property) =
Total sewerage revenue / connected sewerage properties

F7 – Income per property for utility ($/property)
Total income for utility / total connected water properties

Note: The eight-state average consumer price index will be used in the National Performance Report database to inflate figures to real dollars as appropriate.

Revenue from community service obligations (CSOs)

Reported indicators	Indicator number	Auditable
Revenue from community service obligations (%)	F8	Yes

Purpose

To report the proportion of the utility's revenue that is obtained from community service obligations (CSOs).

Definitions

Community service obligations (CSO)

Refer to definition of 'Community service obligations (CSO)' – F25

Total income

Refer to definition of 'Total income' – F3

Where appropriate this will include non-metropolitan businesses.

Percentage of revenue from community service obligations (CSOs)

The revenue from CSOs divided by the total income for the utility (including CSOs).

Units

thousands of dollars ($000s)

Calculations

F8 – Revenue from CSOs (%) =
(Revenue from CSOs) x 100 / (Total Income for utility)

Written-down value of fixed assets

Reported indicators	Indicator number	Auditable
Written-down value of fixed water supply assets ($000s)	F9	No
Written-down value of fixed sewerage assets ($000s)	F10	No

Purpose

This indicator provides information on the value of the utility's water and sewerage assets. The written-down value represents the value of the fixed assets of the utility to deliver services and hence derive income.

Definitions

Please disclose the method used to determine value as a note when reporting for these indicators.

The Roundtable group is seeking consistency in the approach to asset valuation in the future.

Units

thousands of dollars ($000s)

Costs

Reported indicators	Indicator number	Auditable
Operating cost – Water ($/property)	F11	Yes (partially derived)
Operating cost – Bulk utility water ($/ML)	F11.1	Yes (partially derived)
Operating cost – Sewerage ($/property)	F12	Yes (partially derived)
Operating cost – Bulk utility sewerage ($/ML)	F12.1	Yes (partially derived)
Combined operating cost water and sewerage ($/property)	F13	Yes (derived audit)
Combined operating cost – Bulk utility water and sewerage ($/ML)	F13.1	Yes (derived audit)

Purpose

To report the operating costs (operation, maintenance and administration (OMA)) of a water utility in relation to the number of properties serviced by the water business. It is divided into water supply and sewerage operating costs. Interpretation of the operating costs should be viewed in the context of the service delivery results of the water utility.

Note: Historical data for Australian utilities will be reported in real terms using the eight-state average consumer price index for the reporting year. Only nominal figures are to be entered into the National Performance Report database. Calculations of real figures are completed automatically in the database.

Where defined benefit schemes impact materially on operating costs, this should be reflected in a footnote

The headline consumer price index for New Zealand for the reporting year will be used for those reporting utilities.

Definitions

F11, F12 – Operating cost – Water, sewerage

Operating costs (OMA) should, where possible or material (in assessing materiality refer to AASB 1031), include the following:

- ✓ water resource access charge or resource rent tax (water supply only)
- ✓ purchases of raw, treated or recycled water (water supply only)
- ✓ charges for bulk treatment/transfer of sewerage (sewerage only)
- ✓ salaries and wages
- ✓ overheads on salaries and wages
- ✓ materials, chemicals and energy used
- ✓ contracts
- ✓ accommodation
- ✓ all other operating costs that would normally be reported
- ✓ items expensed from work in progress (capitalised expense items) and pensioner remission expenses (CSOs). (CSOs are likely to have an equivalent inclusion in revenue.)
- ✓ competitive neutrality adjustments, which include but are not limited to land tax, debits tax, stamp duties and council rates.

Indirect costs should be apportioned to water and sewerage services

Operating costs should EXCLUDE the following: (see note below)

- ✗ all non-core business operating costs
- ✗ depreciation
- ✗ any write-downs of assets to recoverable amounts
- ✗ write-offs retired or scrapped assets
- ✗ the written-down value of assets sold.

Note: These write-offs could be equated to accelerated depreciation and therefore should be included within current cost depreciation. This will then be included as part of the calculation of total costs for the relevant period.

When assets are sold, their book value should be included in current cost depreciation (as it may be accelerated depreciation). Selling expenses, although expected to be immaterial, should be included in operating costs.

In apportioning indirect costs, the business should apply a consistent methodology for all reporting years.

Treatment of built, owned, operated, and transferred (BOOT) schemes

Costs associated with BOOT schemes should be reported according to accounting standards.

All infrastructure should be treated as if owned and operated by the water utility. The utility should extract all capital costs from the operating cost of the BOOT and add the equivalent (likely to be estimated) replacement cost and depreciation values where appropriate in the survey reported values.

Operating costs for water utilities with one or more BOOT plants are divided into:

a. operating costs for the BOOT scheme/s

b. all other (non-BOOT) operating costs

c. depreciation associated with all non-BOOT assets.

Item (a) represents the payment made by the water business to the BOOT operator (usually a contractor). This charge is made up of three components, which are determined by the BOOT operator, and may be able to be sourced from the original contract: the BOOT operator's operating costs, depreciation of the BOOT asset, and return on assets for the BOOT asset. These three components are dealt with as follows:

- the BOOT operator's operating costs are added to item (b) above to make the total operating costs for the water utility
- the depreciation of the BOOT asset is added to item (c) above to form the input to current cost depreciation, used in total costs.

The return on assets for the BOOT asset is used to determine the asset's value through back-calculation. This asset value is then added to the water businesses written down replacement cost of fixed assets. The return on assets for the BOOT asset is not included in the water utility's return on assets data

Note

1. Interest should be excluded from operating costs as it is reported separately.

Units

thousands of dollars ($000s)

dollars per property ($/property)

Calculations

F11 – Operating cost – water ($/property) =
Operating cost for water supply / water connected properties

F11.1 – Operating cost – bulk utility water ($/ML) =
Operating cost for water supplied/total water supplied

F12 – Operating cost – sewerage ($/property) =
Operating cost for sewerage / sewerage connected properties

F12.1 – Operating cost – bulk utility sewerage ($/ML) =
Operating cost for sewerage/total sewage collected

F13 – Combined operating cost water and sewerage ($/property) = F11 + F12

F13.1 – Combined operating cost – bulk utility water and sewerage ($/ML) = F11.1 + F12.1

Note: The eight-state average consumer price index will be used in the National Performance Report database to inflate these figures to real dollars.

Capital expenditure

Reported indicators	Indicator number	Auditable
Total water supply capital expenditure ($000s)	F14	Yes
Total sewerage capital expenditure ($000s)	F15	Yes
Total capital expenditure for water and sewerage ($000s)	F16	Yes (derived audit)
Water supply capital expenditure ($/property)	F28	Yes (derived audit)
Water supply capital expenditure – Bulk utility ($/ML)	F28.1	Yes (derived audit)
Sewerage capital expenditure ($/property)	F29	Yes (derived audit)
Sewerage capital expenditure – Bulk utility ($/ML)	F29.1	Yes (derived audit)

Purpose

This indicator reports the capital expenditure of the water utility.

Note: Historical data for Australian utilities will be reported in real terms using the eight-state average consumer price index for the reporting year. Only nominal figures are to be entered into the National Performance Report database. Calculations of real figures are completed automatically in the database.

The headline consumer price index for New Zealand for the reporting year will be used for those reporting utilities.

Definitions

F14 – Total water supply capital expenditure

The actual capital expenditure on water supply for the reporting year. This should include all capital expenditure for:

- ✓ new works
- ✓ renewals or replacements
- ✓ other expenditure that would otherwise be referred to as capital
- ✓ recycling water assets
- ✓ plant and equipment.

F15 – Total sewerage capital expenditure

The actual capital expenditure on sewerage for the reporting year. This should include all capital expenditure for:

- ✓ new works

- ✓ renewals or replacements
- ✓ other expenditure that would otherwise be referred to as capital
- ✓ plant and equipment.

F16 – Total capital expenditure for water and sewerage services

The actual capital expenditure on water/sewerage supply for the reporting year. This should include all capital expenditure for:

- ✓ new works
- ✓ renewals or replacements
- ✓ other expenditure that would otherwise be referred to as capital
- ✓ recycling water assets
- ✓ plant and equipment.

Notes

1. Gifted/development assets are not to be included in capital expenditure.
2. Capital expenditure is recognised in the year that it is incurred.

Units

thousands of dollars ($000s)

Economic real rate of return – water and sewerage

Reported indicators	Indicator number	Auditable
Economic real rate of return – Water (ratio)	F17	Yes
Economic real rate of return – Sewerage (ratio)	F18	Yes
Economic real rate of return – Water and sewerage (ratio)	F19	Yes

Purpose

To demonstrate that the water and sewerage businesses meet the requirements of National Competition Policy to achieve full cost recovery.

Definitions

Economic real rate of return – Water or sewerage

Revenue from water or sewerage business operations less operating expenses (operation, maintenance and administration expenses (OMA) + current cost depreciation) for the water or sewerage business divided by the value of operational assets for the water business.

Note: It is recognised that not all urban water utilities will be able to report on the basis of the written-down replacement cost, in which case the utility should note the approach used to value assets. It should be noted that the roundtable group and WSAA are seeking consistency in the approach to asset valuation in the future.
Revenue from operations includes all developer cash and asset contributions for the water and sewerage business.

Revenue from operations excludes interest income, grants for acquisition of assets and gain/loss on disposal of assets for the water and sewerage business.

Current cost depreciation

Expense should be based on the change in the value of the fixed assets plus plant and equipment during the reporting period.

Units

per cent (%)

Calculations

Economic real rate of return – water or sewerage =
(Revenue from water or sewerage operations – OMA – current cost depreciation) x 100 / value of fixed assets plus plant and equipment

Utilities should allocate corporate overheads on a reasonable basis

Dividends

Reported indicators	Indicator number	Auditable
Dividend ($000s)	F20	Yes
Dividend payout ratio (%)	F21	Yes (partially derived)

Definitions

Dividend

This amount relates to dividends paid, payable or proposed to be paid in relation to current year profit for the water and sewerage business for the WHOLE water utility. This refers to the interim dividend paid during the financial year and the final dividend for the current financial year which is proposed to be paid in relation to the current year profit.

Where appropriate, this will include non-metropolitan businesses.

Note:

1. Historical data for Australian utilities will be reported in real terms using the eight-state average consumer price index for the reporting year. Only nominal figures are to be entered into the National Performance Report database. Calculations of real figures are completed automatically in the database. The headline consumer price index for New Zealand for the reporting year will be used for those reporting utilities.
2. Data for this indicator should reflect the figures for the water and sewerage business for the WHOLE water utility. This is done in recognition of the inappropriateness of apportioning dividend payments across the business products. Accordingly, net profit after tax used in determining the dividend payout ratio should also be that for the WHOLE water utility.
3. Declared dividend refers to the interim dividend paid during the financial year and the final dividend for the current financial year which is proposed to be paid in relation to the current year profit.

4. Dividend payable refers to monies paid in the year.
5. State- and territory-wide water utilities should report the total dividend for their entire operations.

Units

thousands of dollars ($000s)

per cent (%)

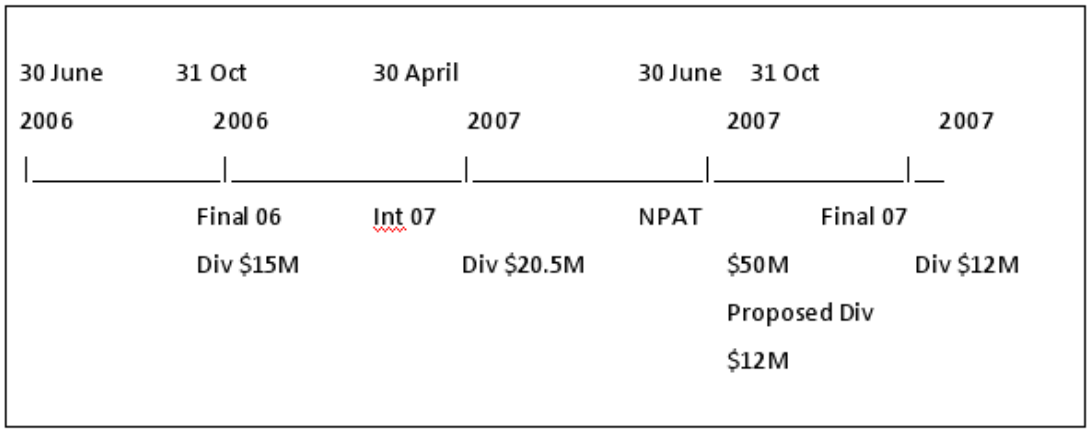
Calculations

Dividend payout ratio =
(Dividend paid or payable or proposed) x 100 / (Net profit after tax)

Examples

1. The year being reported on is the year ended 30 June 2007.
2. A business has a net profit after tax for the year ended 30 June 2007 of $50 000 000.
3. The business paid a final dividend for the year ended 30 June 2006 in October 2006 of $15 000 000.
4. The business paid an interim dividend for the year ended 30 June 2007 in April 2007 of $20 500 000.
5. The business paid a final dividend for the year ended 30 June 2007 in October 2007 of $12 000 000. This dividend was proposed only in the financial statements for the year ended 30 June 2007 as the all relevant parties had not agreed as to the amount of the dividend.

This is represented by the following timeline:



The dividend paid for the 2007 financial year would be $15M + $20.5M = $35.5M

The dividend paid/payable/proposed for the 2007 financial year would be $20.5M + $12M = $32.5M

The dividend payout ratio would be: $\frac{\text{(Dividend paid or payable or proposed)}}{\text{(Net profit after tax)}} \times 100$

$= \frac{\$32.5M}{\$50M} \times 100$

$= 65\%$

Net debt to equity

Reported indicators	Indicator number	Auditable
Net debt to equity %	F22	Yes

Definitions

Debt

Debt includes

- interest bearing repayable borrowings
- non-interest bearing repayable borrowings
- interest bearing non-repayable borrowings
- redeemable preference shares
- finance leases.

Debt excludes creditors and provisions, but offsetting assets, such as contributions to sinking funds, are not deducted.

Net debt

The net debt for the water and sewerage businesses of the WHOLE water utility for the reporting year.

Net debt = (long term borrowings + short term borrowings) – (cash + investments)

Equity

Equity is the total assets less total liabilities for the WHOLE water utility.

Units

per cent (%)

Calculations

F22 – Net debt to equity = Net debt x 100 / (total assets – total liabilities)

Note

The data for this indicator should incorporate the figures for the WHOLE water utility. This is done in recognition of the inappropriateness of apportioning debt across the business products. Pre-payment of debts is included in the investment component of the debt calculation.

Interest cover

Reported indicators	Indicator number	Auditable
Interest cover (ratio)	F23	Yes

Definitions

Interest

Interest includes:

- net cost of short-term loans
- net cost of medium-term loans
- net cost of long-term loans.

Borrowing costs

'Borrowing' costs are defined in AASB 123, and may include:

- interest on bank overdrafts and short, medium and long-term borrowings
- amortisation of discounts or premiums relating to borrowings
- amortisation of ancillary costs incurred in connection with the arrangement of borrowings
- finance charges with respect to finance leases recognised in accordance with AASB 117 Leases
- exchange differences arising from foreign currency borrowings to the extent that they are regarded as an adjustment to interest costs.

Note: AASB is applicable to reporting periods beginning on or after 1 January 2005. For periods prior to this, AASB 123 or AAS 34 should be applied.

In addition to AASB 123, 'borrowing' costs may also include:

- administrative fees payable to relevant state treasuries, where applicable i.e. Treasury Corporation Victoria (TCV) fees (Victoria),
- any levies or charges imposed by respective state treasuries for the purpose of competitive neutrality because of government guaranteed debt i.e. financial accommodation levy (Victoria).

Net interest expense

Net interest expense = (interest expense – interest income). The net interest expense is zero for interest income greater than interest expense.

Interest cover

The earnings before interest and tax (EBIT) divided by net interest expense for the WHOLE water utility. The interest cover is nil for a loss-making utility. Similarly, if net interest expense is zero (i.e. no interest expense or interest income is greater than interest expense) for a profit-making utility, then the interest cover is infinite but should be reported as being more than 100 ('>100').

Earnings before interest and tax (EBIT)

Revenue from the WHOLE of water utility operations less operating expenses (operation, maintenance and administration expense (OMA) + current cost depreciation) for the WHOLE of water and sewerage business.

Revenue from operations includes all developer cash and asset contributions for the water and sewerage business.

Revenue from operations excludes interest income, grants for acquisition of assets and gain/loss on disposal of assets for the water and sewerage business.

Depreciation expense should be based on written-down replacement cost.

Note:

If EBIT is less than 0 then interest cover is nil. If net interest expense is zero and EBIT is more than 0 then report the interest cover as '>100'.

Units

ratio

Calculation

Interest cover = EBIT / Net interest expense

Note

The data for this indicator should reflect the figures for the water and sewerage businesses of the WHOLE of the water utility's activities. This is done in recognition of the inappropriateness of apportioning interest across the business products.

Net profit after tax

Reported indicators	Indicator number	Auditable
Net profit after tax (NPAT) ($000s)	F24	Yes
NPAT Ratio (%)	F30	Yes (derived audit)

Purpose

Report the net profit after tax disclosed in the utility's annual financial statements.

Note: Historical data for Australian utilities will be reported in real terms using the eight-state average consumer price index for the reporting year. Only nominal figures are to be entered into the National Performance Report database. Calculations of real figures are completed automatically in the database.

The headline consumer price index for New Zealand for the reporting year will be used for those reporting utilities.

Units

thousands of dollars ($000s)

per cent (%)

Calculations

NPAT Ratio =
(F24 – Net profit after tax (NPAT) ($000's)) x 100 / F3 – Total income for whole of utility ($000s)

Revenue from Community Service Obligations (CSOs)

Reported indicators	Indicator number	Auditable
Community service obligations ($000s)	F25	Yes

Purpose

To report the value of payments or revenue for the provision of the non-commercial or community service outcome objectives of government, delivered by the water utility.

Note: Historical data for Australian utilities will be reported in real terms using the eight-state average consumer price index for the reporting year. Only nominal figures are to be entered into the National Performance Report database. Calculations of real figures are completed automatically in the database.

The headline consumer price index for New Zealand for the reporting year will be used for those reporting utilities.

Definition

Community service obligation payment

A community service obligation payment is a subsidy provided by government to allow for the provision of a good or service at less than total cost, e.g. small regional community provided with water at less than total cost.

A CSO must be:

1. A non-commercial product or service

   It should be clearly established that a CSO relates to the provision of non-commercial products or services, that is, products and services whose provision is not in the commercial interests of a commercial business entity.

   To qualify as CSOs, activities must be ones that would otherwise not be undertaken, or would be priced differently, by commercial entities (based on the entity earning normal commercial profit levels and the products or services being delivered on a cost-effective basis).

   In some instances, the delivery of products and services may be commercially viable at levels below those desired by the government. Therefore, such services will contain both commercial and non-commercial elements. Clearly, CSOs should relate only to the non-commercial element of the product or service.

2. Purchased by the government on behalf of the community

   To qualify as a CSO, a product or service needs to be clearly purchased by the government for delivery to the community on its behalf to achieve a specific social or economic objective that has been established by the government.

3. Purchased from a commercial business entity

   To qualify as a CSO, a product or service must be purchased by the government from an appropriate commercial business entity.

On the basis of the criteria outlined above, the following four categories of activities would qualify as CSO payments:

- payment by government for delivery of services to final consumers or industry at uniform prices, regardless of variations in the cost of supply (e.g. uniform water tariff)
- payment by government for delivery, at no charge or below cost, of services or service levels which would not be provided on purely commercial grounds (e.g. remote community water services)
- payment by government towards the cost of price concessions to particular groups of customers (e.g.

various pensioner/senior concessions)

- payment by government towards the cost of purchase of inputs at levels or types that differ from purely commercial levels in order to achieve other objectives (e.g. employing additional apprentices).

Note: Reductions in charges for services to any consumers, including pensioners and seniors which are provided without payment for the reduction by government would be a cross-subsidy and not a CSO.

Units

Thousands of dollars ($000s)

Note

The data for this indicator should reflect the figures for the water and sewerage businesses of the WHOLE water utility. This is done in recognition of the inappropriateness of apportioning CSO payments across the business products. Consistent with other references in the Handbook WHOLE water utility is defined as the particular scheme or geographic area being reported. State- and territory-wide water utilities should also report the CSO for their state-wide operations in a footnote.

Examples

1. Legislation requires a water utility to provide a $100 reduction to the water supply bills for pensioners. The government meets the cost of $60 of this reduction, with the remaining $40 to be met by the water utility:
   - the CSO value is $60 as this is the amount paid by the government.
2. Legislation states that certain properties (e.g. schools and churches) may be provided with a reduction in water supply and sewerage charges, but the government does not make any payments:
   - as there are no payments by the government, such reductions in charges are not a CSO.

Capital works grants – water and sewerage

Reported indicators	Indicator number	Auditable
Capital works grants – Water ($000s)	F26	Yes
Capital works grants – Sewerage ($000s)	F27	Yes

Purpose

To report the magnitude of assistance in the form of government grants made to the water or sewerage business for capital works projects.

Note: Historical data for Australian utilities will be reported in real terms using the eight-state average consumer price index for the reporting year. Only nominal figures are to be entered into the National Performance Report database. Calculations of real figures are completed automatically in the database.

The headline consumer price index for New Zealand for the reporting year will be used for those reporting utilities.

Definitions

Capital works grants

Capital works grants are funds received within the reported financial year from governments for specific capital works.

Units

thousands of dollars ($000s)

Examples

1. A grant of $1 million for a backlog water supply scheme for a town without a reticulated water supply IS a capital works grant.
2. A grant for construction of a new weir, which will not be owned by the water utility, IS NOT a capital works grant.

Public Health

Water quality compliance

Reported indicators	Indicator number	Auditable
Water quality guidelines (text)	H1	No
Number of zones where microbiological compliance was achieved (e.g. 23/24)	H2	Yes
% of population where microbiological compliance was achieved (%)	H3	Yes
Number of zones where chemical compliance was achieved (e.g. 23/24)	H4	Yes
Risk-based drinking water management plan externally assessed? (yes/no)	H5	No
Risk-based drinking water management plan (Please specify plan in place e.g. ISO9001, HACCP, ADWG Aquality assessment)	H6	No
Public disclosure of drinking water quality performance (yes/no)	H7	Yes (process)

Purpose

To report on the number of drinking water quality zones that were compliant with the ADWG or licence conditions imposed on the utility. This gives an indication of the overall performance of the utility's water treatment and, if problems exist, whether they are localised or widespread. NWI indicators H1, H2, H3, H4, H5, H6 and H7 provide information on how well the utility is managing its water treatment facilities and distribution system.

Water quality systems and the guidelines or standards to which a water utility is required to report compliance may significantly influence the level of capital investment and operating costs.

Definitions

Water quality guidelines

The water quality guidelines (standard) specified in the licence (or franchise agreement) or required by the health regulatory agency or government against which the water utility measures verification of water quality (see example 1). In the absence of a formal requirement on the water utility, the requirements of the ADWG should be used.

Number of zones where microbiological compliance achieved

Assessment with the microbiological requirements of the water quality guidelines or standard in each zone of the water supply system. For example, report as 8/11.

Percentage population served where microbiological compliance was achieved

Similar criterion to NWI H2 above, but based on the percentage of the total population served being within the complying zones, e.g. 95%. The percentage of the total population being served with microbiological compliant water is calculated using the total population of each compliant zone, divided by the total population.

Example: 3 zones have populations of 50,000 75,000 and 100,000 respectively. The zone with 100,000 population did not achieve microbiological compliance, however the other 2 zones did. The % of population where microbiological compliance was achieved = (50,000 +75,000)/(50,000+ 75,000+100,000) = 55.56%.

Health-related chemical compliance achieved

Verification assessment with health related parameters of the water quality guideline or standard for each zone of the water supply system.

Water supply system and water supply zones

A water supply zone will generally be defined by each water business using criteria such as:

- a discrete area of similar water quality, e.g. served by one water treatment plant
- an area able to be described by its boundaries
- the nature and design of the water supply system (including the location of service reservoirs, pump stations, tanks, and trunk systems)
- the source and nature of the source of the drinking supply
- the treatment components of the supply system
- ADWG Framework for Management of Drinking Water Quality
- risk-based drinking water quality management plan.

Risk-based systems and plans in place in the water business demonstrate the water business's commitment to a systematic, thorough and focused approach to the management of drinking water across the total area of a water business's operations. Risk-based plans are documented systems that require the following types of issues in relation to water quality to be addressed:

- corporate commitment to water quality
- risk management plans including assessment of the drinking water supply system
- preventative measures (including evaluation of multiple barriers and critical control points)
- operational procedures
- water quality results verification and assessment
- management of incidents and emergencies
- community and stakeholder liaison and education
- system documentation
- staff training in water quality
- investigative studies and validation of processes
- external audit of water quality systems
- review and continual improvement of system.

For robustness, these systems should be externally assessed.

Risk based plans/systems may include:

- HACCP
- ISO 9001
- the WSAA ADWGA quality assessment process
- ADWG Framework for Management of Drinking Water Quality.

External assessment of risk-based drinking water quality management plan

For interpretation, a water utility may answer 'yes' to this indicator when it has been audited by an external accredited assessor and received certification for ISO 9001, HACCP or assessed against the

requirements of the WSAA ADWG Aquality assessment by a RABQSA certified auditor, or assessed by an external assessor against the requirements of the ADWG Framework for Management of Drinking Water Quality.

For each of these systems, external third-party accredited assessment must have taken place within the past 12 months, or as specified by the requirements of the risk management system in place, or as specified by the relevant health regulator. The scope of these quality systems must cover the entire scope of water business water quality management systems. If the quality system covers a more limited area, the indicated quality system must be footnoted with a description of the area covered.

NATA certification of laboratory analyses is NOT an approved water quality personnel management system. NATA accreditation applies to laboratory analytical work, which comprises a small area of the total water quality management system.

Accredited assessment

Assessment carried out by a person(s) external to the organisation and accredited by a certification body such as RABQSA (*www.rabqsa.com*) or approved by a health regulator or WSAA.

Public disclosure of drinking water quality performance

Public disclosure is demonstrated by publishing the utility's drinking water quality performance for the current financial year. Such disclosure could be on a public website or in a report available to the public and should include detailed results for parameters specified in the utility's licence, or as specified by the relevant health regulator, or in the ADWG. Reported test results should be on the basis of tests carried out by a NATA-accredited laboratory or approved equivalent.

Units

For risk based plans and systems – the names of each system accredited or independently assessed (e.g. ISO 9001, HACCP, ADWG Aquality etc).

For microbiological verification – the number of zones where the defined criteria have been achieved (e.g. 23/24).

For health-related chemical/radiological verification – the number of zones where the defined criteria have been achieved (e.g. 23/24).

For public disclosure of drinking water quality performance – yes/no

Calculations

Generally the methodology for calculating microbiological and health related chemical and radiological criteria used for determining compliance is specified by the health regulator in each jurisdiction and if so, this should be used.

In the absence of such specification, the guidance in the ADWG should be used as interpreted below:

Microbiological compliance

For each zone, at least 98% of routinely monitored samples contain no *E. coli* per 100ML of water during the 12 month period.[3]

Note: The ADWG use *E. coli* as the indicator of faecal contamination. For utilities using these

[3] The ADWG use the indicator *E. coli* interchangeably with thermotolerant coliforms.

guidelines for verification of performance, *E. coli* is the required assessment indicator. Total coliforms were removed as an indicator of faecal contamination in the 2004 guidelines; however, some water businesses may still have requirements for verification of water quality using the combination of total coliforms and *E. coli*. If this is case, compliance against total coliforms and *E. coli* should be reported.

Health-related physical or chemical compliance

It is neither physically nor economically feasible to test on an ongoing basis for all substances in a water supply system. Each water supply system will have its own key characteristics, and based on carrying out a risk assessment of those characteristics, a routine monitoring program for these characteristics will be determined.

It is therefore common for water businesses to monitor regularly for contaminants such as disinfection by-products, whereas a wide range of other non-key characteristics will be monitored only irregularly or when changes in the supply system (e.g. seasonal changes) warrant increased routine monitoring frequency.

Some chemical parameters are likely to be monitored in each zone, while others may be monitored in source or treated waters supplying a number of zones.

Chemical contaminants in a water supply system are generally a chronic issue: ingestion must be above a guideline value for a long time before harm is caused. The ADWG therefore suggest that for health related parameters 'each excursion beyond a guideline value should be a trigger for further action'[4], and this generally means more extensive sampling to confirm contaminant levels above the guideline level. While the ADWG are not definitive, they also state that 'for all health related characteristics, a reasonable objective is to be confident that the 95th percentile of results over the preceding 12 months should be less than the guideline value'. This means that the upper bound of the 95th confidence interval for the percentile should be less than the guideline value.[5]

For very regularly monitored data (minimum 30 data points), the upper bound of the 95th percentile approximates the 95th percentile value and takes into account an occasional exceedence of the guideline value (which could be due to sampling error, laboratory error). For contaminants where 30 data points are available, WSAA is therefore adopting the 95th percentile value of a series of monitoring assessments for assessment of verification against the level recommended n the ADWG.

The less the parameter is monitored, the greater the statistical uncertainty of the upper-bound number. For irregularly monitored data points (e.g. fewer than 30 per year), the upper bound of the 95th percentile may be considerably higher than the maximum reading detected. If this system is used, this may result in water businesses publicly reporting exceedences of guideline levels when no monitored sample value exceeds the guideline limit. This would be very difficult to explain to the public. There are further uncertainties in using this mechanism for assessment as some of the assumptions about the underlying statistical principles (such as normally distributed data) may not hold and the mechanisms for deriving most guideline values use assumptions that also have significant error in their estimation.

[4] Section 6.3.4 *Australian Drinking Water Guidelines 2004*

[5] Section 10.7.1 *Australian Drinking Water Guidelines 2004*

For these reasons, for irregularly monitored data points, the maximum value of the data should be used for assessment against the guideline value.

In summary, for health-related chemical and radiological parameters:

- for contaminants sampled 30 or more times during the year, the 95th percentile reading of each health related monitored physical-chemical parameter should be used for assessments against ADWG guideline levels
- for contaminants sampled fewer than 30 times during the year, the maximum reading should be used for assessment of each health related monitored physical-chemical parameter against ADWG guideline levels
- in some jurisdictions, health regulatory agencies will specify to the utility the performance requirements necessary. If this is the case, this should be used rather than the ADWG guidance (the performance requirements must be footnoted in the report).

These should be assessed across each zone in a system and reported as the fraction of zones meeting requirements (e.g. 23/24).

Examples

1. Water quality standards include National Health and Medical Research Council (NHMRC) 1987, Australian Drinking Water Guidelines (ADWG) 1996, Australian Drinking Water Guidelines (ADWG) 2004 and World Health Organisation (WHO) 1984.
2. Approved quality systems include Hazard Analysis and Critical Control Point (HACCP), ISO9001 and The WSAA National Water Quality Framework Continuous Improvement Tool.
3. Evaluation of disinfection by-product data (12 THM readings in 12 months in ug/L) (295, 250, 209, 222, 214, 211, 138, 143, 87, 93, 90, 200).

   As there are fewer than 30 readings, the maximum value is taken which is 295 ug/L (micrograms per litre). As 295 ug/L exceeds the ADWG limit of 250 ug/L. This sample set would be assessed as non-compliant.
4. Evaluation of disinfection by-product data (32 THM readings in 12 months in ug/L) (295, 250, 209, 222, 214, 211, 138, 143, 87, 93, 90, 200, 209, 222, 214, 211, 138, 143, 87, 93, 90, 200, 209, 222, 214, 211, 138, 143, 87, 93, 90, 200).

   As there are more than 30 readings in the 12 months, the 95th percentile is taken, which is 234 ug/L. As this 234 ug/L does not exceed the ADWG limit of 250 ug/L, this sample set would be assessed as compliant.
5. Evaluation of a system with 30 zones shows that there is a failure of THMs in two zones and a failure of selenium in a source water supplying six zones (one of which overlaps with the zone failing THM's), making a total of seven zones failing (five zone with THM's only), one zone with selenium only, and one zone failing both THM's and Selenium). Results would be reported as 23/30 zones meeting requirements.

Appendix A

Indicator list

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Water resources	Volume of water sourced from surface water (ML)	W1	No	Audit if not reporting total W7	Yes
Water resources	Volume of water sourced from groundwater (ML)	W2	No	Audit if not reporting total W7	Yes
Water resources	Volume of water sourced from desalination (ML)	W3	No	Audit if not reporting total W7	Yes
Water resources	Volume of water sourced from desalination of marine water	W3.1	No	Audit if not reporting total W7	Yes
Water resources	Volume of water sourced from desalination of groundwater	W3.2	No	Audit if not reporting total W7	Yes
Water resource	Volume of water sourced from desalination of surface water such as dams, rivers or irrigation channels	W3.3	No	Audit if not reporting total W7	Yes
Water Resources	Volume of water sourced from recycling (ML)	W4	No	Audit if not reporting total W7	Yes
Water Resources	Volume of water received from bulk supplier (ML)	W5	No	Audit if not reporting total W7	Yes
Water resources	Volume of potable water received from bulk supplier	W5.1	No	Audit if not reporting total W7	Yes
Water resources	Volume of non-potable water received from bulk supplier	W5.2	No	Audit if not reporting total W7	Yes
Water Resources	Volume of bulk recycled water purchased (ML)	W6	No	Audit if not reporting total W7	Yes

[6] Bulk water utilities are only expected to report on the indicators that relate to their business

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Water Resources	Total sourced water (ML)	W7	Yes	Derived unless reporting W7 only	Yes
Water Resources	Volume of water supplied – residential (ML)	W8	Yes	-	-
Water resources	Volume of potable water supplied – residential	W8.1	No	Audit if not reporting total W8 or potable	-
Water resources	Volume of non-potable water supplied – residential	W8.2	No	Audit if not reporting total W8 or non-potable	-
Water Resources	Volume of water supplied – Commercial, municipal and industrial (ML)	W9	No	Audit if not reporting total	-
Water resources	Volume of potable water supplied – commercial, municipal and industrial (ML)	W9.1	No	Audit if not reporting total potable	-
Water resources	Volume of non-potable water supplied – commercial, municipal and industrial (ML)	W9.2	No	Audit if not reporting total non-potable	-
Water resources	Volume of water supplied – other (ML)	W10	No	Audit if not reporting total	-
Water resources	Volume of Non-revenue water	W10.1	No	Audit if not reporting total potable	-
Water resources	Volume of non-potable water supplied – other	W10.2	No	Audit if not reporting total non-potable	-
Water resources	Volume of water supplied – managed aquifer recharge	W10.3	No	Audit if not reporting total	-

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Water resources	Volume of water supplied – agricultural irrigation	W10.4	No	Audit if not reporting total	-
Water resources	Total urban water supplied (ML)	W11	Yes	Derived unless reporting W11 only	Yes
Water resources	Total urban potable water supplied	W11.1	Yes	Derived	Yes
Water resources	Total urban non-potable water supplied	W11.2	Yes	Derived	Yes
Water resources	Total volume of potable water produced	W11.3	Yes	Derived	Yes
Water resources	Average annual residential water supplied (kL/property)	W12	Yes	Derived unless reporting W12 only	-
Water resources	Volume of water supplied – Environmental (ML)	W13	No	-	Yes
Water resources	Volume of bulk water exports (ML)	W14	Yes	-	Yes
Water resources	Volume of potable bulk water exports	W14.1	No	Audit if not reporting total	Yes
Water resources	Volume of non-potable bulk water exports	W14.2	No	Audit if not reporting total	Yes
Water resources	Volume of bulk recycled water exports (ML)	W15	No	Indirect audit as W15 is a component of W14	Yes
Water resources	Volume of waste collected – Residential sewage, non-residential sewage and non-trade waste (ML)	W16	No	Audit if not reporting total	-
Water resources	Volume of waste collected -trade waste (ML)	W17	No	Audit if not reporting total	-

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Water resources	Total sewage collected (ML)	W18	Yes		Yes
Water resources	Volume of sewage supplied to other infrastructure operators	W18.1	No		Yes
Water resources	Volume of sewage taken from other infrastructure operators	W18.2	No		Yes
Water resources	Volume of sewage taken from sewer mining	W18.3	No		Yes
Water resources	Volume of sewage measured at inlet to treatment works	W18.4	No		Yes
Water resources	Volume of sewage treated effluent	W18.5	Yes		Yes
Water resources	Sewage collected per property (kL/property)	W19	Yes	Derived unless reporting W19 only	-
Water resources	Volume of recycled water supplied -Residential (ML)	W20	No	Audit if not reporting total	Yes
Water resources	Volume of recycled water supplied –Commercial, municipal and industrial (ML)	W21	No	Audit if not reporting total	Yes
Water resources	Volume of recycled water supplied -Agricultural (ML)	W22	No	Audit if not reporting total	Yes
Water resources	Volume of recycled water supplied –Environmental (ML)	W23	No	Audit if not reporting total	Yes
Water resources	Volume of recycled water supplied – On-site (ML)	W24	No	Audit if not reporting total	Yes
Water resources	Volume of recycled water supplied -Other (ML)	W25	No	Audit if not reporting total	Yes

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Water resources	Volume of recycled water supplied – managed aquifer recharge	W25.1	No	Audit if not reporting total	Yes
Water resources	Total recycled water supplied (ML)	W26	Yes	Derived unless reporting W26 only	Yes
Water resources	Recycled water (percent of effluent recycled)	W27	No	Derived	Yes
Water resources	Total volume of urban stormwater discharges from a stormwater discharge point	W28	No	-	Yes
Water resources	Volume of urban stormwater supplied to other infrastructure operators	W28.1	No	-	Yes
Water resources	Volume of urban stormwater	W28.2	No	-	Yes
Water resources	Volume of urban stormwater supplied for managed aquifer recharge	W28.3	No	-	Yes
Water resources	Volume of urban stormwater used	W28.4	No	-	Yes
Water resources	Total volume of treated and untreated sewage discharges from a sewage discharge point	W29	No	-	Yes
Asset	Number of water treatment plants providing full treatment	A1	No	-	Yes
Asset	Length of water mains (km)	A2	Yes	-	Yes
Asset	Properties served per km of water main (No./km)	A3	Yes	Derived	-
Asset	Number of sewage treatment plants (No.)	A4	No	-	Yes
Asset	Length of sewerage mains and channels (km)	A5	Yes	-	Yes (if applicable)

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Asset	Properties served per km of sewer main (No./km)	A6	Yes	Derived	-
Asset	Number of recycled water treatment plans (No.)	A7	No	-	Yes
Asset	Water main breaks (No, per 100 km of water main)	A8	Yes	Partially derived	-
Asset	Infrastructure leakage index (ILI)	A9	Yes	Process	-
Asset	Real losses (L/service connection/d)	A10	Yes	Partially derived	-
Asset	Real losses (kL/km water main/d)	A11	Yes	Partially derived	-
Asset	Sewerage mains breaks and chokes (No. per 100 km sewer main)	A14	Yes	Partially derived	-
Asset	Property connection sewer breaks and chokes (No. per 1000 properties)	A15	Yes	Partially derived	-
Customers	Population receiving water supply services (000s)	C1	No	-	-
Customers	Connected Residential properties – water supply (000s)	C2	Yes	-	-
Customers	Connected Non-residential properties – water supply (000s)	C3	No	Audit if not reporting total	-
Customers	Total connected properties – water supply (000s)	C4	Yes	-	-
Customers	Population receiving sewage services (000s)	C5	No	-	-
Customers	Connected Residential properties – sewerage (000s)	C6	No	Audit if not reporting total	-
Customers	Connected Non-residential properties – sewerage (000s)	C7	No	Audit if not reporting total	-

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Customers	Total connected properties – sewerage (000s)	C8	Yes	-	-
Customers	Water quality complaints (No. per 1000 properties)	C9	No	Audit if not reporting total	-
Customers	Water service complaints (No. per 1000 properties)	C10	No	Audit if not reporting total	-
Customers	Sewerage service complaints (No. per 1000 properties)	C11	No	Audit if not reporting total	-
Customers	Billing and account complaints – water and sewerage (no. per 1000 properties)	C12	No	Audit if not reporting total	-
Customers	Total water and sewerage complaints (no. per 1000 properties)	C13	Yes	Partially derived	-
Customers	Percentage of calls answered by an operator within 30 seconds (%)	C14	Yes	-	Yes
Customers	Average duration of an unplanned interruption-water (minutes)	C15	Yes	-	-
Customers	Average sewerage interruption (minutes)	C16	Yes	-	-
Customers	Incidence of unplanned interruptions – water (No. per 1000 properties).	C17	Yes	Partially derived	-
Customers	Customers to which restrictions applied for non-payment of water bill (No. per 1000 properties).	C18	Yes	Partially derived	-
Customers	Customers to which legal actions applied for non-payment of water bill (No. per 1000 properties).	C19	Yes	Partially derived	-
Environment	Percent of sewage treated to a primary level (%).	E1	Yes	-	Yes

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Environment	Percent of sewage treated to a secondary level (%).	E2	Yes	-	Yes
Environment	Percent of sewage treated to a tertiary or advanced level (%).	E3	Yes	-	Yes
Environment	Percent of sewage volume treated that was compliant (%).	E4	Yes	-	Yes
Environment	Number of sewage treatment plants compliant at all times (No.).	E5	Yes	-	Yes
Environment	Public disclosure of your sewage treatment plant's performance (yes/no)	E6	Yes	Process	Yes
Environment	Compliance with environmental regulator – sewerage (yes/no)	E7	Yes	-	Yes
Environment	Percent of biosolids reused (%)	E8	Yes	Process	Yes
Environment	Greenhouse gas emissions –Water (tonnes CO_2-equivalents per 1000 properties)	E9	No	Audit if not reporting total	No
Environment	Greenhouse gas emissions – bulk utility water (tonnes CO2-equivalents per ML)	E9.1	No	Audit if not reporting total	Yes
Environment	Greenhouse gas emissions – Sewerage(tonnes CO_2-equivalents per 1000 properties)	E10	No	Audit if not reporting total	No
Environment	Greenhouse gas emissions – bulk utility sewerage (tonnes CO_2-equivalents per ML)	E10.1	No	Audit if not reporting total	Yes

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Environment	Net greenhouse gas emissions — Other (net tonnes CO_2-equivalents per 1000 properties)	E11	No	Audit if not reporting total	No
Environment	Net greenhouse gas emissions – other – bulk utility (net tonnes CO_2-equivalents per ML)	E11.1	No	Audit if not reporting total	Yes
Environment	Total net greenhouse gas emissions (net tonnes CO_2-equivalents per 1000 properties)	E12	Yes	Process	No
Environment	Total net greenhouse gas emissions – bulk utility (net tonnes CO_2-equivalents per ML)	E12.1	Yes	Process	Yes
Environment	Sewer overflows reported to the environmental regulator (No. per 100 km of main)	E13	Yes	Partially derived	-
Pricing	Tariff structure – water (text)	P1	No	-	-
Pricing	Free water allowance (kl) – water	P1.1	No	-	-
Pricing	Fixed charge – water ($)	P1.2	No	-	-
Pricing	Usage charge 1st step ($/kl)	P1.3	No	-	-
Pricing	Usage charge 2nd step ($/kl)	P1.4	No	-	-
Pricing	Usage charge 3rd step ($/kl)	P1.5	No	-	-
Pricing	Usage charge 4th step ($/kl)	P1.6	No	-	-
Pricing	Usage charge 5th step ($/kl)	P1.7	No	-	-
Pricing	Usage charge 6th step ($/kl)	P1.8	No	-	-
Pricing	Usage charge 7th step ($/kl)	P1.9	No	-	-

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Pricing	Usage charge 8th step ($/kl)	P1.10	No	-	-
Pricing	Usage charge 9th step ($/kl)	P1.11	No	-	-
Pricing	Special levies – water ($)	P1.12	No	-	-
Pricing	income from special levies retained by utility? – Water (yes/no)	P1.13	No	-	-
Pricing	Annual bill based on 200kL/a —- Water ($)	P2	No	Audit if not reporting total	-
Pricing	Average annual residential water supplied (kL/property)	P2.1	No	-	-
Pricing	Typical residential bill – water ($)	P3	No	Audit if not reporting total	-
Pricing	Number of meter readings per annum —- water (No.)	P3.1	No	-	-
Pricing	Number of bills per annum —- water (No.)	P3.2	No	-	-
Pricing	Tariff structure – sewerage (text)	P4	No	-	-
Pricing	Fixed charge – sewerage ($)	P4.1	No	-	-
Pricing	Usage charge – sewerage ($/kL)	P4.2	No	-	-
Pricing	Special levies ($) – sewerage	P4.3	No	-	-
Pricing	Income from special levies retained by utility? (yes/no) – Sewerage	P4.4	No	-	-
Pricing	Annual bill based on 200 kL/a – Sewerage	P5	No	Audit if not reporting total	-
Pricing	Typical residential bill – Sewerage	P6	No	Audit if not reporting total	-

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Pricing	Number of bills per annum – Sewerage	P6.1	No	-	-
Pricing	Annual bill based on 200 kL/a (water & sewerage)	P7	Yes	-	-
Pricing	Typical residential bill (water & sewerage)	P8	Yes	-	-
Finance	Total revenue – Water ($000)	F1	Yes	-	Yes
Finance	Total revenue – Sewerage ($000)	F2	Yes	-	Yes
Finance	Total Income for whole of utility ($000)	F3	Yes	-	Yes
Finance	Residential revenue from usage charges –Water (%)	F4	Yes	-	-
Finance	Revenue per property for water supply services ($/property)	F5	Yes	Derived	No
Finance	Revenue for water supply services ($/ML) – Bulk utility	F5.1	Yes	Derived	Yes
Finance	Revenue per property for sewerage services ($/property)	F6	Yes	Derived	No
Finance	Revenue for sewerage services ($/ML) – Bulk utility	F6.1	Yes	Derived	Yes
Finance	Income per property for whole of utility ($/property)	F7	Yes	Derived	No
Finance	Income for whole of utility ($/ML) – Bulk utility	F7.1	Yes	Derived	Yes
Finance	Revenue from Community Service Obligations (%)	F8	Yes		Yes
Finance	Nominal written-down replacement cost of fixed water supply assets ($000s).	F9	No		Yes

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Finance	Nominal written-down replacement cost of fixed sewerage assets ($000s).	F10	No		Yes
Finance	Operating cost – Water ($/property)	F11	Yes	Partially derived	No
Finance	Operating cost – Water ($/ML) – bulk utility	F11.1	Yes	Partially derived	Yes
Finance	Operating cost – Sewerage ($/property)	F12	Yes	Partially derived	No
Finance	Operating cost – sewerage ($/ML) – Bulk utility	F12.1	Yes	Partially derived	Yes
Finance	Combined operating cost – Water and sewerage ($/property)	F13	Yes	Derived	No
Finance	Combined operating cost – Water and sewerage ($/ML) – bulk utility	F13.1	Yes	Derived	Yes
Finance	Total water supply capital expenditure ($000s)	F14	Yes	-	Yes
Finance	Total sewerage capital expenditure ($000s)	F15	Yes	-	Yes
Finance	Total capital expenditure for water and sewerage ($000s)	F16	Yes	Derived	Yes
Finance	Water supply capital expenditure ($/property)	F28	Yes	Derived	No
Finance	Water supply capital expenditure ($/ML) – Bulk utility	F28.1	Yes	Derived	Yes
Finance	Sewerage capital expenditure ($/property)	F29	Yes	Derived	No
Finance	Sewerage capital expenditure ($/ML) – Bulk utility	F29.1	Yes	Derived	Yes
Finance	Economic real rate of return – Water	F17	No	-	Yes
Finance	Economic real rate of return – Sewerage	F18	No	-	Yes

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Finance	Economic real rate of return – Water and sewerage	F19	No	-	Yes
Finance	Dividend ($000s)	F20	Yes	-	Yes
Finance	Dividend payout ratio (%)	F21	Yes	Partially derived	Yes
Finance	Net debt to equity (%)	F22	Yes	-	Yes
Finance	Interest cover	F23	Yes	-	Yes
Finance	Net profit after tax ($000s)	F24	Yes	-	Yes
Finance	NPAT Ratio (%)	F30	Yes	Derived	Yes
Finance	Community service obligations ($000s)	F25	Yes	-	Yes
Finance	Capital works grants – Water ($000s)	F26	Yes	-	Yes
Finance	Capital works grants – Sewerage ($000s)	F27	Yes	-	Yes
Public Health	Water quality guidelines	H1	No	-	Yes
Public Health	Number of zones where microbiological compliance was achieved (e.g. 23/24)	H2	Yes	-	Yes
Public Health	% of population where microbiological compliance was achieved	H3	Yes	-	Yes
Public Health	Number of zones where chemical compliance was achieved (e.g. 23 / 24)	H4	Yes	-	Yes
Public Health	Risk-based drinking water management plan externally assessed?	H5	No	-	Yes
Public Health	Risk-based drinking water management plan (Please specify plan in place e.g. ISO9001, HACCP, ADWG Aquality assessment)	H6	No	-	Yes

Section	Indicator	No	Auditable ?	Audit conditions	Bulk utilities report?[6]
Public Health	Public disclosure of drinking water performance (yes/no)	H7	Yes	Process	Yes