ESSENTIAL SERVICES COMMISSION

REVIEW OF WATER PERFORMANCE REPORT INDICATORS

STAFF DISCUSSION PAPER

APRIL 2012

An appropriate citation for this paper is:

Essential Services Commission 2012, *Review of Water Performance Report Indicators – Staff Discussion Paper*, April 2012

Our reference: C/12/7501

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OVERVIEW

The Water Industry Regulatory Order (WIRO) provides an explicit function for the Commission to monitor, report and audit the performance of the regulated water industry and to audit the performance of water businesses including, among other things, the quality of performance information.

The Water Industry Act 1994 provides that the Commission may by written notice require regulated businesses to provide information that it needs to perform its functions and to specify the timelines, manner and form in which the information must be provided.

In 2004, we consulted with industry and other stakeholders to establish a performance reporting framework to apply to the regulated water businesses. The underlying reasons for establishing a performance monitoring and reporting regime were to:

- inform customers about the level of service they receive and identify reasons for performance
- identify baseline performance of individual businesses and provide incentives for improvement over time
- provide information and data for developing regulatory standards (or targets) where required and for on-going assessment of compliance with such standards
- make comparisons between businesses by gauging relative performance within an industry (comparative competition) or with businesses performing comparable operations in other industries
- inform the decision making processes of regulatory agencies, water businesses and government.

In developing the framework we were conscious of the need to minimise the costs associated with imposing any additional information requirements, and a number of existing sources of information were utilised. We also sought to identify opportunities to improve the consistency and coordination of information collection and reporting wherever possible.

The performance monitoring and reporting regime was developed to inform customers, identify baseline performance, develop and assess compliance with regulatory standards, compare relative performance and inform the decision making processes of stakeholders.

We noted at the inception of the framework that the indicators and definitions should be stable to allow trends in performance to be identified over time. However, it was acknowledged that it would be necessary to revisit some indicators to refine definitions, take account of sector-wide developments and to ensure that the framework remains meaningful.

It is now eight years since the establishment of the reporting framework, five years since all Victorian metropolitan and regional water businesses have been reporting on the full data set, and three years since any consideration has been given to the indicator set. Over that period both the water sector and the regulated environment within which it sits has developed and changed.

Recognising these changes, in 2010 we committed to undertake a four stage approach to ensure that the annual performance reporting process remained relevant—particularly to customers—by:

1. Making the reports more timely
2. Reviewing the presentation of material
3. Reviewing and revising content
4. Re-examining the Commission's role when administering the performance monitoring framework.

This Staff Discussion Paper represents the first steps toward delivering on stage three of that process.

1 INTRODUCTION

1.1 Purpose of review

This Staff Discussion Paper represents the first stage of a process to review and refine the performance indicator framework. This involves discussion and consideration of:

- potential new indicators
- the removal of existing indicators that are no longer useful
- indicators that could be modified to improve relevance and usefulness.

This process also presents an opportunity to streamline the data set and associated material to improve clarity and certainty for businesses when undertaking to complete the data requirements—both monthly (as provided on a quarterly basis) and annually.

Our discussion and consideration of changes to the indicator data set—whether through addition, removal or modification—is guided by the core principles established at the inception of the performance monitoring framework, which stated that:

- performance indicators need to be relevant to the nature of the services provided by each business
- performance indicators need to be meaningful and relate to key issues of concern to both businesses and their customers
- performance indicators need to be defined and collected on a consistent basis across businesses to provide a valid measure of actual performance and to aid reasonable comparisons
- the accuracy and reliability of information provided by businesses must be verifiable
- it is desirable to identify whether there is scope for greater national consistency in reporting and comparison, to facilitate national assessment of relative performance
- costs associated with collecting information and data need to be balanced against the benefits of collecting that information. That is, it will be necessary to ensure that the framework is not excessively onerous or costly to implement by focusing on a reasonable range of meaningful indicators.

It should be noted that this review is limited to addressing performance indicators that we directly maintain. Changes to indicators we collect on behalf of third parties as a letterbox function—for example the National Water Commission (NWC)—will only be considered to ensure our indicator and associated definitions are aligned to ensure consistency and clarity. We will continue to provide a letter box service to them.

This Staff Discussion Paper represents the first stage of a process to review and revise the framework to ensure that the performance indicator set remains consistent with the central principles.

1.2 Performance indicator categories

At the conclusion of the framework development process in 2004, eight key performance indicator categories were chosen as the core aspects of the activities undertaken by water business (refer table 1.1).

Table 1.1 Performance indicator categories and descriptors

Category	Descriptor
Baseline explanatory data	This includes explanatory performance or contextual data such as customer numbers, system lengths, permanent population served, number and type of water and sewage treatment facilities.
Drinking water quality	This includes indicators of drinking water quality, focusing on the percentage of customer receiving supplies meeting relevant standards (E. coli, turbidity and disinfection by products).
Water and sewerage network reliability and efficiency	This includes indicators of the frequency, duration, responsiveness to, and rectification of water supply interruptions, sewer blockages and spills as well as levels of leakage and losses from water supply systems
Water consumption, reuse and recycling	These indicators monitor trends in water consumption and the level of reuse and recycling of water and biosolids. This includes a number of measures and categories for water recycling developed by EPA and DSE to monitor both the end-use application of recycled water and the resource management benefits of using recycled water.
Environmental issues	These indicators identify compliance with discharge requirements of sewage treatment plant licences, the control of critical trade waste parameters, the incidence of major sewage spills and the level of CO2 equivalent emissions.
Customer responsiveness and service	These indicators look at customer complaints, telephone call centre performance and monitor the turnaround times for development application and information statements.
Usage, price trends and payment management [previously **Affordability**]	These indicators measure the use of restrictions and legal actions for non-payment, the timeframe restriction are left in place, the availability of flexible payment instalments and the level of applications and approvals for hardship grants and the value of grants made. Additionally, the Department of Health will continue to provide information to the Commission on the emergency relief grants.
Drainage and waterways services	These indicators measure aspects of Melbourne Water's performance in relation to new developments meeting the flood protection standards, reductions in nitrogen loads to Port Phillip Bay, attainment of Regional River Health Strategy targets and the processing of drainage development applications.

It was also noted at the time that:

- **financial and pricing** category would not be included as this information was separately identified and linked to the businesses' Water Plans (see Chapter 2, page 8).
- the inclusion of a **resource security** category was desirable, but that no uniform measures had been adopted across the water sector (see Chapter 2, page 15).
- a review of the measures included in the u**sage, price trends and payment management** [previously affordability] category would be necessary to maintain relevance (see Chapter 4, section 4.2, page 38).

We have subsequently reviewed our position on each of these additional areas and present our discussion below.

1.3 Refining the data set – new categories and indicators

While this review does not change the existing eight core categories, developments in the sector provide the opportunity to review the:

- potential to include new categories, such as financial and pricing information, resource security, productivity and innovation
- ability to include new indicators, within the existing categories, to reflect changes in technology and the regulatory environment, such as those associated with providing customer service via the internet and trade waste.

We undertook a desktop review to identify a range of indicators that fulfil the requirements of the core principles and that—in particular—may serve to improve the relevance and meaningfulness of the performance report to customers.

Chapter 2 discusses the potential for the incorporation of new categories and indicators.

1.4 Refining the data set – removing or modifying indicators

Experience gained over the past eight years through the production of the annual water performance report—and the subsequent feedback from industry and broader stakeholders—has alerted us to a range of issues associated with the indicator set.

These issues range in scope from stakeholders having identified indicators as lacking relevance in the current operating environment, to typographical errors and minor inconsistencies between the performance indicator definitions and the data templates used to collect the information.

Based on this feedback we reviewed all the performance indicators and relevant associated material. The result of this review is that:

- we have identified nine indicators that no longer appear to meet the criteria of relevance and meaningfulness and therefore are candidates for removal in part or totality (see Chapter 3, page 27).
- we have identified seven indicators as candidates for modification—either through minor redefinition, combination or the introduction of additional category splits (see Chapter 4, page 35).

Additional minor amendments and changes to the current performance indicator set have also been identified and proposed—these are discussed in detail in Chapter 4.

Additional improvements

An issue that has arisen in the past when discussing the performance indicator set has been the ease with which each indicator can be referenced. To address this we have introduced a specific three letter acronym to be applied to each indicator category (refer table 1.3), and combined this with a numeric identifier. We have also more clearly identified indicators that we collect that are aligned with the national performance reporting framework administered by the NWC through the addition of a separate column (see Appendix A. Current indicator set). All other aspects of the current indicator set documentation remain unchanged.

Table 1.3 Indicator acronyms

Category	Identifier
Baseline explanatory data	BED
Water network reliability and efficiency	REW
Sewerage network reliability and efficiency	RES
Water consumption, reuse and recycling	CRR
Environmental issues	Not separately identified as it comprises indicators from a number of categories.
Drainage and waterways services	WWD
Customer responsiveness and service	CRS
Usage, price trends and payment management Previously **Affordability**	UPP This category has been renamed to reflect the nature of the data collected.

1.5 Structure of this paper

The structure of this paper is as follows:

- Chapter 2: introduces new indicators for consideration
- Chapter 3: proposes indicators that could be removed from the data set
- Chapter 4: describes proposed modifications to existing indicators
- Chapter 5: outlines the consultation process and next steps
- Appendix A presents the performance indicator set and definitions as they apply
- Appendix B presents the data templates as they apply.

1.6 How to respond

This Staff Discussion Paper is designed to seek feedback from stakeholders on the development of the performance monitoring framework. Feedback will assist staff to refine the framework that, subject to Commission approval, will apply from either the 2012-13 reporting period—in the case of minor changes—or the 2013-14 reporting period—in the case of more complex changes.

Feedback in the form of written submissions should address the key questions raised throughout this paper, and any other general performance reporting issues.

Please send submissions to water@esc.vic.gov.au by **Friday 4 May 2012**. Submissions will be made available on our website, except for any information clearly identified as commercially confidential or sensitive. Any material that is confidential should be clearly marked as such.

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2 PROPOSED NEW CATEGORIES AND INDICATORS

This chapter discusses the areas of performance measurement that have most regularly been raised with us—customer responsiveness and service, financial information, resource security, productivity, trade waste and innovation. We have developed a proposed approach for each measure and are seeking feedback on the feasibility and operationlisation of each.

Changes to the operating environment, customer needs and awareness has raised the potential to consider additional output measures.

2.1 Customer responsiveness and service

When the performance indicator set was first developed it focused on providing information to the industry. As the annual performance report has developed we have focused more on providing information to customers. Feedback from customers and associated representative groups has informed us that they are particularly interested in indicators that measure the responsiveness of a water business, as well as the level of service they are providing.

Customer service measures in state and national based frameworks have typically focused on the effectiveness of phone contact—through number of calls and call connect time—and also the number and type of complaints received and responded to. Reporting of this type is limited because:

- customers interact in ways more diverse than the telephone, and increasingly seek access via alternative channels such as the internet and smart phone applications. Water businesses are also working on initiatives to encourage customers to use lower cost channels and achieve more efficient customer responses.
- existing phone contact indicators measure the volume of calls and response time, but do not provide an indication on the quality of customer interaction.
- complaints reporting measures only the number of customers that are dissatisfied with a service, which is often related to an isolated incident. There is no measure of a customer's wider experience with their water business and how satisfied they are overall.

The current performance customer responsiveness indicator set represents measures relevant to an earlier era, where interactions were predominantly face-to-face or over the telephone. With the advent of modern forms of technology—such as smart phone applications—and its utilisation in other industries, customers are coming to expect more of all service providers. On this basis we are proposing the inclusion of a number of indicators that seek to measure the level of customer satisfaction over a broader range of service provision measures.

Many of the proposed indicators are or have been used in other service sectors to measure performance. For example:

- first call resolution statistics are utilised by OFWAT in their annual performance report
- website mystery shopper processes were used by us in the local government annual performance report
- customer satisfaction surveys are currently used independently by many of the water businesses.

We do note that a number of stakeholders have suggested including additional indicators associated with measuring hardship related issues, and the specific service levels hardship customers receive. Our experience in the electricity sector has shown us that this type of indicator can overemphasise hardship issues and the number of hardship customers that exist. We anticipate that similar outcomes would result from the inclusion of such measures in the performance indicator data set, particularly as hardship customers are a very small proportion of the overall customer base of water businesses in Victoria. On this basis we do not propose to include such measures.

CRS 1 – Website mystery shopper

The website mystery shopper technique utilises a professional customer service organisation to pose as a customer and undertake specific tasks or seek information, and record the experience of their interaction according to certain criteria.

The website mystery shopper approach provides an independent and objective view of customer interaction that is able to be assessed and compared against other organisations and industries. Customer service organisations can also provide feedback on how websites can improve.

Proposed approach

We would contract a customer service organisation to assess each water businesses' website according to a range of criteria that will include parameters such as:

- General website layout and usefulness
- Time spent on website to find information on restrictions/storages and general information
- Availability of account and tariff information
- Ease of paying a bill
- Reporting of faults
- Customer feedback channels.

This assessment process may be undertaken on a two- or three-yearly basis.

- What are the strengths and weaknesses associated with this approach?

- Is there and alternative approach that can measure the information sought?
- Are these criteria the ones a customer values most?

Identifier	Performance indicator	Split	Coverage	Performance measure
CRS 1	Website mystery shopper		Regional and Metropolitan	To be discussed
Definition				
To be discussed				

CRS 2 – First call resolution

First call resolution (FCR) measures the business's ability to actively manage customer queries/complaints on first contact, rather than simple measures associated with the number of complaints received or time to answer the phone.

FCR requires the provision of a level of customer service quality such that an issue is resolved, minimising the number of repeat calls made by the customer on the same issue. Achieving a high level of FCR usually improves the level of customer satisfaction reported, and if achieved reduces call centre call volumes and associated costs.

At present, no regulator in Australia measures first call resolution in the water or energy sector. This may be due to the difficulty associated with defining 'resolution'. A common definition of a FCR performance indicator is 'the percentage of calls that are resolved during the first conversation'.

Call centre best practice defines the customer as the judge of whether FCR has been achieved. There are a number of ways to measure FCR, although not all of these methods allow the customer to determine if their issue was resolved on the first call:

- Quality assurance monitoring—call centre assessors determine if the issue was resolved
- Interactive Voice Response (IVR) surveys—customer completes an IVR survey to gauge if their issue was resolved
- Call backs—measures FCR based on whether the customer calls back within a specified number of days
- Script—call centre operator asks the customer if their issue was resolved
- Telephone survey—customer is surveyed within one to three days of the call and asked if their issue was resolved.

Proposed approach

We are proposing to incorporate FCR as a performance measure, and are seeking feedback regarding the most appropriate method to measure FCR, given the variety of call centre systems and processes utilised by each of the water businesses.

Identifier	Performance indicator	Split	Coverage	Performance measure
CRS 2	First call resolution		Regional and Metropolitan	The number of customer issues resolved on first contact with a call centre

Definition
To be discussed

CRS 3 – Net promoter score (NPS) or Customer effort score (CES)

The net promoter score (NPS) is a measure of customers' loyalty which is obtained through a customer survey question asking how likely the customer is to recommend the business to a friend or colleague on a 0 to 10 rating scale.

The customer effort score (CES) measures the customer's experience with the business regarding how much effort was required by the customer to initiate and resolve a service request.

Data in respect to either method is easy to collect and calculate, and can be compared across business units, industries and over time. However, the relevance of NPS to water businesses can be questioned as—due to their monopoly status—the likelihood that customers will promote the business is low. In contrast, data associated with CES appears to be more relevant as a measure of customer satisfaction.

Proposed approach

We are proposing one of these measures of customer satisfaction in the performance indicator data set, and are seeking feedback regarding the most appropriate method.

Identifier	Performance indicator	Split	Coverage	Performance measure
CRS 3	Net promoter score (NPS) OR Customer effort score (CES)	To be discussed	Regional and Metropolitan	Likely to recommend Effort required

Definition
To be discussed

CRS 4 – Customer satisfaction survey

The measurement of customer service has in the past focused on customer dissatisfaction, typically through the recording of complaints. However there are a number of drawbacks associated with this approach: it is a one-dimensional in that it does not accommodate a scale—or level— of dissatisfaction, nor does it measure positive interactions.

There is opportunity to develop customer satisfaction surveys which provide a relative performance score. This may provide incentives for water businesses to—among other things—focus on improving broader customer experiences rather than focusing on minimising complaints.

Proposed approach

Given that water businesses currently utilise surveys to measure customer satisfaction, we are proposing a common set of questions that could be used to compare customer satisfaction across the sector.

Identifier	Performance indicator	Split	Coverage	Performance measure
CRS 4	Customer satisfaction survey	To be discussed	Regional and Metropolitan	To be discussed
Definition				
To be discussed				

2.2 Usage, price trends and payment management

UPP 7 – Physical visits

Consistent with the final decision relating to the implementation of a hardship related Guaranteed Service Level (GSL) measure, we are proposing the inclusion of a measure that tallies the number physical visits made to customer's premises in the event of a customer having their water supply restricted due to non-payment, or legal action having commenced.

In discussions with the Energy and Water Ombudsman (Victoria) (EWOV) we have found that it is difficult to identify whether water businesses have complied with the guidance provided by the reasonable endeavours checklist regarding customer contact.

Proposed approach

We are proposing the incorporation of a measure of physical visits—and the reason for the visit—in the performance indicator data set, and are seeking feedback regarding the most appropriate method for collecting this data.

Identifier	Performance indicator	Split	Coverage	Performance measure
CRS 4	Physical visits	Domestic Non-domestic	Regional and Metropolitan	The total number of personal visits made by water business representatives associated with non-payment, hardship and legal actions

Definition
Total number of personal visits to a property made by water business representatives associated with non-payment, hardship and legal actions over the reporting period.

2.3 Financial information

At the finalisation of the development of the performance reporting framework in 2004, it was agreed and noted that:

> *Financial and pricing information is not covered by the performance reporting framework as this information will be separately identified and linked to the businesses' Water Plans.*[1]

However, a number of stakeholders have noted that introducing financial data to the annual performance report would provide valued contextual information.

While it is our intention to ensure that the performance report remains focused on service delivery outcomes, and noting that water businesses already publically report financial data in their annual reports, we have identified five financial indicators that may fulfil this role (refer Table 2.1). These common financial indicators are currently utilised by us and the sector to assess the strength of each water business' financial viability and were used in 2005 to establish the regulatory asset values (RAV).

We have placed an emphasis on utilising financial indicators that reflect the cash needs of the businesses. The objective that the businesses should be expected to be able to pay their bills as they fall due is inherently a cash constraint. Financial indicators that reflect accounting identities like provisions and accruals are influenced by firms' accounting policies. As a result, they may not be easily compared across firms and may provide a misleading impression of the actual cash needs of the businesses.

Proposed approach

- Is the inclusion of financial indicators as proposed and defined workable?
- What are the strengths and weaknesses associated with this approach?
- Is this duplicating the Regulatory Accounts?

[1] Essential Services Commission of Victoria (2004), *Performance Reporting Framework Metropolitan and Regional Businesses: Decision Paper*, July, p. 5.

Table 2.1 Financial data — proposals

Identifier	Performance indicator	Split	Coverage	Performance measure
FIN 1	Funds from Operations (FFO) interest cover (times)		Regional and Metropolitan	(FFO + net interest) / net interest
Definition				
Measures the extent of a buffer that a business has to meet its debt obligations.				
Identifier	**Performance indicator**	**Split**	**Coverage**	**Performance measure**
FIN 2	Internal financing ratio (%)		Regional and Metropolitan	(FFO – dividends) / net capital expenditure
Definition				
Measures the extent to which an entity has cash remaining to finance a prudent portion of capital expenditure after making dividend payments.				
Identifier	**Performance indicator**	**Split**	**Coverage**	**Performance measure**
FIN 3	Net Debt payback (years)		Regional and Metropolitan	(Interest bearing liabilities – cash) / FFO
Definition				
Indicates the time that it would take an entity to pay back all of its debts if all operating cash flow was used for this purpose. In effect, it is a cash-based measure of gearing.				
Identifier	**Performance indicator**	**Split**	**Coverage**	**Performance measure**
FIN 4	FFO/net debt		Regional and Metropolitan	FFO / (Interest bearing liabilities - cash
Definition				
Inverse of net debt payback, provides a measure of the extent to which the serviceability of debt is improving, remaining stable or declining.				
Identifier	**Performance indicator**	**Split**	**Coverage**	**Performance measure**
FIN 5	Net debt/Regulatory Asset Value		Regional and Metropolitan	(Interest bearing liabilities – cash) / Regulatory asset value
Definition				
Measures the debt component in regulatory capital structure.				

2.4 Resource security

The inclusion of resource security in the performance framework was explored at a high level during the formative stages of the development process. While recognised as a desirable component of the framework, time constraints and the lack of refined and uniform measures that could be applied to the sector meant that this aspect of performance measurement was not incorporated.

Water businesses each have a Water Supply Demand Strategy (WSDS) that sets out the approach that will sustainably achieve a balance between water supply and demand over the long term. As part of the business's WSDS they must describe the major challenges that will affect how they plan for water in the future, which means that water corporations need to make decisions in the face of considerable uncertainty such as droughts, climate variability, population growth and environmental requirements. Businesses must also set out a methodology for analysing the current and future supply-demand balance for water systems in light of the challenges they face.

As evidenced by drought and recent flooding events, the provision and maintenance of a safe, reliable and sustainable water supply service is a significant challenge. Impacted by a range of factors—including population, climate, water source and infrastructure condition—water security is an issue of growing interest to a range of stakeholders.

Public scrutiny of water use and supply security has also arisen due to an unprecedented amount of expenditure been directed towards new supply sources and on water conservation programs.

While such programs have been undertaken in Victoria—and it is generally accepted that supply security has improved—there is no standard system or method applied in Australia to define supply security, let alone to determine aspects such as appropriate buffers between supply and demand and 'sustainable' demand. In addition, water strategy plans of water utilities around Australia do not often define water security targets.

The above issues will continue to impact on the quest to develop meaningful resource security measures. For discussion purposed, we have identified three potential candidates that may serve as proxies for capturing information on water supply security.

SEC 1 – Supply volume available to meet demand volume (ML)

We are proposing to collect data that will allow us to calculate how long current average demand levels can be serviced by current supply sources. Our objective in collecting this information is to monitor:

- the number of days of potable water supply that is available to the water business based on average demand over the reporting year.

- what immediate activities a water business is undertaking to mitigate the risk of supply shortages.

We note that this approach is one that focuses on the shorter term, and as such does not provide an indication of longer term strategies to secure supply. We anticipate that business systems to collect this information are well developed, and captured on a consistent basis. Consequently we note that there would be little costs in implementation.

Proposed approach

- What are the strengths and weaknesses associated with this approach?
- Is there and alternative approach that can measure the information sought?

Identifier	Performance indicator	Split	Coverage	Performance measure
SEC 1	Supply volume available to meet demand volume (ML)	Supply volume (ML) Average demand volume (ML)	Regional and Metropolitan	Number of days until supply cannot meet demand.

Definition
The ability of water businesses to meet demand taking into account supply variations but excluding demand variations Supply volume (ML) is the amount of potable water from all sources available on the final date of the annual reporting period. Average demand level (ML) is the average demand of all customers over the period of the annual reporting period.

SEC 2 – Demand versus sustainable yield

We are proposing to collect data that will allow us to calculate demand versus sustainable yield—that is whether demand can be supplied from sources over the longer term without risking the supply source. In a review of urban water security strategies prepared for Infrastructure Australia, PricewaterhouseCoopers (PWC) defined sustainable yield as:

> *the long term capacity of a water system to deliver a particular volume of water each year, subject to the environmental and infrastructure constraints of the system… which include manufactured sources of water*.[2]

Our objective in collecting this information is to monitor:

- how long a water business can continue to supply potable water to customers—considering environmental supply constraints—based on average demand over the reporting year

[2] PricewaterhouseCoopers (2010), *Report for Infrastructure Australia: review of urban water security strategies*, June, p. 18.

- what long term activities a water business is undertaking to mitigate the risk of supply shortages.

We note that this approach focuses on the longer term, and does not provide an indication of short term water availability. We anticipate that business systems to collect sustainable yield information are unlikely to be developed, and where such information is available it is unlikely to be captured in a consistent basis. Consequently we note that there would be implementation costs.

Proposed approach

- Do stakeholders have a view on the definition of 'sustainable yield'?
- What are the strengths and weaknesses associated with this approach?
- Is there and alternative approach that can measure the information sought?

Identifier	Performance indicator	Split	Coverage	Performance measure
SEC 2	Demand versus sustainable yield	Average demand volume (ML) Sustainable yield?	Regional and Metropolitan	The long term capacity of a water system to deliver a minimum volume of water each year
Definition				
Average demand level (ML) is the average demand of all customers over the period of the annual reporting period. Sustainable yield – definition and criteria to be discussed.				

SEC 3 – Independent supply systems

We are proposing to collect data that will allow us to monitor the number and type of independent potable water supply sources. Our objective in collecting this information is to monitor:

- the diversity of water sources within a water business's service area
- the number of each type of water source.

We anticipate that business systems to collect this information are well developed, and captured on a consistent basis. Consequently we note that there would be little costs in implementation.

Proposed approach

- What are the strengths and weaknesses associated with this approach?
- Is there and alternative approach that can measure the information sought?

Identifier	Performance indicator	Split	Coverage	Performance measure
SEC 3	Independent supply systems	Desalination Recycled water	Regional and Metropolitan	Number of each type of discrete supply system relied on for

Identifier	Performance indicator	Split	Coverage	Performance measure
		Storage Groundwater Rivers		potable water
Definition				
Counts each discrete supply system i.e. there may be several surface water supply systems, groundwater systems or recycled water systems and each of these would be counted as an independent supply source				

2.5 Productivity

Productivity is the efficiency with which inputs are transferred into outputs. In a typical business environment, there are two ways to improve productivity: through an increase in outputs (product or revenue) and/ or decrease in inputs (predominantly labour and capital). However simple measures such as this cannot necessarily be applied when attempting to measure the productivity of water businesses.

The legacy of decisions that have moulded the structure and operation of the Victorian water sector has resulted in businesses having to accommodate multiple—and sometimes conflicting—social, environmental and political objectives. In addition, water sector productivity is influenced significantly by external factors, making direct comparison between businesses difficult; factors include:

- network size and density—economies of scale
- geography—particularly pumped versus gravity systems
- climate and rainfall—the major determinant of consumption patterns
- government policy—for example the regulatory framework and decisions on water restrictions, supply augmentations and other government programs (that are administered by water businesses)
- water supply sources—generally with lower source water quality, higher inputs are required
- treatment levels—there is a large difference in energy and chemical requirements between primary, secondary and tertiary treatment of wastewater
- capital procurement strategies—for example level of contracting/outsourcing.

That said benchmarking productivity for water utilities may be useful with respect to observing trends, and may allow readers of the annual performance report to better understand the drivers of efficiency within and across the water businesses.

Overall (total factor) productivity measures

In a recent Commission research paper, we explored productivity trends and comparative productivity levels of the Victorian water industry.[3] This paper utilised a Total Factor Productivity (TFP) approach—both indexed and econometric—to benchmark the performance of Victorian water businesses.

While the use of TFP is a robust approach to measuring productivity over the longer term—and is particularly applicable to the regulatory decision making process and useful for management within a water business—we do not think it is applicable to the context of communicating relevant performance information to a wider audience in a simple and clear fashion in the annual performance report.

Discrete (partial factor) productivity measures

In contrast to TFP, partial factor productivity (PFP)—which considers a single input against outputs, or may focus on a particular area of a business' operations—offers a more accessible picture of productivity trends over the short- to medium-term.

In the water sector, there are literally hundreds of partial productivity indicators that can be used to measure efficiency—both within and between water businesses. These indicators can be defined at different business levels, including at the:

- utility level—for example number of employees per 1000 customers
- service level—for example sewerage operating costs per kL collected
- geographic level—for example operating cost per customer for town X
- business unit level—for example corporate costs per customer
- process level—for example number of invoices processed per accounts payable employee.

Indicators can also be defined according to:

- inputs—for example labour, capital (specifically water delivery assets, pump stations and treatment plants), materials (specifically contractors, energy and treatment chemicals).
- outputs—for example ML of water delivered or wastewater disposed, water quality, length of main, number of customers served, size of service area.

Our view in proposing PFP measures is that:

- the 'utility' and 'service' levels seem appropriate for the purposes of public reporting

[3] Essential Services Commission (2012), *Research Paper No. 2: An analysis of the productivity of the Victorian water industry: Summary report*.

- in terms of ‘inputs’, using labour, capital or materials in isolation can make water business comparisons difficult. As an alternative, we propose to combine costs into one input such as ‘operating costs’, which is a commonly used metric in the water industry.
- in terms of ‘outputs’, we propose to utilise the number of customers as the base metric given that it is the simplest—and least discriminatory—measure.

On this basis we propose the consideration of two productivity measures:

- PRO 1 – Operation maintenance and administration (OMA) costs per customer
- PRO 2 – Cost to serve ($ per customer).

PRO 1 – Operation maintenance and administration (OMA) costs per customer

We are proposing to collect data that will allow us to calculate the operation, maintenance and administration (OMA) costs for water and sewerage service provision on a per customer basis. Our objective in collecting this information is to monitor relative changes in costs over time.

We anticipate that business systems to collect this information are well developed as operating costs per property is collected by water businesses for reporting on a national level and cost data is already subject to an auditing regime. Consequently we note that there would be little costs in implementation.

Proposed approach

- What are the strengths and weaknesses associated with this approach?
- Is there and alternative approach that can measure the information sought?

Identifier	Performance indicator	Split	Coverage	Performance measure
PRO 1	Operation maintenance and administration (OMA) costs per customer	Domestic Non-domestic Water Sewerage	Regional and Metropolitan	Relative changes in OMA (water and sewerage) costs over time
Definition				
Operation maintenance and administration costs defined consistent with NWI [F11, F12 – Operating cost – Water, sewerage] Domestic and non-domestic water customers defined consistent with BED 1				

PRO 2 – Cost to serve ($ per customer)

We are proposing to collect data that will allow us to calculate how much it costs each water business to serve each of their customers.

Service costs—which are a component of operating costs—are defined as those activities related to the management of customer facing activities such as meter reading, billing and dispatch, call centre, communications, customer contract management, and preparation of information statements. As all water businesses have the same functions and similar customer service obligations we anticipate that the cost to serve metric should face few issues when compared across businesses.

However the metric must be well-defined and relies upon utilities being able to accurately identify customer service costs. We anticipate that business systems are developed enough to be able to identify costs to serve.

Proposed approach

- What should be included as a measured activity?
- When comparing outcomes, should we classify businesses based on customer numbers or business size to provide grounds for comparison?
- What are the strengths and weaknesses associated with this approach?
- Is there and alternative approach that can measure the information sought?

Identifier	Performance indicator	Split	Coverage	Performance measure
PRO 2	Cost to serve ($ per customer)	Domestic Non-domestic	Regional and Metropolitan	Cost to serve domestic and non-domestic customers
Definition				
Costs to include: office functions of Finance, IT, HR, Communications, Customer Service and the like. Domestic and non-domestic water customers defined consistent with BED 1				

2.6 Trade waste

In June 2010, the Minister for Water approved the recommendations arising from the trade waste review conducted by the Department of Sustainability and Environment (DSE) detailed in the report *Future directions for trade waste management in Victoria: a review of Victoria's trade waste management framework*.[4]

The extensive trade waste review was undertaken in response to the Victorian Government *Our Water, Our Future* initiative and found that the regulatory arrangements lacked consistency and transparency and that trade waste management objectives were unclear.

[4] A copy of this report can be viewed at http://www.water.vic.gov.au/__data/assets/pdf_file/0007/79783/Review-of-Trade-Waste-Management-Final-Report-July2010.pdf

The review made a number of recommendations; it specifically defined a role for us by recommending that we regulate trade waste management and develop regulatory decision making processes that are consistent, open and timely. Consequently, we developed a Trade Waste Customer Service Code to meet this objective, which came into effect on 1 January 2012.

To assist us in our monitoring and compliance role we are proposing that two additional trade waste specific performance indicators be included in the data set:

1. TDW1 – Number of sampling activities: a new indicator to be added to a new category.
2. BED 19 – Volume of trade waste received (ML): a new indicator to be added to Baseline Explanatory Data.

TDW 1 – Number of sampling activities

We are proposing to collect data that will allow us to calculate the number of check sampling activities conducted by a water business as percentage of forecast.

Our objective in collecting this information is to monitor:

- whether a water business is providing the sampling service that the customers are being charged for via annual trade waste fees (which include monitoring costs)
- the extent to which the water business is helping trade waste customers maintain compliance with trade waste discharge criteria.

Proposed approach

- Addition of new category 'Trade waste'
- Addition of new 'Performance indicator' – 'Number of sampling activities' that includes:
    - 'Split' into 'Forecast' and 'Completed'
    - 'Coverage' of 'Regional and Metropolitan'.

Identifier	Performance indicator	Split	Coverage	Performance measure
TDW 1	Number of trade waste sampling activities	Forecast Completed	Regional and Metropolitan	Number of check sampling activities conducted by the water business as percentage of forecast

Definition
A check sampling activity is any scheduled sampling activity undertaken in connection with a trade waste agreement for which an annual trade waste management fee is charged.
Forecast is the total number of scheduled sampling activities proposed for all trade waste customers in a reporting year.
Completed is the total number of scheduled sampling activities undertaken for all trade waste customers in a reporting year (excluding any repeat or additional tests conducted as part of a non-compliance investigation).

BED 19 – Volume of trade waste received (ML)

We are proposing to collect data that will allow us to calculate the trade waste volumes received into a water business's sewer.

This data will form part of the BED data set consistent with data entry requirements already in place for water and sewerage. As proposed, this new indicator will provide information that will allow us to compare trade waste volumes between water businesses, and also indicate any trends that emerge within a water business's trade waste customer base.

Proposed approach

We propose the following reporting parameters:

- Volume of trade waste received into sewers delivered to a wholesaler's treatment plant (ML).
- Volume of trade waste received into sewers delivered to a water business's own treatment plant (ML).
- Total volume of trade waste received into sewers (ML).

It should be noted that this information is currently provided to us by water businesses as part of the 'Treatment plant' data template. This proposal compiles the data into summary form in the BED data set. Similarly we will modify the 'Melbourne Water' data template to include a summation of trade waste received where necessary.

Identifier	Performance indicator	Split	Coverage	Performance measure
BED 19	Volume of trade waste received (ML)	Wholesaler Treatment plants	Regional and Metropolitan	Total volume of trade waste (metered + estimated) delivered to a wholesaler and/or treatment plant.

Definition
Volume of trade waste received into sewers delivered to a wholesaler's treatment plant (ML). Volume of trade waste received into sewers delivered to a water business's own treatment plant (ML). Total volume of trade waste received into sewers (ML).

2.7 Innovation

In recent forums we have raised the potential for the inclusion of an innovation measure as part of the performance monitoring framework in an effort to promote the development and realisation of new ways of operating. This was most notably identified in a speech presented by our Chairman—Dr Ron Ben-David—who identified that innovation must be linked directly and demonstrably to:

- *step-change improvements in service levels over-and-above expectations; and/or production costs sustainably lower than assumed through the water planning process…*
- *an increased level of risk that is borne by the shareholder rather than customers…*
- *increased value as perceived by either customers or the shareholder; or both.*[5]

To our knowledge, measuring and benchmarking innovation in the water sector has not been undertaken before—from either the producer or customer perspective—and very limited measurement of innovation appears to occur in other sectors. However we note that significant resources and studies are being devoted to innovation measurement techniques and indicators globally.

One of the core issues associated with the measurement of innovation is actually achieving a robust definition that can be used as the basis for measurement. A significant amount of academic and practitioner literature has emerged to try and isolate the concept in order to assist in the measurement of innovation.

Unfortunately much of the literature treats innovation analogously to research and development (R&D) spending, as R&D spending is easily measured. While simple, the connection has been proven to be spurious as highlighted in a Booz&Co. report (2005) that sought to identify the key factors contributing to innovation. They found that:

> *Contrary to conventional assumptions, R&D spending levels within the Global Innovation 1000 had no apparent impact on sales growth, gross profit, operating profit, enterprise profit, market capitalization, or total shareholder return. Whether we looked at R&D as a leading or a lagging indicator, whether we looked at absolute dollar amounts or growth trends for the performance measures, and no matter what the time horizon for the analysis, the story was the same.*
>
> *This is big news. It suggests that strategies that focus primarily on increasing the cash input to an innovation "black box" — a process presumed to transform R&D spending into results without anyone fully understanding how — are more likely than not to fail to deliver the desired performance.*[6]

[5] Dr Ron Ben-David (2011), *Economic regulation of the water sector: Presentation to the VicWater Annual 2011 Conference*, 8 September 2011.
[6] Barry Jaruzelski, Kevin Dehoff, and Rakesh Bordia (2005) "Money Isn't Everything", *strategy+business*, Winter, pp: 4-5.

Our view in the context of measuring the innovation in the water sector is that R&D should be defined as the investment of resources (financial and non-financial) to develop ideas that may or may not lead to benefits to an organisation. In contrast, we would define innovation as the turning of ideas—whether formed though a formal R&D process or not—into actions that result in efficiency and/or effectiveness gains—either through radical or incremental changes to business as usual. Innovation must also deliver direct and demonstrable benefits as noted above.

On this understanding we are seeking the views of all stakeholders on potential measures of innovation that meet the core criteria on which the performance indicators have been established.

2.8 Chapter 2 summary

Table 2.2 New indicators –proposals

Identifier	Indicator
Financial data (FIN)	
FIN 1	FFO interest cover (times)
FIN 2	Internal financing ratio (%)
FIN 3	Net Debt payback (years)
FIN 4	FFO/net debt
FIN 5	Net debt/Regulatory Asset Value
Resource security (SEC)	
SEC 1	Supply volume available to meet demand volume (ML)
SEC 2	Demand versus sustainable yield
SEC 3	Independent supply systems
Productivity (PRO)	
PRO 1	Operation maintenance and administration (OMA) costs per customer
PRO 2	Cost to serve ($ per customer)
Trade waste (TDW)	
TDW 1	Number of sampling activities
BED 19	Volume of trade waste received (ML)
Innovation (INN)	
To be discussed	

Question

Do you have any comments regarding the indicators proposed for inclusion?

Can you identify any further indicators for inclusion based on our principles?

Do you have specific views associated with the development of a measure for innovation? How can we—and the sector—seek to measure innovation?

Can you identify any other issues?

3 PROPOSED INDICATORS FOR REMOVAL

The establishment of the performance monitoring framework in Victoria was guided by principles that developed indicators on the basis of the cost and benefits of monitoring, relevance, meaningfulness, consistency and accuracy.

Guided by these principles, we have identified nine indicators (or parts thereof) that appear to no longer meet the relevance and meaningfulness. On this basis, we propose that each of these indicators be removed from the performance reporting framework.

This chapter presents each indicator that we have identified as a candidate for removal, and includes discussion of the rationale.

Nine indicators no longer meet the criteria for relevance and meaningfulness. We propose that these indicators be removed.

3.1 Baseline explanatory data

BED 13 – Water treatment plants: Disinfection, unfiltered; Further treatment

The information that we collect on the level of water treatment undertaken by each water business' treatment plants was established to provide contextual information to stakeholders.

Subsequent developments have highlighted that this indicator does not provide information of great value to us or wider stakeholders. We do not currently publish the results of this indicator in the Annual Performance Report or other publications, or use the results for any internal calculations.

Further, the framework administered by the NWC has also moved away the full split of this indicator as it has proven difficult to distinguish between different types of water treatment plants. On this basis the NWC framework now only collects the 'full treatment' category.

Proposed approach

- Maintain the 'Full treatment' aspect to remain aligned with the reporting requirements of the NWC framework (A1).
- Change the "performance indicator' descriptor.
- Remove from the 'Split' disinfection, unfiltered and further treatment categories.
- Change the definition to recognise the removal of the 'Split' categories.

Identifier	Performance indicator	Split	Coverage	Performance measure
BED 13	Water treatment plants: Full treatment	Full treatment	Melbourne Water Regional and Metropolitan	Context and normalising measure

Definition
Full treatment: The water treatment plant includes processes to remove colour/and or turbidity as well as providing filtration and disinfection. In addition, it may include processes for taste and/or odour reduction, softening, pH correction and target removal of elements and compound such as iron, manganese, nitrates and pesticides.

3.2 Water network reliability and efficiency

REW 4 – Bursts and leaks fully rectified

At the inception of the performance reporting framework, the working group agreed that information associated with full rectification of bursts and leaks—within 12, 24 and 120 hours—would provide insight into the business responsiveness over time.

However, experience with this indicator has proven that it is difficult to consistently define and measure full 'rectification'. When reporting on this indicator, it has become apparent that each water business applies different policies and procedures that result in non-comparable measures of 'full rectification'.

In addition, the definition of time periods has resulted in a clustering of results, reducing the usefulness of the information. Consequently, we do not currently publish the results of this indicator in the Annual Performance Report or other publications, or use the results for any internal calculations.

Proposed approach

- Remove REW 4.
- Rely on separate indicators to provide more meaningful information:
    - REW 2—Total minutes to respond to bursts and leaks (Min).
    - REW 3—Time taken to rectify bursts and leaks.

REW 6 – Water supply interruptions restored within 3, 5 & 12 hours

Early performance of water businesses—particularly in the area of water supply interruptions—was not high. Consequently, this performance indicator was introduced to highlight improvements to service reliability achieved by the water businesses over time.

Improvements made to water infrastructure over the past twenty years have reduced the usefulness of this indicator as currently defined. Results tend to cluster at 100 per cent, which does not serve to distinguish one business from another or service improvements.

On this basis we propose to remove reference to the three and 12 hour restoration time, and instead collect information on planned and unplanned water supply interruptions restored within five hours.

This will also maintain alignment with the approved service standard as applied by Schedule 2 of the Customer Service Code.

Proposed approach

- Remove reference to 3 and 12 hour restoration timeframes from ‘Performance indicator’.
- Remove reference to 3 and 12 hour restoration timeframes from ‘Performance measure’.

Identifier	Performance indicator	Split	Coverage	Performance measure
REW 6	Water supply interruptions restored within 5 hours	Planned Unplanned	Regional and Metropolitan	% of water supply interruptions restored within 5 hours
Definition				
Where the loss of water supply is due to the shutdown of a section of water main, the water supply interruption begins when the water supply is shut off and ends when the main is fully recharged. Otherwise, the water supply interruption begins when the water supply is lost and ends when it is fully restored.				

REW 12 – Water pressure (bulk supplier)

This indicator was developed to measure the performance of Melbourne Water regarding wholesale-retail interfaces that did not meet pressure requirement for more than 30 continuous minutes.

On review, we have concluded that the results of water pressure tests are an intra-industry issue. We do not currently publish the results of this indicator in the Annual Performance Report or other publications, or use the results for any internal calculations.

Proposed approach

- Remove REW 12.

3.3 Sewerage network reliability and efficiency

RES 5 – Customers receiving 1, 2, 3, & 4+ sewer blockages in year

Similar to other reliability measures, the inclusion of the number of sewer blockages faced by a customer each year was intended to track performance improvements over time.

While improvements have been made to sewerage infrastructure, the usefulness of this data as currently collected is questionable, and the data has proven difficult to collect.

On this basis we propose to remove reference to anything other than 3+ sewer blockages experienced by customers in any given reporting period. This should improve measurement accuracy and will maintain alignment with the approved service standard as applied by Schedule 2 of the Customer Service Code.

Proposed approach

- Remove reference to 1, 2, and 4+ sewer blockages from 'Performance indicator', 'Performance measure' and 'Definition'.

Identifier	Performance indicator	Split	Coverage	Performance measure
RES 5	Customers receiving 3+ sewer blockages in year		Regional and Metropolitan	Average number of customers receiving 3+ sewerage blockages in a year as a % of customers
Definition				
The number of sewerage customers receiving 3+ sewerage blockages in the 12 months ending on the final date of the annual reporting period.				

3.4 Customer responsiveness and service

CRS 12 – Property development agreements

CRS 13 – Information statements turned around in 5 days

When these indicators were first developed in the 1990s the performance standards of all water businesses were low. Turnaround time that property developers experienced for planned- and non-planned works was high, as was the turnaround time associated with information statements.

However, with the development of processes and IT solutions, the turnaround time for property development agreements and information statements has greatly improved. Currently, the results for these indicators are all near 100 per cent and therefore not useful for comparison.

Further each business works to different standards for property development agreement and considerable differences in practices have been discovered during audits of this indicator. This makes comparison between businesses problematic.

On this basis we propose to remove CRS 12 and CRS 13 as the indicator focuses on a narrow area of service provision it is not considered useful to a majority of customers. We do not currently publish the results of this indicator in the Annual Performance Report or other publications, or use the results for any internal calculations.

Proposed approach

- Remove CRS 12
- Remove CRS 13.

3.5 Water conservation, reuse and recycling

CRR 8 – Trade wastes priority parameter

This indicator was developed to monitor the annual loads of priority parameters for individual sewage treatment plants. We now collect this trade waste data from water businesses as required by the Department of Sustainability and Environment (DSE) on a set of standard parameters—Total Dissolved Solids (TDS), Biological Oxygen Demand (BOD), Suspended Solids (SS) and nitrogen. This refinement makes CRR8 redundant.

Proposed approach

- Remove CRR 8.

3.6 Drinking water quality

DWQ 1 – Standards for drinking water quality

While the reporting of drinking water quality is a fundamental component of performance monitoring, information that is relevant for the purposes of our reporting can be refined. We propose that we remove:

1. Melbourne Water from 'Coverage': On review, we have concluded that standards for drinking water quality received from Melbourne Water is an intra-industry measure. We do not currently publish the results of this indicator in the Annual Performance Report or other Commission publications.

2. 'disinfection by-products' from the 'Definition': Publication of these results can be confusing where a high level of disinfection may be a positive result where water is contaminated. We do not currently publish the results of this indicator in the Annual Performance Report or other Commission publications.

We will continue to report of E. coli and turbidity, which are considered the most important elements of water quality. It is important to note that the Department of Health (DH) publishes

data for each of the measures that we are proposing to remove should stakeholders require additional information.

Proposed approach

- Remove reference to Melbourne Water from 'Coverage' and implement associated changes to 'Performance measure' and 'Definition'
- Remove reference to 'Disinfection by-products means trihalomethanes, monochloroacetic acid, dichloroacetic acid and trichloroacetic acid' and 'disinfection' contained within the 'Definition'.

Identifier	Performance indicator	Split	Coverage	Performance measure
DWQ 1	Standards for drinking water quality		Regional and Metropolitan	% of population receiving water meeting standards Number of zones meeting E. coli standard

Definition
Population receiving drinking water that complies with the standard for [E. coli and turbidity], expressed as a proportion of population receiving drinking water from that supplier. Non-potable (regulated) supplies are excluded from calculations. "Complies with the standard" means each water sampling locality whose annual compliance results comply with the standards for E. coli and turbidity when the zone is weighted for population..

3.7 Chapter 3 summary

Table 3.1 Current indicators – remove proposals

Identifier	Indicator
Baseline explanatory data (BED)	
BED 13	Water treatment plants: Disinfection, unfiltered; Further treatment; Full treatment
Water network reliability and efficiency (REW)	
REW 4	Bursts and leaks fully rectified
REW 6	Water supply interruptions restored within 3, 5 & 12 hours
REW 12	Water Pressure (Bulk Supplier)
Sewerage network reliability and efficiency (RES)	
RES 5	Customers receiving 1, 2 , 3, & 4+ sewer blockages in year
Customer responsiveness and service (CRS)	
CRS 12	Property development agreements
CRS 13	Information statements turned around in 5 days
Water conservation, reuse and recycling (CRR)	
CRR 8	Trade wastes priority parameter
Drinking water quality (DWQ)	
DWQ 1	Standards for drinking water quality [Melbourne Water only]

Question

Do you have any comments regarding the indicators proposed for removal?

Can you identify any further indicators for removal based on our principles?

Can you identify any other issues?

4 PROPOSED INDICATOR MODIFICATION

Guided by the principles on which the performance framework was established, we have reviewed the performance indicator data set, definitions and associated data templates with the aim of improving:

1. clarity and certainty when water businesses are filling in the performance data
2. the relevance and meaningfulness of the data collected without compromising consistency and accuracy.

Changes to the performance indicator set are proposed to improve clarity and certainty (and)… the relevance and meaningfulness of the data collected...

As a result of this exercise we have identified seven indicators as candidates for modification—either through minor redefinition, combination or the introduction of additional category splits.

In addition we have identified a range of minor amendments that will affect either the data templates or the definitions. While these changes do not impact the indicator, they should provide clarity and certainty to businesses when compiling the data.

This chapter provides an overview and discussion of each proposed modification, categorised consistent with the current performance indicator definition document. Minor amendments and points for clarifications are discussed.

4.1 Water network reliability and efficiency

REW 7 – Water supply customer interruptions (No.)

The number of planned and unplanned water supply interruptions sits at the core of the performance reporting framework. It indicates how frequent interruptions have been within a service area, and serves a powerful benchmarking role.

While contextual information may provide justification for results—positive or negative—the indicator falls short in that it only highlights the level of service provision associated with the delivery of water. However, when an interruption occurs it is more often than not the accuracy of communication regarding the length of supply interruption that will be valued by customers.

This aspect of service delivery has been recognised in the Guaranteed Service Level schemes approved for Yarra Valley Water (No. planned interruption longer than advised) and Western Water (Planned water supply interruption longer than notification given), which both carry an approved payment of $50. We do note that measuring this may create perverse incentives for the water businesses. For example, if you do not want to score low on this indicator, you will ensure that you always overestimate the time advised for the planned interruption.

With the precedent set by Yarra Valley Water and Western Water, we are keen to explore the inclusion of a measure that captures the accuracy of communication provided to customers during a planned interruption in a form consistent with the existing approved GSL scheme.

Proposed approach

- Changes are proposed to the 'Split' by including reference to 'Planned: Longer than advised or notified'
- Changes are proposed to the 'Definition', which will need to reflect the addition of 'Time advised or notified'.

Identifier	Performance indicator	Split	Coverage	Performance measure
REW 7	Water supply customer interruptions (No.)	Planned **Planned: Longer than advised or notified** Unplanned	Regional and Metropolitan	Average customer interruption frequency
Definition				
A water supply customer-interruption is a loss of water supply to an individual customer due to a water supply interruption. For example, a water supply interruption which causes loss of supply to 100 customers				

Identifier	Performance indicator	Split	Coverage	Performance measure
is 100 customer-interruptions.				

REW 10 – Customers affected by planned water supply interruptions greater than 5 hours

The number of customers planned and unplanned water supply interruptions sits at the core of the performance reporting framework. It indicates how many customers have been impacted by interruptions within a service area.

With the proposed removal of REW 6—the rationale for which is discussed in section 3.2—we are proposing that high level customer interruption duration data continue to be recorded through the modification of this indicator.

This aspect of service delivery has partially been recognised by thresholds incorporated in the Guaranteed Service Level schemes approved for Yarra Valley Water (No. planned interruption longer than 5 hours), Central Highlands Water (Unplanned interruptions to water supply not rectified within 5 hours), which both carry an approved payment of $50.

With the precedent set by Yarra Valley Water and Central Highlands Water, we are keen to explore the change to the indicator to recognise the time threshold consistent with the approved GSL schemes.

Proposed approach

- Changes are proposed to the 'Performance indicator', the 'Split', the 'Performance measure' and the 'Definition' to reflect the inclusion of 'Unplanned' water supply interruptions.

Identifier	Performance indicator	Split	Coverage	Performance measure
REW 10	Customers affected by planned **and unplanned** water supply interruptions greater than 5 hours	Planned **Unplanned**	Regional and Metropolitan	Number of domestic customers affected by planned **and unplanned** interruptions greater than 5 hours
Definition				
The number of planned domestic water customer-interruptions greater than 5 hours. For example, a water supply interruption which causes loss of supply to 100 customers is 100 customer-interruptions				

4.2 Usage, price trends and payment management

UPP 1 – Instalment plans

The number of domestic and non-domestic customers on instalment plans can provide insight into the socio-economic and demographic aspect of a water businesses' service area, as well as the relationship management between customers and businesses.

While we collect instalment plan data on a domestic/non-domestic basis, this does not fully capture information associated with the management of potentially vulnerable customers. We propose that this can be achieved by collecting additional concession status information.

Proposed approach

- Changes are proposed to the 'Split' to reflect the inclusion of 'Concession'.

Identifier	Performance indicator	Split	Coverage	Performance measure
UPP 1	Instalment plans	Domestic Non-domestic **Concession**	Regional and Metropolitan	% of customers on instalment plans

Definition
Total number of instalment plans entered into during the reporting period. An instalment plan is an alternative payment arrangement (confirmed in writing) between the customer and the water business in accordance with clause 5.4 of the Customer Code. A verbal extension of the payment period does not constitute an instalment plan.

4.3 Customer responsiveness and service

CRS 7 – Affordability complaints

CRS 8 – Billing complaints

At the inception of the performance monitoring framework we distinguished between complaint types—affordability and billing—primarily to isolate issues associated with affordability from those associated with billing infrastructure.

Over time it has emerged that differentiating between billing and affordability does not appear to add value to the reporting framework; further improvements to billing systems across the sector have also improved this measure.

Proposed approach

- We propose to combine CRS 7 with CRS 8
- Changes are proposed to the 'Performance indicator' and the 'Definition' to reflect the combination.

Identifier	Performance indicator	Split	Coverage	Performance measure
CRS 7	Complaints		Regional and Metropolitan	Complaints per 100 customers

Definition
Includes all complaints concerning affordability financial hardship, instalment plans and capacity to pay, prices and tariffs) and billing (account payment, financial loss or overcharging, billing errors)

4.4 Water conservation, reuse and recycling

CRR 3 – Volume of sewage spilt from emergency relief structures (ERS) and pumping stations (ML)

Measuring the volume of sewage spilt provides businesses and other stakeholders with information that can identify a number of issues—for instance where sewer blockages are occurring, where maintenance of pumping stations may be required, infiltration, and system growth and condition.

Often weather contingent, the current performance measure collects information on volume only. Of equal importance is the frequency of sewer spill events—this information when presented with volume information may highlight further problem areas. We propose to add the number sewage spill events that can be attributed to each cause—as per our current 'Split'.

Proposed approach

- Changes are proposed to the 'Performance indicator' to include the number of events for each 'Split'.

Identifier	Performance indicator	Split	Coverage	Performance measure
CRR 3	**Number of events and** volume of sewage spilt from emergency relief structures (ERS) and pumping stations (ML)	Blockage Hydraulic Extreme wet weather System failure	Regional and Metropolitan Melbourne Water	Volume of sewage spilt as a % of the volume of sewage transported.

Definition
An estimation of spill volumes may be used where direct measurement of spill volume cannot be made.

4.5 Chapter 4 summary

Table 4.1 Current indicators – modify proposals

Identifier	Indicator
Water network reliability and efficiency (REW)	
REW 3	Time taken to rectify bursts and leaks
REW 7	Water supply customer-interruptions (No.)
REW 10	Customers affected by planned water supply interruptions greater than 5 hours
Usage, price trends and payment management (UPP)	
UPP 1	Instalment plans
Customer responsiveness and service (CRS)	
CRS 7	Affordability complaints
CRS 8	Billing complaints
Water conservation, reuse and recycling (CRR)	
CRR 3	Volume of sewage spilt from emergency relief structures (ERS) and pumping stations (ML)

Question

Do you have any comments regarding the proposed modifications?

Can you identify any further indicators for modification based on our principles?

Can you identify any other issues?

4.6 Amendments and clarifications

This review process presents the opportunity to make minor amendments to the performance monitoring material to ensure consistency and clarity. Table 4.1 and table 4.2 present an overview of the amendments proposed to the indicators. These amendments do not affect the operation of the measures.

Table 4.1 Indicator amendments and clarification - monthly data

Identifier	Performance indicator	Split	Coverage	Performance measure	Clarification / Action
RES 3	Total time taken to repair blockage/ spill (Hr.)		Regional and Metropolitan	Average number of hours taken to repair a blockage/spill	Template indicates measure is in minutes – template will be amended to reflect hours
RES 6	Sewer spills from reticulation and branch sewers	Priority 1 Priority 2	Regional and Metropolitan	Number of spills	Businesses should use definition as published for priority 1 and priority 2
RES 7	Sewer spills from reticulation and branch sewers fully contained within 5 hours	Priority 1 Priority 2	Regional and Metropolitan	% of sewer spills contained within 5 hrs.	Businesses should use definition as published for priority 1 and priority 2
No reference	Sewer supply customer-interruptions restored within 4 hours (No.)	Planned Unplanned	Regional and Metropolitan	% of sewer interruptions restored within 4 hrs.	This indicator is included in the data templates but is not defined
No reference	Sewer spills not caused by blockages (No.)		Regional and Metropolitan		This indicator is included in the data templates but is not defined
No reference	Sewer spills within a house (No. spills)		Regional and Metropolitan		This indicator is included in the data templates but is not defined

Table 4.2 Indicator amendments and clarification - annual data

Identifier	Performance indicator	Split	Coverage	Performance measure	Clarification / Action
BED 4	Trade waste customers		Regional and Metropolitan	Context and normalising data	Split into industrial and commercial categories as per template Define categories
BED 14	Volume of sewage collected (ML)	Wholesaler	Regional and Metropolitan Melbourne Water	Context and normalising data Sewage collected per property	Split between Wholesaler and Treatment plant in definition as per template Define categories
REW 9	Customers receiving 1, 2, 3, 4, 5, & 6+ water supply interruptions in year	Unplanned	Regional and Metropolitan	Number of customers receiving 1, 2, 3, 4 ,5, & 6+ interruptions in a year as % of customers	Split into separate measures for each number of interruptions
RES 4	Water main breaks		Regional and Metropolitan Melbourne Water	Water main breaks per 100km	This is in the incorrect category and has been relocated as REW 15
No reference	Sewer spills from ERS and pumping stations (No.)	Blockage Hydraulic Extreme wet weather System failure	Regional and Metropolitan Melbourne Water		This indicator is included in the data templates but is not defined
UPP 5	Debt levels for customer subject to restriction and legal action ($)	Domestic	Regional and Metropolitan	Average debt levels for customer subject to restriction or legal action	Amend definitions to recognise split of legal action and restriction categories
UPP 6	Hardship grants		Regional and Metropolitan	Number of hardship grant applications per 100 customers Number of hardship grants awarded per 100 customers Value of hardship grants	Businesses should report on their own hardship scheme, not the Department of Human Services scheme

In addition we will amend the following:

- 'Water consumption, reuse and recycling' will be consistently renamed 'Water conservation, reuse, recycling' (CRR)
- 'Drainage and waterways services' will be consistently referred to as 'Waterways and drainage' (WWD) [Melbourne Water specific]
- Affordability will now be referred to as 'Usage, price trends and payment management' (UPP).

5 NEXT STEPS

This document forms the basis of a discussion with all stakeholders that will address changes to the performance indicator set. It also acts as the starting point for a working group that will be convened in early May to discuss changes to the performance indicator data set. The working group will comprise of a wide range of representatives— water business and customer groups— and minutes of that meeting will be made available on our website.

This document forms the basis of a discussion with all stakeholders that will address changes to the performance indicator data set.

Based on the outcomes of the working group process, we will produce a Recommendations Paper that will outline proposed changes to the annual performance report data set. Where possible, changes to the performance report data set will take effect 1 July 2012.

We also invite feedback—in the form of written submissions—from other interested parties. Feedback in the form of written submissions should address the key questions raised throughout this paper, and any other general performance reporting issues. Submissions should be emailed by **4 May 2012** to water@esc.vic.gov.au. Alternatively submissions can be sent in physical form to:

Water
Essential Services Commission
Level 2, 35 Spring Street
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Submissions will be made available to the public on our website, except for any commercially confidential or sensitive information. Any material that is confidential should be clearly marked as such.

APPENDIX A. CURRENT INDICATOR SET

Table A.1 below presents the information contained within the most recent release of the Performance indicators Definition Document. For ease of reference we have included the indicator reference terminology as used in this document and also included the relevant corresponding indicator as utilised by the National Water Commission in its national performance framework definitions handbook.

- Indicators proposed for deletion are indicated in strikethrough text – ~~strikethrough~~.
- Indicators proposed for modification are indicated in italicised text – *italicised*.
- RES 4 – Water main breaks has been relocated to the correct category 'Water network reliability and efficiency (REW)' and re-identified as REW 15.

No other changes to the original document have been made.

This version of the performance indicator definitions document was released 2012**.**

Table A.1 Performance indicator definitions

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
Baseline explanatory data (BED)						
BED 1	Water customers	Domestic Non-domestic	Regional and Metropolitan	Context and normalising measure	For performance reporting purposes, a water customer is a property which, at the end of the reporting period: - is connected to the water business's water system; and - receives a fixed and/or usage account. A tenanted property which is separately metered and in respect of which the tenant is liable for water usage counts as one water customer. The owner and the tenant are not separately counted as water customers. For performance reporting purposes a water customer does not include: - a body corporate; - or a property which is serviced but is not connected to the water business's water system.	C4
BED 2	Sewerage customers	Domestic Non-domestic	Regional and Metropolitan	Context and normalising measure	For performance reporting purposes, a sewerage customer is: - a water customer which is connected to the sewerage system (hence is separately billed for sewerage services (fixed and/or usage)); and - any other property which, at the end of the reporting period, is connected to the sewerage system and is separately billed for sewerage services (fixed and/or usage). A sewerage customer who is also a trade waste customer counts as one sewerage customer.	C8

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
BED 3	Drainage Customers		Melbourne Water	Context and normalising measure	For performance reporting purposes, a drainage customer is a property which receives a drainage account at the end of the reporting period.	
BED 4	Trade waste customers		Regional and Metropolitan	Context and normalising measure	A trade waste customer means a customer who has entered into a trade waste agreement with the licensee, or has received the business's consent to discharge trade waste to sewer.	
BED 5	Permanent population served		Regional and Metropolitan	Context and normalising measure	Total permanent population connected or able to be connected to the water business's system. Information should be derived from the most recently available census data and adjusted for growth.	C1
BED 6	Length of water main (km)		Melbourne Water Regional and Metropolitan	Context and normalising measure Properties served per km of water main	Includes all the water business's mains in operation at the end of the reporting period. Includes transfer, distribution, reticulation mains, non-potable and third pipe mains. Does not include property service pipes. Does not include decommissioned assets.	A2, A3
BED 7	Length of sewerage main (km)		Melbourne Water Regional and Metropolitan	Context and normalising measure Properties served per km of sewer main	Includes all the water business's sewerage mains in operation at the end of the reporting period. Includes pressure mains Does not include house connection branches. Does not include mains carrying treated effluent.	A5, A6

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
BED 8	Source of water	Surface water	Melbourne Water		The total volume of water (potable and non-potable) abstracted by the water business from surface water sources such as dams, rivers or irrigation channels during the reporting period.	W1, W2, W3, W4, W5, W6, W7
		Groundwater	Regional and Metropolitan		The total volume of water 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 i.e. from rivers, desalination plants or sewerage plants (recycling). Other forms of artificial recharge (i.e. storm water) not counted elsewhere are to be included.	
		Desalination			The total volume of water sourced from desalination plants during the reporting period.	
		Recycling			The total volume of water supplied by the water business sourced from recycled water during the reporting period including recycled water from direct or indirect reuse. Water supplied for agribusiness by the business should also be included where potable water (or raw supply to the potable system) would normally be used.	
		Bulk supplied			The total volume of water (potable and non-potable) purchased from another business or entity outside this business's geographic area of responsibility. The volume of water will include water which is subsequently exported (sold) to another business.	
		Total water supplied			The total volume of recycled water purchased from another business or another entity outside this business's geographic area of responsibility.	
					This is the sum of the volumes reported above as supplied from dams, river extraction, groundwater, desalination, recycling and bulk supplier.	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
BED 9	Volume of water received (ML)		Melbourne Water Regional and Metropolitan	Context and normalising measure	The volume of water received by the water business from its headworks (including its water treatment plants) and from any wholesaler of water. Volume of water delivered to retailers by Melbourne Water.	W5, W7
BED 10	Metered volume of water delivered to customers (ML)	Domestic Non-domestic	Regional and Metropolitan	Context and normalising measure Average residential household consumption	The metered volume of water delivered to customers over the reporting period.	W8, W9, W12
BED 11	Volume of bulk water exports		Melbourne Water Regional and Metropolitan		The total volume of water (potable and non-potable) sold to another water business or another entity outside this utility's geographic area of responsibility.	W14
BED 12	Volume of bulk recycled water exports		Melbourne Water Regional and Metropolitan		The total volume of recycled water sold to another utility or another entity outside business's geographic area of responsibility.	W15
BED 13	Water treatment plants	~~Disinfection, unfiltered~~ ~~Further treatment~~ Full treatment	~~Melbourne Water~~ ~~Regional and Metropolitan~~	~~Context and normalising measure~~	~~Disinfected, unfiltered: water treatment plant providing disinfection via chlorine or ozone. May also include other minor processes such as aeration, pH correction, fluoridation, or coagulation.~~ ~~Further treatment: The water treatment plant provides additional processes to serve a particular purpose. While not meeting the requirements of full treatment (defined below), it may address some of the elements of full treatment.~~ Full treatment: The water treatment plant includes processes to remove colour/and or turbidity as well as providing filtration and disinfection. In addition, it may include processes for taste and/or odour reduction, softening, pH correction and target removal of elements and compound such as iron, manganese, nitrates and pesticides.	A1 (full treatment only)

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
BED 14	Volume of sewage delivered (ML)	Wholesaler	Melbourne Water Regional and Metropolitan	Context and normalising measure Sewage collected per property	The total volume of sewage (including trade waste) delivered by the water business to any wholesaler of sewage treatment services or to its own sewage treatment plants.	W18
BED 15	Sewage treatment plants	Primary treatment Secondary treatment Tertiary treatment	Melbourne Water Regional and Metropolitan	Context and normalising measure	Number of sewage treatment plants in operation at the end of reporting period.	A4
BED 16	Volume of sewage treated (ML)	Primary treatment Secondary treatment Tertiary treatment	Melbourne Water Regional and Metropolitan	Context and normalising measure	The volume of sewage treated at the water business's sewage treatment plants. - primary treatment means the removal of settleable solids; - secondary treatment means biological oxidation achieving typically 85%-90% reduction in biological oxygen demand (BOD); - tertiary or enhanced treatment means enhanced reduction of BOD and suspended solids from secondary treated sewage and significant nutrient reduction.	E1, E2, E3
BED 17	Volume of sewage treated fully compliant (ML)		Melbourne Water Regional and Metropolitan	Per cent of sewage volume treated that was compliant	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). The sampling schedule is that specified in the utility's licence. Where the licence limit specifies a 90th percentile limit for the treatment plant 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	E4

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
					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	
BED 18	Sewage treatment plants compliant		Melbourne Water Regional and Metropolitan	Number of sewage treatment plants compliant at all times	Compliance is where the sewage treatment works effluent meets the licence condition prescribed by the environmental regulator. Non-compliance is where the sewage treatment works effluent does not meet such standards 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.	E5
Water network reliability and efficiency (REW)						
REW 1	Bursts and leaks	Priority 1	Regional and Metropolitan	Burst and leaks per 100km of water main	An unplanned event in which water is lost which is attributable to failure of a pipe, hydrant, valve, fitting or joint material (being the mains and trunk infrastructure, excluding the mains to meter connections) regardless of cause. Priority 1 means a burst or leak which causes, or has the potential to cause, substantial damage or harm to customers, water quality, flow rate, property or the environment.	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
		Priority 2 Priority 3			Priority 2 means a burst or leak which causes, or has the potential to cause, minor damage or harm to customers, water quality, flow rate, property or the environment. Priority 3 means a burst or leak which is causing no discernible impacts on customers, property or the environment. A burst or leak may not necessarily result in loss of supply.	
REW 2	Total minutes to respond to bursts and leaks (Min)	Priority 1 Priority 2 Priority 3	Regional and Metropolitan	Average minutes to respond to priority 1, 2 and 3 burst and leaks	The duration between the times the water business is first notified or becomes aware of a burst or leak to the time at which the water business arrives at the site of the burst or leak.	
REW 3	*Time taken to rectify bursts and leaks*	*Priority 1* *Priority 2* *Priority 3*	*Regional and Metropolitan*	*Average hours taken to fully repair and rectify bursts and leaks*	*The total job duration, including time from receiving first notification, responding to, and rectifying the fault to the required level of service.* *Follow-up rectification works, such as reinstatement of nature strips are not included.*	
~~REW 4~~	~~Bursts and leaks fully rectified~~	~~Priority 1~~ ~~Priority 2~~ ~~Priority 3~~	~~Regional and Metropolitan~~	~~Bursts and leaks fully repaired and rectified within 12 hrs., 24 hrs. and 120 hrs.~~	~~Burst and leaks fully repaired and rectified within 12, 24 and 120hr. Includes time from receiving job, responding, and rectifying fault to the required level of service.~~ ~~Follow-up rectification works, such as reinstatement of nature strips are not included.~~	
REW 5	Water supply interruptions	Planned Unplanned	Regional and Metropolitan	Water supply interruptions per 100km of water main	A water supply interruption is any event causing a total loss of water supply due to any cause. An unplanned interruption means an interruption which is caused by a fault in the water business's system.	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
					Interruptions do not include those caused by bursts or leaks in the property service (mains to meter connection) unless the burst or leak requires the mains to be shut down for repair. A planned interruption means an interruption of supply to a customer for which the water business has provided at least 2 business days advanced notification.	
REW 6	Water supply interruptions restored within ~~3,~~ 5 ~~and 12~~ hours	Planned Unplanned	Regional and Metropolitan	% of water supply interruptions restored within ~~3,~~ 5 ~~and 12~~ hrs.	Where the loss of water supply is due to the shutdown of a section of water main, the water supply interruption begins when the water supply is shut off and ends when the main is fully recharged. Otherwise, the water supply interruption begins when the water supply is lost and ends when it is fully restored.	
REW 7	*Water supply customer-interruptions*	*Planned* *Unplanned*	*Regional and Metropolitan*	*Average customer interruption frequency*	*A water supply customer-interruption is a loss of water supply to an individual customer due to a water supply interruption. For example, a water supply interruption which causes loss of supply to 100 customers is 100 customer-interruptions.*	*C17*
REW 8	Customer-minutes to restore water supply (Min)	Planned Unplanned	Regional and Metropolitan	Average duration of water supply interruptions Average customer minutes off supply	The total duration of all water supply customer-interruptions. For example, a water supply interruption which causes loss of supply to 100 customers and lasts for 150 minutes counts as 15,000 customer-minutes to restore water supply.	C15
REW 9	Customers receiving 1, 2, 3, 4, 5, and 6+ water supply interruptions in year	Unplanned	Regional and Metropolitan	Number of customers receiving 1, 2, 3, 4 ,5, and 6+ interruptions in a year as % of customers	The number of water customers experiencing receiving 1, 2, 3, 4, 5, and 6+ interruptions in the 12 months ending on the final date of the annual reporting period.	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
REW 10	*Customers affected by planned water supply interruptions greater than 5 hours*		*Regional and Metropolitan*	*Number of domestic customers affected by planned interruptions greater than 5 hours*	*The number of planned domestic water customer-interruptions greater than 5 hours. For example, a water supply interruption which causes loss of supply to 100 customers is 100 customer-interruptions.*	
REW 11	Customers affected by planned water supply interruptions in peak hours (5am-9am and 5pm-11pm)		Regional and Metropolitan	Number of domestic customers affected by planned water supply interruptions in peak hours (5am-9am and 5pm-11pm)	The number of planned domestic water customer-interruptions during peak hours (5am-9am and 5pm-11pm). Customer-interruptions that start outside peak hours but continue into peak hours are included.	
~~REW 12~~	~~Water Pressure (Bulk Supplier)~~	-	~~Melbourne Water~~	~~% compliance at wholesale/retail interface~~	~~Number of sites failing "criteria" (not meeting pressure requirement for more than 30 continuous mins) divided by the total number of measured pressure sites.~~	
REW 13	Non-revenue water		Regional and Metropolitan	% non-revenue (unaccounted) water	Unaccounted water is the difference between the volume of bulk water supplied and the volume of water billed to the water businesses customers.	
REW 14	Leakage		Regional and Metropolitan Melbourne Water	Infrastructure Leakage Index (ILI) Real water losses per connection per day Real water losses per kilometre per day	Infrastructure Leakage Index (ILI) The ILI is the ratio of the Current Annual Real Losses (CARL, calculated from a Water Balance) to the Unavoidable Annual Real Losses (UARL, calculated from an equation developed by the IWA Water Losses Task Force). For Melbourne Water the measure is calculated as the estimated manageable losses over average yearly consumption. Total estimated manageable losses from aqueducts, reservoirs, pipes and operations divided by average yearly water supplied to retail water companies. Estimates of losses do not include evaporation, seepage or environmental flows. Real Losses Leakage and overflows from mains, service reservoirs and service connections prior to customer meters. Current Annual Real Losses (CARL)	A9, A10, A11

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
					The numerator of the ILI calculation – real losses as measured in the pressurised distribution system up to the point of customer metering. When calculating the Current Annual Real Losses, a number of assumptions are required regarding 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 determine the actual values for their operations. The defaults are outlined in the NWI handbook. Unbilled Authorised Consumption Any 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.). It can be metered or unmetered. 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).	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
REW 15	Water main breaks		Regional and Metropolitan	Water main breaks per 100km	The total number of main breaks and bursts in all diameter mains for the reporting period. Excludes those in the mains to meter connection) and weeps or seepages associated with above ground mains that can be fixed without shutting down the main.	A8
Sewerage network reliability and efficiency (RES)						
RES 1	Sewer blockages	Main House Connection Branch*	Regional and Metropolitan*	Sewer blockages per 100 km of sewer main	A confirmed partial or total blockage which causes an interruption to service and/or a spill. Includes all trunk and reticulation main blockages (including common effluent pipelines, rising mains and vacuum system mains), but excludes blockages in the service connection or house connection branch and the property drain. *Metropolitan water businesses are to include an extra category of blockages on the HCB, where it is their responsibility to maintain the service.	A14
RES 2	Total minutes to respond to reported blockage/spill (Min)		Regional and Metropolitan	Average minutes to respond to a reported blockage / spill	Average number of minutes to attend and commence rectification of a reported blockage/spill measured from the time notification is made.	
RES 3	Total time taken to repair blockage/ spill (Hr.)		Regional and Metropolitan	Average number of hours taken to repair a blockage/spill	Average number of hours taken to repair a blockage/spill measured from the time notification is made.	
~~RES 4~~	**NOW IDENTIFIED CORRECTLY AS REW 15**					
RES 5	Customers receiving ~~1, 2~~ ,3, ~~and 4~~+sewer blockages in year		Regional and Metropolitan	Average number of customers ~~receiving 1, 2,~~ 3~~, and 4~~+ sewerage blockages in a year as a % of customers	The number of sewerage customers receiving ~~1,2,~~3 ~~and 4~~+ sewerage blockages in the 12 months ending on the final date of the annual reporting period.	
RES 6	Sewer spills from reticulation and branch sewers	Priority 1and2	Regional and Metropolitan	Number of spills	For the purpose of this indicator, a priority one or two sewer spill is a failure to contain sewage within the sewerage system, excluding:	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
			Melbourne Water		- spills from emergency relief structures (a manhole is not an emergency relief structure); - pump station spills; and - spills due to house connection branch blockages. Priority I spill means, a spill that results in - a public health concern; - significant damage to property; - a discharge to a sensitive receiving environment; - a discharge from a sewer pipe that is 300mm diameter or greater; or - the flow is >80l/min. Priority 2 spill means any minor failure to contain sewage within the sewerage system and any spill affecting several users which results in minor property damage or results in a surcharge outside a building which does not pose a health risk.	
RES 7	Sewer spills from reticulation and branch sewers fully contained within 5 hours	Priority 1and2	Regional and Metropolitan	% of sewer spills contained within 5 hrs.	A sewer spill is to be regarded as: - having taken place at the time the water business becomes aware of the spill; and - being fully contained when there is no longer a discharge from the containment area. Containment means the sewage spill has ceased or has been alleviated by by-pass pumping/ diversions, educations or sand bagging.	
RES 8	Sewer spills to customer's properties		Regional and Metropolitan	Number of spills	A sewer spill caused by a fault in the water business's system that discharges to a customer's property. Excludes sewer spills caused by faults in the service connection or house connection branch and the property drain.	
RES 9	Customers affected by sewerage interruptions not		Regional and Metropolitan	Number of domestic customers affected by sewerage interruptions	The number of domestic sewerage customers experiencing sewerage interruptions not restored within 5 hours*.	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
	restored within 5 hours*			not restored within specified time	Sewerage interruptions means a confirmed partial or total blockage which causes an interruptions to service Restore means the repair of a blockage/interruption measured from the time notification is made. It does not include interruptions caused by faults in the customer's pipe. * *In the case of Yarra Valley Water and South East Water, the time is 4 hours to recognise their GSL targets.*	
RES 10	Customers affected by sewer spills in a house not contained within 1 hour of notification		Regional and Metropolitan	Number of domestic customers affected by sewer spills in a house not contained within 1 hour of notification	The number of domestic sewerage customers experiencing a sewer spill in their house not contained within 1 hour of notification, caused by a fault in the water businesses' system. Contained means the sewage spill has ceased or has been alleviated. It does not include sewer spills caused by faults or blockages in the customer's pipes.	
Customer responsiveness and service (CRS)						
CRS 1	Call connect time to operator (Sec)	Account line Fault line	Regional and Metropolitan Melbourne Water	Average time taken for call to be connected to operator	The average time taken for a caller to be connected to an operator should they elect to, or be required to do so. Average time spent in getting through to an operator on the account / fault line. Measured from time the call is answered by "auto attendant" (IVR) It does not include calls that are resolved by an automated system, or hang ups. Businesses with one contact point should report the figure against the account line	
CRS 2	Calls connected to operator within 30 sec	Account line Fault line	Regional and Metropolitan Melbourne Water	% of calls connected to operator within 30 seconds	The time in which a call connected to operator begins when the call is connected to the customer service operators' phone system. Calls to account / fault line answered within 30 seconds (beginning when the call is put through to	C14

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
					customer service operator's phone system) It does not include calls that are resolved by an automated system, or hang ups. Businesses with one contact point should report the figure against the account line.	
CRS 3	Total complaints		Regional and Metropolitan	Complaints per 100 customers	A complaint is a written or verbal expression of dissatisfaction about an action, proposed action or failure to act by the water business, its employees or contractors. Australian Standards define a complaint as an "expression of dissatisfaction made to an organization, related to its products, or the complaints-handling process itself, where a response or resolution is explicitly or implicitly expected." (AS ISO 10002-2006) 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.	C13
CRS 4	Water quality complaints	Colour Taste and odour Blue water Other	Regional and Metropolitan	Complaints per 100 customers	The total number of complaints received by the water business that relate to water quality, including water quality complaints resulting from operational practices. Includes any complaints with respect to water quality, this is any complaint regarding discolouration, taste, odour, stained washing, illness, or cloudy water (e.g. caused by oxygenation).	C9
CRS 5	Water supply reliability complaints		Regional and Metropolitan	Complaints per 100 customers	Includes all complaints concerning bursts, leaks, and service interruptions. When a customer reports a service interruption, this is not counted as a complaint unless the customer expresses dissatisfaction about the interruption.	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
CRS 6	Sewerage service quality and reliability complaints		Regional and Metropolitan	Complaints per 100 customers	Includes all complaints concerning sewer blockages and spills. Complaints about trade waste services are not included in this category. When a customer reports a blockage or spill, this is not counted as a complaint unless the customer expresses dissatisfaction about the interruption.	
CRS 7	*Affordability complaints*		*Regional and Metropolitan*	*Complaints per 100 customers*	*Includes all complaints concerning: financial hardship, instalment plans and capacity to pay, prices and tariffs.*	C12
CRS 8	*Billing complaints*		*Regional and Metropolitan*	*Complaints per 100 customers*	*Includes all complaints concerning: account payment, financial loss or overcharging, billing errors.*	C12
CRS 9	Pressure complaints		Regional and Metropolitan	Complaints per 100 customers	Includes all complaints relating to pressure and/or flow rates.	
CRS 10	Sewage odours complaints		Regional and Metropolitan	Complaints per 100 customers	Includes all complaints concerning sewage odours emanating from the business's system.	
CRS 11	Other complaints		Regional and Metropolitan	Complaints per 100 customers	Includes complaints of quality and timeliness of other services, e.g. - connections, account confidentiality, responding to correspondence, and staff behaviour. Complaints about trade waste services are included in this category.	
~~CRS 12~~	~~Property development agreements~~	~~Prepared works~~ ~~Non-prepared works~~ ~~Prepared works turned around in~~	~~Regional and Metropolitan~~	~~% of prepared works turned around in 45 business days~~ ~~% non-prepared works agreements turned around in 12 business days~~ -	~~Prepared works means an agreement between the water business and an owner for the provision of water and sewerage facilities to a proposed development requiring the construction by the water business of reticulation assets.~~ ~~Non-prepared works means an agreement between the water business and an owner for the provision of water and sewerage facilities to a proposed development not requiring the construction by the water business of reticulation assets.~~ ~~Counting the day application received as day zero.~~	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
		~~45 business days Non-prepared works turned around in 12 business days~~		-	~~Counted from the day that applicant satisfies all their responsibilities for application.~~	
~~CRS 13~~	~~Information statements turned around in 5 days~~	-	~~Regional and Metropolitan~~	~~% information statements applications turned around within 5 days~~	~~Counting the day request received as day zero. Counted from the day that applicant satisfies all their responsibilities for statement.~~	
Usage, price trends and payment management (UPP)						
UPP 1	*Instalment plans*	*Domestic* *Non-domestic*	*Regional and Metropolitan*	*% of customers on instalment plans*	*Total number of instalment plans entered into during the reporting period.* *An instalment plan is an alternative payment arrangement (confirmed in writing) between the customer and the water business in accordance with clause 5.4 of the Customer Code.* *A verbal extension of the payment period does not constitute an instalment plan.*	
UPP 2	Restrictions applied for non-payment of bill	Domestic Domestic concession Non-domestic	Regional and Metropolitan	% of customers restricted	The total number of restrictions applied for non-payment of water bills in the reporting period. It does not include restrictions carried out for breach of water restriction or disconnections due to unsafe infrastructure, or customers who choose to disconnect from the water business's supply (e.g. due to preference for a tank water supply).	C18
UPP 3	Legal action for non-payment of bill	Domestic Domestic	Regional and Metropolitan	% of customers subject to legal action	The number of customer accounts forwarded to a solicitor for legal action, subjecting the customers concerned to additional costs. Cases in which accounts are forwarded to a solicitor for legal action and the legal costs to the customer are subsequently waived should be included. It does not include where a business threatens to	C19

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
		concession Non-domestic			take legal action, but does not proceed.	
UPP 4	Restriction duration (Days)	Domestic	Regional and Metropolitan	% of restrictions restored within 3 days % of restrictions still in place after 14 days	Number of domestic restriction for non-payment that are removed within 3 days of the restriction being applied. Number of domestic restriction for non-payment that are still in place 14 days after the restriction being applied.	
UPP 5	Debt levels for customer subject to restriction and legal action ($)	Domestic	Regional and Metropolitan	Average debt levels for customer subject to restriction or legal action	Domestic customer debt levels are to be measured at the time action is taking to recover the debt either by legal means or by the use of restriction.	
UPP 6	Hardship grants		Regional and Metropolitan	Number of hardship grant applications per 100 customers Number of hardship grants awarded per 100 customers Value of hardship grants	Number of hardship assistance grant applications made under the water business's hardship policy. Number of hardship assistance grants awarded under the water business's hardship policy. Value of hardship assistance grants awarded under the water business's hardship policy.	
Water conservation, reuse, recycling (CRR)						
CRR 1	Effluent reuse (ML) - End use	Volume of effluent produced (excludes evaporation) Percentage recycled for urban and industrial uses Percentage	Melbourne Water Regional and Metropolitan	Volume of effluent reused % of effluent reused % of effluent reused	Volume reused means volume of treated sewage effluent reused. It includes all treated effluent that is used by either the water business, a business supplied by the water business, or supplied through a third pipe system for urban reuse. Evaporation is excluded. Volume of treated effluent reused means reuse undertaken in accordance with EPA published guidelines or exempted from EPA licensing on the basis of being recognised as a legitimate reuse activity. The percentage of recycling is to be calculated as:	W26, W27

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
		recycled for agricultural uses Percentage recycled for beneficial allocations (i.e. environmental flows) Percentage recycled within process Volume discharged to the environment (i.e. ocean outfalls or inland water discharges)		by category	% category recycling = (category volume recycled) (volume effluent produced + volume of within process recycling)	
CRR 2	Effluent Reuse - Water Resource Management	Volume of effluent produced Volume providing potable water substitution	Melbourne Water Regional and Metropolitan	Volume of effluent produced % of effluent reused % of effluent reused by category	Effluent can be treated sewage, treated trade waste and treated greywater. Note: Water authorities are accountable for recycling from treated sewage, but will need to develop methods for estimating reuse of treated trade waste and treated greywater. Effluent, treated “fit for purpose”[1], used for non-drinking purposes that would have previously been supplied from the drinking water supply system (for example, garden use, toilet flushing, industrial process, open space watering).	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
		Volume providing raw water substitution Volume providing direct environmental flows Volume providing new water			Effluent, treated “fit for purpose”, used for purposes that would have previously been supplied with raw water (i.e. surface or groundwater resources) for non-drinking purposes. For example, agriculture, water released from treatment plant to waterway for downstream water supply purposes (provided environmental requirements are met) Effluent, treated “fit for purpose”, discharged to waterway for environmental purposes (criteria to be developed by EPA). Effluent, treated “fit for purpose”, used in development in areas previously not supplied with water. Note that existing on-site reuse, not substituting traditional sources, should be classified retrospectively as New Water.	
CRR 3	*Volume of sewage spilt from emergency relief structures (ERS) and pumping stations (ML)*	*Blockage* *Hydraulic* *Extreme wet weather* *System failure*	*Melbourne Water* *Regional and Metropolitan*	*Volume of sewage spilt as a % of the volume of sewage transported.*	*An estimation of spill volumes may be used where direct measurement of spill volume cannot be made.*	
CRR 4	Sewage treatment standards		Melbourne Water Regional and Metropolitan	Number of analyses complying with licence agreements as % of samples	Analyses performed means the total number of EPA license compliance analyses performed on the treated effluent for all treatment plants. Analyses complying means the number of analyses complying with EPA license limits for all treatment plants. Non-compliance means the water business has not met a quantitative standard prescribed by an EPA licence (or equivalent).	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
CRR 5	CO2 Equivalent Emissions (Tonne)	Water treatment and supply; Sewerage treatment and management; Transport (i.e. vehicles); Other (i.e. office buildings) Offsets	Melbourne Water Regional and Metropolitan	Net tonnes CO2 - equivalents	Net tonnes of CO2 equivalent emissions for the whole business and their activities, allowing for sequestration. Conversion factors to be based on those provided by the Australian Greenhouse Office (AGO) specific to the utility's location.	E9, E10, E11, E12 (including bulk measures)
CRR 6	Biosolid reuse	· Mass produced · Mass reused Mass stored	Melbourne Water Regional and Metropolitan	% of biosolids reused	Mass produced means the mass dry weight of sludge produced by the licensee's sewage treatment plants. Mass reused means the mass dry weight of sludge reuse undertaken in accordance with EPA published guidelines or exempted from EPA licensing on the basis of being recognised as a legitimate reuse activity. Mass stored means the mass dry weight of sludge stored by, or on behalf of, the licensee.	E8
CRR 7	Trade waste volume received		Melbourne Water Regional and Metropolitan		The aggregated volumes of trade waste received by the water business and reported separately as a percentage of treatment facility influent for customer categories of: industrial; commercial customers.	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
~~CRR 8~~	~~Trade wastes priority parameter~~	-	~~Melbourne Water~~ ~~Regional and Metropolitan~~	-	~~The annual loads of priority parameters for individual sewage treatment plants are reported. Priority parameters relevant to individual facilities are agreed with EPA at the beginning of the reporting period. Priority parameters are established on a prioritised, case by case basis where:~~ ~~- the parameter poses a risk to STP compliance with EPA licence;~~ ~~- the parameter impacts on opportunities for water recycling or biosolids recycling; or~~ ~~- the parameter significantly exceeds domestic sewerage quality and has a potential environmental impact associated with discharge from the STP.~~	
Drinking water quality (DWQ)						
DWQ 1	Standards for drinking water quality		Regional and Metropolitan	% of population receiving water meeting standards Number of zones meeting *E. coli* standard	Population receiving drinking water that complies with the standard for [E. coli, turbidity, disinfection by-products], expressed as a proportion of population receiving drinking water from that supplier. Disinfection by-products means trihalomethanes, monochloroacetic acid, dichloroacetic acid and trichloroacetic acid Non-potable (regulated) supplies are excluded from calculations. "Complies with the standard" means each water sampling locality whose annual compliance results comply with the standards for E. coli, turbidity and disinfection by-products then the zone is weighted for population.	
			~~Melbourne Water~~	~~% water samples meeting quality standards at wholesale / retail~~	~~For Melbourne Water supplies to metropolitan businesses.~~ ~~Water quality test meeting requirements at interface points for:~~	

Indicator reference	Performance indicator	Split	Coverage	Performance measure	Definition	NWC Reference
				~~interface~~	~~- *E. coli*~~ ~~- Turbidity~~ ~~- Aluminium~~ ~~- Disinfection by-products.~~ ~~Disinfection by-products means trihalomethanes, monochloroacetic acid, dichloroacetic acid and trichloroacetic acid.~~	
Waterways and drainage (WWD)						
WWD 1	Reduction in nitrogen loads (tonnes) to Port Phillip Bay		Melbourne Water	Reduction in nitrogen loads (tonnes) to Port Phillip Bay from water quality improvement infrastructure	Design nitrogen loads are established for each wetland based on the theoretical estimates of reduction that would be achieved through the use of best practice design.	
WWD 2	River health		Melbourne Water	% achievement of annual targets assigned to Melbourne Water from the Regional River Health Strategy	The percentage achievement of annual targets based for each category of the Regional River Health Strategy assigned to Melbourne.	
WWD 3	Development applications		Melbourne Water	% of drainage development applications processed within specified timeframes	The percentage of development applications turned around within the timeframes in Melbourne Water's Operating Charter for statutory referrals, non-works offers, works offers, third party works approvals, and flood levels.	

APPENDIX B. CURRENT DATA TEMPLATES

Instructions worksheet

Guidance for completing the Performance Indicator Data Templates

Changes from previous template

'Trade Waste' Tab
Trade Waste reportable parameters have now been standardised - collected on behalf of DSE

'Annual' Tab
Inclusion of National Performance Report indicator (IE13) - Total number of sewer spills reported to the environmental regulator

Background
The templates are derived from descriptions and measures outlined in the Performance Reporting Framework, which contains full explanations of the terms used in the template.

Data Types
In nearly all cases, the template requires raw data. Where businesses are required to provide a calculated amount, the input cells are blue rather than yellow.

Submission Dates
The worksheet labelled 'Monthly' has columns for three month's data and should be sent in every three months, within a month of the end of the quarter.
The other sheets are annual submissions, due six weeks after the end of the financial year.

Submission
Submissions should be sent to: waterindicators@esc.vic.gov.au

Changing data
Information your business provides in these templates is logged, filed and uploaded to a database. Please take care that the information you provide is accurate. If you need to change data after it has been submitted, it is necessary to send a revised version of the entire quarterly or annual worksheet in question. (For example, if you realised in September that the figure for 'Unplanned Water Supply Interruptions' in June had been overstated and Priority 2 bursts and leaks had been assigned to Priority 3 in April, you would have to re-send the entire quarterly report covering April-June, with the figures changed in the appropriate cells) The original submission will be removed from the database and replaced with the new report. For audit and

data integrity reasons, we cannot adjust figures based on explanatory emails or phone conversations.

Comments
At the bottom of each column is a field for General comments. The contents of these cells are uploaded with the data above. The cells can hold about 200 words. Typical information to include in the comments might be explanations of missing data or reasons underlying a particularly high or low figure. Comments which are added using Excel's Insert>Comment feature will not be uploaded to the database. Due to the difficulty in reading comments entered in the small cells, some businesses may choose to copy the text into the body of the accompanying email.

Missing data
Where a business is unable to report a particular indicator, the cell should be left blank. Where a business has recorded no occurrences of an indicator, zero should be entered. Please do not put text in any cells except for the designated comments field.

Protected areas
Column A in each sheet contains field name information for our database. Rows 89-91 of the monthly sheet contain formulas. Please ensure these areas are not deleted or written over.

Questions
Any questions relating to the performance indicators can be sent to:
waterindicators@esc.vic.gov.au

Monthly worksheet

Version 1.4.1 - Commencing 1 July 2008				
[Name of Business]				
		Date (mmm-yy):		
Water Network reliability and efficiency				
Bursts and leaks (No.)	Priority 1			
	Priority 2			
	Priority 3			
Total minutes to respond to bursts and leaks (minutes)	Priority 1			
	Priority 2			
	Priority 3			
Time taken to rectify bursts and leaks (minutes)	Priority 1			
	Priority 2			
	Priority 3			
Bursts and leaks fully rectified 12 hrs (No.)	Priority 1			
	Priority 2			
	Priority 3			
Bursts and leaks fully rectified 24 hrs (No.)	Priority 1			
	Priority 2			
	Priority 3			
Bursts and leaks fully rectified 120 hrs (No.)	Priority 1			
	Priority 2			
	Priority 3			
Water supply interruptions (No.)	Planned			
	Unplanned			
Water supply interruptions restored within 3 hours (No.)	Planned			
	Unplanned			
Water supply interruptions restored within 5 hours (No.)	Planned			
	Unplanned			
Water supply interruptions restored within 12 hours (No.)	Planned			
	Unplanned			
Water supply customer-interruptions (No.)	Planned			
	Unplanned			
Water supply customer-interruptions in peak hours (No.)	Planned			
	Unplanned			
Water supply customer-interruptions not restored within 5 hrs (No.)	Planned			
	Unplanned			
Customer-minutes to restore water supply (minutes)	Planned			
	Unplanned			
Sewerage network reliability and efficiency				
Sewer blockages (No.)	Main			
	HCB			
Sewer supply customer-interruptions (No.)				
Sewer supply customer-interruptions restored within X hrs (No)				
Total minutes to respond to reported blockage/spill				
Total time taken to repair blockage/spill (minutes)				
Sewer spills from reticulation and branch sewers (No.)	Priority 1			
	Priority 2			

Sewer spills from reticulation and branch sewers contained within 5 hrs (No.)	Priority 1			
	Priority 2			
Sewer spills not caused by blockages (No.)				
Sewer spills to customer properties (No. spills)				
Sewer spills to customer properties restored within 5 hrs (No. spills)				
Sewer spills within a house (No. spills)				
Sewer spills within a house responded to within an hour (No. spills)				
Customer service responsiveness and service				
Calls to Account line (No.)				
Calls to Fault line (No.)				
Calls connected to operator within 30s (No.)	Account line			
	Fault line			
Call connect time to operator (sec)	Account line			
	Fault line			
Water quality complaints (No.)	Colour			
	Taste & odour			
	Blue water			
	Other			
Water supply reliability complaints (No.)				
Sewerage service quality & reliability complaints (No.)				
Affordability complaints (No.)				
Billing complaints (No.)				
Pressure complaints (No.)				
Sewage odour complaints (No.)				
Other complaints (No.)				
Property development agreements (No.)	Prepared			
	Non-prepared			
Prepared works turned around 45 bus. Days (No.)				
Non-prepared works turned around 12 bus. Days (No.)				
Information statements received (No.)				
Information statements processed within 5 days (No.)				
Affordability				
Instalment Plans (No.)	Domestic			
	Non-domestic			
Restrictions applied for non-payment of bill (No.)	Domestic non-conc			
	Domestic conc			
	Non-domestic			
Legal action for non-payment of bill (No.)	Domestic non-conc			
	Domestic conc			
	Non-domestic			
General Comments				

Annual worksheet

Version 1.4.1 - Commencing 1 July 2008		
[Name of Business]		**[code]**
		Year
Baseline Explanatory Data		
Water customers (No.)	Domestic	
	Non-domestic	
Sewerage Customers (No.)	Domestic	
	Non-domestic	
Trade Waste Customers (No.)	Industrial	
	Commercial	
Permanent Population Served (No.)		
Length of water main (km)		
Length of sewerage main (km)		
Volume of water sourced (ML)	surface water	
	groundwater	
	desalination	
	recycling	
	received from bulk supplier	
Volume of bulk recycled water received (ML)		
Total Volume of sourced water (ML)		
Volume of bulk water exports (ML)		
Volume of bulk recycled water exports (ML)		
Volume of water received (ML)		
Metered volume of water delivered to customers (ML)	Domestic	
	Non-domestic	
Volume of sewage delivered (ML)	Wholesaler	
	Treatment Plants	
Water Treatment Plants (No.)	Disinfection/unfiltered	
	Further Treatment	
	Full treatment	
Volume of sewage treated (ML)	Primary	
	Secondary	
	Tertiary	
Sewage treatment plants (No.)	Primary	
	Secondary	
	Tertiary	
Sewerage treatment plants fully compliant (No.)		
Volume of sewage treated that was compliant (%)		
Water Network reliability and efficiency		
Non-revenue water (ML)		
Leakage (ILI)		
Real Water Losses (kL/connection/day)		
Real Water Losses (kL/km/day)		
Water main breaks per 100km		
Customers receiving 1 unplanned interruption in the year (No.)		
Customers receiving 2 unplanned interruptions in the year (No.)		
Customers receiving 3 unplanned interruptions in the year (No.)		
Customers receiving 4 unplanned interruptions in the year (No.)		
Customers receiving 5 unplanned interruptions in the year (No.)		
Customers receiving 6+ unplanned interruptions in the year (No.)		
Sewer Network reliability and efficiency		
Customers receiving 1 sewer blockage in the year (No.)		
Customers receiving 2 sewer blockages in the year (No.)		
Customers receiving 3 sewer blockages in the year (No.)		
Customers receiving 4+ sewer blockages in the year (No.)		
Sewer Spillls		
Sewer spills from ERS and	Blockage	

pumping stations (No.)	Hydraulic	
	Extreme wet weather	
	System failure	
Volume of sewage spilled from ERS and pumping stations (ML)	Blockage	
	Hydraulic	
	Extreme wet weather	
	System failure	
Total number of sewer spills reported to the environmental regulator (No.)		
Affordability		
Restriction duration - Domestic (No.)	within 3 days	
	> 14 days	
Average Debt levels ($)	Restriction	
	Legal Action	
Hardship grant applications (No.)		
Hardship grants (No)		
Hardship grants ($)		
CO2 Equivalent emissions		
Water treatment and supply (tonne)		
Sewerage treatment and management (tonne)		
Transport (tonne)		
Other (tonne)		
CO2 offsets (tonne)		
Total CO2 emissions (tonne)		0
Water quality (% of population)		
% receiving water meeting *E. Coli* standards		
Water quality zones compliant for *E. Coli* (No.)		
% receiving water meeting tubidity standards		
% receiving water meeting disinfection by-products standards		
General Comments		

Melbourne Water worksheet

Version 1.4.1 - Commencing 1 July 2008		
Melbourne Water		MW
	Year	
Baseline Explanatory Data		
Drainage Customers		
Length of water main		
Length of sewerage main		
Volume of Water Sourced (ML)	surface water	
	groundwater	
	desalination	
	recycling	
	from bulk supplier	
Volume of bulk recycled water received (ML)		
Total volume of sourced water		0
Volume of water delivered		
Volume of sewage received		
Water Treatment Plants	Disinfection/unfiltered	
	Further Treatment	
	Full treatment	
Volume of sewage treated	Primary	
	Secondary	
	Tertiary	
Sewage treatment plants	Primary	
	Secondary	
	Tertiary	
Sewerage treatment plants fully compliant (no.)		
Volume of sewage treated that was compliant (%)		
Water Network reliability and efficiency		
Water Pressure		
Leakage		
Water main breaks per 100km (no.)		
Sewer Spillls		
Sewer spills from ERS and pumping stations (No.)	Blockage	
	Hydraulic	
	Extreme wet weather	
	System failure	
Volume of sewage spilled from ERS and pumping stations (ML)	Blockage	
	Hydraulic	
	Extreme wet weather	
	System failure	
Total number of sewer spills reported to the environmental regulator (No.)		
CO2 Equivalent emissions		
Water treatment and supply (tonne)		
Sewerage treatment and management (tonne)		
Transport (tonne)		
Other (tonne)		
CO2 offsets (tonne)		
Total CO2 emissions (tonne)		0
Customer service responsiveness and service		
Calls to Account line (No.)		
Calls to Fault line (No.)		
Sewer odour complaints (No.)		
Calls connected to operator within 30s (No.)	Account line	
	Fault line	
Call connect time to operator (sec)	Account line	
	Fault line	

Water quality	
E.coli	No of samples
	No complying
Turbidity	No of samples
	No complying
Aluminium	No of samples
	No complying
Disinfection by-products	No of samples
	No complying
Regional River Health Strategy	
Rivers with negotiated environmental flow regimes	
Rivers with improvements made to environmental flow regimes	
Area of streamside land under management agreements (km^2)	
Length of streamside land revegetated (km)	
Fish barriers removed	
Length of riparian land subject to weed management (km)	
Plans developed for rivers and creeks of high social value	
Rivers where heritage values are protected or improved	
Plans developed for rivers and creeks of high environmental value	
Investigations to fill data gaps in rivers or creeks	
Sites subject to bed and bank stabilisation	
Index of River Condition (IRC) reaches with instream habitat reinstated	
Customer Charter	
Applications for surface diversion licences	
Applications for surface diversion licences determined within 60 days	
Permanent transfers of surface diversion licences	
Permanent transfers of surface diversion licences processed within 30 days	
Temporary trades of water entitlement volumes	
Temporary trades of water entitlement volumes processed within 60 days	
Permanent trades of water entitlement volumes	
Permanent trades of water entitlement volumes processed within 60 days	
Waterways Water Quality Strategy	
Programs implemented from the better Better Bays and Waterways Plan (per cent)	
Clearwater program training modules delivered	
Local government with improved performance in delivering sustainable urban water management (per cent)	
Guidelines/tools prepared to assist in the practice of best practice stormwater management	
Rain gardens built in the community with support of Melbourne Water	
Pollution load hotspots addressed	
Local government Stormwater Management Plans (per cent of actions implemented)	
Local governments committed to water sensitive urban design implementation targets for pollutant loads, flow and effective imperviousness (per cent)	
Reduction of nitrogen loads in stormwater (tonnes)	
Annual reduction in stormwater nitrogen due to wetlands establishment (tonnes)	
Percentage of health risk assessments completed for major rivers and creeks with a high level of recreational activity	
General Comments	

Treatment plants worksheet

Version 1.4.1 - Commencing 1 July 2008

[Name of Business] **Year**

Treatment plant	Treatment method	Volume treated (ML)	Trade Waste Volume received	% Overall compliance All parameters	BOD		SS		E.coli		Ammonia		Chlorine		Total Nitrogen		Total phosporous		Conductivity/TDS		
					Samples taken	Samples complying	Samples taken	Samples complying	Samples taken	Samples complying	Samples taken	Samples complying	Samples taken	Samples complying	Samples taken	Samples complying	Samples taken	Samples complying	Samples taken	Samples complying	Treatment Plant comments
Summary Totals		-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Reuse worksheet

Version 1.4.1 - Commencing 1 July 2008

[Name of Business] **Year**

Treatment plant	Effluent Reuse - End Use								Biosolids			Effluent Reuse - Water Resource Managements						Reuse comments
	Volume produced (Ml)	Volume reused (Ml)	Volume supplied to retailers (ML)	Urban & industrial (Ml)	Agri-culture (Ml)	Beneficial allocation (Ml)	Within process (Ml)	Envir o'tal discharge (Ml)	Mass produced (tonnes)	Mass reused (tonnes)	Mass stored (tonnes)	Volume produced (Ml)	Volume reused (Ml)	Potable water substitution	Raw water substitution	Envir o'tal flows	New Water	
Summary Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Melbourne Water only

Trade waste worksheet

Version 1.4.1 - Commencing 1 July 2008

[Name of Business] **Year**

Treatment plant	Parameter (kg pa.)			
	TDS	BOD	SS	Nitrogen

Instructions:
Data to reflect annual trade waste influent mass loads to each treatment plant
i.e excluding the domestic sewage component

Note:
If no data is available based on monitoring, an estimate can be made, or, if monitoring data is only available for certain trade waste customers, an estimate can be made for all other trade waste to give an annual total based on monitoring and estimates. It is intended to collect this data (if available) for the 2010/11 year in July 2011 as a trial. The formal process for publication in the Victorian Water Accounts will occur in July 2012 for the 2011/12 financial year.

The Essential Services Commisson is collecting this trade waste data from water businesses as required by DSE. DSE has now standardised the reportable parameters for all water businesses.