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2013 WATER PRICE REVIEW

GUIDANCE ON WATER PLANS

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1 OVERVIEW

1.1 Purpose of the Water Plan Guidance Paper

The primary purpose of this Guidance Paper is to set out the Essential Services Commission's (the Commission's) expectations for the information that should be provided in Water Plans. The information is required to enable the Commission to assess the price proposals of water businesses for the third regulatory period commencing 1 July 2013.

The Guidance Paper also discusses a range of regulatory issues that businesses will need to demonstrate they have considered in the development of Water Plans. Some of these have been raised in past price reviews. Some are new and will require more detailed consideration and analysis by businesses (see section 1.3).

Chapter 2 of the Guidance Paper outlines the Commission's approach to assessing Water Plans. Chapters 3 to 15 address specific topics that should be addressed in Water Plans. Within these chapters, we first provide a short summary of **key points** which is followed by **detailed discussion** on matters of regulatory interest. Each chapter ends with a **summary of information requirements** for Water Plans.

The Guidance Paper applies generally to all water businesses. The Commission intends to visit each business following the release of our Guidance Paper in order to discuss business-specific issues and how these should be addressed in Water Plans.

Price reviews typically involve an iterative process. This Guidance Paper outlines the Commission's current views on the information we will need to assess the price proposals of water businesses. Following consultation on the Guidance Paper, further guidance on Water Plans may be released to address feedback from stakeholders and any changes in Government policies.

The Commission's role in pricing is to decide whether to approve the prices proposed to us by a water business. In making our decision, we are governed by the procedural requirements and regulatory principles of the *Water Industry Regulatory Order* (WIRO).

The WIRO establishes a propose and respond model. The Commission is obliged to approve any prices that meet the WIRO requirements. Only where a business does not meet the WIRO requirements can the Commission specify the prices to apply. These arrangements in no way serve to derogate, diminish or absolve the water businesses from taking full responsibility for their Water Plans, the services delivered to their customers and the prices charged for those services.

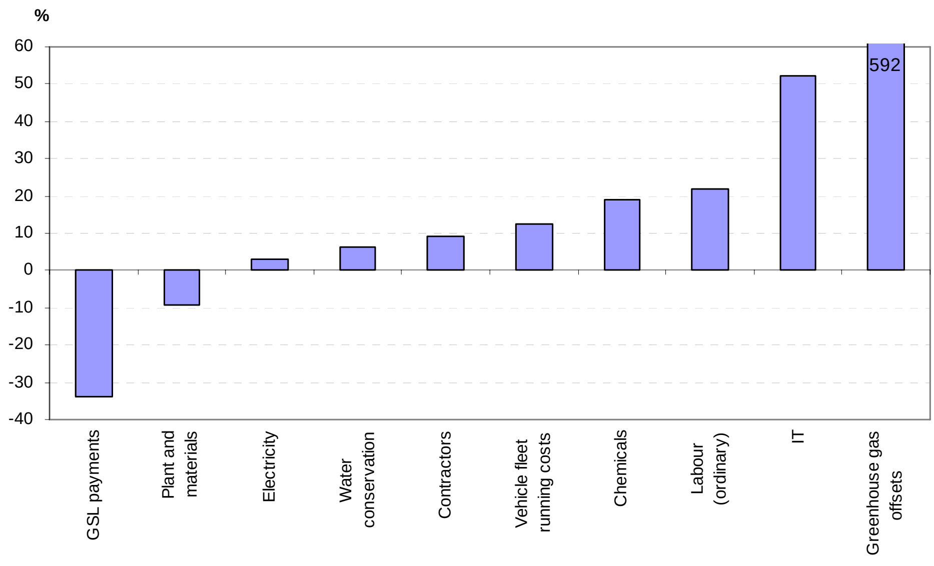
1.2 Context

Prices in the second regulatory period rose rapidly due to substantial increases in expenditure, mainly reflecting the response to actual and anticipated water shortages. Customer complaints about prices have increased.

Water shortages are considered much less likely in the third regulatory period due to major investments in new supply capacity, reductions in water consumption and recent high catchment inflows. As a result, some of the costs that increased sharply in the second regulatory period should ease, like expenditure linked to major projects, appliance changeovers, customer awareness campaigns, enforcing restrictions, and water pumping costs.

The Commission expects decision making by water businesses to be disciplined by a desire to improve efficiency and to manage controllable costs. We will also scrutinise proposals for expenditure in areas where costs increased strongly in the first part of the second regulatory period such as labour and information technology costs (see figure 1.1).

Figure 1.1 Real percentage growth in selected cost items, water retail businesses 2007-08 to 2009-10



Source: Essential Services Commission, Regulatory Accounts.

Expenditure to be recovered through customer prices must be linked clearly to obligations imposed by the Government (including its technical regulators), or is demonstrably required to meet the service expectations of customers. Businesses will also need to demonstrate that obligations and service expectations are being met, and will continue to be met, as efficiently as possible. The Commission is determined that Water Plans should promote value-for-money in the services provided by water businesses to their customers.

1.3 What has changed in this Water Plan Guidance Paper?

Since the 2008 and 2009 water price reviews the Commission has continued to use aspects of the regulatory framework to further encourage water businesses to improve on their efficiency and productivity for the benefit of their customers. This Guidance Paper aims to better address:

- changes in the water businesses' operating environment, including lower risks of water supply shortages
- our expectation that regulated prices will reflect (i) prudent expenditure only, (ii) reasonable expectations for productivity improvement, (iii) initiatives that garner customer support and reflect their willingness to pay; and (iv) efficient expenditure linked to meeting clearly defined Government obligations
- the requirement for the Commission to provide the water businesses with incentives to pursue efficiency improvements, and
- incentives for businesses to change and innovate in order to deliver additional benefits to customers.

In particular, the new regulatory approaches are:

- **The Commission expects that Water Plans will demonstrate that strategic consideration has been given to risk and its allocation and management.** This includes careful consideration of the form of price control, the depth and quality of demand and expenditure forecasting, and justification for proposed expenditure (chapter 3 — Allocating and managing risk).
- **Water businesses may apply for a regulatory period of more than five years.** We will approve such a proposal if a business sufficiently justifies the case for a longer period in its Water Plan. Water Plans must include forecasts for at least the next ten years. (chapter 4 — Length of regulatory period).
- **All urban water businesses should propose a guaranteed service level scheme.** Businesses are expected to propose a set of guaranteed service level measures that reflect the most important aspects of service delivery as identified by customers (chapter 5 — Service outcomes).

- **The Commission will be taking a narrower view of non-contractual obligations.** The Commission will exclude from approved revenue requirements the costs associated with alleged but unclear Government obligations. Businesses will also need to demonstrate net benefits and customer willingness to pay for proposed changes in other service outcomes (chapter 5 — Service outcomes, chapter 6 — Operating expenditure and chapter 7 — Capital expenditure). With the likely introduction of a carbon price in 2012, proposals relating to carbon mitigation will need to be supported by cost-benefit analysis (chapter 6 — Operating expenditure).

- **Water businesses should exclude drought-related costs from base expenditure estimates.** We fully expect that once-off or cyclical costs incurred in the second regulatory period related to the drought will be removed from estimates of business as usual expenditure for the third regulatory period (chapters 6 — Operating expenditure and 7 — Capital expenditure).

- **In limited circumstances, the Commission considers that a commercial return on assets may not be appropriate.** The Commission intends to explore further with businesses new approaches to the cost of finance for fully debt funded assets (chapter 8 — Revenue requirement).

- **Businesses may wish to consider approaches to depreciation other than the straight-line approach adopted in the past.** For instance, for a business growing its asset base over a relatively short period, it may be appropriate to back-end regulatory depreciation to reflect asset utilisation (chapter 8 — Revenue requirement).

- **The Commission will develop and implement a new approach to strengthen efficiency incentives through a risk and performance factor.** The Commission will use a risk and performance factor to adjust the revenue requirements for all businesses, based on relative performance on a range of risk and performance measures (chapter 10 — Incentive mechanisms).

- **The Commission believes there may be merit in removing certain costs from approved revenue requirements.** For instance, water conservation costs should only be recovered where they reflect the most efficient way of managing supply and demand balance (chapter 10 — Incentive mechanisms).

- **Water businesses should develop simplified and cost reflective tariff structures in consultation with their customers.** The Commission has developed a set of tariff assessment principles that water businesses will need to consider in developing their tariffs. The Commission discourages the continuing use of the inclining block tariffs and variable sewer charges for residential customers. The Commission expects that customer impact analysis and a transition strategy will need to be undertaken prior to any change (chapter 12 — Tariff levels and structures).

- **The Commission's regulatory framework will facilitate the introduction of tariff choice, should businesses elect to do so.** The Commission supports water businesses exploring increased tariff choice with customers. This could potentially involve a higher variable component for water bills. Under our proposed framework, water businesses will be fully responsible for managing all risks associated with offering customers voluntary tariffs (chapter 13 — Tariff choice).

- **Water businesses are expected to undertake broader and more in depth consultation with customers during the development of Water Plans compared with past price reviews.** At all stages of the price review process, information should be readily available and presented in a style and language that is meaningful to customers (chapter 14 — Customer consultation).

1.4 Areas for further exploration and clarification

The Guidance Paper refers to a number of other processes and areas for which further clarification will be required in order to inform final Water Plans. This includes:

- guidance that may be required following the Victorian Government's consideration of the recommendations of the Living Victoria Ministerial Advisory Council, particularly as it relates to the expenditure and tariff proposals of businesses (timing of guidance uncertain at this stage)

- further consultation on the development and implementation of a Risk and Performance factor (a form of efficiency incentive) to apply to all water businesses in the third regulatory period (the Commission will commence consultations in early 2012)

- further consultation on changes to the consumer protection framework that may be required to ensure customers' rights and obligations are properly considered prior to the introduction of tariff choice by water businesses (consultation will commence from mid- 2012 subject to indications from businesses that they intend to pursue tariff choice)

- a customer engagement seminar to be held by the Commission to promote new approaches to engaging with customers as part of the price review process (the seminar will be held in November 2011)

- finalisation of a new customer contribution framework in consultation with water businesses and the development industry (scheduled for June 2012).

Water businesses will need to submit detailed information in financial templates to the Commission. This will include historical data and forecasts for key pricing variables. The templates will be provided to businesses in early November 2011.

1.5 Ongoing policy processes

Beyond the regulatory framework, discussions on policy reform include a focus on creating market based incentives for investment, valuing water more efficiently, integrated water cycle management, and shifting the proportion of customer bills from fixed to variable charges. In Victoria, the Minister for Water appointed an independent Ministerial Advisory Council to make recommendations on strategic priorities for reforming the water industry.

Businesses should remain cognisant of possible reforms as they develop Water Plans for the third regulatory period but should not pre-empt any policy decisions by Government. As noted above, it may be necessary for the Commission to release further guidance after the Government considers the Ministerial Advisory Council's final recommendations.

1.6 Murray-Darling Basin

The Australian Government took on new responsibilities for regulating rural water pricing in the Murray-Darling Basin when the *Water Act 2007* (Commonwealth) commenced. The Australian Competition and Consumer Commission (ACCC) will regulate the water infrastructure fees and charges levied by bulk water and irrigation infrastructure operators in the Murray-Darling Basin from 2012.

This will affect the rural activities of Lower Murray Water and Goulburn-Murray Water, which are currently regulated by the Commission.

The Commission intends to seek accreditation from the ACCC for us to continue regulating the rural activities of Lower Murray Water and Goulburn-Murray Water. Subject to accreditation, the Commission's regulatory approach will follow the ACCC framework set out in its Water Charge (Infrastructure) Rules 2010.[1]

Subject to accreditation by the ACCC, the Commission will provide further guidance on how we will apply the ACCC Water Charge (Infrastructure) Rules, albeit the ACCC approach is generally consistent with the guidance in this paper.

[1] These rules can be accessed via the ACCC website: http://www.accc.gov.au/content/index.phtml/itemId/944643

2 COMMISSION'S APPROACH TO ASSESSING WATER PLANS

2.1 Introduction

In 2012 the Essential Services Commission (the Commission) will commence reviewing prices to apply for water and sewerage services provided by Victoria's 19 state-owned water businesses for the third regulatory period. The third regulatory period begins on 1 July 2013.

As part of the price review, each business must release a draft Water Plan for public consultation and comment by May 2012. They must formally submit a final Water Plan to the Commission in September 2012.

Water Plans serve two main purposes. They provide:

- a mechanism for businesses to commit to a set of outcomes and prices for the next regulatory period
- information the Commission requires to assess businesses' proposals about services, expenditure, revenue, and tariffs.

Draft Water Plans should provide a basis for public consultation before businesses submit their final Water Plans to the Commission. They must be accessible to customers so they can provide views on the service and price proposals of businesses. To facilitate this, they must clearly set out information that enables readers to easily understand the prices and tariff structures proposed, provide a summary of proposed major projects and service outputs and the rationale for them, and include information so that customers can easily understand service and price trade-offs.

In the past, businesses usually provided this information in executive summaries to Water Plans — an approach we support. The Commission encourages businesses to explore other ways to engage customers as they develop their Water Plan, including using targeted fact sheets, newsletter inserts in bills, or electronic media.

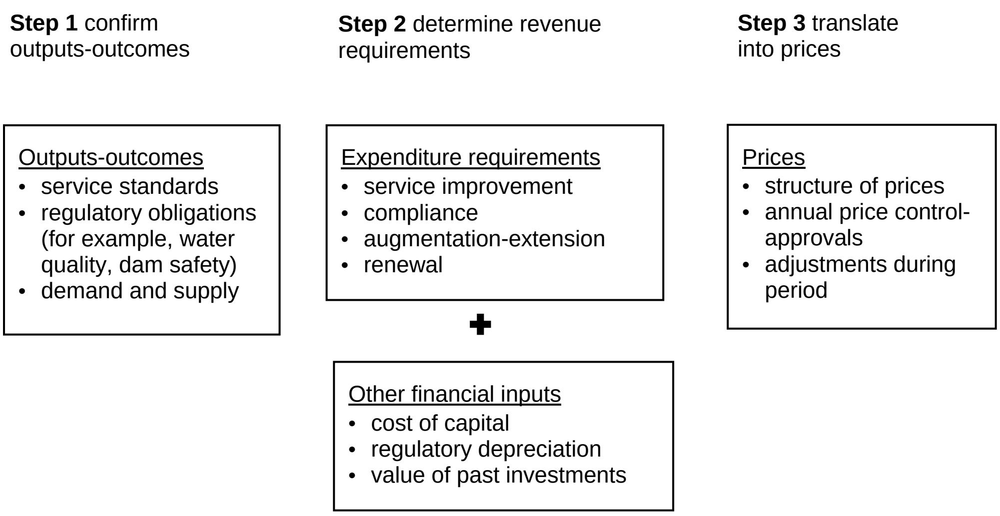
Final Water Plans should clearly articulate, and commit to, a set of outcomes and prices businesses propose to deliver over the third regulatory period. They should demonstrate that there was appropriate customer consultation on the draft Water Plan and that the views of customers have been considered and taken into account in business proposals. They must also justify proposed service outcomes, expenditure and tariff levels and structures.

2.2 The price approval process

The *Water Industry Regulatory Order* (WIRO) requires the Commission to approve or specify the price arrangements for each water business for each regulatory period. The Commission must approve the price arrangements proposed by businesses if we are satisfied that the prices, or the manner for calculating or determining prices, comply with the procedural requirements and the regulatory principles in the WIRO.[2]

The Commission's analysis and decisions on tariffs will be guided by a set of tariff assessment principles (see chapter 12) that align with WIRO and that were developed following public consultation. The Commission will assess the price proposals of businesses in three steps (figure 2.1).

Figure 2.1 Steps in assessing and approving prices



[2] The procedural requirements and the regulatory principles in the WIRO are available at: http://www.esc.vic.gov.au/NR/rdonlyres/70B80EA3-BA25-45EC-AE5F-C74E528B2B3B/0/WIRO_20051025.pdf.

Step one involves identifying the service outcomes that a business proposes to deliver over the regulatory period. These outcomes reflect obligations imposed by the Minister for Water (through the Statement of Obligations), the Environment Protection Authority (EPA), the Department of Health, the Department of Sustainability and Environment (DSE), the Commission, and other regulatory bodies that impact business operations. They should also reflect customer preferences.

In the second step, the Commission independently identifies the revenue the business needs to meet the service obligations and expected outcomes identified in step one. The Commission makes assumptions about efficient expenditure to assess whether prices will generate sufficient revenue for businesses to deliver the identified services.

Step three involves identifying the prices to apply. For each business, the Commission must ensure that prices will generate the business's revenue requirement, accounting for demand forecasts. The Commission assesses whether the businesses' demand forecasts are reasonable and reflect the best available information. The Commission also considers whether prices and proposed tariff structures provide appropriate signals about the costs of providing services, provide incentives for sustainable water use, and account for customers' interests.

The Commission will publish and distribute its analysis and the contributions of any consultants it engages for the price review. This is to promote information sharing and transparency in our decision making.

2.3 Commission's approach to consultation

The Commission will be open and transparent and will aim to engage with as many stakeholders as practicable when reviewing prices for the third regulatory period. We will make our own papers and the draft and final Water Plans of businesses available on our website (www.esc.vic.gov.au). If Water Plans contain information that businesses do not want published because it is commercially sensitive or confidential, then they should provide a confidential and a public version to the Commission.

We generally provide numerous opportunities for stakeholders to contribute to our processes and we tailor our consultation to reflect stakeholder comments. The Commission will also consult with other regulators such as DSE, EPA, the Department of Health as well as the Energy and Water Ombudsman (Victoria).

The Commission also expects businesses to consult with customers as they develop draft and final Water Plans on service and price issues.

An indicative timetable for the price review consultation process is set out in table 2.1.

Table 2.1 **Indicative consultation timetable**

Indicative dates	*Activity*
October 2011	ESC releases Guidance on Water Plans
October 2011 to mid May 2012	Consultation by businesses with customers, Government (including regulators) and the ESC on service offerings and pricing
Mid May 2012	Draft Water Plan released by water businesses for public comment
Mid June 2012	ESC releases Supplementary Guidance
Mid May to August 2012	Business consultation on draft Water Plan with Government, ESC and public to inform final Water Plans
Mid September 2012	Final Water Plans submitted to ESC
Mid-September 2012 to January 2013	ESC assesses Water Plans and businesses respond to Commission and consultant queries
February 2013	ESC releases Draft Decision
February to April 2013	ESC consultation on Draft Decision
May 2013	ESC releases Final Decision

3 ALLOCATING AND MANAGING RISK

Key points

- Water Plans must demonstrate that businesses have given strategic consideration to the allocation and management of risks in developing their expenditure and price proposals.
- Water Plans must demonstrate a consideration of risk in areas such as the form of price control proposed, the depth and quality of demand and expenditure forecasting, and justification for proposed expenditure.
- Managing risk does not necessarily mean eliminating it. Water Plans need to estimate the efficient costs that need to be incurred to manage risk (including an assessment of whether any expenditure is required).

3.1 Introduction

The consideration of risk is relevant to the requirements of the *Water Industry Regulatory Order* (WIRO). The WIRO requires that the expenditure forecasts used by water businesses reflect the efficient delivery of the proposed outcomes over a long-term planning horizon. The WIRO also requires that prices are set to enable water businesses to recover a sustainable revenue stream that does not reflect monopoly rents and/or inefficient expenditure. Responses to identified risk can affect the focus, magnitude and timing of water business expenditure.

Water Plans should demonstrate that businesses have an appropriate framework for managing risk over the long-term, as well as capacity to identify, measure and allocate specific risks.

Risks can be managed by:

- taking action to reduce it to reasonable levels or transfer it to another party
- ensuring that if certain events do arise then the business has the processes and plans to deal with it in an efficient manner.

Importantly, managing risk does not necessarily mean eliminating it. Water Plans need to estimate the efficient costs that need to be incurred to manage risk.

3.2 Distinguishing between risk and uncertainty

The term risk is often used loosely. We consider it useful to distinguish between risk and uncertainty. Risk is the known probability and consequence (either positive or negative) of a particular outcome occurring. Uncertainty arises where the probability of an event occurring is unknown. In practice, there can be a continuum between risk and uncertainty.

Uncertainty about events may be more important in the longer term. For example, climate change is reducing confidence in the reliability of historical probability estimates of future rainfall. Real options analysis is a useful tool to increase understanding and manage uncertainty about the future.

3.3 Understanding and categorising risks

The first step to manage and allocate risk efficiently is to understand the range of risks or uncertainties faced by various parties. The Commission has identified and defined different types of risk for the water industry, and then provided examples of how these may be allocated and managed (appendix A).

3.4 Measuring risk

The second step is to measure the risk, by considering information on:

- the nature and scale of the risk (to the extent possible) for all relevant parties
- what affects the probability of the event occurring
- the financial impact of the event if it occurs.

Often risks are measured through actuarial analysis. Risk measurement is based on statistical modelling using historical or other data and financial modelling. The water businesses may wish to review the basis for measuring significant financial risks to ensure that they use the most appropriate data and models, and also question whether past risk measurement may be changing.

The Commission expects that the water businesses conduct scenario analysis for identified significant financial risks and critically assess the nature and scale of the risk and its probability of occurring. Summary information on identified major financial risks must be included in Water Plans. We also expect that relevant analysis will be made available to the Commission and public.

3.5 Allocating risk

The more significant the outcome in terms of scale and potential cost (or benefit) the more important it is to ensure the risk is allocated correctly.

Many risks can be effectively managed either by a water business or by the water industry. But a portion of some risks are outside the water businesses' individual or collective control. Incorrectly allocating a risk can lead to an inefficient outcome. Therefore, it is important to allocate risk appropriately and transparently.

Accepted risk allocation principles require that:

- a risk should be allocated to the party or parties best able to control or manage them while also ensuring the party has the incentives to either reduce it or manage it effectively
- if some portion of a risk is significant and cannot be managed, then it should be either allocated to or shared between the party(ies) that can best absorb it.

To determine which party can best control or manage the risk, the water businesses should consider whether the party or parties being allocated a risk can:

- lower the cost of doing things (improve productive efficiency)
- use scarce resources in a better way (improve allocative efficiency)
- manage the risk in new or better ways than other parties (improve dynamic efficiency).

3.6 Regulatory risk mitigation tools

The regulatory regime established through the WIRO and developed in detail through previous reviews generally identifies, categorises and allocates risk in accordance with standard principles and seeks to provide efficiency incentives to the water businesses. The established regulatory framework provides the following tools to mitigate or manage risk:

- *Recovery of forecast capital and operating expenditure* — The forecast expenditure contained within Water Plans must be consistent with the risk allocation and incentives provided within the regulatory framework. Therefore, it is important that forecasts are prepared on this basis. Where the water businesses seek recovery of costs for managing risks, we expect them to demonstrate the need for this and provide supporting information in Water Plans (this is discussed in section 3.7).
- *Indexation of prices* — This ensures that water businesses remain fully responsible for management of their controllable costs, and that businesses do not need to bear the full risk associated with general price inflation.

- *Cost of capital* — This provides compensation for nondiversifiable risk (see section 8.9).

- *Form of the price control* — This provides a mitigating tool for the water businesses. Chapter 11 contains our views on the form of the price control for the next regulatory period. We also note that the form of price control can assist in managing the risk that actual demand varies from forecast demand.

- *Tariff structures* — Chapter 12 sets out the pricing principles for new tariff structures. The impacts of any shift in the mix of service and variable charges in tariffs on risk sharing between businesses and customers will need to be addressed in Water Plans.

- *Pass through mechanisms* — Significant uncertainties that materially affect water businesses and that occur within the regulatory period are generally treated as pass through events. These events must be clearly identified in the price determination. The uncertain and unforseen events mechanism established by the Commission for the 2008 and 2009 water price reviews provides another option for managing and mitigating risks, subject to certain criteria (see section 4.4).

3.7 Demonstrating the need for cost allowances for managing risk

We expect water businesses to justify cost allowances for managing risks for which they are responsible. In particular, the business should:

- identify and categorise the risk
- measure the risk including:
  - the nature and scale of the risk
  - what affects the probability of the event occurring
  - the financial impact of the event if it occurs
- allocate the risk (including their rationale)
- describe how it plans to treat the risk in its Water Plan and justify the efficiency of related expenditure (including demonstrating that the regulatory risk mitigation tools listed in section 3.6 do not adequately mitigate the risk)
- describe the role customers will be expected to play in dealing with these risks and how customers will be engaged in this process.

3.8 Summary of information requirements for Water Plans

Water Plans must provide evidence that businesses used an appropriate framework to inform decision making about allocating and managing risk. This framework should be reflected in the businesses' proposals about price controls or tariff structures, and to support the case for capital expenditure, for example.

Water Plans should also:

- identify any significant financial risks and summarise scenario analysis for each risk, including an assessment of the nature and scale of the risk and its probability of occurring (detail should be made available to the Commission separately)
- include the following information about material risks the water business proposes to manage itself that require cost allowances:
  - identification and categorisation of the risk
  - measurement of the risk including:
- the nature and scale of the risk
- what affects the probability of the risk event occurring
- what is the financial impact of the risk if it occurs
  - rationale for the allocation of the risk
  - how the water business plans to treat the risk in its Water Plan and justify the efficiency of related expenditure (including demonstrating that the regulatory risk mitigation tools listed in section 3.6 do not adequately mitigate the risk)
  - the role customers will be expected to play in dealing with these risks and how customers will be engaged in this process.

4 LENGTH OF REGULATORY PERIOD

Key points

- The length of the third regulatory period for all businesses will cover at least five years from 1 July 2013.
- Business may apply for a longer regulatory period for the third regulatory period. The Commission will approve a regulatory period of more than five years if businesses sufficiently justify a longer period in their Water Plans.
- All aggregate expenditure, demand, revenue and price forecasts in Water Plans should be at least for 10 years – this reflects the need to take a long-term perspective in water business planning.
- The Commission intends to adopt the uncertain or unforeseen events mechanism in its current form for the third regulatory period. The mechanism will continue to allow businesses to apply for a mid-period price adjustment to reflect any significant and uncertain or unforseen events that were not identified at the time of the original determinations.

4.1 Introduction

The *Water Industry Regulatory Order* (WIRO) provides for the Essential Services Commission (the Commission) to set regulatory periods. The current regulatory period was four years for the metropolitan water businesses (commencing July 2009) and five years for the regional and rural water businesses (commencing July 2008). The shorter period for the metropolitan businesses followed a one year delay in the last price review while the Victorian Competition and Efficiency Commission reviewed the structure of the metropolitan water industry.

4.2 Length of regulatory period three

The third regulatory period for all businesses will cover at least five years from 1 July 2013. However, business planning and forecasts should consider a longer term. All aggregate expenditure, demand, revenue and price forecasts in Water Plans should be at least for 10 years. Longer term estimates of expenditure are important given the capital intensive nature of the water industry and the long lives of many assets. The lumpiness of capital expenditure also means that longer term estimates are important.

A business may wish to apply for a longer regulatory period for the third regulatory period. The Commission will approve a longer period if a business sufficiently justifies it in its Water Plan. Businesses must consider the implications for allocating and managing risks (see chapter 3). They must also consider the benefits and challenges of longer regulatory periods, some of which are outlined in box 4.1. We recommend a business engage the Commission early if they are considering proposing a regulatory period of more than five years.

Box 4.1 **Benefits / challenges of longer regulatory periods**

Benefits:

- reduced administration costs (which are ultimately passed on to customers)
- greater certainty for customers about the outcomes to be delivered and prices over a longer time period
- greater opportunity for the incentive properties of the regulatory framework to work
- stronger incentives for businesses to develop proposals with a longer term planning horizon.

Challenges:

- providing robust forecasts, particularly for the later years of the period (although businesses should have processes that enable them to develop longer term forecasts)
- ensuring that all of the obligations and outcomes to be delivered are identified at the beginning of the regulatory period
- dealing with uncertain or unforeseen events that may significantly affect revenue (there is potentially less scope for businesses to carry additional costs over longer periods).

Rural businesses in the Murray-Darling Basin

The regulatory period for rural businesses in the Murray-Darling Basin may be different from that proposed by the Commission. From 2012, rural prices for Goulburn-Murray Water and Lower Murray Water will be covered by the Water Charge (Infrastructure) Rules 2010 administered by the Australian Competition and

Consumer Commission (ACCC). The ACCC specifies a three-year regulatory period commencing 1 July 2013 for the Victorian rural water businesses, and this will apply for Goulburn-Murray Water.

Our understanding is that Lower Murray Water, which provides both rural and urban services, intends to apply to the ACCC for permission to use the same regulatory period for its urban and rural businesses. The Commission will work with the ACCC to support a consistent period for Lower Murray Water.

4.3 Dealing with uncertainty

One of the major challenges of a relatively long regulatory period for water businesses is managing uncertainty. Regulators do not typically allow price adjustments within the regulatory period to reflect differences between the actual and forecast costs of service provision or demand and revenue.

The advantage of this is it gives businesses incentives to operate efficiently. Under a price cap form of price control, if costs are lower than forecast (and/or demand is higher), the business retains the benefits during the regulatory period; similarly, if costs are higher than forecast (and/or demand is lower), the business bears the loss.

However, the disadvantage is that it can affect a business' viability if it cannot and/or does not manage uncertainty effectively. Generally, options for dealing with uncertainty include:

- reprioritising capital projects or programs (a business could decide not to undertake certain projects or bring other projects forward to cope with changing circumstances, after consulting its customers)
- reflecting any uncertainty in forecasts (either implicitly or explicitly), particularly for events that may be known but uncertain in scope
- the regulator assessing claims for material changes (to account for unforeseen events) and adjusting prices within the regulatory period (under this scenario, annual tariff approvals could include adjustments for material changes, or businesses could seek to adjust prices subject to a predetermined process)
- the regulator approving adjustments to prices at the end of the regulatory period to reflect any significant cost increases or decreases
- reopening determinations triggered by particular materiality thresholds or triggers
- setting predetermined pass throughs and
- adopting an alternative form of price control.

The most appropriate option for managing uncertainty depends on what caused the variation between actual results and forecasts. For example, predetermined pass throughs may be better suited for dealing with known but uncertain major capital projects or with a change in tax. By contrast, the form of price control may be better suited for dealing with demand uncertainty.

Each mechanism will affect prices, customers and businesses differently and it is important to recognise these effects when deciding the most appropriate option. It is also important to consider how prices, customers and businesses will be affected if there are no adjustments made to reflect uncertainty.

4.4 Uncertain or unforeseen events mechanism

The Commission approved a mechanism for managing uncertain or unforeseen events for the second regulatory period. The mechanism established a process for businesses to apply for a price adjustment to account for events that were significant and uncertain or unforeseen at time of the original determinations.

The Commission intends to adopt the uncertain or unforeseen events mechanism in its current form for the third regulatory period.

Main characteristics of the uncertain or unforeseen events mechanism

Price adjustments can occur during or at the end of the regulatory period, and be initiated by a business or by the Commission. Events triggering the mechanism include:

- significant and uncontrollable changes in the timing or costs associated with major capital (or other) projects
- significant and ongoing differences between actual and forecast demand levels
- changes in legislative and other Government-imposed obligations
- catastrophic events such as fire, earthquake or acts of terrorism
- for the three metropolitan retailers and Western Water, significant changes in Melbourne Water’s bulk water and sewerage charges due to any of the above.

The Commission did not specify a threshold for applications (based on differences between forecast and actual outcomes for expenditure, revenue or demand) under this mechanism. Businesses should consider the following factors before deciding whether and when to apply for a price adjustment:

- the net impact on costs or revenue of all changes that have occurred during the period being considered
- whether the net effect is significant
- whether it is possible to offset changes in costs or demand later in the regulatory period (and the likelihood of these changes occurring).

The hurdle for the Commission to consider a mid-period price adjustment is necessarily high. The Commission will approve price adjustments when it is satisfied that:

- the event is clearly outside of the control of the business and not predictable with any confidence
- customers are not unduly exposed to risk or price fluctuations
- the impact of the event is material, clearly observable and verifiable
- the net impact on costs or revenue of all changes that have occurred during the period under consideration is significant
- the business has done everything within their control to mitigate against the circumstances in which they find themselves.

The Commission will also aim to maintain incentives for businesses to use appropriate risk management processes to mitigate and plan for such events, wherever possible. It will also try to minimise the administrative and other costs associated with any price adjustments.

Costs are likely to be greater when adjustments are made during the regulatory period, and reduced (although not eliminated entirely) when prices are adjusted at the end of the regulatory period. Price adjustments during the regulatory period also can reduce incentives for businesses to manage risks appropriately.

The mechanism is symmetric; prices can be reduced as well as raised to account for uncertain or unforeseen events. Many adjustments suggested by businesses in the lead up to the second regulatory period were one sided in that they would only operate in situations where demand was lower or costs higher than forecast, implying higher prices. There will be situations where the reverse happens and demand is higher and costs lower than forecast. In these situations, the same logic of being able to adjust prices for outcomes worse than anticipated would mean re-opening determinations to reduce prices.

In order to provide a practical example of the Commission's application of the uncertain or unforseen events mechanism, box 4.2 provides an overview of the reasons for the Commission's decision on Coliban Water's 2010 application for a mid-period price adjustment.

Box 4.2 **2010 Coliban Water price re-opening**

In 2010 the Commission considered an application for a mid-period price adjustment from Coliban Water. The application was based on significantly lower demand than forecast for the 2008 determination, which undermined Coliban Water's financial position. The Commission approved a mid-period price adjustment for Coliban Water because:

- Coliban Water could not have reasonably foreseen the extent of lower than forecast demand at the time of its determination
- the lower than expected demand jeopardised Coliban Water's financial position
- Coliban Water demonstrated that it sought to manage other costs to minimise the extent of the price adjustment
- Coliban Water undertook a robust consultation process to inform its application
- Coliban Water had analysed a range of options to address lower than anticipated demand.

4.5 Summary of information requirements for Water Plans

Water Plans should specify the length of the regulatory period sought (the minimum is five years). A business proposing a regulatory period of more than five years must sufficiently justify its proposal in its Water Plan, including a discussion of the risks outlined in chapter 3. All forecasts of aggregate expenditure, revenue and prices must be for at least 10 years from 1 July 2013. Forecasts for these variables beyond the third regulatory period may be in the form of a range of likely outcomes (within reasonable bounds). Forecasts must be based on known obligations.

5 SERVICE OUTCOMES

Key points

- Water Plans must set out and justify proposed service outcomes for the third regulatory period – these outcomes will reflect Government obligations, including the expectations of technical regulators, the Commission's core service standards and the service expectations of customers.
- The Commission will exclude the costs associated with alleged but unclear Government obligations (including those imposed by technical regulators) from approved revenue requirements.
- Businesses will also need to demonstrate net benefits and customer willingness to pay for proposed changes in other service outcomes for costs to be included in approved revenue requirements.
- With the introduction of a carbon price in 2012, proposals relating to carbon mitigation will need to be supported by commercial cost-benefit analysis.
- The introduction of customer tariff choice relating to additional or non-prescribed services, such as carbon mitigation, may enable businesses to recover costs above what is recovered through their approved revenue requirement.
- The Commission is open to proposals for reduced targets for core service standards in the third regulatory period, if businesses can demonstrate a corresponding cost and price trade-off and if customers support the changes.
- All urban businesses should propose a guaranteed service level scheme. This will ensure all urban water businesses have an incentive to meet service standards for all customers.

5.1 Introduction

Identified service outcomes underpin the businesses' expenditure proposals for the regulatory period and thus prices. Water Plans must outline and justify proposed outcomes for:

- the obligations placed on businesses by Government, including technical regulators

- proposed performance against the core service standards established by the Commission
- the outcomes proposed to meet service expectations.

Water Plans must also highlight any changes to outcomes since the second regulatory period, and how these changes are likely to affect costs and prices.

The Essential Services Commission (the Commission) is responsible for regulating standards and conditions of supply for prescribed services. Note that the Commission does not assess the appropriateness of any clearly defined obligations placed on businesses by Government (and its technical regulators), only the expenditure required to meet these obligations. Outside of these, for prescribed services, the *Water Industry Regulatory Order* (WIRO) allows the Commission to approve standards set out in a Water Plan, to specify those standards in a code or to do both.

Given recent cost and price increases, we expect that water businesses will focus on exploring service and price trade-offs with customers as they develop their draft and final Water Plans. The Commission will consider proposals for altered targets for service standards in the third regulatory period, so long as Water Plans demonstrate a corresponding price trade-off and customers support the changes.

Customer willingness to pay for proposed levels of service (excluding efficient expenditure required to meet clearly defined minimum obligations expected by Government) will be a key focus of the Commission’s review. The Commission encourages water businesses to develop new and more engaging methods of gauging customer priorities and assessing willingness to pay.

5.2 Government and regulatory obligations

Obligations imposed by the Government will drive a number of the outcomes that businesses will deliver during the third regulatory period. This includes those set by the Environment Protection Authority (EPA), the Department of Health and the Department of Sustainability and Environment (DSE).

The Department of Health and the EPA published separate guidance on their expectations for the water businesses for the third regulatory period. DSE is consulting on the content of the Statement of Obligations, which will also identify a number of objectives for the water businesses for the third regulatory period.

Initiatives or programs to meet Government requirements are typically significant drivers of expenditure. In the absence of a clearly defined obligation set by Government, it is important that businesses specify measurable outcomes to be delivered over the third regulatory period.

In the last water price review there were a number of costs for which it was uncertain to the Commission whether they were related to a clear obligation on the businesses; for example, businesses included costs of purchasing voluntary carbon offsets to be carbon neutral citing alignment with Government policy. For these costs however, there was no clearly defined target set. In setting service outcomes for the third regulatory period, in the absence of a clearly defined obligation, we encourage businesses to clarify objectives with the relevant agency. To inform this process, the Commission also expects that information on the impact of the obligations on prices and customer bills will be presented to the relevant agency.

The Commission will exclude the costs associated with alleged but unclear Government obligations from revenue requirements for the third regulatory period.

We note that introducing customer tariff choice may enable businesses to recover costs above what is recovered through a business's revenue requirement for these items (see chapter 13).

5.3 Service standards

Water Plans must set out other service standards the business intends to achieve in the third regulatory period. These relate to identifying targets to achieve the Commission's core service standards, and to meet the identified needs of customers.

Commission's approach to assessing service standards

The Commission will assess whether service standards and targets outlined in Water Plans:

- comply with the definitions outlined in the Commission's performance reporting frameworks
- are consistent with available historic information on actual performance
- reflect past and proposed expenditure programs
- reflect customer preferences and willingness to pay
- include price and customer bill impacts.

The Commission will not impose consistent service standard targets across businesses. Rather, it will continue to monitor and compare businesses using the performance reporting framework. Businesses may refer to the Commission's annual water performance reports to identify areas where they are performing less well than other businesses.

Core service standards

The Commission established separate sets of core service indicators for urban services, rural services and Melbourne Water. We consulted on their composition during the 2005 and 2006 price reviews. We will review the core indicators before the start of the third regulatory period, to ensure that they continue to reflect outcomes that are important to Victorian water customers.

Until then, businesses should continue to propose targets for each core standard specified by the Commission. The current set of core service standards for urban and rural businesses and service standards for Melbourne Water are contained in appendix B.

Setting targets for core service standards

The starting point for setting targets for core service standards should be the average performance of the business over the last five years. This should account for temporary fluctuations in performance while still reflecting technological changes.

However, a five-year average may not be appropriate in all instances. For instance, some targets approved for the second regulatory period reflected the (temporary) impact of drought conditions. Adjustments to targets will need to be made to account for changes in the operating environment.

Proposals for service standards targets should also reflect recent and proposed expenditure. Businesses recently incurring or proposing significant expenditure should include performance targets that exceed the five-year average.

Proposals for increases in expenditure in the third regulatory period to drive improved service performance will need to be supported by evidence of customer willingness to pay as well as higher targets.

The Commission is also open to proposals for reduced targets for core service standards in the third regulatory period, if businesses can demonstrate a corresponding cost and price trade-off and if customers support the changes.

Additional service standards

Businesses may nominate additional standards and outputs that they intend to deliver over the third regulatory period. These service standards should mainly reflect identified local customer demands, and be relatively consistent with the standards set for the second regulatory period.

As noted in section 5.2, Water Plans for the second regulatory period outlined additional outputs set by technical regulators that affected the capital and operating expenditure of businesses and the quality of service received by customers. These included initiatives in areas such as:

- biosolids reuse
- sewer backlog connections
- environmental discharge licence requirements
- drinking water quality compliance with standards.

Targets for outcomes in these areas should be outlined in Water Plans for the third regulatory period because they represented a significant driver of expenditure among businesses in the second regulatory period.

5.4 Guaranteed Service Levels (GSLs)

The service standard targets proposed by businesses and approved by the Commission generally reflect the average performance expected across all customers. However, it is also important for businesses to have incentives to meet service standards for all customers.

One approach is to adopt a guaranteed service level (GSL) scheme. Businesses provide a payment or a rebate on bills to customers who receive services that do not meet defined performance levels.

The primary purpose of these schemes is to give businesses an incentive to improve key aspects of service rather than to provide compensation to affected customers. GSL schemes also complement other regulatory incentives because they deal with service levels experienced by the most poorly served customers. GSL payments or rebates reduce revenue for businesses, so they provide an incentive to minimise the number of GSL events.

All urban businesses should propose a GSL scheme

The Commission expects all urban businesses to propose GSL schemes for the third regulatory period. Most businesses have eight years of audited performance data that they can use to formulate their GSLs. Businesses are expected to propose a set of GSLs and a GSL payment or rebate that reflects the most important aspects of service delivery as identified by customers.

The Commission recommended GSLs in its final decision to the 2008 water price review:

> *The Commission remains of the view that GSL schemes could be implemented by the urban water businesses over the next 12 to 24 months, subject to further analysis and monitoring. Experience in the Melbourne metropolitan water industry and energy sectors with GSL schemes is that businesses show improved service performance and an enhanced customer service focus. The Commission considers that introducing a GSL scheme would enhance the existing performance monitoring framework.*[3]

More recently, the Commission clearly stated its expectations for GSLs at our Service Standards Seminar in June 2011. We believe that usually, the cost of implementing a GSL scheme is small relative to other service improving projects and relative to the incentives it provides for service delivery. In 2009-10 GSL rebates made by businesses accounted for no more than 0.1 per cent of prescribed revenue for the year. We previously estimated implementing and operating a GSL program would cost between $1 and $2 per customer per annum over a five-year regulatory period. Further, this is likely to fall over time, as service improvements reduce the number of payments or rebates.

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[3] Essential Services Commission 2008, *2008 Water Price Review, Regional and Rural Businesses' Water Plans 2008–2013, Melbourne Water's Drainage and Waterways Water Plan 2008-2013 — Final Decision,* June, p.26.

Commission's assessment of GSL scheme proposals

In assessing proposed GSL schemes, the Commission will consider whether:

- the proposed GSL events reflect areas of service of most concern to customers (demonstrated by evidence of customer support)
- each GSL is objectively definable, easily understandable, and able to be reported
- payment amounts provide sufficient incentive for businesses to provide appropriate service levels to all customers.

Core GSLs

The Commission believes a core set of GSLs applicable to all urban businesses is desirable but we will not mandate this. It would help to ensure that all urban businesses have similar incentives to address important aspects of customer service and provide consistency across the state. Businesses could maintain their flexibility by proposing additional GSLs that reflect local customer priorities.

Table 5.1 contains examples of GSLs currently used by businesses participating in the scheme and which may comprise a core set. Businesses not currently participating in the scheme are encouraged to adopt these as a starting point for customer consultation. Businesses should consult with customers about these GSLs and related payment/rebate amounts.

Table 5.1 Examples of commonly adopted GSLs

Service level obligation	*Level of service*	*Current rebate for breach ($)*
Unplanned water interruptions restored within five hours of notification	All	50–65
Unplanned water interruptions within any 12 month period	No more than 5	50–65
Unplanned interruptions to sewer service rectified within 5 hours	All	50–65
Sewage spills in a house contained within 1 hour of notification	All	1000
Restricting the water supply of, or taking legal action against, a residential customer prior to taking reasonable endeavours to contact the customer and provide information about help that is available if the customer is experiencing difficulties paying	Zero	300

Source: Based on *Customer Service Code, Metropolitan and Regional Water Businesses,* sch 2.

The hardship related GSL

The focus on hardship among customers has increased with rising water and other utility prices. The Commission is concerned about varying rates of restrictions to water supply and legal actions being pursued by businesses.

The Commission outlined its intention to introduce a hardship related GSL following the 2009 water price review. After consultation, a hardship related GSL was introduced to help ensure that water businesses do not restrict a customer's water supply or initiate legal action for non-payment before taking reasonable endeavours to communicate with the customer (see table 5.1).

Nine businesses adopted the GSL on 1 January 2011. The Commission will review the hardship related GSL after 31 December 2011 to inform broader rollout. The review will be completed before the next regulatory period. Businesses that have not included the hardship related GSL may wish to consult customers about voluntarily adopting it before the Commission completes its review.

New GSLs

The Commission encourages water businesses to propose new GSLs (in addition to those approved for the second regulatory period) for the third regulatory period. Proposals for new GSLs must be accompanied by evidence that the related service is significantly important to customers.

Coliban Water proposed a GSL for capital expenditure during the Commission's Service Standards Seminar in June 2011. Businesses might propose a GSL relating to delivery and timeliness of capital expenditure; for example, a business may provide a GSL payment or rebate if it fails to reach key milestones for project delivery as set out in its determination.

Level of payment / rebate

It is important that payment or rebate levels limit the cost of the scheme but also provide incentives for businesses to avoid the GSL event. If payment and rebate levels are too low, businesses may elect to make payments or provide rebates to the worst served customers, rather than investigate and fix the cause of the event. Conversely, if payments/rebates are too high then inefficiently high levels of expenditure might be devoted to the problem.

Incentives to address GSL events could be strengthened by proposing inclining GSL payments and rebates for customers who experience repeat instances of poor service. Under this approach, a second rebate level could be applied to customers who experience repeat instances of GSL events. If this approach is proposed by a business, the Commission will consider customer support, and whether customers can easily understand the rebate structure.

Payment/rebate levels approved for the 2008 and 2009 water price reviews ranged from $50 per event up to $1000 for sewage spills not contained within a specified time. Businesses should consult with customers on GSL payment/rebate levels so that they reflect the level of importance placed on the associated service by customers.

5.5 Summary of information requirements for Water Plans

Water Plans must contain sufficient information for the Commission to understand the outcomes that the water business intends to deliver over the third regulatory period. This should include information on obligations imposed by Government, including technical regulators, and other projected service standards which reflect the expectations of the Commission and/or customers. Water Plans must also identify GSLs that the business intends to implement in the third regulatory period, linking these to identified areas of customer priority.

More detail on our information requirements for Water Plans is provided below.

For Government and regulatory obligations, Water Plans must separately identify:

- each obligation imposed by Government, including technical regulators

For each type of obligation the Water Plan must:

- identify the source of the obligation
- identify outcomes or minimum targets that have been imposed on the business
- identify whether the minimum obligation is new or changed since the second regulatory period
- indicate whether the business proposes to exceed the minimum outcome or target expected and why
- identify the expenditure and initiative(s) aimed at meeting the obligation
- in the absence of a clear target or objective set by Government or regulators, provide information on how any targets or objectives were set by the business
- identify the cost and price (bill) impacts of delivering the obligations
- outline any consultation undertaken on the obligation and the results of that consultation (including for setting appropriate outcomes or targets and evidence of consultation on service and price trade-offs).

For core service standards, Water Plans must separately identify:

- each core service standard applicable to the business.

For each core service standard, the Water Plan must:

- outline the basis for setting the proposed service target and the reasons for adopting the target

- identify where a proposed service standard target is above or below current levels and/or different to a five-year average of historical performance, and explain the difference
- identify the cost and price implications of proposing a target that is above or below current levels (in some cases service outcomes may be improved without a significant change in costs or prices)
- set out how the business proposes to meet the specified target, including projects targeted at meeting service levels over the regulatory period, or areas where a lower target will reduce costs
- provide evidence of consultation with customers and evidence of their support and willingness to pay for the proposed service target (this must include evidence of consultation on service and price trade-offs).

For additional service standards, Water Plans must separately identify:

- each additional service standard proposed by the business.

For each additional service standard, the Water Plan must:

- outline the rationale for setting the proposed service standard and related target
- identify whether the obligation is new or changed since the second regulatory period
- identify the cost and price implications of proposing service levels that are above or below current levels (including for new standards)
- set out how the business proposes to meet the specified target, including projects targeted at meeting service levels over the regulatory period, or areas where a lower target will reduce costs
- outline evidence of consultation with customers and evidence of their support and willingness to pay for the proposed service standards. This must include evidence of consultation on service and price trade-offs.

For service outcomes involving major projects, Water Plans should also set out how the business proposes to address and mitigate risks to service delivery.

For GSL schemes, Water Plans must:

- outline the proposed GSL scheme including defining each GSL proposed and provide a summary of customer consultation on GSLs.

For each proposed GSL, Water Plans must:

- identify the basis for including an event as a GSL (for example, reflecting service areas of most concern to customers)

- identify whether customers will receive benefits through payments or rebates
- identify the threshold at which the business will make payments or provide rebates to customers
- estimate the assumed number of payments or rebates per year for the third regulatory period
- identify the size and nature of the proposed payment or to be made or rebates to be available to customers and how that size has been arrived at.

6 OPERATING EXPENDITURE

Key points

- To recover proposed expenditure through regulated prices, Water Plans must demonstrate that expenditure is required to meet verified service outcomes. Water Plans must also demonstrate that proposed service outcomes will be met as cost-efficiently as possible.
- Many businesses identified the drought a reason for increases in operating expenditure and prices for the second regulatory period.
- With improved inflows and higher storage levels across the state, we expect costs associated with drought-related expenditure to decline in the third regulatory period. Once-off or cyclical costs incurred in the second regulatory period related to the drought must be removed from estimates of business as usual expenditure for the third regulatory period.
- Businesses should also be disciplined by a desire to improve efficiency and manage controllable costs. The Commission requires all businesses to achieve a minimum of 1 per cent per year productivity improvement on its baseline operating expenditure.
- The Commission will pay close attention to business proposals relating to costs that increased sharply over the first part of the second regulatory period, including labour and information technology costs.
- Given the likely introduction of a carbon price, any carbon mitigation programs proposed by businesses must be justified through commercial cost-benefit analysis. Businesses may pursue carbon mitigation programs through the introduction of tariff choice.
- The Water Plans of the businesses connected to the Melbourne bulk supply pool will need to consider the impact of the fixed and variable desalination prices which will be included in their bulk operating costs.

6.1 Introduction

The Essential Services Commission (the Commission) is guided by section 14 of the *Water Industry Regulatory Order* (WIRO) when assessing businesses' expenditure. Specifically, the Commission must ensure that:

- prices levied by the businesses provide them with a sustainable revenue stream that does not reflect monopoly rents or inefficient expenditure
- proposed expenditure forecasts are efficient and take into account a long-term planning horizon that extends beyond the term of the Water Plan and
- the prices or the manner in which they are determined provide incentives for the businesses to pursue efficiency improvements over the regulatory period.

Operating and capital expenditure are key components of businesses' revenue requirements. The Commission will use information from a variety of sources to assess the efficient level of expenditure that will be allowed into the businesses' revenue requirements. This includes information provided by businesses in their Water Plans, advice from independent consultants, information gathered from stakeholder consultation, and our own analysis.

To recover proposed expenditure through regulated prices, Water Plans must demonstrate that expenditure is required to meet proposed service outcomes. Water Plans must also demonstrate that proposed service outcomes will be met as cost-efficiently as possible.

The following sections outline in more detail the Commission's approach, general expectations and information requirements in assessing operating expenditure for the next regulatory period. Chapter 7 covers capital expenditure.

6.2 Commission's approach to assessing operating expenditure

Operating expenditure rose strongly in the second regulatory period for most businesses, driven by costs associated with responding to the drought.

The Commission expects water businesses to focus on managing their costs down in the third regulatory period, through lower drought related costs and by improving the efficiency of operating (and capital) expenditure. We will pay close attention to forecasts of costs that rose sharply between 2008 and 2010, including labour and information technology (IT) costs (see figure 1.1).

The Commission will assess proposed operating expenditure forecasts to determine whether:

- operating expenditure forecasts clearly reflect obligations that are imposed by Government, including technical regulators, or required to meet customer service expectations
- changes in operating costs are consistent with the timing of major capital projects

- businesses are fulfilling their obligations and meeting customer service expectations as cost efficiently as possible, including through the setting of an appropriate target for cost efficiency gains
- any forecast divergence from historical trends in operating expenditure can be readily explained, for example, by changes in obligations imposed by Government, including technical regulatory and customer service expectations and
- once off costs associated with the drought (for example costs relating to advertising, education and appliance changeover) have been removed.

6.3 Operating expenditure in the current regulatory period

Water Plans must summarise trends and levels of operating expenditure for the second regulatory period, and explain differences compared with allowed levels. The summary should include an assessment of how the business performed against the Commission's productivity hurdle for the second regulatory period, (which was set at 1 per cent of business as usual (BAU) operating expenditure) and the main reasons for the businesses' productivity performance.

As with previous price reviews, the Commission will assess operating expenditure in the third regulatory period by establishing a baseline or BAU level of operating costs. This will be based on 2011-12 data, the last year of actual expenditure available before the Commission's final decision on prices for the third regulatory period in May 2013. Businesses will need to estimate 2011-12 costs for their draft Water Plan, removing temporary or once off costs associated with drought and related major projects.

Water Plans must justify any operating costs that are forecast to increase above BAU expenditure for 2011-12. If businesses cannot justify increased expenditure, the Commission will base its assessment of operating expenditure for the third regulatory period on 2011-12 BAU expenditure. BAU expenditure is discussed further in section 6.4.

6.4 Proposed operating expenditure

Water Plans must present operating expenditure forecasts for at least 10 years from the start of the third regulatory period. Forecasts beyond the third regulatory period may be a range of possible outcomes, within reasonable bounds. This approach is consistent with the WIRO's requirement for businesses to consider a long-term planning horizon.

Water Plans should separate BAU operating expenditure estimates from estimates of expenditure related to delivering new or changed service outcomes. This provides transparency about the approximate cost of changed service outcomes and their effects on prices.

Expenditure associated with new service outcomes includes any operating expenditure associated with the introduction of new obligations imposed by Government, including technical regulators, or expenditure required to meet increased service standards required by customers which take effect (or are reasonably anticipated to take effect) on 1 July 2013 or later.

Water Plans should also include information on expenditure by cost category for each year of the regulatory period, and discuss major cost items and any substantial divergence in individual cost categories from past trends. The information should be presented so that it is consistent with the categories listed at box 6.1.

Box 6.1 **Business as usual operating expenditure categories**

- Water, sewerage, recycled, waterways and diversions
  - operations and maintenance
  - bulk charges
  - treatment
  - customer service and billing
  - GSL payments
  - licence fees
  - corporate
  - other operating expenditure
- Licence fees
  - Essential Services Commission
  - Department of Human Services
  - Environment Protection Authority
- Environmental contribution

Businesses must also provide additional cost information in the Commission's financial templates. Businesses should also provide forecasts for tax and other payments to Government such as land tax, WorkCover premiums and payroll tax, and the basis for the forecasts in their Water Plans.

Where businesses purchase bulk water they will need to separately identify bulk services costs from other purchases of water. For example, in its Water Plan Western Water will need to separately identify its purchases of water from Melbourne Water from other purchases.

Justifying forecast expenditure levels

Water Plans should provide information and arguments to support proposed operating expenditure for the third regulatory period. Water Plans should compare forecast expenditure with past levels. Expenditure forecasts significantly above past levels require a higher level of justification.

Businesses must link expenditure proposals to proposed service outcomes and the efficiency of expenditure. Specifically, Water Plans should identify the major cost drivers likely to influence operating expenditure in the third regulatory period, explaining any divergences from BAU expenditure. This analysis should include information and discussion about factors such as:

- forecast changes in demand, including changes in customer numbers
- changes in input costs
- new or changed Government obligations and
- new or changed customer service demands.

Where businesses have participated in benchmarking studies they should make this information available to the Commission. We do not have a preferred benchmarking framework but would give greater weight to independent studies and studies with a larger pool of participants. Benchmarking studies could cover broad areas of business operations or focus on specific activities (for example, labour, energy, maintenance, asset management and information technology).

The Commission's assessment will not be confined to the findings of any benchmarking studies.

Business as usual operating expenditure

Water Plans must include estimates of growth adjusted BAU expenditure (based on customer numbers) for the third regulatory period.

Drought-related costs

Estimates of BAU expenditure for the third regulatory period must exclude costs associated with the drought. Many businesses identified the drought as reasons for increases in operating expenditure and prices for the second regulatory period.

With improved inflows and higher storage levels across the state, we expect costs associated with drought-related expenditure to decline in the third regulatory period. For example, we expect:

- labour costs linked to major capital works, drought management and restrictions enforcement to fall
- direct spending on water conservation initiatives (for example, appliance changeover, advertising and education) to decline
- all other things being equal, costs associated with purchasing water to be lower, reflecting less need to transport water from alternative (non-local) water sources (for example, from purchases of water on temporary markets).

Water Plans must identify how businesses' estimates of BAU account for changed water supply conditions.

Productivity factor

Businesses should apply a productivity factor to the customer growth adjusted BAU level of operating expenditure forecast for the third regulatory period.

Recent internal work undertaken by the Commission suggests that productivity in the water industry has stagnated, and for some businesses, declined over the past few years.

The Commission will require all businesses to achieve a minimum of 1 per cent per year productivity improvement on its customer growth adjusted BAU operating expenditure for the third regulatory period.

In setting the 1 per cent per year productivity improvement hurdle, we note that this is consistent with the rate applied in the second regulatory period.

We also note the latest Australian Bureau of Statistics National Accounts suggest that economy-wide labour productivity gains have averaged around 1.2 per cent per annum over the 5 years to 2009-10.[4] In chapter 10 we discuss how the 1 per cent per year productivity hurdle may be adjusted (upwards) for specific businesses based on a risk and productivity factor in order to enhance incentives for the businesses to pursue efficiency improvements in regulatory period three.

Businesses should exceed the Commission's minimum productivity target for the third regulatory period.

[4] Australian Bureau of Statistics 2010, Australian System of National Accounts 2009-10, Cat no. 5204.0, Canberra, p. 41.

Other important considerations

The Commission requires businesses to consider and address a number of other important issues in their Water Plans.

Wage rates

For the 2008 and 2009 price reviews, most businesses allowed for nominal wage increases of 4 per cent per year. Based on information at the time, the Commission adopted a real increase of 1.25 per cent per year and outlined that any growth forecasts above this level would be adjusted downward.

Businesses should use the latest information to forecast real wage and cost growth for the third regulatory period. Water Plans must include annual forecasts of wage cost growth. Assumptions regarding forecast wages growth should be made clear. The Reserve Bank of Australia found that wages growth is reasonably stable, noting the Australian Bureau of Statistics Wage Price Index increased by 3.8 per cent in nominal terms over the year.[5] The Victorian Government expectation is for wages to increase by 2.5 per cent per year with any additional increases funded through productivity improvements.

The Commission will assess businesses' proposals on wages growth using the best information on actual and projected wages growth and growth expectations available when we make our final decision (expected in May 2013).

Labour costs

Many businesses identified the drought and major project implementation as reasons for increases in labour costs (covering internal and contract employment) for the second regulatory period.

Water Plans must justify businesses' estimates of full time equivalent (FTE) staff for the third regulatory period and labour costs. We will apply a higher degree of scrutiny for businesses forecasting increasing employment. Businesses must also provide FTE projections and forecast wage growth in the Commission's financial templates.

Electricity

The businesses' water and wastewater pumping and treatment operations, as well as their head offices, can use a significant amount of energy (typically sourced from the electricity grid). Their expenditure on electricity accounts for around 5–10 per cent of their total operating expenditure.

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[5] Reserve Bank of Australia 2011, *Statement on Monetary Policy — August 2011*, http://www.rba.gov.au-publications-smp-2011-aug-html-index.html, Accessed 15 August 2011.

Likely drivers of changes in electricity expenditure in the third regulatory period are:

- the expiration of existing contracts and introduction of new contracts that reflect current energy costs
- changes in network charges, both within the existing price paths and following the reset of distribution network charges in 2016
- changed water supply conditions, implying lower water pumping costs for businesses that have sourced water from non-traditional/local sources
- changed water supply conditions implying higher water treatment costs for businesses that experience a bounce-back in demand
- the Australian Government introducing a carbon price.

When developing electricity cost forecasts, businesses must explain their assumptions about:

- the number of kilowatt hours consumed at each major facility
- energy prices
- other electricity costs (network, retail and other ancillary costs).

The Commission's financial templates will require businesses to provide detail on the composition of electricity costs (historic and forecast).

Greenhouse gas emission targets and the introduction of a carbon price

The Australian Government is seeking to introduce a carbon price mechanism from 1 July 2012 through the Clean Energy Bill. The Bill was passed by the Lower House of the Australian Parliament in October 2011, and is expected to be tabled in the Senate in November 2011.

If passed by the Australian Parliament, the carbon price will have implications for all water businesses:

- *Direct impacts* — Melbourne Water is the only Victorian water business that will be captured by the Australian Government's proposed carbon price mechanism because it discharges more carbon than the 25 000 tonne threshold. It will have to pay $23 (escalated by 2.5 per cent in real terms each year) per tonne of carbon equivalent emissions for the three years after the mechanism is introduced. After that, the market (through the Emissions Trading Scheme) will determine payments.
- *Indirect impacts* — Input costs will change for all businesses as suppliers (including energy suppliers) pass on the carbon price. Other indirect effects may include reduced demand for water caused by higher energy costs; reduced water catchment yields as people plant more trees in catchment areas; and the impacts

of major customers increasing or decreasing demand for water as demand for their product changes.

Water plans will need to explicitly identify the costs affected by a carbon price and the extent of the assumed change. Water businesses must demonstrate their forecasts are reasonable, using the latest estimates of cost impacts.

A price on carbon means that any carbon mitigation programs proposed by businesses would need to be justified through a commercial cost-benefit analysis. Alternatively, businesses may consider carbon mitigation programs through the introduction of tariff choice (chapter 13).

If the Australian Government's legislation is not passed we will reassess our guidance.

Information technology costs

IT costs represent a significant proportion of businesses' operating expenditure. The Commission's analysis of IT costs in the current period indicated some disproportionate growth in these costs over the period to June 2010 when compared with individual business's IT expenditure in 2008.

Water Plans should outline past major IT projects, linking these to improved service outcomes or cost savings.

The Commission will expect clear justification for any future IT expenditure where businesses have experience high growth in IT costs in the second regulatory period.

The Commission's financial templates will require the businesses to provide detail on historic and proposed IT operating expenditure, in terms of operating and capital costs.

Wonthaggi desalination plant

The availability of desalinated water will have impact on the metropolitan water businesses and several regional water businesses during the third regulatory period. The availability of desalinated water brings with it enhanced resource security albeit at greater cost than traditional water supply sources.

The Water Plans of the businesses connected to the Melbourne bulk supply pool will need to consider not just the impact of the fixed and variable desalination prices which will be included in their bulk operating costs, but also the impact of the desalination plant on the future supply/demand balance.

The development of alternative water sources or other future augmentation options for these water businesses will need to be considered against the costs associated with lesser or greater use of desalinated water. For Western Water, consideration will need to be given in its Water Plan to the volumes of water sourced from its own catchments and the Melbourne bulk supply pool.

Section 12.3 discusses how desalination costs may be reflected in retail prices.

Environmental contribution

The Environmental Contribution (EC) Order is detailed in section 193 of the *Water Industry Act 1994* (Vic.). The Act notes that the Minister for Water has the right to specify the period to which the order relates and the percentages and revenue that are derived from the EC Order. Funds collected through the EC Order are to meet costs associated with managing environmental water.

The current period for the EC Order ends on 30 June 2012. The current percentages of revenue that are derived from the EC Order are 5 per cent for urban businesses and 2 per cent for rural and regional urban businesses.

The EC Order is currently under review. Further guidance on the parameters for the EC Order for the four years from 1 July 2012 will be provided by DSE.

Shared services provision

Businesses should summarise briefly in their Water Plans how they have used shared services to deliver cost savings over the second regulatory period. We note that shared services provision was raised by the Victorian Competition and Efficiency Commission in 2008[6] as one way to drive cost savings in the water industry. Businesses should also indicate where they did not pursue shared services provision.

We will look for evidence that all water businesses factored potential savings from shared services provision into their operating expenditure forecasts, or whether businesses have looked for opportunities to implement share services. This may include in areas such as payroll or human resources, IT, customer service, and legal or administration costs.

Competitive procurement

Water Plans must demonstrate that businesses are periodically benchmarking inhouse and outsourced activities against market rates to show that their approach is cost competitive. In Water Plans, businesses should identify whether they adopted a strategic approach to procurement, including which elements are outsourced or provided inhouse.

Defined superannuation benefit schemes

Business contributions to defined superannuation benefit schemes was an issue in the second regulatory period. Given recent share market volatility this may arise in the third regulatory period. In their Water Plans, businesses should identify expected contributions to defined superannuation benefit schemes. Amounts forecast should not be based on amounts needed to restore the value of funds to

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[6] Victorian Competition and Efficiency Commission 2008, Water Ways: Inquiry into reform of the metropolitan retail water industry, Melbourne, February.

previous levels, but should reflect expert opinion (such as from actuarial advisors) about any additional contributions required, typically involving contributions over a number of years.

6.5 Summary of information requirements for Water Plans

Water Plans must demonstrate that proposed operating expenditure is required to meet verified service outcomes, and also prove that services will be met as cost efficiently as possible.

To enable the Commission to assess the operating expenditure proposals of businesses, Water Plans must contain sufficient information about operating expenditure from the current regulatory period, the forthcoming regulatory period, and how those forecasts were formulated. Water Plans must include a summary of the businesses capitalisation policy with detail available to the Commission separately.

More detail on the Commission's expectations is provided below.

For historical operating expenditure, Water Plans must:

- summarise and provide data on actual operating expenditure (for completed years) and updated forecasts (for uncompleted years) in the second regulatory period and compare these with allowed levels
- identify the reasons for differences between actual operating expenditure (for completed years) and updated forecasts (for uncompleted years) in the second regulatory period with allowed levels
- specify whether the business achieved the Commission's productivity hurdle for BAU operating expenditure in the second regulatory period and the estimated rate achieved
- estimate BAU operating expenditure for 2011-12, and (if applicable) explain the basis for any forecasts above 2011-12 levels
- identify how forecasts of BAU expenditure for 2011-12 accounted for changed water supply conditions, lower drought costs and major project related costs
- outline major IT projects and the benefits of these to service outcomes or costs
- identify how shared services provision has been used to deliver cost savings or service improvements, and the main initiatives
- identify whether the business adopted a strategic approach to procurement, including which elements are outsourced or provided inhouse. Water Plans should also indicate how regularly businesses test the market to show that their approach is cost competitive.

For proposed operating expenditure, Water Plans must:

- summarise and provide data on operating expenditure forecasts for at least 10 years from the start of the third regulatory period, separately identifying expenditure related to BAU, and expenditure related to new or changed service outcomes (forecasts beyond the third regulatory period may indicate a range of likely outcomes for operating expenditure)
- identify how estimates of BAU expenditure have taken into account changed water supply conditions
- provide the reasons for changes in operating expenditure in the third regulatory period compared with the second regulatory period
- provide forecasts by operating cost category (see box 6.1) for the third regulatory period and provide reasons for changes compared with the second regulatory period
- justify proposed levels of operating expenditure in the third regulatory period, linking proposed expenditure to verified service outcomes and the efficiency of proposed spending
- separately identify and justify proposed wage rate forecasts and labour costs for the third regulatory period
- separately identify and outline base assumptions for electricity costs for the third regulatory period
- summarise the expected effect of the carbon tax on costs including for purchasing electricity and other input costs
- justify any carbon mitigation programs, including through the presentation of commercial cost-benefit analysis
- separately identify anticipated benefits of IT spending, shared services provision and competitive procurement, and identify major related initiatives
- specify expected extra contributions to deferred benefit superannuation schemes
- specify forecasts for tax and other payments to Government including land tax, WorkCover premiums and payroll tax
- for Melbourne Water and the businesses linked to the Melbourne bulk supply pool, specify the anticipated impact of the fixed and variable desalination prices on bulk operating costs.

7 CAPITAL EXPENDITURE

Key points

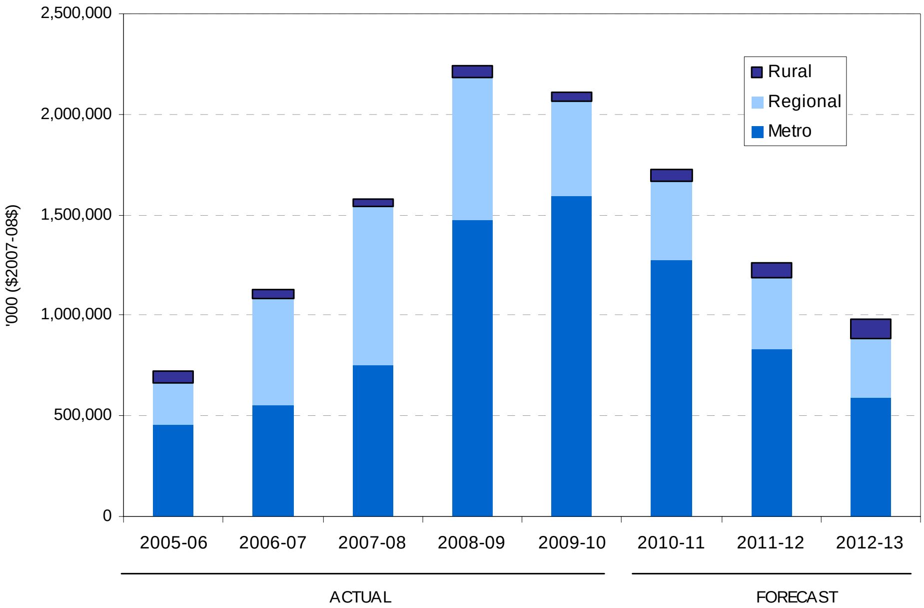
- Capital expenditure increased significantly in the second regulatory period mainly reflecting the impact of large, one off projects aimed at augmenting water supply. These projects contributed significantly to price increases in the second regulatory period.
- The Commission expects capital expenditure to return to historic levels in the third regulatory period reflecting an improved water supply outlook.
- Generally, proposals for further supply augmentation projects would require a very strong justification, and would almost certainly need to be based on factors other than security of supply risk in the near term.
- Proposals for new capital expenditure must be clearly linked to verified service outcomes. Evidence must be provided that proposed capital expenditure to meet these outcomes is cost-efficient.
- Water Plans must provide evidence of the options and risk analysis conducted to support capital projects identified for the third regulatory period.
- Businesses should forecast capital expenditure based on P50 estimates of project costs. Information on P5 and P95 costs should also be presented in Water Plans.
- The Commission believes a more strategic approach to water supply planning and sewerage projects is needed to ensure that the most efficient projects, taking into account a long-term horizon, are pursued across the industry.

7.1 Introduction

Capital expenditure is a key component of the revenue requirement. Net capital expenditure is recovered by being added to the regulatory asset base (RAB). It is reflected in prices through a return on the RAB (that is the weighted average cost of capital multiplied by the RAB) and a return of the RAB (through regulatory depreciation).

Figure 7.1 shows actual gross capital expenditure of water businesses for the period from 2004-05 to 2009-10, and forecasts for the remaining years of the second regulatory period.

Figure 7.1 Gross capital expenditure[a]



Source: Essential Services Commission, Regulatory Accounts.

[a] Actual expenditure for 2004-05 to 2009-10; forecast expenditure for 2010-11 to 2012-13.

Businesses expected significant growth in capital expenditure at the start of the second regulatory period, reflecting large, one-off projects such as the Goldfields Superpipe, Wimmera-Mallee Pipeline, Eastern Treatment Plant upgrade, North-South Pipeline, Tarago reconnection, Gippsland Water Factory, Northern Sewer and Hamilton Pipeline. However, they expected capital expenditure to decrease and return to near the historic levels by the end of the second regulatory period.

These capital works contributed significantly to price increases over the second regulatory period. For the third regulatory period, the Essential Services Commission (the Commission) expects capital expenditure to return to historic levels. Proposals for further supply augmentation projects would require a very strong justification, and would almost certainly need to be based on factors other than security of supply risk in the near term.

7.2 Commission's approach to assessing capital expenditure

The Commission will assess whether each business's proposed capital expenditure forecast would efficiently meet obligations imposed by Government (including technical regulators) and customers' service expectations. Specifically, we will consider whether:

- proposed capital expenditure reflects obligations imposed by Government (including technical regulators) or customers' service expectations
- proposed trends in capital expenditure are compared with historical trends in expenditure, to identify the reasons for divergences from historical trends can be identified, together with any other relevant factors
- proposed new major capital works are consistent with efficient long-term expenditure on infrastructure services (based on a best practice asset management framework which considers risk and system-wide needs)
- changes in operating costs are consistent with the timing of major capital projects
- the timeframe for delivering the proposed new capital expenditure is reasonable, given the business's delivery of major projects in the past
- the business's risk sharing, and incentive and penalty payment arrangements with its contractors are based on a symmetrical sharing of risk for delivery or non-delivery of projects.

At this stage, our view is that issues being explored by the Living Victoria Ministerial Advisory Council are likely to be systematically implemented over a number of years.

7.3 Capital expenditure in the current regulatory period

Water Plans should reconcile actual and updated forecasts of annual capital expenditure in the second regulatory period against the levels allowed in the Commission's 2008 and 2009 determinations.

Businesses will need to demonstrate the prudence and efficiency of capital expenditure for the second regulatory period in Water Plans. Businesses must explain the rationale for any increases in expenditure above allowed aggregate levels in their Water Plans. They must also reconcile delivery against the major projects specified in the business's determination for the second regulatory period.

The prudence and efficiency of businesses' actual capital expenditure for the current regulatory period is discussed in section 8.4.

7.4 Proposed capital expenditure

The Commission requires businesses to submit annual capital expenditure forecasts for 10 years (and where possible, longer) from the start of the third regulatory period. Forecasts for the third regulatory period must state a specific dollar value. Beyond that, businesses may provide a likely range of expenditure (within reasonable bounds), considering a range of risks and alternatives.

Water Plans must summarise the forecasts and distinguish between capital expenditure for business as usual (BAU) activities and capital expenditure for new or changed service outcomes. This provides transparency about the cost and price impacts of changed service outcomes.

Expenditure for new or changed service outcomes includes any capital expenditure associated with introducing new obligations imposed by Government (including technical regulators) or expenditure necessary to meet increased service standards required by customers that take effect (or are reasonably anticipated to take effect) on 1 July 2013 or later.

Capital expenditure for BAU activities is typically relatively low — it is mainly affected by asset renewals, rehabilitation and in-sequence growth developments. Given the one-off nature of many large investments in the second regulatory period, we anticipate that forecast capital expenditure for the third regulatory period will be significantly lower.

The Commission's financial templates require businesses to provide information about capital expenditure drivers for BAU activities and for new obligations separately. Water Plans should summarise proposed capital expenditure by major driver, consistent with the categories in the Commission's financial templates.

Justification of forecast capital expenditure levels

Water Plans must outline the key drivers of capital expenditure for the third regulatory period, linking proposed spending with the intended service outcomes. Generally, capital expenditure should occur for at least one of the following reasons:

- to maintain existing levels of service or to meet BAU obligations (largely reflected in asset renewals, rehabilitation and in-sequence growth)
- to meet additional obligations or higher targets imposed by Government (including those imposed by technical regulators)
- to meet increased customer service expectations
- to address changes in demand
- to reduce operating costs (including evidence that the benefits of implementing the capital project exceed the cost, and provide a reasonable payback period).

Water Plans should identify projects intended to start in the third regulatory period and be completed in a subsequent regulatory period. Plans must provide information on expected delivery dates and total spending.

Generally, Water Plans must demonstrate that proposed capital expenditure levels are consistent with efficient long-term expenditure on infrastructure services. We will concentrate on information in Water Plans about major projects.

To demonstrate the efficiency of proposed spending, Water Plans should include evidence that expenditure decisions were based on a best practice asset management framework that incorporates risk. We also expect businesses to consider a range of costed options to meet their intended service outcomes. Businesses may use emerging approaches to project decision making, such as real options analysis (see appendix C).

Businesses should expect a higher level of scrutiny of their capital expenditure forecasts:

- for major projects
- where proposed expenditure represents a significant departure from historic levels
- where proposed expenditure is to deliver outcomes above those imposed by regulators or sought by customers
- where proposed expenditure is discretionary
- where proposed expenditure is linked to Government or policy objectives without a specific target.

The Commission will also apply a higher degree of scrutiny to businesses that failed to meet project timelines in the past, or whose expenditure the Commission assessed as inefficient.

Capability to deliver projects on time and to budget

A key issue for the review of forecast capital expenditure is whether the proposed timing for delivery of major capital projects over the regulatory period is realistic.

During previous water price reviews, the Commission and its consultants found many businesses were overly optimistic about the timeframes required to deliver major projects. The Commission adjusted the expenditure timeframes for some projects to make them more realistic. Despite these adjustments however, the Commission's monitoring of actual project delivery during the current regulatory period revealed delays in implementation of many major projects.

In considering the capability of each water business to deliver its proposed capital expenditure programs, the Commission will assess the business's top 10 major projects, and one or two randomly selected minor projects.

The Commission proposes to consider the following in its assessment of the business's capability to deliver projects:

- the actual performance against previous capital expenditure programs and the business's demonstrated capacity to deliver against capital budgets in the order of those proposed. The Commission notes that several water businesses have a history of significantly underspending their capital works budgets
- the internal and external resources available to the water business to deliver the identified projects
- timing of proposed capital programs in terms of deliverability, taking into account the proposed capital expenditure across the industry
- opportunity to smooth the business's capital profiles or defer discretionary or non-essential projects from the start of the regulatory period to later in the period
- the business's risk sharing, and incentive and penalty payment arrangements with its contractors. The Commission's view is that incentive payments should be based on a symmetrical sharing of risk for delivery/non-delivery of projects
- each business's project management capability. The Commission expects evidence to demonstrate that businesses have appropriate project management systems and processes in place.

Major projects

For most businesses, a small number of projects will affect total capital expenditure significantly. The Commission will subject major projects to more detailed scrutiny to ensure that they are driven by clear obligations, that the intended outcomes are clear, and that forecast costs are prudent and efficient.

Therefore, Water Plans must identify:

- the top 10 projects/programs (by total expenditure) to be started or completed over the third regulatory period
- the drivers of each project/program (which should refer to the Government or regulatory obligation requiring the investment where applicable)
- the outcomes to be delivered from each project
- the expected delivery date for the project/program
- the cost of the project/program for each year of the third regulatory period.

A business should be able to provide evidence that major capital projects have reasonable cost estimates. Estimates should be well supported by a schedule of quantities using typical rates currently applying in the industry, or should compare favourably with other similar projects, or preferably both.

Water Plans should also provide evidence of the options and risk analyses conducted to support proposed major capital projects. The Commission expects the businesses to conduct:

- a rigorous analysis (including cost–benefit analysis) of options for achieving identified service outcomes, identifying priorities and identifying the preferred solution to achieve desired outcomes (including a 'do nothing' option)
- a risk analysis of the selected option and develop a plan to mitigate the identified risks so that the intended outcomes are achieved in the expected timeframe. This should involve identifying alternative projects or approaches in response to unplanned events.

Businesses should give the Commission a completed business case for the top 10 projects, including a cost–benefit and risk analysis assessment. These should be referenced in Water Plans.

7.5 Other matters

Other factors that may affect businesses' capital expenditure proposals include water supply (and sewerage) planning, Intelligent Water Networks and annuities. These are discussed below.

Water supply (and sewerage) planning

The Commission believes that a more strategic approach to water supply (and sewerage) planning is required across the water industry. This is necessary to account for:

- the capital intensive, long lived nature of most major assets
- the outlook for continued rapid population growth in Melbourne
- the need to better account for risk and uncertainty particularly climate variability, and
- emerging government policy initiatives to improve pricing and incentives, the integration of urban and water planning objectives and increase contestability.

Many issues that affect future water supply (and sewerage) planning are subject to Government review, but there are opportunities to improve water business planning (and therefore supply outcomes). Some are consistent with the *Water Industry Regulatory Order* (WIRO) requirements and not significantly affected by the current policy review.

The WIRO requires the Commission to be satisfied that prices do not reflect any inefficient expenditure. We consider this to mean that capital (and operating) expenditure proposals must not be inefficient on a whole of system basis.

We consider that, to the extent policy changes have not been implemented to improve coordination, water businesses should establish a process that demonstrates to us that the proposed capital expenditure related to water supply and sewerage contained in each Water Plan is efficient on a whole of system basis.

An arrangement established by the businesses that subjects all proposed expenditures to independent review under an agreed common economic evaluation framework would be a sensible way of ensuring that proposed capital expenditures are efficient on a whole of region basis. We are interested in the water businesses' views on this proposal.

We believe that climate related risk and uncertainty could be better accounted for in investment decision making. For example, businesses could use real options analysis for supply planning.

We encourage water businesses to consider the opportunities to improve supply planning and consider these when developing their Water Plans. These issues are discussed in more detail in appendix C.

Intelligent Water Networks

The Commission understands that the Department of Sustainability and Environment (DSE) and some water businesses are exploring the concept of Intelligent Water Networks (IWNs) as part of their next Water Plan. Key drivers of IWNs include the possible service and price benefits to customers from a more integrated approach to water resource management (including greater use of real-time information).

We support proposals to validate the benefits of IWNs through small scale pilot projects before any widespread adoption by the water industry.

For the third regulatory period, businesses (as with other expenditure proposals) must justify expenditure for IWNs to be recovered through regulated prices. It is unlikely that we will allow expenditure for industry-wide rollout of IWNs before the pilot projects can confirm net customer benefits and willingness to pay, or demonstrate that investment in IWNs will reduce operating costs, for example. All Victorian water customers may benefit from IWNs, so we recommend businesses (together with DSE) explore appropriate cost-share arrangements for IWN related expenditure.

Annuities

For previous regulatory periods, Victorian rural water businesses could choose to adopt a regulatory asset base (RAB) approach or a renewals annuity approach (or a combination of both) to recover their expenditure on asset renewals and rehabilitation. To date, all regulated water businesses except Southern Rural Water have moved to a RAB approach.

Any business intending to adopt an annuities approach should indicate this to the Commission as early as possible so we can provide more guidance.

7.6 Summary of information requirements for Water Plans

Water Plans must demonstrate that proposed capital expenditure is prudent and efficient. So the Commission can assess proposed capital expenditure, Water Plans must detail capital expenditure from the second regulatory period, the third regulatory period, and how those estimates and forecasts were formed. Generally, more detailed information should be provided for significant new capital expenditure proposals.

More detail on the Commission's expectations is provided below.

For historic capital expenditure, Water Plans must:

- summarise and provide data on actual capital expenditure (for completed years) and updated forecasts (for uncompleted years) in the second regulatory period and compare these with approved levels
- identify the reasons for any differences between actual capital expenditure (for years completed) and updated forecasts (for uncompleted years) in the second regulatory period with approved levels
- reconcile delivery against the major projects specified in the businesses determination for the second regulatory period
- explain the reasons for any change in the timing (or deferral) of project delivery.

For proposed capital expenditure, Water Plans must:

- summarise and provide data on capital expenditure forecasts for at least 10 years from the start of the third regulatory period, separately identifying expenditure related to BAU/existing service levels, and expenditure related to new or changed service outcomes
- identify where projects are intended to be initiated in the third regulatory period but will be completed in a subsequent regulatory period, and provide information on expected delivery dates and proposed total expenditure
- justify forecast levels of capital expenditure in the third regulatory period, linking proposed spending to identified service outcomes and demonstrating that expenditure is efficient (including on a system-wide basis)
- include evidence that expenditure decisions were based on a best practice asset management framework that incorporates risk
- base all project cost estimates on P50 cost assumptions
- discuss delivery mechanisms including alliances and partnerships and the nature of any risk or benefit sharing (including any benefit sharing payments included in forecasts)

- identify the top 10 projects/programs (by total expenditure) to be started or completed in the third regulatory period, and for these:
  - provide evidence that cost estimates are reasonable
  - identify the drivers of each project/program
  - identify the outcomes to be delivered from each project
  - provide the expected delivery date for the project/program
  - identify the cost of the project/program for each year of the third regulatory period
  - provide information on the options and risk analyses conducted to support major projects (considering P5, P50 and P95 estimates)
  - base the overall capital expenditure amounts proposed in Water Plans on P50 cost assumptions
  - give the Commission a completed business case including a cost–benefit and risk analysis assessment.

8 REVENUE REQUIREMENT

Key points

- Under the Commission's building block approach the revenue requirement for each business reflects operating expenditure and a return on and of the regulatory asset base (RAB) updated each year to reflect any additional capital expenditure net of contributions, asset disposals and regulatory depreciation.

- In proposing an amount of capital expenditure undertaken in the second regulatory period to roll-forward into the opening RAB for the third regulatory period, businesses must demonstrate the prudence and efficiency of capital expenditure for the second regulatory period.

- For the purposes of developing RAB forecasts for the third regulatory period, businesses should only claim regulatory depreciation from when the asset enters service. This is a new approach for regional and rural businesses, but was adopted in the Commission's 2009 metropolitan Melbourne price review.

- Businesses may also wish to consider other approaches to depreciation. For instance, for a business growing its asset base over a relatively short period, it may be appropriate to back-end some regulatory depreciation to reflect asset utilisation to smooth price impacts.

- The Commission will provide a benchmark weighted average cost of capital (WACC) that businesses should use to prepare their Water Plans in our financial templates. Our approach to calculate the WACC will be the same as that used in our 2008 and 2009 price reviews.

- The Commission will update the estimate of the WACC — accounting for a re-calculation of the risk free rate and the debt margin — in the lead up to our final decision (expected in May 2013).

- In some circumstances the Commission believes that a commercial return on assets may not be appropriate, particularly for fully debt funded assets.

8.1 Introduction

The *Water Industry Regulatory Order* (WIRO) requires the Essential Services Commission (the Commission) to ensure that prices levied by the businesses provide them with a sustainable revenue stream that does not reflect monopoly rents or inefficient expenditure. The Commission uses the 'building block' approach to derive forward looking estimates of the revenue that the businesses require to deliver proposed service outcomes over the regulatory period.

Under the building block approach the revenue requirement reflects operating expenditure (see chapter 6) and a return on and of the regulatory asset base (RAB) updated each year to reflect any additional capital expenditure net of contributions, asset disposals and regulatory depreciation (see chapter 7).

This chapter focuses on the Commission's approach for calculating the RAB and the cost of capital. Under the WIRO, the RAB is the value on which each business can expect to earn a return (return on capital), and the value that is returned to the asset owner over the economic life of the assets as regulatory depreciation (return of capital).

When assessing Water Plans, the Commission must establish:

- the opening value of the RAB at the start of the third regulatory period, and
- the forecast value of the RAB for each year of the third regulatory period.

This chapter also discusses how businesses should address revenue and costs relating to non-prescribed services in Water Plans.

Water Plans must include the business's estimated annual revenue requirement for at least 10 years from the start of the third regulatory period. Businesses can provide a likely range for their estimated revenue requirement for years beyond the third regulatory period. They should also compare their estimated revenue requirement for regulatory period three with that for the second regulatory period.

8.2 Commission's approach to assessing the RAB

The Commission will be guided by section 14(1)(a)(i) and (iii) of the WIRO when it assesses the opening RAB for each business. It specifies:

> *In order to be satisfied that prices, or the manner in which such prices are to be calculated or otherwise determined, comply with the Regulatory Principles, as required by this Order, the Commission must be satisfied that:*
>
> *(a) the prices contained in the Water Plan as those which the regulated entity proposes it be permitted to charge for prescribed services over the term of the Water Plan, or the manner in which the Water Plan proposes that such prices are to be calculated or otherwise determined, must be such as to:*

(i) provide for a sustainable revenue stream to the regulated entity that nonetheless does not reflect monopoly rents and or inefficient expenditure by the regulated entity;

(iii) allow the regulated entity to recover its expenditure on renewing and rehabilitating existing assets.

Section 14A of the WIRO applies similar requirements on the rural sector.

The Commission's approach is also consistent with the pricing principles agreed by the Council of Australian Governments for the National Water Initiative in 2004 and the subsequent 2010 principles for the recovery of capital expenditure.

8.3 Determining the opening value of the opening RAB at 1 July 2013

Each water business's RAB represents the value, as assessed by the Commission, of past capital investments. This is the value on which businesses can expect to earn a return (return on capital), and the value that is returned to the business over the economic life of the assets (as regulatory depreciation).

The Commission's preferred approach for determining the opening RAB at 1 July 2013 uses actual capital expenditure, contributions (from government and customers), and proceeds from disposals from the commencement of the second regulatory period to 2011-12, and the forecasts of capital expenditure, contributions and disposals used in the 2008 and 2009 price reviews for 2012-13. An adjustment will be made for any difference between assumed and actual net capital expenditure for 2012-13 when the opening RAB is calculated for the fourth regulatory period.

To calculate the opening RAB for each business at 1 July 2013 the following formula will be used:

Opening RAB 1 July 2013 =		RAB at 1 July 2008 (regional and rural) or 1 July 2009 (metropolitan)
	+	Capital expenditure (gross)$_{\text{2007-8 or 2008-09 to 2011-12}}$
	+	Assumed capital expenditure (gross)$_{\text{2012-13}}$
	-	Customer and government contributions $_{\text{2007-8 or 2008-09 to 2011-12}}$
	-	Assumed customer and government contributions $_{\text{2012-13}}$
	-	Regulatory depreciation$_{\text{2007-8 or 2008-09 to 2012-13}}$
	-	Proceeds from disposal of assets$_{\text{2007-8 or 2008-09 to 2011-12}}$

The same approach is used to determine the opening value for subsequent years of the third regulatory period, using forecasts for capital expenditure, customer contributions, regulatory depreciation and disposals for the third regulatory period.

8.4 Demonstrating prudent and efficient capital expenditure

Water Plans should propose an amount of capital expenditure undertaken in the second regulatory period to roll-forward into the opening RAB for the third regulatory period. Water Plans must demonstrate the prudence and efficiency of capital expenditure by linking spending to verified outcomes and demonstrating that associated projects have been delivered in the most cost effective way.

As part of this process, businesses must justify the prudency and efficiency of spending on particular projects in the second regulatory period which exceeded forecasts. Businesses must also explain the reason for the non-delivery or delays to major projects specified in their determinations for the second regulatory period.

8.5 Contributions

Water Plans should provide separate data and information on:

- *New customer contributions* — These are upfront cash payments made when new customers connect to water, recycled water and sewerage services.
- *Gifted assets* — These are assets constructed by developers to serve their development and then handed over to the water business to operate and maintain.

For pricing purposes, these contributions as well as contributions from government (which must also be separately identified in Water Plans) are removed from the RAB.

8.6 Regulatory depreciation

Including depreciation in regulated prices returns to the water businesses the value of the capital that they invested. This approach is consistent with the accounting concept of financial capital maintenance.

The Commission will use the regulatory depreciation for each year in the second regulatory period that was forecast in 2007-08 (for regional and rural businesses) or 2008-09 (for metropolitan businesses) to establish the opening RAB. We will adjust the components of the RAB for inflation over time to preserve financial maintenance in real terms. This also ensures that depreciation reflects the return of the real cost of the asset.

The Commission's principles for assessing regulatory depreciation are that:

- water businesses should have some flexibility over the rate at which capital is returned to account for technological change, projected future demand and any other factors that may affect the value of their assets in the future, and
- the regulatory value of the businesses' assets will not be changed in future regulatory reviews.

A different approach to depreciation

In the past, water businesses generally proposed straight-line depreciation profiles, which the Commission approved. However, other approaches may be more appropriate for some assets. For example, a different approach may be necessary for water businesses growing their asset base over a short period by constructing major assets. It may be more effective for these businesses to shift some regulatory depreciation from one regulatory period to the next.

Another option is for businesses to propose depreciation profiles that match asset use by customers. For example, many recycled water schemes have a low customer base that is expected to grow over time. These businesses may propose a back-ended depreciation profile that better reflects customer/asset utilisation over time.

Depreciation and major projects

The Commission typically recognises a return of capital expenditure through regulatory depreciation in the year the expenditure is incurred. This is appropriate for small projects or projects started and completed in one or two years. However, it is problematic for large capital projects where capital costs are spread over a number of years and businesses receive regulatory depreciation before the assets come into service.

The Commission believes that businesses should only claim regulatory depreciation when the asset enters service. We used this approach for the 2009 price review for metropolitan water businesses.

The Commission will also examine regulatory depreciation — particularly for major projects — so that it reflects the technical lives of assets. Depreciation assessments will also consider the implications for prices over the long-term.

8.7 Disposals

The Commission must include estimates of disposals when calculating each business's RAB. As for previous regulatory periods, we will adjust the regulatory value of assets to reflect the proceeds of disposals, rather than some form of regulatory book or written down value.

This is consistent with the financial capital maintenance concept of the RAB. It treats the proceeds of asset disposal at the end of its useful life as an alternative means for investors to receive a return of their funds that are tied up in the regulated assets.

8.8 Adjusting the RAB for inflation

The existing tariffs were designed to deliver a real (rather than nominal) return on assets. The RAB must be adjusted to compensate investors for inflation over the second regulatory period and to reflect inflation when projecting costs and revenue for the next regulatory period.

The Commission will apply the following key principles to adjust for inflation during the third regulatory period:

- All calculations (except those related to company tax) will use March quarter 2012 (constant) prices, with price controls allowing for inflation.
- The measure of actual inflation will reflect that used in the current price controls; that is, the price level at the end of any year will be taken as the level of the Australian Bureau of Statistics consumer price index average of eight state capitals for the previous 12 months.
- Expenditure and revenue (whether forecast or actual) will be forecast to be incurred or received in December of the relevant financial year.

8.9 Cost of capital and taxation

The rate of return or cost of capital comprises an annual percentage return on the value of the capital base. The Commission must decide what rate of return is used for the third regulatory period.

The model we use to estimate the rate of return provides an estimate of the post-tax cost of capital. The revenue benchmarks that underpin the price controls will be in pre-tax terms, so we must make an assumption about the taxation liabilities for each business for the regulatory period.

The cost of taxation is included in each business's estimated total revenue. In principle, the taxation wedge should be an unbiased estimate of the cost of taxation for an efficient company calculated on a reasonable basis. However, the benchmark tax liability for the majority of businesses has been zero in the past, the result of businesses' accumulated tax losses and accelerated depreciation under the National Tax Equivalence Regime.

Commission's assessment of cost of capital

The Commission will be guided by section 14(1)(a)(iv) and (v) of the WIRO when it establishes the rate of return for the third regulatory period. The WIRO specifies:

> *In order to be satisfied that prices, or the manner in which such prices are to be calculated or otherwise determined, comply with the Regulatory Principles, as required by this Order, the Commission must be satisfied that:*

(a) the prices contained in the Water Plan as those which the regulated entity proposes it be permitted to charge for prescribed services over the term of the Water Plan, or the manner in which the Water Plan proposes that such prices are to be calculated or otherwise determined, must be such as to:

(iv) allow the regulated entity to recover:

(A) a rate of return on assets as at 1 July 2004 that are valued in a manner determined by, or at an amount otherwise specified by, the Minister at any time before 1 July 2004;

(B) all costs associated with existing debt incurred to finance expenditure prior to 1 July 2006, in a manner determined by the Minister at any time before 1 July 2006;

(v) allow the regulated entity to recover a rate of return on investments made after 1 July 2004 to augment existing assets or construct new assets.

While not directly referenced in the WIRO, the consideration of the costs associated with taxation are implied in the assessment of the ability of the water businesses to recover operational costs (section 14(1)(a)(ii)).

Weighted average cost of capital

Water Plans must incorporate an estimate of the cost of capital (or rate of return) to be applied in the third regulatory period. To assist in the development of draft Water Plans, the Commission will provide an initial estimate of a benchmark rate of return in the financial templates provided separately to businesses. The estimate of the WACC will be updated prior to our final decision (expected in May 2013).

The Commission's approach to calculating the WACC for the third regulatory period will be the same as that applied in our 2008 and 2009 price reviews. Our approach to estimating the WACC is outlined below.

The risk free rate (real)

The risk free benchmark in the capital asset pricing model (CAPM) should reflect the yield on a risk free investment. Typically, the yield on government securities is used as a proxy.

The Commission established a value for the risk free rate (and for consistency the debt margin) for the 2008 and 2009 price reviews using the average yield on nominal Commonwealth Government Securities over a 40 day trading period. We will use this methodology to establish the range of the risk free rate for the third regulatory period.

The equity beta

The equity beta reflects the nondiversifiable risk of an asset relative to the market. Assets with an equity beta greater than the market average of one would be expected to compensate investors for greater risk through higher returns.

The Commission adopted an equity beta of 0.65 for the 2008 and 2009 price reviews, which was based on benchmark gearing of 60 per cent debt to regulatory assets. We will apply these values and approach for the third regulatory period.

We note that the Australian Competition and Consumer Commission (ACCC) in its Water Charge (Infrastructure) Rules specify an equity beta of 0.7 is to be used in calculating the WACC. We also note that the Australian Energy Regulator has concluded that “(the) balance of the evidence points towards the point estimate of the equity beta of the benchmark efficient network service provider lying in the range of 0.4 to 0.7”.[7]

The market risk premium

The CAPM requires an estimate of the market risk premium to determine the opportunity cost of capital for providers of equity funds. The Commission used an estimate of 6 per cent for the 2008 and 2009 price reviews. It was:

- below long run historical returns but within a range of results modelled over varying time periods that extend beyond a full market cycle, and
- within the 95 per cent confidence interval associated with long-term historical returns and above forward looking estimates.

The Commission will apply this value for the third regulatory period.

The debt margin

Australian regulators usually adopt a benchmark for the cost of debt that reflects the latest market evidence on the borrowing costs of an efficiently financed business (including debt raising transaction costs). The Commission adopted a benchmark debt margin range based on lending rates of Treasury Corporation of Victoria (TCV) for the 2008 and 2009 price reviews. We considered this an appropriate benchmark because water businesses only borrow from TCV (and not private debt markets).

The Commission will apply this approach for the third regulatory period. We will use a 40 day measurement period, like that used to establish the risk-free rate.

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[7] Australian Competition and Consumer Commission 2011, *Pricing principles and determinations under the Water Charge (Infrastructure) Rules 2010*, Canberra, p. 35

Financing structure

The Commission included a benchmark financing structure of 60 per cent debt to regulatory assets in the WACC for the 2008 and 2009 price reviews. This is consistent with:

- the actual observed gearing level of comparable listed utility businesses (which suggests that 60 per cent debt to regulatory assets is the appropriate benchmark for an efficient private sector business), and
- assumptions adopted by most Australian regulators.

The Commission will apply this approach for the third regulatory period.

ACCC approach to the WACC in the Water (Infrastructure) Charge Rules 2010

The Commission's approach is broadly similar to the approach adopted by the ACCC in its Water Charge (Infrastructure) Rules 2010. These rules will apply to the rural businesses operating in the Murray-Darling Basin: Goulburn-Murray Water and Lower Murray Water (rural operations only). The ACCC's approach to the WACC is:

- the cost of equity is to be estimated using the domestic capital asset pricing model based on the Officer model
- the cost of equity is to be calculated using a market risk premium of 6 per cent
- risk free rate is to be based on the yield of a 10 year Commonwealth Government Security bond, using an averaging period of 10-40 business days commencing as close as practically possible to the start of the regulatory period
- the cost of equity is to be calculated using an equity beta of 0.7, and
- the benchmark debt risk premium is to be estimated on the basis of a benchmark gearing level of 60:40 debt to equity on the yields of BBB+ rated corporate bonds with 10 year maturity.

Subject to Commission accreditation by the ACCC we will provide further guidance on the WACC for Goulburn-Murray Water and Lower Murray Water.

Accounting for changed market conditions

The Commission will need to account for changes in market conditions since the 2008 and 2009 price reviews when estimating the WACC for Water Plans. The WACC applied in the second regulatory period for regional and rural, and metropolitan businesses is presented in table 8.1.

Table 8.1 Real post-tax WACC

	Risk free rate (real) (%)	Equity beta	Market risk premium (%)	Debt margin (%)	Financing structure (%)	Franking credit value	Real post-tax WACC
Regional and rural price review 2008	3.227	0.65	6.00	1.75	60	0.5	5.8
Metropolitan price review 2009	2.020–2.318	0.65	6.00	1.70–2.40	60	0.5	5.1

When prices were reviewed in 2008 and 2009, global events led to tighter credit markets and higher prices for credit risk. These factors increased the WACC for the second regulatory period.

Yields on Commonwealth Government Securities, typically used as a proxy for the risk free rate applied in the WACC, are now much lower. Based on current estimates, the WACC for the third regulatory period would be lower than that adopted for the second regulatory period.

The Commission will provide a benchmark WACC in our financial templates that businesses should use to prepare their Water Plans.

The Commission will update the estimate of the WACC, accounting for a re-calculation of the risk free rate and the debt margin, in the lead up to our final decision (expected in May 2013). The rates applied will be based on an average of the 40 trading days prior to the final decision, the same approach we adopted for setting the WACC for the second regulatory period.

Different approaches to estimating the cost of capital

A WACC that includes an estimate of a 'commercial' return on assets may not be the most appropriate proxy for the cost of capital for some water businesses. This may be the case for businesses that operate like not-for-profit entities where a return comprising only the cost of debt may be more appropriate. Relevant businesses may wish to consider whether to adopt a lower WACC that excludes an estimate of a commercial return.

There are other businesses where assets are fully debt funded (such as the metropolitan Melbourne water entitlements arising from their contributions to the Northern Victoria Irrigation Renewal Project and the North-South Pipeline). A return comprising only the cost of debt may be more appropriate for these businesses.

The Commission will explore these approaches with individual businesses.

8.10 Taxation

The WACC provides a post-tax return, so revenue benchmarks (which are defined in pre-tax terms) must include an allowance for expected taxation — or taxation equivalent — liabilities. In principle, the taxation allowance (or taxation wedge) should be an unbiased estimate of the cost of taxation for an efficient company calculated on a reasonable basis.

To estimate the projected taxation allowance for the second regulatory period (where relevant), the Commission used benchmark assumptions for many of the inputs to the taxation calculation. That is, rather than attempt to capture all of the detail of Australian taxation law, we used benchmark assumptions that reflect the major features and implications of the taxation law. This approach gives businesses incentives to employ efficient financing arrangements.

We note that the Independent Pricing and Regulatory Tribunal (New South Wales) is considering moving to a post-tax WACC to estimate the appropriate return on capital.[8]

It should be noted that the benchmark tax liability applied in the past has been zero for the majority of Victorian water businesses. This is because businesses have accumulated tax losses and accelerated their depreciation under the National Tax Equivalence Regime. Asset revaluations during the second regulatory period are unlikely to result in more businesses moving into a tax paying position in the third regulatory period.

When determining a tax estimate it is important that the manner for calculating the estimate is consistent with other assumptions (for example, about forecast revenue and gearing) and reflects the decisions of an efficient entity.

This is the only practicable means of ensuring that the allowance for taxation provided to each business is unbiased and transparent. It means that the taxation allowance (and changes to it over time) can be reconciled with factors relevant for taxation purposes or with changes in the taxation law, and can be replicated over time.

Businesses should note that revenue benchmarks are determined in real terms (or constant prices), and taxation is modelled in nominal terms (reflecting the forecast of inflation over the period).

The Commission will apply the following benchmark assumptions in the third regulatory period:

- *Interest expenses (deductions)* — These reflect the nominal cost of debt and assumed stock of debt (that is, gearing multiplied by the regulatory asset base) used to estimate the WACC.

[8] Independent Pricing and Regulatory Tribunal New South Wales 2011, *The Incorporation of Company Tax in Price Determinations Research Draft Report*, Sydney, September.

- *Taxation depreciation decisions* — The opening taxation value has been carried over from the second regulatory period. We assumed classes of assets for taxation purposes (including the proportion of capital expenditure that falls into each class, the depreciation rates and methods) are consistent with those applied in the second regulatory period.

- *Assessable revenue and expenditure* — These are consistent with those used to set the price controls (except that customer contributions are treated as revenue). This includes historic reported capital expenditure, noting that a portion of capital expenditure is immediately deductible.

Businesses can accelerate depreciation for taxation purposes, so taxation depreciation (or capital allowances which serve to reduce the taxation allowance) may — and usually do — differ from economic depreciation. This difference means that taxation liabilities will be deferred where there is an excess taxation allowance in the early years of a water business. This results in an effective taxation rate for the return on equity that is less than the statutory rate. Deferred liabilities improve the early cash flows to an investor and improve the internal rate of return over that assumed by the WACC parameters.

Estimating the value of imputation credits

Australia has an integrated taxation system, so Australian resident shareholders can receive a credit for corporate taxation. This is paid at the company level when they determine their personal income taxation liabilities for dividend imputation.

For competitive neutrality purposes, the Commission has accounted for this benefit when making assumptions about the revenue required by the water businesses. We adopted a value for imputation credits of 0.50 to determine the taxation allowance for the 2008 and 2009 price reviews. That is, for every $1 of company tax paid, the imputation system creates $0.50 of value for investors.

A gamma value of 0.50 assumes that only 80 per cent of imputation credits on average can be distributed, and that imputation credits are worth about 60 cents in the dollar once in the hands of investors.

The Commission will adopt the same approach to calculate imputation credits as we adopted in the 2008 and 2009 price reviews.

8.11 Treatment of costs relating to non-prescribed services

The correct classification of services as prescribed or non-prescribed is important because, under the WIRO, the Commission has the power to regulate only the prices of those services that are prescribed. Section 6 of the WIRO lists prescribed services.

While the Commission has no role in regulating prices for non-prescribed services, it needs to be satisfied that these services are correctly classified and not related to prescribed services, and that the costs of these services are accurately identified and excluded from the regulated cost base. Failing to adequately account for these non-prescribed services may lead to regulated costs being under or overstated and customers of prescribed services paying either too much or too little.

Non-prescribed services are not provided ‘in connection with’ prescribed services and are often provided in a competitive market. The Commission considers that services such as property rental or leasing, farming activities on sewage treatment plant sites, boating and recreation services are clearly non-prescribed.

There are also a number of other non-prescribed services undertaken by businesses which are often unique to a particular business and relatively large in size. These include works associated with salinity management undertaken under government services contracts, storage operation and land management services provided under contract to the Murray-Darling Basin Commission.

An issue for the third regulatory period will be the purchase of permanent water entitlements to improve water security, the value of which has been rolled into the regulatory asset base. While the Commission has previously regarded water trading as non-regulated, revenue arising from the sale of water included in the regulatory asset base should be used to offset the revenue requirement.

This change reflects the principle that any profits from the sale of water (the purchases of which were funded by customers) should be returned to customers through lower prices.

Water Plans should clearly identify each service provided by the business that has been treated as non-prescribed. Where a business is proposing to treat a particular service as non-prescribed the Water Plan needs to demonstrate that either the service is not a prescribed service or that it is not provided in connection with a prescribed service.

Water Plans should also provide an overview of the expenditure and revenue forecasts associated with non-prescribed services for the regulatory period and explain how shared costs (such as corporate costs) have been allocated between prescribed and non-prescribed services.

The Commission’s financial template will require further information on non-prescribed services. The template will also allow businesses to lower customer prices by using revenue from these activities to offset their regulated revenue requirement.

8.12 Summary of information requirements for Water Plans

Water Plans must include an estimate of the business’s annual revenue requirement for at least 10 years from the start of the third regulatory period. Businesses can provide a likely range for their estimated revenue requirement for years beyond the third regulatory period. They should also compare their estimated revenue requirement for regulatory period three with that for the second regulatory period.

Businesses should calculate their roll-forward and forecast RAB according to the procedures in this chapter. Businesses should use data from their signed off regulatory accounts to estimate their roll-forward and forecast RAB.

As part of this process, businesses must also:

- demonstrate the prudency and efficiency of spending on projects in the second regulatory period which exceeded forecasts
- identify and explain the reason for the nondelivery or delays to major projects specified in their determinations for the second regulatory period and
- set out the approach taken to depreciating assets, particularly major assets.

Water businesses should use the WACC estimated by the Commission in its financial templates to develop draft Water Plans. The Commission will make a final decision on the WACC closer to our final decision on prices (expected in May 2013).

Water businesses should provide the following information when establishing the taxation allowance:

- where revenue is required to recover the costs of forecast tax obligations in the third regulatory period, provide details of how this was calculated
- where there are no forecast tax obligations in the third regulatory period, explain how this position was determined
- enter relevant data into the templates, including any tax losses proposed to be carried forward from the second regulatory period to the third regulatory period and
- where revenue is required to recover the costs of forecast tax obligations in the third regulatory period, provide details about the value for imputation credit that was applied.

Water Plans should clearly identify each service provided by the business that has been treated as non-prescribed. Where a business is proposing to treat a particular service as non-prescribed the Water Plan needs to demonstrate that either the service is not a prescribed service or that it is not provided in connection with a prescribed service.

Water Plans should also provide an overview of the expenditure and revenue forecasts associated with non-prescribed services for the regulatory period and explain how shared costs (such as corporate costs) have been allocated between prescribed and non-prescribed services.

9 DEMAND

Key points

- Demand forecasts play a key role in determining customer prices. The Commission must be satisfied that the demand forecasts used by businesses to calculate prices are reasonable.
- The extent and timing of any bounce back in water demand will be a key issue when the Commission assesses the demand forecasts of the water businesses for the third regulatory period.
- Businesses should not automatically adopt the average consumption levels experienced during the second regulatory period so far to forecast demand. It requires a broader consideration of issues, including consumer responses to a changed supply and restrictions environment.
- We expect all businesses to incorporate consideration of the price elasticity of demand into their forecasts for residential and non-residential demand. This will also inform the extent and timing of any forecast bounce back in demand.
- The demand forecasts in Water Plans should be consistent with the businesses' proposals about the extent and nature of operating and capital expenditure and revenue forecasts.

9.1 Introduction

Demand forecasts play a key role in determining customer prices. They influence the levels of efficient operating and capital expenditure required to deliver services, and provide the expected quantities that are divided into the revenue requirement to derive prices. The Essential Services Commission (the Commission) must be satisfied that the demand forecasts are reasonable.

9.2 Commission's assessment of demand forecasts

The Commission will consider whether businesses' proposed demand forecasts:

- are based on appropriate forecasting methodologies

- reflect reasonable assumptions about the key drivers of demand including:
  - supply (including environmental conditions, inflows, and the effect of recent and upcoming supply augmentations)
  - population and demographic changes
  - general and local economic conditions and future prospects for market development
  - average consumption/rebound assumptions (including demonstrating the effect of past (and any proposed) spending on demand management initiatives)
- use the best available information, including historical demand trends and relevant Water Supply and Demand Strategies
- are statistically unbiased
- account for different or changed tariff structures and elasticities.

Businesses linked to the Melbourne bulk supply pool should reflect the impacts of desalination on their water supply and demand forecasts in Water Plans.

9.3 Managing demand risk

The Commission acknowledges that forecasting demand is inherently difficult. However, businesses can mitigate most demand risks and the regulatory framework also provides mechanisms to manage demand risk.

Actual water volumes over the second regulatory period have been lower for many businesses than assumed in the Commission's 2008 and 2009 determinations. This is because the drought was more severe than anticipated. Further, some businesses noted that the heavy rainfall in 2010-11 also led to lower than expected sales volumes.

Stronger than anticipated growth in customer connections, largely reflecting strong population growth, offset weaker than expected water volumes for some businesses.

Water businesses can mitigate demand risk through a robust approach to demand forecasting as well as being able to adjust their operations (and minimise costs) as demand fluctuates. We expect Water Plans to demonstrate that businesses have modelled a range of supply and demand scenarios to inform their decision making about supply planning and service outcomes.

The regulatory framework also allows businesses to manage demand risk through a revenue cap form of price control and — subject to certain conditions being met

— by applying for a mid-period price adjustment (based on demand) under the uncertain or unforeseen events mechanism (see section 4.4).

9.4 A bounce back in demand

The extent and timing of any bounce back in water demand will be a key issue when the Commission assesses the demand forecasts of the water businesses for the third regulatory period. The first half of the second regulatory period was characterised by relatively tight water restrictions across much of the state. Businesses also anticipated water efficiency savings measures (such as showerhead replacements and more efficient toilets) and customer water use awareness campaigns would moderate customer demand in their Water Plans for the second regulatory period.

Restrictions have generally eased over the past year, reflecting changed supply conditions and a better supply outlook. However, it is unclear how customers will respond to these changed conditions, given they also face higher prices.

Businesses should not automatically adopt the average consumption levels experienced during the second regulatory period to forecast demand. It requires a broader consideration of issues, including consumer responses to a changed supply and restrictions environment.

Water Plans must specify businesses' assumptions about the forecast trend or pattern of demand for the third regulatory period and the basis for these assumptions. Businesses should consider the timing and extent of any bounce back in water demand and the main drivers.

We expect Water Plans to outline the effect of water efficiency initiatives on water consumption in the second regulatory period as part of this. Water Plans should specify the anticipated effects of these measures on consumption for the third regulatory period and provide the rationale for the anticipated effects.

The Commission will monitor conditions and customer behaviour about water consumption over the summer months of 2011-12 and 2012-13 in forming its final views on the demand forecasts of businesses.

9.5 The price elasticity of demand

The Commission focused on demand elasticity assumptions when reviewing demand forecasts for the second regulatory period. Only some businesses' Water Plans for the second regulatory period accounted for the effect of changing prices on residential and non-residential demand through assumptions about the price elasticity of demand.

For the third regulatory period, we expect all businesses to incorporate consideration of the price elasticity of demand into their forecasts for residential and non-residential demand. This will also inform the extent and timing of any forecast bounce back in demand.

Easing water restrictions should, over time, increase water use. Hence, consumers should respond more noticeably to price changes, although the absolute price elasticity effects would remain low.

Businesses should identify in their Water Plans where price elasticity was applied, the figures used, and how the measure was translated into their demand forecasts. Businesses proposing the removal of inclining block tariffs should also assess the implications for the elasticity of demand (noting that some customers will very likely face lower variable prices as a result).

The Commission used Water Services Association of Australia elasticity estimates in the 2008 price review as a benchmark to assess the price elasticity of demand for the second regulatory period.

9.6 Consistency of demand forecasts with proposed expenditure and revenue

The demand forecasts in Water Plans should be consistent with the businesses' proposals about the extent and nature of operating and capital expenditure and revenue. For example, if a business forecasts relatively subdued demand, then we would not expect to see proposals for supply augmentation projects or increased spending on alternative water sources. As well, growth assumptions for demand will influence revenue collected through fixed charges for instance, which should be reflected in a businesses proposed revenue requirement.

9.7 Summary of information requirements for Water Plans

Water Plans should summarise demand forecasts and the key assumptions adopted to develop those forecasts. Businesses should use at least a 10 year horizon for demand forecasting and scenario work and reflect this in their Water Plans.

The Commission also expects Water Plans to include:

- written information that describes the methodology used, identifies the key demand forecasting issues and lists and justifies the key assumptions adopted in generating the forecasts
- evidence that a range of supply and demand scenarios were modelled, including low, normal and high water inflow scenarios
- details of the levels of restrictions or nature of any permanent water conservation measures reflected in the forecast

- a written explanation about why the demand forecasts adopted were chosen over other scenarios modelled
- tabular information that summarises the demand forecasts adopted and provides relevant historical information on demand.

Businesses will need to exercise discretion and match the level of detail contained in their demand forecasts with the materiality of the demand information (and hence revenue impacts) captured. In their Water Plans, businesses should:

- provide separate demand forecasts for each service provided. For example, show residential and nonresidential demand separately, and break up forecasts for trade waste, recycled water and developer charges according to how they are charged. If detailed forecasts for these are unavailable, businesses must explain why and provide estimated demand for these services.
- explain the models used to forecast future demand and any assumptions underpinning the model. This includes information on climate conditions. The period covered by historical data must be stated (if relevant). Businesses must indicate where they relied on external reports to develop their forecasts.
- explain the models used to derive estimates of population/customer growth. Businesses should draw on *Victoria in Future* forecasts, Australian Bureau of Statistics data, local government forecasts and other information as required. If more than one set of population forecasts was considered, include a brief discussion of why the final model was chosen. (Full descriptions of all models are unnecessary). Customer growth figures must include any backlog sewerage schemes to be completed during the period.
- explain the basis for the forecast trend or pattern of demand in the third regulatory period, considering population growth, customer behaviour-average consumption, and effect of demand management initiatives.
- identify where price elasticity was applied, the figures used, and how the measure was translated into the businesses demand forecasts.
- indicate where they accounted for changed tariff structures, such as by moving to a two-part tariff, or increasing reliance on variable charges in their demand forecasts for the regulatory period. In particular, businesses must explain how they used estimates of elasticity of demand to make adjustments.
- explain how demand forecasts are consistent with proposed expenditure (in terms of the level and nature of expenditure).

The Commission's financial templates will require water businesses to provide detailed demand forecasts for every tariff and tariff category. The detail in these templates does not need to be reproduced in Water Plans.

10 INCENTIVE MECHANISMS

Key points

- The Commission will develop and implement a new approach to strengthen efficiency incentives through adjusting each businesses revenue requirement to reflect their relative performance on a range of risk and service performance measures. The adjustment would be made through a Risk and Performance (RP) factor.
- This approach will reward well performed businesses and penalise poorly performing businesses. The Commission will consult with businesses on the application of an RP factor in 2012.
- The Commission believes there may be merit in removing certain costs from approved revenue requirements. For instance, conservation costs should only be recovered through regulated prices when they reflect the most cost efficient way of managing the future demand and supply balance.
- The Commission will continue to publicly report on the performance of businesses against proposed service outcomes, including in terms of the delivery of major projects.

10.1 Introduction

The *Water Industry Regulatory Order* (WIRO) requires the Essential Services Commission (the Commission) to be satisfied that prices provide businesses with incentives to pursue efficiency improvements and to promote the sustainable use of Victoria's water resources. The Commission seeks to ensure that regulated businesses have sufficient incentives to:

- achieve efficiencies to minimise the actual cost of providing a particular level of service and
- deliver the desired level of service over the regulatory period, notwithstanding incentives to achieve efficiencies.

Recognising the trade-offs that can often occur between these two competing incentives, incentive-based regulatory approaches are often designed to address both price and service dimensions.

10.2 Approach to providing incentives in the water industry

The Commission has identified a number of approaches that can be used to provide incentives for water businesses to meet their performance obligations and deliver services efficiently over the third regulatory period. These include:

- specifying service obligations to apply to the businesses through regulatory codes and/or approving or specifying service standards that apply during a regulatory period as part of the Water Plan (see chapter 5)
- reporting performance against service obligations and standards as part of the performance monitoring and reporting regime. The Commission has established a public performance monitoring framework for the urban water industry and is doing so for the rural water industry
- designing financial incentive mechanisms to reward and/or penalise businesses for performance that varies from pre-determined benchmarks or standards or
- combinations of these.

The Commission adopts an incentive based approach that involves:

- setting a price path for a five-year period based on forecasts of key components of revenue (including expenditure and returns). Businesses retain any benefits that arise from exceeding the forecasts but also any losses resulting from their performance during the regulatory period. This approach requires limited or no opportunity to reopen determinations and adjust prices to reflect actual demand and expenditure levels: this weakens the incentive properties of the framework.
- providing incentives to achieve efficiencies within the period by allowing businesses to retain any efficiency savings for a full five years after the year in which they have achieved any efficiency savings and then requiring them to share a proportion of those savings with customers (efficiency carryover mechanism).
- providing incentives for businesses to meet service standards for all customers by requiring them to implement a guaranteed service level (GSL) scheme. Businesses provide rebates to customers who receive a level of service that is significantly worse than the average level of performance expected by most customers.
- reporting and auditing the businesses' performance against a set of performance indicators. This includes monitoring the delivery of outcomes and commitments made by businesses in their Water Plans.

The Commission believes this incentive-based approach — covering a mix of financial and nonfinancial incentives — has encouraged water businesses to focus on efficient asset management and investment practices, and deliver service improvements for customers.

A key issue in regulating the water industry is how well financial incentives influence the behaviour of businesses. The ownership and governance arrangements for water businesses, as well as the potential conflict between social and commercial objectives, may limit the effectiveness of financial incentives.

The Commission is seeking to explore new approaches to providing financial incentives in the third regulatory period. The following sections discuss various possible changes to the current incentive regime including:

- whether the efficiency carryover and the S factor mechanisms used by the Commission in other infrastructure industries will be appropriate and effective for the water industry
- implementing a new approach that rewards well managed businesses and penalises poorly performed businesses by adjusting the revenue requirement with a risk and performance factor
- whether some costs incurred by water businesses should be paid from pre tax returns rather than as part of the allowable revenue requirement and
- what practical difficulties and limitations there are to using these mechanisms in the water industry.

10.3 Efficiency carryover mechanism

The CPI-X approach adopted by the Commission provides incentives for regulated businesses to continually improve their efficiency by reducing expenditure. There is no 'clawback' of revenue at the end of a regulatory period: businesses that provide required services at costs lower than those set in the expenditure forecasts can retain the revenue within the business or achieve higher returns.

However, a problem with this approach is that because prices are realigned with costs at the end of each regulatory period, businesses have an incentive to defer efficiency savings until the first year of the next regulatory period.

For example, in the absence of an efficiency carryover mechanism a business that achieves a $50 000 ongoing operating cost reduction in year 1 of a five-year regulatory period retains a benefit of $250 000. The same reduction made in year 5 would only return $50 000 to the business.

The efficiency carryover mechanism aims to address this by providing businesses with the same reward for an efficiency gain, regardless of when the occurs in a regulatory period. The efficiency carryover mechanism should be designed to:

- be objective, transparent, easy to administer and replicable
- focus on efficiency gains that can be influenced by managerial decision making
- require minimal or no reopening of prior period forecasts to maintain the incentive

- provide, as far as practicable, equal incentives to make efficiency gains in any year, and equal incentives for operating expenditure and capital expenditure and
- ensure that efficiency gains are not at the expense of service standards.

The key principles that will apply for the efficiency carryover mechanism in the third regulatory period are:

- a business should gain (lose) in a regulatory period when actual expenditure is less (more) than the expenditure benchmarks used to set prices
- for operating expenditure, the efficiency reward in the next regulatory period should be equal to the reduction in the recurrent level of expenditure in excess of the reduction reflected in the expenditure benchmarks (subject to any possible adjustment for changes in scope)
- the businesses should be able to retain the carryover associated with efficiency gains for five years after the year the gain is achieved and
- the carryover amounts are only applied where the net increment to the revenue requirement is positive over the whole of the regulatory period, after adjusting for the time value of money.

The Commission believes that the efficiency carryover mechanism should not apply to capital expenditure in the water industry given the lumpy investment profiles and high proportion of capital linked to a small number of projects.

10.4 S factor mechanism

Another financial incentive for businesses to deliver or exceed expected service levels is to adjust prices annually to reflect actual performance against certain specified service standards or targets. This gives businesses incentives to achieve or exceed the service targets and standards established during a price determination and improve service performance where economically efficient. It can be applied jointly with an efficiency carryover mechanism.

The Commission is not proposing to mandate an S factor mechanism for the third regulatory period but we will consider any application made by a business to include an S factor approach. The Commission believes that an S factor mechanism would generally not be appropriate where a business proposes only a modest service improvement.

10.5 Risk and performance factor

A new approach the Commission will develop prior to the commencement of the third regulatory period is to strengthen efficiency incentives by adjusting the revenue requirement (excluding items such as bulk charges, licences fees and environmental contributions) based on a business's performance on a range of risk and service delivery outcomes.

These characteristics could include whether:

- operating and capital costs have exceeded the regulator's benchmarks from the price determination
- major projects met timelines set out at the last price determination
- drinking water quality and environmental discharges met Department of Health and Environmental Protection Authority standards
- businesses performed relatively well or poorly in productivity studies
- businesses performed relatively well or poorly against service standards (exhibited through failure to meet performance targets or customer satisfaction surveys)
- businesses have higher or lower bad debt provisions or GSL payments relative to the industry average or their own historical average
- businesses prices are high relative to average customer earnings.

This approach would rank businesses on performance and risk. Under our approach, the Commission will tailor a risk and performance (RP) factor in the price control formula to reflect a comparative assessment of actual performance and risks. This approach rewards well performed businesses with a lower RP factor and penalises poorly performing businesses with a higher RP factor.

Businesses that performed poorly and carried high risk will receive a reduced revenue requirement, giving them an incentive to improve performance over the next regulatory period. Businesses that performed well and carried low risk do not receive a revenue reduction (beyond the industry wide productivity hurdle) as a reward for good performance.

The Commission will consult further on designing and applying a RP factor mechanism for the third regulatory period during the price review.

10.6 Exclusions from the allowable revenue requirement

Another option the Commission is considering requiring some costs currently included in the revenue requirement to be excluded. The Commission believes costs for the following items could be excluded from businesses' revenue requirement:

- *Drought-related activities* — It could be argued that businesses can be responsible for supply/demand outcomes in the future, given recent significant investment in augmentation and improved supply outcomes. The UK water regulatory framework requires businesses compensate customers when they impose water restrictions. The Commission does not propose adopting this approach, but we believe that business may be more likely to improve long-term planning and risk management processes if they bear the cost of nondelivery, rather than pass it on to customers.

- *Water conservation* — For the last price review, many customers complained about water businesses encouraging them to save water, and then raising prices to compensate for lower demand. There may be merit in including water conservation costs in recoverable revenue only when conservation is the lowest cost solution for managing demand and supply; that is, it must be lower than the cost of augmenting water infrastructure or alternative sources of supply.

- *Noncontractual obligations (including with Government)* — For the last price review, some costs were not linked to clearly defined obligations (for example, businesses purchasing voluntary carbon offsets to be carbon neutral, or making charitable donations). These costs were reflected in prices to varying degrees. The Commission intends to take a narrow view of undefined obligations for the third regulatory period; the cost of such items will be excluded from the allowable revenue requirement. We encourage businesses to work with Government (including technical regulators) to clearly define their noncontractual obligations. Businesses proposing customer choice models may be able to recover costs for some items through customer tariff choice mechanisms (see chapter 13).

- *GSL payments* – where these payments are the outcome of poor performance the Commission believes they can be excluded because these are not an efficient administrative or operational cost. Businesses should not be compensated for poor performance but should be given incentives to avoid the problems occurring.

- *Bad debts* — Bad debts should only be recovered where they reflect debts incurred through no fault of the business, or reflect debts of customers identified as being in hardship (the waiving of debts associated with hardship should be separately identified). For previous price reviews, some businesses applying large price rises also requested significant additional expenditure to compensate for more customers defaulting, increasing their debt collection costs. The Commission considers it inappropriate for businesses to propose large bill increases and then argue for even higher increases because customers cannot pay the higher bills they impose, and putting more upward pressure on prices.

Further, the Commission believes that bonus payments to water business management should be linked to service and productivity improvements in a transparent manner. Performance may be better if Boards and executives are directly accountable to shareholders on bonuses paid, rather than including them in the regulatory framework.

10.7 Summary of information requirements for Water Plans

The Commission will consult the water industry further about incentive mechanisms for the third regulatory period, including on the construct and application of a risk and performance factor.

If businesses are seeking to include part or all of the costs discussed in section 10.6 in their revenue requirements then this will need to be justified in Water Plans on the grounds of efficiency.

11 FORM OF PRICE CONTROL

Key points

- Key issues for water businesses to consider when proposing the form of price control for the third regulatory period are risk management, price stability, transition arrangements and customer choice.
- The Commission encourages water businesses to consider how they can better share risk between customers and themselves. This is important as it can affect decisions about the form of price control.
- Significant tariff changes will require careful management by businesses to address customer impacts. Businesses must consult with customers about proposed changes to the form of price control.

11.1 Introduction

The *Water Industry Regulatory Order* (WIRO) provides the Essential Services Commission (the Commission) with flexibility to approve individual prices or the manner for calculating or determining prices. For example, we can approve pricing formulae, caps or pricing principles. The forms of price control can include processes for approving individual prices, pricing principles and explicit price controls.

Several forms of price control are used in Victoria, but individual price caps are the most common. Water businesses using price caps may apply to move to a tariff basket approach during the regulatory period; price increases are limited by a weighted average of the prices of a basket of services. The rural businesses use revenue caps, while some businesses use hybrid forms of price controls, combining revenue caps and price caps, or price caps and tariff baskets. Some businesses define the process they will follow to establish prices for some specialised services.

11.2 Forms of price control

Victorian water businesses can choose from the following forms of price control:

- *Weighted average price cap (or price basket)* — A weighted average price cap is applied to a basket of services. The prices businesses submit each year must conform to a predetermined price path escalated by the consumer price index less a productivity factor (CPI-X). The weights are usually derived from the actual quantities of the service sold.

- *Weighted average revenue (or revenue yield)* — The average revenue per unit of service earned by the business is capped in any period. The average is calculated by dividing total revenue by total output. This requires a standard unit of output, such as megalitres.
- *Individual price caps* — Prices are approved by the regulator at the start of the regulatory period and escalated annually by applying the CPI-X formula to each price component. Prices are not rebalanced within the regulatory period.
- *Revenue cap* — The maximum revenue businesses can earn is set at the start of a regulatory period. This provides a business with guaranteed revenue regardless of sales volume.
- *Any combination of the above* — Businesses can use a hybrid approach.

11.3 Principles for the form of control

The Commission uses criteria to determine whether the proposed form of control meets the WIRO requirements. Specifically, the form of control should:

- *provide incentives to align price structures with underlying costs* — High cost services should have higher prices, while low cost services should have lower prices. Aligning costs and prices is important for efficient investment and water service use
- *manage and allocate demand and supply risks efficiently* — The choice of form of control should reflect demand and supply risks and how they affect revenue. Water businesses should consider aligning risky activities with the forms of control that can mitigate that risk.
- *minimise administrative complexity, cost and intrusiveness* — Administratively simple forms of control are easy for customers to understand and result in lower costs for the water industry.

11.4 Key issues to consider

The Commission identified key issues for water businesses to consider when proposing the form of price control for the third regulatory period:

- *Risk management* — Water businesses must decide if uncertainty about supply and demand forecasts increased and how it affects future demand. Options for dealing with increased uncertainty include price control mechanisms or tariff designs that target risk. We expect businesses to consider how climate change affects forecasting uncertainty.

- *Price path stability* — Price stability (that is, avoiding price shocks) is important within and between control periods. Businesses must formulate plans that extend beyond the time horizons of their regulatory control periods. This broader planning should help businesses prepare Water Plans for price reviews. It should also improve investment decisions, given the large and 'lumpy' nature, and long life, of many water industry assets. The Commission acknowledges that there can be benefits from allowing prices to adjust to signal changes in costs. In these instances, the Commission expects businesses to explore options to manage the impact on customers, which could involve smoothing price changes over a reasonable period, or develop transition plans.

- *Transition arrangements* — The Commission will consider the transition arrangements for water businesses transferring from one form of control to another, if applicable. We will focus on how water businesses will protect those disadvantaged by a change in form of control, and on how the change affects price stability.

- *Customer choice* — Water plans must describe the implications of proposals (if any) for tariff customer choice during the third regulatory period. This includes introducing tariffs, or withdrawing tariffs, to improve customer choice. A more flexible form of explicit price control (such as a weighted average tariff basket) may be necessary if customer choice is part of water businesses' proposals.

11.5 Managing customer impacts

The Commission encourages water businesses to consider how they can better share risk between customers and themselves (as asset owners). This is important because it can affect decisions about the form of price control.

Businesses must consider how significant tariff changes will affect customers and how they will manage these impacts. Adopting side constraints is a common approach used by other regulated infrastructure industries. Typically, side constraints set a maximum annual rate of change for an individual tariff. This provides clarity about how to manage equity concerns from tariff changes and how to minimise regulatory costs. We recognise the merits of this approach and will consider proposals to use it favourably.

Before they submit Water Plans, businesses must consult customers about proposed changes to the form of price control. This is so customers understand the implications of the proposed form of price control and so businesses identify and consider all options for ameliorating any negative effects.

11.6 Summary of requirements for Water Plans

The Commission requires water businesses to clearly indicate the form of price control that they are applying for, accompanied by an explanation of how the proposed form of price control meets the WIRO requirements. The Commission will examine the proposed form of control according to the WIRO and the tariff assessment principles set out in table 12.1. The proposal should explain how the proposed form of control will operate.

The Commission will assess the relationship between businesses' plans for risk management and customer impact assessment, and its proposed form of control. Businesses must explain the trade-offs and complementarities between the form of control and their wider business and tariff strategy in their proposal.

12 TARIFF LEVELS AND STRUCTURES

Key points

- The Commission has developed a set of tariff assessment principles that water businesses will need to consider in developing their tariffs. Water businesses should also consult with customers as they develop their tariff proposals.
- Water businesses should develop simplified and cost reflective tariff structures in the third regulatory period in consultation with customers.
- We prefer a two-part retail water tariff because it promotes efficiency, is simple and consistent with the National Water Initiative's pricing principles. We also believe it best protects low income and vulnerable customers. The Commission discourages the continued use of inclining block tariffs.
- The Commission will consider proposals for a single sewage disposal charge for residential customers favourably. We note the support for this approach in submissions responding to our Tariff Issues Paper. The Commission supports using volumetric charges for nonresidential retail sewage customers.
- Most businesses use a load and risk based assessment to price trade waste, which we support. There may be further opportunities to strengthen locational price signalling in metropolitan Melbourne.
- Customer impact analysis would need to be undertaken and a transition strategy developed prior to any changes to tariff structures being approved.
- With the introduction of desalinated water to the Melbourne system, Melbourne Water and the metropolitan water retailers should explore options for managing uncertain variable bulk water costs at the retail level with customers.

12.1 Introduction

The *Water Industry Regulatory Order* (WIRO) requires prices to provide a business with a sustainable revenue stream that does not reflect monopoly rents or inefficient expenditure. Prices are set to allow businesses to recover operating and maintenance costs, renewal and replacement costs and a rate of return on existing and future assets.

The Essential Services Commission (the Commission) will approve all of a business's proposed prices, or the manner for calculating or determining proposed prices, if it is satisfied that they meet the procedural requirements and regulatory principles in the WIRO. Alternatively, the Commission may specify the prices or the manner for calculating or determining the prices.

Water Plans must specify the prices and tariff structures that a business proposes to implement over the third regulatory period. Businesses must demonstrate that in the case of proposals for increased prices, or changes in tariff structures, that they have developed an accompanying transition strategy that anticipates and deals with customer impacts. We expect to see evidence of substantial customer consultation and consideration of transition strategies in Water Plans.

The Commission also requires that Water Plans provide annual price and tariff information for *at least 10 years* from the start of the third regulatory period. The Commission's assessment of a business's proposed prices and tariff structures for the third regulatory period will be informed by the prices estimated to apply beyond the third regulatory period. Businesses may provide a range for price estimates beyond the third regulatory period, within reasonable bounds.

Businesses must substantiate material changes to prices proposed in the third regulatory period. They must also provide clear links between the proposed price changes and their drivers (such as any new government obligations or well researched customer preferences).

The Commission released a Tariff Issues Paper in July 2011 to stimulate discussion on water and sewerage tariffs.[9] It covered tariff matters to be addressed in Water Plans for the third regulatory period. The Commission received a number of submissions from water businesses and other stakeholders. The submissions, which demonstrated a consensus on some matters and diverse opinions on others, guided our positions for this paper.

This chapter gives guidance on pricing and tariff principles, and issues about urban water tariff structure and design issues. Tariff choice is discussed in chapter 13.

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[9] Essential Services Commission 2011, *2013 Water Price Review —Tariff Issues Paper*, July, Melbourne.

12.2 Pricing and tariff principles

The Commission received a number of submissions about the proposed assessment principles in the Tariff Issues Paper. There were comments about the principles and about the tariffs the principles would cover.

Some submissions sought greater specificity in the principles while others were concerned that they were too prescriptive. When deciding the assessment principles, the Commission sought to balance providing certainty and guidance for the industry, and restricting water businesses' scope and ability to design tariffs that suit customers' needs.

Some submissions highlighted the difficulties and conflicts that may be encountered if individual principles were read strictly. An example is the principle proposed in the Commission's Tariff Issues Paper that '(t)he volumetric charge should have regard to the long run or short run marginal costs, where appropriate.' Submissions raised difficulties with marginal cost pricing, and possible requirements for water businesses to have a minimum proportion of the volumetric component of consumers' water bills based on marginal costs.

The Ministerial Advisory Council will advise the Victorian Government on the possible introduction of a 60 per cent minimum variable share of customer water bills (we note that most businesses are already at or near this threshold).

However, Westernport Water highlighted potential difficulties associated with the composition of its customer base; 60 per cent of its residential customers are nonpermanent. There could be large increases in prices for permanent residents and price falls for non-permanent residents. Westernport Water highlighted that the cost burden could increase for permanent residents.

Coliban Water noted the need to account for customer expectations when considering marginal cost pricing.

The Commission requires businesses to consider marginal cost pricing where appropriate. However, it is not the only factor businesses should consider. Businesses should consider marginal cost pricing together with other principles.

Some submissions outlined difficulties with scarcity pricing. For example, the Consumer Utilities and Advocacy Centre and the Victorian Council of Social Services opposed scarcity pricing. Other submissions argued that the principles would limit flexibility for businesses in practice.

The Commission believes that businesses can still determine the tariff structure that best meets their customers' and their business's needs. Underpinning the flexibility of the current framework is the propose-respond model; water businesses must formulate their tariffs, business by business, to meet the individual circumstances of their business and customers. The Commission's task is to ensure that water businesses' tariffs comply with the WIRO Principles.

The Commission's assessment principles do not set rigid rules for the water businesses; rather they outline our views and expectations. If businesses submit tariff structures that do not comply with the assessment principles, they will need to justify the merits of their proposal based on the WIRO principles.

Table 12.1 outlines how the Commission will apply the assessment principles. In their Water Plans, businesses must demonstrate how their tariff proposals comply with these principles, and identify and explain where a tariff proposal departs from any of the principles (including how any conflicts between principles were resolved).

Table 12.1 Tariff assessment principles

Area	*Principle*
Sustainable revenue	Tariff structures, levels and the form of price control should ensure an economically sustainable revenue stream over the Water Price Review period.
Subsidy free pricing and inefficient bypass	For each tariff class, the revenue expected to be recovered should lie on or between an upper bound representing the stand alone cost of serving the customers in that class and a lower bound representing the avoidable cost of not serving those customers.
Tariff structures	Tariff structures should be simple, understandable and cost reflective. *Bulk Water Charges Structure* — A two part charge comprising a fixed charge and a volumetric component is preferred to recover a bulk supplier's revenue requirement from its customers for each bulk water service. *Retail Water Tariffs Structure* — A two part tariff comprising a fixed charge and a volumetric component is preferred to recover a water business's revenue requirement from each tariff class. If a business proposes an alternative tariff structure it should set out the objectives of this tariff structure and provide supporting analysis showing how these objectives would be better met by the proposed tariff structure. *Sewerage Charges* — The tariff structure should reflect the cost structure - and may comprise a one or two part tariff (all fixed, all volumetric or a fixed charge and a volumetric component). *Trade waste* — Trade waste charges should be load-based where measurement is feasible and where the benefits outweigh the costs.
Determining fixed charges	Fixed charges should be calculated to recover the difference between the total revenue requirement for a tariff class and the revenue recovered through volumetric charges.
Determining volumetric charges	The volumetric charge should have regard to the long run or short run marginal costs, where appropriate.
Customer focus and equity	Retail tariff and service offerings, and the form of price control, should have regard to the ability of customers to understand the tariff and service offering and respond to price signals, customer preferences and needs in relation to service standards or new services, the costs of implementing the tariff offering, including administration and marketing costs and price path stability.

12.3 Tariff structure and design issues

The Commission will consider a number of tariff structure and design issues for the third regulatory period. They relate to bulk and retail water tariffs, sewerage pricing and charges for waterways and drainage. Some of the issues are new, while others were raised for previous reviews but are being reconsidered because the context has changed, or new information and insights have emerged.

The Commission believes that water businesses are best placed to design tariffs and tariff structures that meet their customers' needs, and manage their risk and business outcomes. Water businesses are also best able to coordinate and integrate their tariff structures with their broader risk management policies (which include the form of control and management of service standards, among others).

Water businesses should consider time frames for planning and cost projection beyond the limits of one regulatory period when designing tariff structures to cover their costs. Therefore, we expect businesses to provide at least 10 years of expenditure and price information in their Water Plans. This will involve projections about an uncertain future, but water businesses may find that a longer term perspective leads to a wider range of planning options and outcomes.

As noted above, an important feature of any proposal submitted by a water business for changes to tariff structures or new tariffs will be the accompanying transition strategy that anticipates and deals with customer impacts, and any indirect effects of change. We expect to see evidence of substantial customer consultation and consideration of transition strategies in water businesses' tariff proposals.

For all tariff proposals, businesses' Water Plans should identify the prices and tariff structures that businesses are proposing to implement over the regulatory period, and should identify material changes to prices being proposed and provide clear links between the proposed price changes and their drivers, such as new government obligations or material changes in the revenue requirement.

The following sections discuss tariff issues that we expect water businesses to address in Water Plans. We discuss these issues using the industry supply chain, starting with bulk supply tariffs (for the Melbourne system) and then retail water tariffs (Melbourne retailers and regional urban authorities). We also consider sewerage charges, recycled water charges, rural tariffs, miscellaneous charges and waterways and drainage

Melbourne Water's bulk water tariff

All water retailers incur costs for bulk water, but issues associated with economic regulation of bulk water tariffs are largely confined to Melbourne Water. For the third regulatory period, Melbourne Water must consider bulk water resource pricing (headworks pricing for the existing supplies and how this is affected by desalination costs) and bulk transfer costs.

Bulk water

The tariff structure and approach to calculating the volumetric rate for existing headwater infrastructure assets appears to be consistent with our assessment principles. Historically, Melbourne Water's bulk water pricing structure used a two-part charge to recover the mostly fixed costs of headworks. The charges included an allowance for the estimated cost of the desalination plant, but before the actual cost was known.

For the third regulatory period, the actual costs of the Wonthaggi desalination plant must be included in Melbourne Water's bulk water charges and account for the desalination plant's variable cost structure. Uncertainty about the desalination plant's output (and therefore costs) in any one year requires innovative solutions. The Commission believes that water businesses should ensure that the form of price control they propose, their tariff structures, and their strategies for dealing with risk (such as those associated with the desalination plant or demand risk), are presented as an integrated whole.

We noted earlier that we expect Melbourne Water and the metropolitan retailers to show that they assessed various options to mitigate the cost impacts of desalination on customers (see chapter 6). Options include pass throughs of desalination variable water charges, and different approaches to phasing cost recovery for intergenerational equity issues. Approaches for retail tariffs are discussed below (see section 12.3).

The Commission does not propose any changes to our approach to locational pricing in bulk water and bulk water transfer. Melbourne Water identified the difficulties associated with locational pricing for bulk water in its submission on the Tariff Issues Paper. Before approving an application for greater use of locational pricing for bulk water, the Commission must be persuaded that the:

- efficiency gains of differential pricing outweigh the benefit from security of supply that is equally enjoyed by all customers of the bulk water system
- benefits of locational pricing are greater than the costs of administering and operating a locational pricing scheme.

Charges for bulk water transfer

Melbourne Water currently recovers its bulk transfer costs through a two-part tariff. A different volumetric transfer charge is calculated for each Melbourne retailer and Western Water.

Water businesses have varying views on the two-part tariff. They focus on the benefit to investment of a single variable tariff, and the cost-reflective advantages of a two-part tariff for Melbourne Water's bulk water and transfer systems.

The question of locational signals also arises for bulk transfer charges. We recognise that locational signals in bulk water transfer could benefit access seekers, but in support of locational pricing proposals we a require cost–benefit analysis to demonstrate clear and identifiable net benefits. We do not propose any changes in this area.

Retail water tariff

The retail tariffs charged by Melbourne's water retailers and regional urban water authorities must recover the relevant costs of each piece of infrastructure along the water supply chain. These include bulk water costs, transfer costs, distribution costs, retail costs and a return on capital. Water businesses use a mixture of two-part and inclining block tariff structures to recover these costs.

For Melbourne water retailers, bulk water costs reflect a regulated charge from Melbourne Water rather than a cost based on the market value of the resource. However, some regional urban water authorities participate in rural water markets, so their bulk water cost reflects market variability. Regional water businesses must identify and explain the implications of market based bulk water costs for their retail tariffs in their Water Plans.

Implications of market based and variable bulk water costs

Some regional urban water authorities already participate in the rural water market. These regional water authorities will need to consider the challenges of forecasting the cost of bulk water purchased in the market and the implications, in some cases, of an increased proportion of uncertain variable costs.

We will focus on costs and risks when assessing the revenue requirement underpinning proposed prices. How prices are allowed to vary over time directly affects the risk to which a water business is exposed and the cost of managing that risk. For the Melbourne network, these risks will increase when desalinated water is introduced. Therefore, the revenue requirement and tariff strategies are inextricably linked.

Options for managing uncertain variable bulk water costs at the retail level include:

- pass through approach — passing variations in costs through to retail tariffs as they are incurred
- smoothing approach — smoothing bulk price/cost variability, for example, over the regulatory period.

Generally, we favour approaches that minimise price shocks for customers, or if shocks do occur then they are aligned with customer awareness of the increased service. If water retailers propose a smoothing arrangement, then we consider that, over time, customers should only pay for the actual efficient variable bulk prices/costs incurred by the water businesses. Customers should not pay for any unspent allowances established as part of a smoothing arrangement. The revenue raised to cover the variable costs of desalination should be quarantined from other payments made to the retailers and Melbourne Water.

Different tariffs reflecting these options could be introduced as part of a retail customer choice strategy.

Locational pricing

Currently, the metropolitan water retailers and most regional water businesses recover their distribution system costs on a postage stamp basis; that is, retail tariffs do not reflect any differences in costs of distribution systems by time or by location. Some regional water businesses do set water charges that vary by location. These differences reflect differences in the cost structures of water supply, transport and treatment across the businesses. Some businesses set different prices based on quality of supply (for example, treated versus untreated water).

However, the trend is towards postage stamp pricing as water systems become more interconnected due to supply augmentations. Some businesses also identified equity and administrative simplicity as reasons for a uniform water price.

Changes to the locational basis of charging could effect small towns in some water businesses' districts — an issue highlighted in submissions to our Tariff Issues Paper. The Commission believes that water businesses are best placed to determine and manage the customer impacts of varying tariffs by location.

The Commission observes that where locational pricing occurs, it usually reflects a lesser integrated network with pronounced differences in costs between different water networks. This divergence in pricing between the more networked and lesser networked systems seems an organic development of locational pricing, where warranted by cost differences. The Commission does not propose any changes to its approach.

Structure of proposed retail water tariffs — inclining block tariffs

Retail water charges in Victoria are a two-part tariff comprising a fixed and variable component, with the majority of businesses adopting an inclining block tariff (IBT) for residential customers. All businesses adopt a two-part tariff (with a single block) for nonresidential customers and most regional businesses vary the fixed charge with meter size.

We received many submissions on inclining block tariffs. Some businesses indicated plans to move away from IBTs. Their reasons included equity, the possible ineffectiveness of IBT incentives, and easing water restrictions.

The Commission prefers a two-part retail water tariff because it promotes efficiency, it's simple, and it's consistent with the National Water Initiative's pricing principles. We also believe it best protects low income and vulnerable customers. However, businesses must have clear and well developed transition plans to accompany any changes to existing IBT structures, including shifting to a two-part tariff. We will consider the impacts of proposed changes on customers and transition strategies to mitigate them carefully.

Unbundling/disaggregated charges

We encourage water businesses to continue unbundling and disaggregating their costs to reflect the different elements of the supply chain (that is, storage, transport and retail costs). This is important for a number of reasons.

First, separating businesses' costs between different segments could be necessary for a third party access regime in Victoria. Such a regime would require businesses to understand costs about specific parts of their network.

Second, unbundling could assist businesses to benchmark their costs, either internally or against other businesses. This may generate cost savings and help identify the costs and benefits of pursuing postage stamp pricing or locational pricing.

Sewerage tariff

Like water tariffs, the Commission will review bulk and retail sewerage tariffs for Melbourne for the third regulatory period.

Bulk sewerage charges

Melbourne Water's bulk sewerage service charges comprise fixed service charges to each water retailer and volumetric charges (based on long run marginal cost) for the Eastern and Western Treatment Plants. Trade waste charges are based on measured load parameters and set based on long run marginal cost.

The bulk sewerage structure appears consistent with the Commission's tariff assessment principles. For example, it appears to provide appropriate signals to the water retailers and other parties to guide investment decisions in sewage treatment plants. Melbourne Water's approach to setting the volumetric charges also appears consistent with the assessment principles.

Retail sewage disposal charges

Retail sewage disposal charges in Melbourne are a two-part tariff comprising a fixed and a volumetric component. The volumetric component is based on the assumed volume of water coming into a property that is discharged into the sewerage system, adjusted for seasonal variation.

The Commission noted the widespread support for a single fixed charge for retail sewage disposal charges for residential customers in submissions to the Tariff Issues Paper. South East Water's submission expressed widely held concerns about the volumetric charge:

> *South East Water considers that the sewage disposal charge is not easily understood by residential customers given the complexity of its calculation. Given this, South East Water is reviewing the current charge…*

The Consumer Utilities Advocacy Centre (CUAC) also supported moving to a single fixed sewage disposal charge for residential customers:

> *Given that sewerage is unmetered and, moreover, the likely inelasticity of demand for sewerage services, CUAC sees little benefit to the use of a two-part sewerage tariff.*

The Commission believes that the marginal cost of sewage treatment is likely to be very low and would not provide a practical or effective signal to residential consumers. We are persuaded that the current system does not adequately reflect costs, nor is it easy for customers to understand. The Commission will consider proposals for a single charge for retail sewage disposal for residential customers favourably. Businesses proposing a single charge for retail sewage disposal will need to provide evidence that customers will be made aware of changes to sewage charges and that a transition strategy is in place, particularly for any customers experiencing substantial increases in costs.

The Commission supports using volumetric charges for nonresidential customers, given the higher cost of sewage treatment, the possibility of ascertaining the volume and strength of waste, and the effectiveness of price signals at this level.

Trade Waste

Most businesses use a load and risk based assessment to price trade waste, which we support. However, there may be opportunities to strengthen locational signalling in metropolitan Melbourne; that is, base trade waste charges on the marginal cost of treating discharge at the Eastern or Western treatment plants, or at local treatment plants. Retail water businesses must also consider the consistency of charges for bulk service and retail service provision.

Recycled water charges

Currently, recycled water prices are regulated using a combination of scheduled prices and pricing principles. Pricing principles apply for recycled water services for large nonresidential customers. Prices for third pipe recycled water services must be reflected in businesses' proposed tariff schedule and are subject to an annual price approval process.

For recycled water projects not included in the third pipe estates, the Commission endorses the pricing principles adopted at the 2008 price review. Prices should:

- consider the price of any substitutes, and customers' willingness to pay. This includes the possibility of the substitutability, in some cases (such as sewage disposal), of potable and nonpotable water
- cover the full cost of providing the service (except for services related to specified obligations or for maintaining the balance of supply and demand)
- include a variable component.

A business that does not propose to fully recover recycled water costs must demonstrate that:

- it assessed the costs and benefits of pursuing the recycled water project

- it clearly identified the basis to recover any revenue shortfall
- if the revenue shortfall is to be recovered from nonrecycled water customers
  - the project is required by Government obligations
  - the affected customers were consulted about their willingness to pay for the benefits of increased recycling.

Where a recycled water project cannot be priced at stand-alone costs, the recycled water price should be less than the potable water price. Further, prices must be based on a pricing mechanism that the business believes best meets the needs of its customers and the business. In the past, businesses set a price at a percentage of the potable water price, generally at the first tier of multiple-tiered potable water prices.

The Commission reaffirms our 2008 decision, which set out principles for allocating wastewater treatment costs among wastewater dischargers and recycled water customers:

- Where water is recycled as a least cost alternative to treating and disposing of effluent or to complying with discharge licence standards, the treatment costs should be recovered on a 'polluter pays' basis through sewerage and trade waste charges. Any revenue derived from the beneficial reuse of treated effluent must be used to offset sewerage and trade waste fixed charges.
- Revenue shortfalls from recycled water initiatives undertaken to meet specified obligations (including Government recycling obligations or supply and demand balancing) may be recovered from the general customer base through variable water charges, where such recycling confers benefits on all water customers (through improved availability or security of potable water supplies).
- The costs of discretionary projects (undertaken for environmental, social or other reasons not directly related to specified Government targets) should generally be recovered from recycled water users. However, where the broader customer base benefits (for example, from managing supply and demand or from improved environmental values), there may be a case for spreading an appropriate share of treatment costs across the broader customer base.

During the last price review, the metropolitan retailers proposed maintaining a two-part tariff for third pipe recycled water services with a variable charge pegged to the first tier price of potable water. They also proposed increasing recycled water charges at the same rate as the charges for potable water.

The Commission approved the retail businesses' proposals to set the variable recycled water charge for third pipe customers at the first tier potable water price while restrictions were in place. However, we required the retailers to revise their recycled water tariffs as water restrictions were eased during the regulatory period. We also required the retailers to develop a full pricing strategy to be implemented as water restrictions were eased in the next regulatory period.

Setting recycled water prices at the level of the first tier of multiple-tiered potable water prices will not be possible if businesses use a single block approach in the third regulatory period. These businesses must propose a new approach for pricing recycled water.

The Commission will examine proposals to ensure that:

- cross-subsidisation of recycled water by other water users is minimised
- planning for recycled water is part of coordinated system planning among water businesses where linkages between recycled water projects and other water projects (such as, water reuse or potable water infrastructure projects) are identified and utilised.

A key objective for the Government is to use recycled water (and stormwater and rainwater) to augment Victoria's water supply. The Advisory Council is considering a range of policy questions about recycled water tariff structures. The Commission will be guided by the outcomes of this review.

Water business should also consider the 2010 National Water Initiative Pricing Principles for recycled water and stormwater, which were endorsed by the Natural Resources Ministerial Council.

Rural tariffs

The Commission recognises that rural water businesses face different issues for tariff structures and pricing. They arise from differences in demand and supply balances in rural areas, the more specialised and commercial nature of rural water customers, and geographic and temporal differences in water usage patterns. We also note the work done by rural businesses to unbundle costs in the second regulatory period.

The Commission intends to apply the assessment principles set out in table 12.1 to assess rural tariff proposals for the third regulatory period (subject to the Commission's accreditation by the Australian Competition and Consumer Commission). These principles remain relevant, even though most charges applicable to the rural businesses are infrastructure (or nonwater) charges. Businesses may propose pricing principles for rural tariffs that relate to a very small proportion of revenue or are applicable to very few customers.

The Commission will place greater emphasis on appropriate customer consultation (see chapter 14) and customer impact assessments when considering rural tariff proposals for the third regulatory period.

Regulatory guidance for rural tariffs for Lower Murray Water and Goulburn-Murray Water has been provided by the Australian Competition and Consumer Commission (ACCC). Subject to our accreditation as the agency to carry out regulation according to the ACCC's, we will provide further guidance on our approach to assessing the rural tariff proposals of Lower Murray Water and Goulburn-Murray Water.

Miscellaneous charges

Water businesses provide secondary services for prescribed primary services (water, sewerage and irrigation). These are known as miscellaneous services and are also prescribed services under the WIRO. Common miscellaneous services provided by most businesses include:

- special meter readings
- connections, tapping services and meter installations
- water quality, flow rate and meter accuracy tests
- transfer of water entitlements/diversions licences
- property service plans and information statements.

Like the prices for primary prescribed services, each business should ensure that its Water Plan includes each miscellaneous charge it intends to charge during the regulatory period. For the most common miscellaneous tariffs, businesses should outline the:

- proposed miscellaneous price and tariff structure
- reasons for the proposal
- ability of customers to adjust their behaviour to respond to such a charge
- impact on customers (such as, changes to customers' bills).

For the remaining miscellaneous charges, the Commission reaffirms the principles set out in the 2008 price review. That is, prices for miscellaneous services must be set according to actual costs, based on the aggregate of:

- direct third party or contractor invoice cost
- direct marginal internal costs (including labour, materials and transport costs)
- a fair contribution to overheads.

Rural businesses may consider greater use of miscellaneous charges, where specific tariffs relate to a very small proportion of revenue or are applicable to very few customers.

The Commission recognises that there may be instances where it is unclear whether services are prescribed or not. In these cases, businesses should include the services in their Water Plans. It is preferable to remove nonprescribed tariffs once a proposal has been approved or determined than it is to amend the determination to included omitted tariffs.

Melbourne Water Waterways and Drainage charges

Melbourne Water provides drainage, waterways and floodplain management services in the greater Melbourne metropolitan area. This includes programs to improve the health of rivers and creeks, to improve stormwater quality, to provide drainage infrastructure to service urban growth and to provide sufficient levels of flood protection.

The Commission approved reforms to drainage and waterways charges in Melbourne in the 2008 price review. Previously, charges were based on 1990 property values and a uniform minimum price for all customers. The reforms phased out the property value charge and introduced fixed charges for residential and rural customers to better reflect the cost of waterways and drainage services.

Waterways and drainage charges for non-residential customers

The Commission expects reforms to improve cost-reflectivity in waterways and drainage charges for nonresidential customers to continue.

Reforms for charges to nonresidential customers have been partially implemented. For example, we approved Melbourne Water's proposal for a higher minimum charge, but otherwise charges are still based on property values.

Melbourne Water agreed to continue investigating options for further reform, and Government policy is focused on opportunities for better managing and expanding the use of stormwater. For example, charges could be based on property size and extent of impervious surfaces (such as concreted areas and roofing) as a proxy for quantity and quality of stormwater runoff.

Proponents of water sensitive urban design suggest that more innovative approaches to local management of stormwater may create stormwater infrastructure cost saving benefits as well as environmental and liveability benefits. These approaches could be used when new stormwater systems are designed or when existing stormwater systems are upgraded.

If reforms were proposed, the nonresidential sector seems the appropriate customer group for initial implementation. Many methodologies would be superior to deriving a charge based on land value and would better reflect how land use affects the permeability of land (how much water land is able to absorb), and therefore the need for waterways and drainage.

However, the benefits of a more cost-reflective charging structure must be weighed against factors such as ease of operation, administrative simplicity and customer impacts.

12.4 Summary of information requirements for Water Plans

Water Plans must specify the prices and tariffs that businesses propose to implement for each year of the third regulatory period. Businesses should also include estimates of likely prices until at least 2022-23. These estimates could be a range of prices, within reasonable bounds.

Water Plans must contain sufficient information to justify prices and tariff proposals to the Commission. Businesses must articulate their tariff strategy and highlight any major changes since the second regulatory period. Businesses should consider customer impacts and any strategies to address them.

Water Plans should specify and justify each tariff it proposes to apply in the third regulatory period. Where appropriate, this should include information on:

- bulk water
- bulk sewerage
- retail water (residential and nonresidential)
- retail sewerage (residential and nonresidential)
- trade waste
- irrigation
- stock and domestic
- recycled water
- customer contributions
- urban drainage
- irrigation drainage
- diversions
- miscellaneous services.

In each of the relevant areas above, Water Plans should outline:

- relevant background information about the service and recent pricing history
- a table outlining the current and proposed tariff structure. Prices must be reported in real terms (consistent with the Commission's financial template). Each price proposed in the body of the Water Plan must directly correspond with a price in the financial template
- the manner for applying or the tariff, for example, billing period, customer class, applying prices via connection or meter size

- the reasons for the proposed tariff schedule, including clearly identified principles underlying the proposal
- the relationship between the proposed price for a service and the associated long run marginal cost
- the impacts of the proposal on customers and strategies to address impacts
- discussion on the consultation the business conducted to develop the proposal.

This information is particularly important if businesses propose new tariff structures or tariffs that will significantly affect customers.

13 TARIFF CHOICE

Key points

- The Commission supports water businesses examining ways to increase choice for water tariffs and service offerings in the third regulatory period. The Commissions regulatory framework will facilitate the introduction of customer tariff choice, should businesses elect to offer choice.
- Prior to authorising a business to offer tariff choice, the Commission must be satisfied that introducing alternative tariffs will not undermine a business's sustainable revenue stream. The Commission must also be satisfied that customer interests are maintained, which will require changes to the Commission's customer protection framework.
- Businesses choosing to offer tariff choice must propose a set of default tariffs — in accordance with the tariff assessment principles in chapter 12 — to meet their identified revenue requirement.
- Regulated revenue will always be calculated based on default tariffs rather than the actual tariffs applying to customers. Businesses will therefore bear the full risk of any under-recovery of revenue.
- The default tariffs would apply to all customers, unless customers explicitly consent to opt in to alternative tariffs, as occurs in other regulated industries such as energy.

13.1 Introduction

Promoting customer choice is a common theme of many water industry forum discussions. The Essential Services Commission (the Commission) supports water businesses examining ways to increase choice for water tariffs and service offerings in the third regulatory period.

The Commission's Tariff Issues Paper released in July 2011 sought to open discussion about allowing water businesses scope to offer alternative or innovative tariffs to customers, and possible changes to the regulatory framework to facilitate increased choice.

The *Water Industry Regulatory Order* (WIRO) requires the Commission to approve all the prices a water business may charge, or the manner for calculating or determining such prices if procedural requirements and regulatory principles are met (see section 8(a) of the WIRO). If we are not satisfied that procedural requirements and regulatory principles have been met, the Commission may specify the prices that will apply.

The Commission can discharge its obligation if a business's Water Plan includes proposed alternative tariffs or the manner for calculating or determining the voluntary prices. Businesses proposing to offer alternative tariffs must explain how tariffs will be charged in Water Plans. However, the Commission must be satisfied that introducing alternative tariffs will not undermine a business's sustainable revenue stream (as required by section 14(1)(a)(i) of the WIRO). We must also be satisfied that customer interests are maintained.

This chapter discusses customer choice, the Commission's approach to introducing greater choice, and how we will assess proposals for greater customer choice and related requirements for Water Plans. It builds on the Commission's Tariff Issues Paper and the responses of water businesses and other stakeholders.

13.2 Views on customer choice

The Commission explored how the regulatory framework could allow for a greater customer choice around tariffs and service offerings in the Tariff Issues Paper. Our approach is for 'default tariffs' to apply to all customers except those who explicitly chose contracts specifying alternate tariff and service arrangements.

Businesses could promote greater customer choice on:

- the structure of tariffs — customers and water businesses could alter the existing price and service package, and allow customers to accept greater risk to better meet their preferences (for example, increasing the proportion of charges relating to variable water consumption). We have called these voluntary prices.
- additional services — for example, where customers pay an additional charge to reflect services offered beyond those set by our determinations. This could include customers choosing packages that favour environmental outcomes (such as water for the environment and carbon offsets) and those promoting other community outcomes (such as charitable donations).

Stakeholders expressed a range of views when responding to the Tariff Issues Paper. Most businesses supported increased choice and some indicated that they were exploring increasing tariff and service choice for the third regulatory period, albeit in a limited way. For example, Yarra Valley Water agreed that it might be appropriate to further test some concepts (relating to customer choice) through pilot projects.

South East Water supported greater flexibility to allow businesses to introduce 'optional choice tariffs' and products during the third regulatory period. This could be facilitated using more flexible price control mechanisms for the default tariffs, and then allowing businesses to determine appropriate charges for optional choice tariffs using a set of choice pricing principles. Other water businesses, such as

Wannon Water, recognised the merits of alternative tariff and service offerings, but indicated they would not pursue choice in the third regulatory period.

Coliban Water was actively considering an option where customers choose and stay on an alternate tariff for at least one year. This option addressed the possible adverse effects for businesses of customers changing tariffs regularly (such as customers opting for a variable-only tariff during winter and a low variable tariff during summer).

Most submissions recognised that consumer information and education is necessary to support informed decision making by customers. The Consumer Utilities Advocacy Centre (CUAC) noted introducing tariff options is a major change that would affect consumers. It commented that '… the extent of this change and consumer needs in relation to it should not be underestimated'.

The Victorian Council of Social Services (VCOSS) stated that it does not oppose innovation or choice in water tariffs in principle, but that comprehensive information and issues of consent are critical. Water, like energy, is a relatively low-engagement product and most households have little interest in choosing between product offerings. VCOSS observed for the energy market that customer benefit emerged through price competition rather than tariff innovation.

The Commission supports businesses exploring greater choice for tariffs and service offerings in the third regulatory period — particularly in response to clearly identified customer preference for tariff choices. We recognise that tariff innovation can improve outcomes for consumers; customers could accept greater risk and better meet their preferences. For example, a customer might choose to opt in to a fully variable tariff or elect to be subject to greater or lesser water restrictions during water shortages.

We also recognise that some businesses may not wish, or be in a position to, offer customers greater choice in the third regulatory period. The Commission is not mandating the introduction of choice; this is a commercial decision for each water business, based on the value that choice offers to customers. We also recognise that changes to the customer protection framework are likely to be necessary to help consumers realise the potential benefits of customer choice.

13.3 Commission's approach for the introduction of greater choice

We anticipate some businesses will propose alternative tariff and service offerings in the third regulatory period. The Commission's approach for introducing greater choice was broadly outlined by the Chairperson in a speech to the water industry in September 2011.[10] Business proposals for increased tariff and service choice must comply with this approach and the detail provided below.

Businesses must propose a set of default tariffs — in accordance with the tariff assessment principles in chapter 11 — to meet their identified revenue requirement. The default tariffs would apply to all customers. However, businesses may offer customers alternative contracts involving other tariff structures, and/or tariffs for additional services covering unregulated activities (such as environmental services).

Businesses can develop and offer customers alternative tariffs at their discretion, so long as they meet certain conditions. Customers must explicitly consent to opt in to alternative tariffs, as occurs in other regulated industries such as energy.

Key issues for the Commission to consider will be that the interests of customers are protected, including in terms of the presentation of information to customers, how to obtain explicit informed consent, and how to protect customers' rights.

The Commission will monitor any introduction of tariff choice to ensure that the intended benefits of flexibility for businesses and customers are realised.

Businesses will bear risks of greater tariff and service choice

Water businesses will bear the risks associated with any *voluntary prices* offered to customers under our approach. If customers choose voluntary tariffs and businesses forfeit potential revenue as a result, the Commission will not consider that loss to reopen prices or to authorise prices in the next regulatory period.

In other words, regulated revenue will always be calculated based on default tariffs rather than the actual tariffs applying to customers. Conversely, the Commission will not attempt to recover any additional revenues that businesses generated by more customers signing up to voluntary prices.

Therefore, businesses proposing voluntary prices must be satisfied that they have the financial expertise and capacity to understand and manage all associated risks.

Businesses may also offer *additional* opt-in services to customers through tariffs. Additional services must be non-regulated services, such as those prompting environmental outcomes and services beyond those mandated by Government. Costs associated with additional opt-in services will not be reflected in a businesses' approved revenue requirement. Some businesses may need to revise downwards estimates of expenditure (compared with the second regulatory period) to reflect a narrower definition of noncontractual obligations (see chapter 10).

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[10] Ben-David, R. 2011, 'Economic regulation of the water sector: how can we know the dancer from the dance?', Paper presented at the VicWater Annual Conference, Creswick, 8 September.

Coliban Water noted that not all customers might wish to pay for their business to achieve environmental and social objectives (beyond those specified in key performance indicators) in its submission on the Commission's Tariff Issues Paper.

Under the Commission's framework, these options could be offered separately to customers wishing to pay for them as add-ons to the bill. Further, no other customer should be worse off as a result.

Customer protection framework

Introducing choice would require changes to the customer protection framework and the information that water businesses provide so that customers can realise the benefits of choice. This includes changes to ensure that customers are protected about choice of tariffs and prices.

If businesses propose to introduce choice in their Water Plans, then we will consult with stakeholders on supporting changes to the customer protection framework. This will include considering changes to the Commission's Customer Service Codes.

Experience with other sectors indicates that choice introduces a range of market conduct issues that must be adequately managed. It also requires that customers receive sufficient information to make informed choices.

Water businesses must release information about a customer choice framework. It must include information on the terms and conditions offered to consumers, switching rules, comparison tools, and cooling off periods. As a minimum, water businesses must clearly communicate any benefits or costs of tariffs to customers.

13.4 Commission's approach to assessing proposals about choice

Before the Commission approves introducing alternative tariffs, businesses must demonstrate that offering alternative tariffs is consistent with the business earning a revenue stream that covers efficient costs and that tariffs account for customer interests. Businesses proposing to introduce choice must demonstrate:

- a well developed customer choice strategy, a clear statement of objectives, and clear communication, implementation and monitoring plans
- there is evidence of sufficient customer demand for choice (or prospective demand) that will generate net benefits to the business and customers
- a customer choice strategy is consistent with Government policy
- there is clear communication with customers so that target customers understand the tariff options and compare them to the standard default tariff
- choice strategies are based on explicit informed consent by customers

- businesses have the capacity (including financial capacity) to introduce and manage risks associated with introducing customer choice
- the administrative arrangements for differences in services are practical (that is, that administration costs do not exceed the benefits of choice)
- proposed tariff options are reasonably reflective of the efficient costs of providing the service including differences in risks associated with that service
- the associated costs of providing choice are efficient, proportionate and do not increase costs for customers on the default tariff (associated costs include administration, information, metering, billing and customer service costs)
- alternative tariffs will not undermine the sustainable revenue stream and will allow businesses to recover efficient costs.

13.5 Summary of information requirements for Water Plans

Water Plans must provide information to enable the Commission to assess proposals for introducing customer tariff choice against the criteria set out at 13.4. Businesses should indicate the anticipated scale of the rollout of customer choice (for example, through a pilot project or a rollout to a segment of customers).

Water Plans must also:

- identify and define each alternative tariff that businesses propose to offer customers.

For each alternative tariff:

- explain the rationale for offering the alternative tariff (including references to customer consultation and demand)
- identify the proposed charges that will apply for the first year of the third regulatory period (including the proposed fixed and variable components of any multi-part tariffs) and how prices will be determined in subsequent years
- for customer choice relating to additional services, clearly define the services that will be provided, how these services represent value for customers beyond existing services and the cost of such services
- identify the proposed market segments to which the tariff will apply (for example residential, nonresidential, and owner-occupiers/tenants)
- identify whether there will be a set term for the alternative tariffs
- identify the process for opting in (or out) of tariffs
- provide any information on cooling off periods and termination fees.

14 CUSTOMER CONSULTATION

Key points

- Businesses must undertake broader and more in depth customer consultation on the content and presentation of their draft Water Plans, and following the release of their draft Water Plans, than in the past.
- Consultation with customers should focus on those areas where customers have the capacity to provide the most input – this will primarily relate to service priorities and pricing.
- At all stages of the price review process, information should be readily available and presented in a style and language that is meaningful to customers
- In their consultations, businesses must emphasise clearly any discretionary spending, expenditure on innovation, and above-government implied targets on levels of emissions, including who will receive benefits and bear costs. Businesses must also outline how these projects affect prices and bills both individually and cumulated across all discretionary spending.

14.1 Introduction

The level and extent of customer consultation differed among businesses for previous price reviews. For example, many businesses consulted customers to prepare their draft Water Plan, but not all of them consulted on the draft Water Plan itself. The methods and number of customer consultations also varied, as did the information businesses presented in the Water Plans about consultation.

14.2 Commission's expectations for business consultation with customers

Businesses must undertake broader and more in depth customer consultation on the content and presentation of their draft Water Plans, and following the release of their draft Water Plans, than in the past.

Key service and price information must be accessible to customers during all phases of the Water Plan development and submission process.

Draft Water Plans must clearly set out information that enables readers to easily understand the prices and tariff structures proposed, provide a summary of proposed major projects and service outputs and the rationale for them, and include information so that customers can easily understand service and price trade-offs (including how major projects may affect prices and bills).

We also encourage businesses to explore other ways to engage customers as they develop their Water Plans, including using targeted fact sheets, newsletter inserts in bills or electronic media.

The Essential Services Commission (the Commission) may reject elements of a business's pricing proposal for regulatory period three if we consider that consultation was ineffective or inadequate. Each business must:

- consult with customers during preparation of the draft Water Plan, and on the draft Water Plan itself when it is complete
- set out in the final Water Plan customers' preferences and the steps the business took to understand customers' views in preparing the Water Plan
- demonstrate how the business's long and short term strategy reflects customers' views about tariffs and services
- set out how it used the results of surveys on customers' preferences in cost–benefit analysis of major projects.

The Commission expects businesses to use a variety of means to capture and reflect customer views and priorities, including:

- customer surveys
- willingness to pay studies
- special interest group or focus groups
- public meetings and forums
- consultation committees, including customer service committees
- newsletters
- bill inserts
- consultation with peak bodies and customer groups
- other market research
- on-line media such as websites, forums or social media
- written submissions
- complaints data.

The Commission expects customer consultation to:

- focus on areas where customers can provide meaningful input, such as key areas of priorities, target outcomes, tariff structure, price levels and price path
- explore and understand customers' expectations and priorities and what they value about water and sewerage services for the third regulatory period and over the longer term (for example, water security versus water quality, price restraint versus service improvements)
- link proposed service outcomes to prices and bills
- explore willingness to pay for major capital projects, outlining how these projects affect prices and bills
- emphasise clearly any discretionary spending, expenditure on innovation, and above-government implied targets on levels of emissions, including who will receive benefits and bear costs, and outline how these projects affect prices and bills both individually and cumulated across all discretionary spending
- consider the overall level of tariffs as well as the structure of tariffs to get customers' views on possible price shocks that may result.

14.3 Summary of information requirements for Water Plans

The Commission requires businesses to include a section on customer consultation in Water Plans. It should include the following information:

- the objectives of the consultation
- the steps involved in the consultation process and the expected deliverables in each step
- consultation methods and key dates and
- how customer consultation is reflected in business proposals relating to services and tariff levels and structures.

The draft Water Plan should:

- summarise feedback received from customers and other stakeholders during consultation prior to the draft Water Plan
- explain how the draft Water Plan addressed feedback.

The final Water Plan should:

- summarise feedback received from customers and other stakeholders during consultation on the draft Water Plan itself

- explain how the final Water Plan addressed feedback.

Businesses must demonstrate that they considered customer feedback throughout their Water Plan, for example, in chapters on service standards and outcomes, prices, and expenditure.

14.4 Seminar on customer consultation

The Commission will hold a seminar on customer consultation following the release of this paper. Details on the seminar are forthcoming.

15 NEW CUSTOMER CONTRIBUTIONS

Key points

- The Commission is working with stakeholder groups to develop a new customer contributions guideline to clarify the application and interpretation of scheduled charges and pricing principles for customer in new developments.
- This will inform the Commission's decisions on the price arrangements to apply for the third regulatory period.
- The Commission expects to finalise details of the framework by June 2012, based on input from the water industry and the developer industry.
- Given the ongoing development of the new customer contributions guideline, as they develop draft and final Water Plans, businesses should estimate revenue and prices for new customer contributions on the basis of the approach in the current determinations. Further guidance will be provided following the completion of the new framework.

15.1 Introduction

New customer contributions, also known as developer charges, are charged by water businesses on customers for the provision of infrastructure to service land. Water businesses generally require new customers to make an upfront contribution to the costs of connecting to the existing water and sewerage networks. Existing property owners may also contribute to the cost of new infrastructure when they connect to additional services.

Part of the Essential Services Commission's (the Commission's) role in regulating the prices and service standards of water businesses under the *Water Industry Regulatory Order* is to approve new customer contributions or the method by which they are calculated.

The existing price determinations (issued in the 2008 and 2009 price reviews) include scheduled charges and pricing principles for new customers.

The determinations require new customers to:

- pay scheduled charges based on lot size
- provide reticulation assets

- provide temporary assets in some circumstances
- contribute to bringing forward shared distribution assets sooner than planned in some circumstances.

15.2 Key issues during this regulatory period

The scheduled charges and pricing principles for customers in new developments are inherently difficult and complex to apply. Many developers and water businesses approached the Commission to resolve disputes and provide guidance about applying pricing principles during the second regulatory period.

The main issues included:

- lack of clarity about how to calculate and apply scheduled charges and pricing principles
- lack of consistency between water businesses when applying pricing principles.

This may reflect confusion about what the defined service is, and therefore uncertainty about which assets to include in deriving a cost for the service.

The Commission tried to address these issues by revising the new customer contributions guideline and preparing a set of case studies in May 2011. The case studies use practical examples to show how the Commission interprets the pricing principles and scheduled charges under the existing price determinations.

15.3 Next regulatory period

The Commission is working with stakeholder groups to address these issues before the third regulatory period starts. This work will run in parallel with the price review. We expect to finalise details of the agreed framework by June 2012.

A key objective of the Commission in developing the new customer contribution framework for the next regulatory period is that it should be principles based, and easy to understand and administer. We will develop an agreed set of principles and outcomes, based on input from the water industry and the developer industry. The principles and outcomes matrix being explored with water businesses is outlined in table 15.1.

Table 15.1 Principles for new customer contribution framework

Principle	*Criteria*	*Overarching outcomes*
Efficient	Charges should be efficient and linked to services	Nexus between costs and benefits
Equitable	There should be fairness between new and existing customers	
	There should be fairness between comparable developments	
Consistent	There should be alignment between regulatory–legislative and operational practices	
Simple to administer	Charges should be transparent	
	Charges should be appealable	

15.4 Interim arrangements

The Commission expects that water businesses will propose prices for new customer contributions that are consistent with the regulatory principles contained in the *Water Industry Regulatory Order*. The Commission can reject pricing proposals that do not demonstrate these principles.

Water businesses should continue to develop draft Water Plans on the basis of existing arrangements set out in their determinations. Further guidance including the need for a transition plan to be developed by each businesses will be provided following the completion of the new framework in June 2012.

APPENDIX A

Table A.1 Categorising and defining risk

Risk category	*Risk definition*
Inflow	Inability to meet customer demand at acceptable standards caused by extended period of low rainfall and inflows. This risk is historically defined based on past probabilities. Future inflows may be increasingly uncertain due to climate change. For many Victorian water businesses, inflow risk is affected by increased climate variability and can be efficiently managed by developing a portfolio of supply options and real options analysis. We believe that inflow risk has been substantially mitigated in the short to medium term (including in the third regulatory period) by recent major supply augmentations. The Government is reviewing how to manage inflow risk better in the long-term. This is discussed in the sections on supply planning.
Demand	Risks to revenues and costs caused by deviations between forecast and actual demand. This risk can be managed by measures including effective demand forecasting and appropriate bulk and retail pricing structures.
Operational	Risks that arise from executing the water businesses' functions and affect the day to day delivery of water related services. The risk could result in a general service failure including breach of health or environmental requirements, continuity of supply, or customer performance standards. They include events that result from: • inadequate or failed business processes and/or systems • asset failure • external events. These risks are generally well understood by the water businesses and are typically managed through contracts, operating policies, maintenance, insurance and internal risk oversight by management and board.

Construction	Risks arising from underestimating costs or experiencing project delays that cause cost overruns. Construction risk may result from: • forecasting error • poor management or contract specification • changes in the cost of raw materials (for example, due to changes in exchange rates or level of economic activity) • unforeseen circumstances. These risks are often allowed for by including a contingency to the forecast capital cost of the project. The more detailed the cost estimate and the closer the project is to completion the smaller the contingency allowance. We expect that this risk will be included in the water businesses' forecast capital expenditure, using a P50 estimate of project costs.
Flooding	Risk to properties from flooding. Melbourne Water manages this risk by planning and delivering drainage infrastructure to service urban growth and provide a safe level of flood protection for communities.
Regulatory	Risks resulting from a change in laws and regulations that materially affect a security, business, sector or market. They can increase operating costs, reduce the attractiveness of investment and/or change the competitive landscape. Generally, we expect regulatory risks that materially affect businesses to be treated as a pass through.
Environmental	Risk of water businesses adversely affecting the environment. This includes risks that affect: • the availability and quality of water resources • the quantity and quality of raw water caused by operational failure. These events are generally caused by operational failures or breaches of obligations (for managing wastewater or sewerage and environmental flows, for example). This risk is managed by planning capital investments that comply with environmental standards and ensuring appropriate operating and risk management policies and procedures are in place.
Policy	Risk of a material policy change that alters the expected outcome and value of an economic action by changing the probability of achieving business objectives. The probability and consequence of policy changes are often uncertain. This risk (or uncertainty) includes:

	• government changes to the regulatory framework (see above) • legislation that alters the status of the water industry, introduces new environmental costs, or changes taxation (such as imposing a windfall tax on the companies) • policy decisions, which are often influenced by wider societal concerns and changing attitudes to risk (for example, following specific adverse events such as flooding or major operational failure). Generally, we expect policy changes that have material consequences on businesses to be treated as a pass through.
Financial	Risks arising from factors that affect the whole economy, such as general economic downturn, that increase financial cost. They may also arise from increases in the cost of capital that occur subsequent to regulatory settings being made. Financial risk is quantifiable and is generally managed and allocated through financial markets.
Business	Risk of loss of revenue arising from new technology, innovation or loss of customers to a competitor. Historically, these risks have not been significant in the water industry but they may become more important in the future. For example, technology is changing rapidly, and government policy may increase competition.

APPENDIX B

Table B.1 Core service standards —– metropolitan retail and regional water businesses

Water
Unplanned water supply interruptions (per 100km)
Average time taken to attend bursts and leaks (priority 1) (minutes)
Average time taken to attend bursts and leaks (priority 2) (minutes)
Average time taken to attend bursts and leaks (priority 3) (minutes)
Unplanned water supply interruptions restored within 5 hours (per cent)
Planned water supply interruptions restored within 5 hours (per cent)
Average unplanned customer minutes off water supply (minutes)
Average planned customer minutes off water supply (minutes)
Average frequency of unplanned water supply interruptions (number)
Average frequency of planned water supply interruptions (number)
Average duration of unplanned water supply interruptions (minutes)
Average duration of planned water supply interruptions (minutes)
Number of customers experiencing 5 unplanned water supply interruptions in the year (number)
Unaccounted for water (per cent)
Sewerage
Sewerage blockages (per 100km)
Average time to attend sewer spills and blockages (minutes)
Average time to rectify a sewer blockage (minutes)
Spills contained within [X] hours (per cent)
Customers receiving more than [X] sewer blockages in the year (number)
Customer service
Complaints to EWOV (per 1000 customers)
Telephone calls answered within 30 seconds (per cent)
Minimum flow rates
Flow rate (litres per minute)

Table B.2 Core service standards — rural water businesses

Gravity supply
Irrigation water orders delivered on day requested (per cent)
Stock and domestic deliveries within [X] days of the initial target delivery period (per cent)
Number of channel burst and leaks (per 100 km of channel)
Unaccounted for water (per cent)
Pumped supply
Irrigation water orders delivered on day requested (per cent)
Number of pipeline bursts and leaks (per 100 km of pipeline)
Unavailability of stock and domestic supply systems for continuous periods in excess of [X] hours (per cent)
Unaccounted for water (per cent)
Irrigation drainage (by district/supply system)
Availability of surface drainage schemes (per cent)
Availability of sub-surface drainage schemes (per cent)
Bulk water
Annual compliance with storage operator obligations (per cent)
Licensing/administration
Applications for surface diversion, groundwater or supply-by-agreement licences determined within [X] days (per cent)
Processing permanent transfer of surface diversion or groundwater licences within [X] days (per cent)
Processing temporary transfer of water entitlement volumes within [X] days (per cent)
Processing permanent transfer of water entitlement volumes within [X] days (per cent)
Number of diversion licences metered or assessed for metering at 30 June (per cent)
Volume of total surface water and groundwater entitlements metered at 30 June (per cent)
Customer service
Complaints to EWOV (per 1000 customers)
Telephone calls answered within 30 seconds (per cent)

Table B.3 Service standards — Melbourne Water

Water
Aggregated water pressure compliance with Bulk Service Arrangements at interface points (per cent)
Aggregated water quality compliance with Bulk Service Arrangements at interface points (per cent)
Micro-biological standards (*E.coli*)
Disinfection by-products (Trihalomethanes and chloracetic acids)
Aesthetic standards (turbidity)
Aesthetic standards (aluminium)
Leakage (percentage of water supplied)
Sewerage
Sewer spills and overflows (number)
System failure
Hydraulic deficiency
Odour complaints

APPENDIX C

Supply planning, climate variability and real options analysis

This section provides additional guidance on water supply (and sewerage) planning issues for businesses as they develop capital expenditure (and to a lesser extent operating expenditure) proposals. It discusses the Commission's desire for a more strategic approach to investment planning, the issues that are subject to government policy consideration, and the implications for the Water Plans. It also contains suggestions for water businesses about how to demonstrate that expenditure proposals are optimal system-wide and our views on increased climate variability, and real options analysis.

Water supply and sewerage planning

Water supply and sewerage planning encompasses planning to provide of all forms of fit for purpose water supply and all parts of the supply chain. It includes:

- planning for potable water from a range of sources, including alternative water (recycled water, storm water reuse)
- investment in harvesting, storage and treatment
- transport to customers.

Water supply (and sewerage) planning is important for growth and renewals, as well as compliance and service improvements. It is affected by government policy (including the options that can be considered), institutional arrangements, information and forecasts, the types of analytical tools, and businesses governance arrangements, policies and procedures.

The third regulatory period provides water businesses with an opportunity to change their approach to water supply and sewerage planning. A more strategic approach is needed to account for:

- the capital intensive, long lived nature of most water supply options
- rapid population growth
- risk and uncertainty, particularly climate variability
- emerging government policy initiatives (to improve pricing and incentives, to integrate urban and water planning objectives, and to increase contestability).

These factors are discussed below.

Long life assets

Generally, water and sewerage related investments are long lived and are capital intensive; a large proportion of costs are determined and sunk when investment commitments are made. Therefore, strategic supply planning is critical to achieve the desired outcomes and minimise service provision costs for customer and the community.

Rapid population growth

Melbourne and some regional centres are expected to grow rapidly over the next 20 to 30 years. Recent major augmentation projects have substantially improved the supply position for Melbourne and regional urban authorities, but better water supply planning arrangements will make it easier for water businesses to manage population growth pressures.

Risk and uncertainty

Recent reviews highlight the need for supply planning to better account for risk and uncertainty, and to improve the diversity of the portfolio of future supply options. Many expect climate variability to increase, which creates significant challenges for planning water supply, and also for managing flooding risk (through storm water management).

Policy initiatives

Policy reforms focus on creating market based incentives for investment, valuing water more efficiently and improving information. Policy decisions on these issues could significantly effect supply planning.

There are also policy discussions about better integrating urban and water planning objectives. The Advisory Council advising the Minister states:

> *'… choices made when master-planning the structure for urban development of greenfield sites significantly affects the water cycle, amenity of public spaces and urban heat. These choices influence the outcomes that can be achieved later at the subdivision, or allotment stage.'*[11]

Some consider that Integrated Water Cycle Management (IWCM) planning approaches (which account for the interactions between water, waste water and storm water) can provide good options for meeting customer, community and environmental outcomes. Changing policy to integrate urban and water planning (and facilitate IWCM) will require significant changes to supply planning arrangements.

Some policy initiatives could increase contestability; for example, introducing a licensing regime for private sector service providers or introducing a third party access regime. These policies would require significant changes to the supply planning arrangements.

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[11] Ministerial Advisory Council for the Living Melbourne 2011, *Living Victoria Plan for Water, Living Melbourne, Living Victoria Roadmap*, p. 5.

Implications of government policy review

Government policy may affect future supply planning. We recognise that water businesses require clarity about policy changes as they prepare for Water Plans third regulatory period. However, it is not yet clear what policy reforms the Advisory Council may recommend to the Minister, how the Government will respond, or what the timeframes will be.

Therefore, the Commission cannot provide definitive guidance about all aspects of supply planning at this time. We may need to revisit some issues and provide further guidance as the Government announces policies. Businesses should not include matters the Government is still considering in Water Plans, but they may need to include additional operating expenditure so that they can respond to Government decisions.

Optimal expenditure

The *Water Industry Regulatory Order* (WIRO) requires the Commission to be satisfied that prices do not reflect any inefficient expenditure (s.14 (1)(a) (i)). We consider this to mean that capital and operating expenditure proposals must not be inefficient when assessed on a system-wide basis.

We are concerned that some alternative supply capital expenditure proposals developed by some businesses for the 2008 and 2009 price reviews were suboptimal when assessed on a system wide basis. This contrasts with the first regulatory period when water businesses established coordination arrangements to select the best recycled water projects.

We consider that, to the extent that policy changes have not been implemented to improve coordination that the water businesses should establish a process that demonstrates to us that the proposed capital expenditure related to water supply contained in each Water Plan is efficient on a region wide basis. We suggest an arrangement that all proposed expenditures be independently reviewed against a set of agreed principles, such as:

- a common set of demand and supply projections
- agreed forward looking water valuation benchmarks
- an assessment of portfolio of options that account for risk and uncertainty, including climate change variability.

We welcome businesses' views on this proposal and any alternatives for meeting WIRO requirements.

Climate variability

Climate variability and risk is an enduring feature of urban water supply and sewerage management. The Advisory Council and other agencies believe that current climate variability will be exacerbated by the longer term effects of climate change.

Many believe that the climate is changing is and extreme weather events will increase, although when and by how much is unknown. The Advisory Council noted that '… in order to operate efficiently and effectively into the future, the water industry needs to develop its resilience, adaptability and flexibility to extreme weather events.'[12]

Climate variability affects supply planning and capital expenditure proposals in two ways. First, water businesses must manage extreme rainfall events, particularly the design and sizing of built infrastructure for managing stormwater. They must also consider the effects of extreme rainfall on water quality and sewer infiltration.

Water businesses must demonstrate that capital investment proposals affected by extreme rainfall events comply with relevant regulations and standards. Proposals may need to consider sound science and evidence, and analysis of risk and uncertainty. Where relevant, proposals should reflect the value that communities and households place on mitigating the risk of extreme weather events.

Second, businesses must balance supply and demand with the potential for longer or more extreme drought periods. This is considered further in the next section.

Real options analysis

Historically, financial analysis and capital allocation decisions by water businesses are characterised by:

- a small number of large water supply and sewerage decisions (often made over many years)
- mature supply technologies
- discounted cash flow analyses to evaluate individual investment options and separate analysis (such as sensitivity analysis) to assess relative risks associated with a supply option.

Real options analysis assumes that many investment options are flexible and can be adjusted over time. Many investments can be developed in stages; they can be deferred, changed, decelerated, accelerated or cancelled. Investment flexibility is important to allow for uncertainty and learning. Water planners do not know precisely what will happen in future, but they may learn more over time.

Compared with traditional approaches, real options analysis (if properly applied) can improve financial analysis and capital allocation in the face of risk and uncertainty. It can help businesses develop and manage a portfolio of options that create economic value by better managing risk and uncertainty.

It has two principal benefits for the current urban water industry environment. First, it provides a more disciplined way of dealing with risk and uncertainty, especially climate related risk and uncertainty. It can also assist with other uncertainties,

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12 Ministerial Advisory Council for the Living Melbourne 2011, *Living Victoria Plan for Water, Living Melbourne, Living Victoria Roadmap*, p 5

including those associated with innovative solutions; or future regulatory, community and policy views about nontraditional supply solutions.

Second, real options analysis can help businesses develop a portfolio of smaller scale supply options. It may be useful where investment options are uncertain, but flexible, such as planning stormwater capital expenditure.

There are a range of ways to apply real options analysis:

- It can be used as a way of thinking (without using complex economic analysis).
- It can be a formal analysis process, using economic models.
- It can be incorporated into a business's formal planning and decision making processes.

There are various techniques used to undertake real options analysis. Research by Water Services Association of Australia suggests the risk-adjusted decision-tree method is a practical (although sometimes challenging) approach.

The Commission will accept capital expenditure proposals based on real options analysis, subject to businesses providing appropriate supporting information and justification. We expect supporting information to include:

- a clear statement of the issues and how real options was used (for example, as a way of thinking or a formal analysis)
- clear technical explanation of any formal analysis, including details about metrics used, sensitivity analysis about important uncertainties, the analysis method, the alternatives evaluated, data, and assumptions
- a nontechnical summary of the conclusions of the real options analysis that is easy to understand.

Water businesses already adjust actual capital expenditure during the regulatory period compared with the benchmarks used to determine the revenue requirement. Capital expenditure allowances based on real options analysis may require further adjustments between actual and allowed capital expenditure during the regulatory period. Water businesses may need to account for this when they plan how to manage and allocate risk, including the form of price control and tariff structures (see chapter 3).

We recognise that real options analysis is a new approach for the water industry. We encourage any business considering using it to engage with the Commission early so that we can understand how businesses plan to conduct the analysis and so that we can discuss the supporting information we expect in more detail.

There may be value in industry wide learning and capacity development, for example, by developing case studies and conducting workshops. We encourage the water businesses to consider initiatives that may be appropriate in this area.