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2008 WATER PRICE REVIEW CONSULTATION PAPER

FRAMEWORK AND APPROACH

DECEMBER 2006

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HOW TO RESPOND TO THIS PAPER

We encourage as many stakeholders as possible to provide comment on the issues raised in this consultation paper.

The responses received will assist the Commission in finalising its guidance to the water businesses.

Written submissions or comments are due by 12 February 2007.

We would prefer to receive them by email at water@esc.vic.gov.au.

You can also send comments by fax (03) 9651 3688 or by mail to:

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Our normal practice is to make all submissions publicly available on our website. If you do not have access to the website, you can contact Commission staff to make alternative arrangements to view copies of the submissions.

We may choose not to publish a submission where it contains confidential or commercially sensitive information. If there is information that you do not wish to be disclosed publicly on the basis that it is confidential or commercially sensitive, you should discuss the matter first with Commission staff.

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1.1 The 2008 Water Price Review

The Commission will commence reviewing the prices to apply to water and sewerage services provided by Victoria's 20 water businesses for the second regulatory period in 2007. This will be the first time that proposed prices for the rural and urban businesses will be reviewed at the same time.

As a part of the review the Commission expects that businesses will be required to submit draft Water Plans in May 2007. The Commission is required to assess the Water Plans against certain principles outlined in the Water Industry Regulatory Order (WIRO) and decide whether to approve or specify the prices or the manner in which prices are to be determined for the services provided by these businesses over the regulatory period.

In deciding whether to approve a business's proposed prices, the Commission must be satisfied that they provide the business with sufficient revenue over the regulatory period to meet its obligations and deliver the level of service required by customers.

The Commission is required to assess the detailed assumptions underpinning the businesses' proposed revenue requirements for the regulatory period. The businesses' expenditure forecasts must reflect efficient costs of supply and the program of work proposed by each business must be deliverable over the period. The businesses' forecasts of demand and supply (which affect both expenditure and prices) must also be reasonable and reflect the best available information. Customer service standards proposed by each business must also be clear, appropriate and reflect the needs and interests of customers.

The Commission must also be satisfied that prices provide appropriate signals about the costs of providing services and incentives for sustainable water use, and take into account the interests of customers.

The Commission's approach to assessing proposed prices is characterised by three steps. The first step involves establishing the service standards and other outcomes that a business proposes to deliver over the regulatory period. This includes expectations about the water delivery and supply factors that are likely to underpin the delivery of services. These standards and outcomes reflect both obligations imposed by the Minister for Water through the Statement of Obligations, the Environment Protection Authority (EPA), the Department of Human Services (DHS) and the Department of Sustainability and Environment (DSE) and customer preferences for service improvements.

Step two involves the Commission assessing each of the key revenue components and proposals against the WIRO principles. The Commission's assumptions are

used solely to assess whether prices will result in the business earning sufficient revenue to deliver services. They do not represent amounts businesses are required to spend or to direct to particular activities or projects. In consultation with customers, businesses are free to determine their own expenditure priorities in light of changing circumstances and to pursue innovation and efficiencies that enable them to outperform the cost assumptions.

The third step in the process involves determining the prices needed to meet that revenue requirement.

Urban prices were previously reviewed in 2005 and rural prices in 2006. An important aspect of these reviews was to establish a firm foundation for economic regulation in the future.

1.2 Legislative framework and role of the Commission

In carrying out its role, the Commission is primarily guided by the regulatory framework set out in the *Essential Services Commission Act 2001* and the *Water Industry Act 1994*. The more detailed framework is set out in the WIRO made by the Governor in Council under the *Water Industry Act 1994*.¹

The *Essential Services Commission Act 2001* outlines objectives to which the Commission must have regard in undertaking its functions across all industries. The Commission's primary objective is to protect the long-term interests of Victorian consumers with regard to the price, quality and reliability of essential services. In seeking to achieve this primary objective, the Commission must have regard to:

- facilitating the efficiency, incentives for long term investment and the financial viability of regulated industries
- preventing the misuse of monopoly or transitory market power
- facilitating effective competition and promoting competitive market conduct
- ensuring regulatory decision making has regard to the relevant health, safety, environmental and social legislation applying to the regulated industry
- ensuring users and consumers (including low income or vulnerable customers) benefit from the gains from competition and efficiency and
- promoting consistency in regulation across States and on a national basis.

The *Water Industry Act* contains the following additional objectives that the Commission must meet in regulating the water sector, namely to ensure:

- wherever possible, that the costs of regulation do not exceed the benefits
- regulatory decision making and regulatory processes have regard to any differences in the operating environments of regulated entities and

¹ The WIRO is available from the Commission's website.

- regulatory decision making has regard to the health, safety, environmental sustainability (including water conservation) and social obligations of regulated entities.

The WIRO requires the Commission to approve or specify the price arrangements to apply to each of the water businesses for each regulatory period.

The Commission must approve the price arrangements if it is satisfied that the prices or the manner in which prices are to be calculated or otherwise determined have been developed in accordance with the procedural requirements and comply with the regulatory principles outlined in the WIRO.

Alternatively, the Commission may specify the prices that a business may charge or the manner in which those prices are to be calculated or otherwise determined if it is not satisfied that the arrangements proposed in the Water Plan were developed in accordance with the procedural requirements and comply with the regulatory principles. The procedural requirements include the need for businesses to consult with customers and relevant regulatory agencies before submitting the Water Plan to the Commission for assessment.

In deciding whether to approve the proposed prices, the Commission must be satisfied that they provide the business with sufficient revenue over the regulatory period to deliver their regulated services. The revenue must be sufficient to allow the business to recover:

- operational, maintenance and administrative costs
- expenditure on renewing and rehabilitating existing assets
- a rate of return on past investments as at 1 July 2004 that are valued in a manner or at an amount determined by the Minister for Water or the costs associated with any debt incurred to finance recent expenditure in a manner determined by the Minister
- a rate of return on investments made after 1 July 2004 to augment existing assets or construct new assets.

The Commission must also ensure that:

- the expenditure forecasts reflect the efficient delivery of the proposed outcomes outlined in the Water Plan and take into account a long term planning horizon
- the businesses have incentives to pursue efficiency improvements and
- customers or potential customers are readily able to understand the prices charged or the manner in which they are to be calculated or determined.

The Commission is required to assess the detailed assumptions underpinning the businesses' proposed revenue requirements for the regulatory period. The businesses' expenditure forecasts must reflect efficient costs of supply and the program of work proposed by each business must be deliverable over the regulatory period. The businesses' forecasts of demand and supply (which affect both expenditure and prices) must also be reasonable and reflect the best available information. Customer service standards proposed by each business must also be clear, appropriate and reflect the needs and interests of customers.

The Commission must also be satisfied that the level and structure of prices provide incentives for the sustainable use of Victoria's water resources.

1.3 Commission's approach to consultation

In deciding on various regulatory matters, the Commission aims to be open and transparent and to consult with as many stakeholders as practical. The Commission's general approach to consultation is set out in its *Charter of Consultation and Regulatory Practice*.² It also generally provides stakeholders with a number of opportunities to be involved in its processes and tailors its consultation approach to reflect stakeholder comments.

In line with its charter, the Commission intends to keep stakeholders informed of progress through regular website updates (www.esc.vic.gov.au) and its regular newsletter *Essential Water News*. Copies of its consultation papers and any submissions received in response will also be made available on its website or from Commission staff. If there is information that you do not wish to be disclosed publicly on the basis that it is commercially sensitive or confidential, you should discuss the matter first with Commission staff before providing the information.

In undertaking its role as economic regulator, the Commission will also consult with other regulators such as the EPA, DHS and other government agencies such as DSE and the Energy and Water Ombudsman (Victoria) (EWOV).

The Commission will also be consulting with the water businesses in the lead up to the submission of the exposure draft Water Plans. Following the release of this paper the Commission is proposing to visit each business to discuss any issues they might have and to explain the financial templates. The Commission will then release a final guidance paper which incorporates any feedback it may have received from the businesses and other stakeholders. The Commission will also consider conducting workshops and forums if the need arises. An indicative timetable for the consultation process is set out in table 1.1.

Table 1.1 **Indicative consultation timetable**

<i>Indicative dates</i>	<i>Activity</i>
21 December 2006	Consultation paper released
12 February 2007	Comments on consultation papers due
late January/early February 2007	Commission visits to businesses
Early March 2007	Final Guidance paper released
1 May 2007	Exposure draft Water Plans submitted

² The Charter can be found on the Commission's website.

1.4 Purpose and structure of this paper

This consultation paper sets out a number of key issues related to the application of the regulatory framework, process and approach that the Commission will take in assessing Water Plans for the second regulatory period. The feedback from this paper along with the feedback received on the Commission's initial guidance on Water Plans will form the basis for final guidance provided to businesses in advance of the submission draft exposure Water Plans. This paper is structured as follows:

- chapter 2 — discusses the length of the regulatory period and dealing with unforeseen events
- chapter 3 — discusses the Commission's approach to regulating service standards and guaranteed service level schemes
- chapter 4 — discusses the Commission's approach to assessing expenditure
- chapter 5 — identifies key issues related to the incentive mechanism, including efficiency carryover and S-factor mechanisms
- chapter 6 — identifies key issues associated with the development of tariff structures
- chapter 7 — discusses issues related to the setting of customer contributions.

Throughout the paper the Commission has attempted to identify:

- its initial position
- the implications for the content of Water Plans (where it can), and
- further issues that it considers will assist it in further developing its position.

The Commission is seeking feedback on the issues identified in this paper and in particular on its initial position and the further issues identified.

2.1 Length of regulatory period

The WIRO sets out the length of the first regulatory period for the urban review (three years) and the rural review (two years). The WIRO provides for the Commission to set future regulatory periods. The key issue for the Commission is whether it should retain a three year regulatory period or move to a five year regulatory period similar to some of the other sectors it regulates.

The administrative costs of undertaking price reviews can be significant not just for the Commission but for water businesses who need to engage with customers and the Commission. A longer regulatory period means that price reviews are undertaken less frequently and administrative costs are reduced. Other potential advantages from moving to a longer regulatory period include:

- greater certainty for customers about prices and the outcomes to be delivered over a longer period
- greater opportunity for the incentive properties of the regulatory framework to work
- strengthened incentives for businesses to develop proposals with a longer term planning horizon
- encouraging regulators and the Minister for Water to also take a long term approach to identifying and imposing obligations on the business

Although there a number of potential benefits from moving to a five year regulatory period, there will also be a number of challenges. First it will potentially be more difficult for the businesses to provide robust forecasts particularly for the fourth and fifth years of the period. In the previous price reviews the urban businesses were only required to provide forecasts for three years and the rural businesses for only two years.

A longer regulatory period also raises issues about how best to deal with the impact of uncertain or unforeseen events that may have significant implications for the revenue required over the period. Typically under incentive regulation a price path is set for the regulatory period based on assumptions about the service requirements to be provided, their associated costs and levels of demand. Once set the regulator does not make further adjustments and businesses are left to manage any difference between actual and forecast costs and demand during the regulatory period.

However, there may be instances where uncertain or unforeseen events outside the control of the business have a significant impact on the businesses. It may be appropriate for customers to bear the additional costs (by adjusting prices)

associated with such events rather than compromising the financial viability of the business. These adjustments can either be made within the period or at the end of the period.

The timing and scope of these adjustments needs to be considered within the context of the length of the regulatory period. Limiting adjustments to the end of the regulatory period is potentially better suited to shorter periods because businesses may be able to carry the additional costs over the short term. There is potentially less scope for the businesses to carry those additional costs over longer periods.

Other issues to be resolved in designing mechanisms for dealing with unforeseen events include the range of events that should be adjusted for and the need for and size of a materiality threshold. These issues are discussed in section 2.2.

Another challenge in moving to a longer regulatory period will be ensuring that all of the obligations and outcomes to be delivered are identified at the outset of the regulatory period. This is potentially harder to do for a longer period because of the need to plan over a longer period. However, this is consistent with the WIRO principle that businesses' expenditure forecasts take into account a long term planning horizon beyond the regulatory period.

Regulators, the Department of Sustainability and Environment and the Minister for Water will also need to be clear about their expectations at the outset of the regulatory period so that the businesses are able to effectively plan to meet those obligations.

On balance the Commission considers that it is appropriate to move to a five year regulatory period. The benefits from moving to a longer period, in particular the reduction in the administrative burden and costs on the businesses and the Commission, are likely to outweigh any costs. The Commission considers that there is sufficient scope within the regulatory framework to deal with issues related to uncertainty or unforeseen events or other challenges that might be identified by stakeholders.

2.2 Dealing with uncertainty

An important feature of incentive regulation is that once the prices for prescribed services are set, the regulator does not adjust them within the regulatory period to reflect differences between the actual and forecast costs of service provision. Businesses must manage any differences between actual and forecast costs during the regulatory period. To the extent that costs end up being lower (and/or demand ends up being higher) than forecast, the business retains the benefits during the regulatory period; similarly, where costs are higher than forecast (and/or demand ends up being lower), the business bears the loss. This is one of the central tenets of incentive based regulation and provides businesses with an incentive to efficiently manage their costs during the regulatory period.

Within this incentive framework it may be appropriate to adjust prices to reflect the impact of certain events that are outside the control of the water businesses. Prices can either be adjusted within or at the end of the regulatory period. However, any adjustment needs to consider the incentives that businesses have to plan for,

manage and mitigate the costs associated with such events and the administrative costs associated with assessing the need for and extent of any adjustment. The costs are likely to be greater when adjustments are made within the regulatory period, but are reduced (although not eliminated entirely) where the adjustments are made at the end of the regulatory period.

In its previous water price reviews the Commission introduced mechanisms to deal with changes in legislative obligations and catastrophic events.

2.2.1 How should uncertainty be dealt with?

There are a number of potential sources of uncertainty for water businesses, including:

- actual expenditure and/or demand being greater or lesser than that forecast
- changes in expenditure priorities
- changes in obligations
- errors in the businesses' forecasts
- occurrence of events such as fires, droughts and other natural disasters

There are a number of options for dealing with the impact of uncertainty including:

- the business deals with the impact of any uncertainty by re-prioritising its capital projects or programs. In consultation with its customers a business could decide not to undertake certain projects or bring other projects forward to cope with changing circumstances
- reflect any uncertainty in the forecasts (either implicitly or explicitly), particularly for events that may be known but uncertain in scope
- allow for material changes for unforeseen events to be assessed and prices adjusted within the regulatory period. Under this scenario adjustments could be made at the time that annual tariffs are approved or businesses could come to the Commission at any time within the regulatory period to seek an adjustment to prices subject to a predetermined process
- adjust prices at the end of the regulatory period to reflect any significant cost increases or decreases.

In some cases uncertainty may result in the businesses earning more revenue over the regulatory period than that assumed by the Commission. This is likely to occur where actual costs are lower and/or actual demand higher than forecasts.

In its previous water price reviews the Commission took the view that businesses are in the best position to deal with the uncertainty associated with forecasts and changes in priorities. The Commission accepted that there may be a case for an adjustment mechanism to deal with changes in legislative obligations that were outside the control of the business and were likely to have a significant impact of financial viability.

The adjustment mechanism for the first period allows for price to be adjusted at the end of the regulatory period. Adjusting the price path imposes costs on the business, the regulator and customers. These include the costs associated with the business identifying and assessing the impact of a particular event, the regulator assessing such an application and the dulling of the incentive properties of the

regulatory regime. These costs are likely to be higher for within period adjustments compared to end of period adjustments.

The Commission also considered that given the relatively short length of the first regulatory period (three years for the urban business and two years for the rural businesses) businesses should be able to manage the additional costs arising from any uncertainty during the period.

The Commission acknowledges that the proposed move to a five year regulatory period and the current drought conditions may raise concerns about the ability of businesses to manage the additional costs associated with uncertainty going forward.

A number of urban businesses have also suggested that the impact on demand and hence revenue of the current drought has implications for the form of price control adopted. In the 2005 urban price review the Commission expressed the view that individual price caps are administratively simple, less costly and best meet the requirements of the WIRO. The Commission's preference is for individual price caps to be adopted in the second regulatory period for urban businesses. Any concerns related to the impacts of drought and other unforeseen events are better dealt with through a separate adjustment mechanism rather than through the price control.

Any adjustment mechanism to deal with uncertainty, whether within the regulatory period or at the end of the regulatory period, would need to be carefully defined so that the costs of making the adjustment did not outweigh the benefits. The adjustment mechanism would also need to be symmetric so that any positive impacts (for example where costs are less than forecast or where demand is greater than forecast) are taken into account at the time the adjustment is made.

2.2.2 What should be included in an adjustment mechanism?

A key issue in the design of the adjustment mechanism relates to the types of uncertainty or events that should be included. In defining the nature of events that could potentially result in an adjustment to prices it is important that:

- the event be clearly outside of the control of the business and not predictable with any certainty
- customers are not unduly exposed to risk or price fluctuations
- the event is clearly observable and verifiable
- the administrative and other costs associated with approving adjustments to prices are minimised
- regulators and other external parties are encouraged to provide as much certainty as possible for the regulatory period
- businesses have an incentive to, wherever possible, mitigate and plan for such events through appropriate risk management planning processes.

For the first regulatory period adjustments are limited to changes in legislative obligations.

In response to the Commission's consultation paper on initial guidance Yarra Valley Water suggested that:

Events such as extended drought, flash flooding and bush fire create uncertain and potentially significant cost burdens and revenue risks. Yarra Valley Water therefore welcomes the Commission's intention to consult on mechanisms to adjust prices due to unforeseen events. This should cover triggers for considering adjustments for the occurrence of specific events. Triggers may include additional regulatory or government obligations or events beyond the Company's control, particularly related to climate change.³

Yarra Valley Water also raised concerns about the potential impact of an extended drought and related water restrictions. It also noted the importance of considering regulatory mechanisms that can mitigate the revenue and cost impacts of events such as drought that are beyond the businesses' control.

The Commission has previously outlined a preference for not adjusting prices to reflect demand related events (including the loss of major customers and the impact of drought). Managing the demand and supply balance is a core business activity for urban water authorities and this is reflected in the SoO requirement to develop demand and supply strategies.

One of the reasons for limiting the mechanism to changes in legislative obligations was to partly ensure that the impact of new or changed obligations is carefully considered and documented. The impact of changes to legislative obligations is readily observable and identifiable by the businesses and the Commission. Other changes or events may be less observable and verifiable and are likely to make it more difficult for the Commission to determine the nature, timing and impact of the change.

It should also be noted that the pricing determinations for the first regulatory period provide scope for the Commission to adjust prices within the regulatory period where it is necessary to avoid an unintended consequence of the determination. The Commission has indicated that it would use this provision to adjust prices if a catastrophic event were to impact on the financial viability of a business (see section 2.2.4).

In establishing an adjustment mechanism for dealing with unforeseen events the Commission is aiming to provide a level of medium term financial security for the business in relation to a set of its non-controllable costs. However, it is also intended to ensure that businesses have the incentive to efficiently manage their costs during the regulatory period. As in any industry, new and unanticipated costs will arise, just as some forecast expenditures may not need to be made. Businesses must be left to make decisions about expenditure priorities and to adjust their programs accordingly during the regulatory period. Widening the

³ Yarra Valley Water 2006, *Submission to 2008 Water price Review Guidance on Water Plans*, p. 3.

adjustment mechanism to apply to a broader set of expenditure categories would reduce this incentive and increase regulatory costs.

2.2.3 Materiality threshold

Given the costs involved, it is important to ensure that any price adjustments are limited to material items to ensure that the costs do not exceed the benefits. Imposing a materiality threshold is one way of ensuring that the costs of making adjustments are outweighed by the benefits.

In assessing alternative thresholds the Commission needs to strike an appropriate balance between protecting customer interests, minimising the administrative costs of making price adjustments and protecting the businesses' financial viability.

For the first regulatory period a materiality threshold of 2.5 per cent or \$1 million applies in the case of the urban businesses and the urban services provided by GWMWater and Lower Murray Water. There is no threshold in the case of the rural businesses or the rural services provided by GWMWater and Lower Murray Water. The difference in approach reflects the reduced ability of the rural businesses to deal with unforeseen events because of their low regulatory asset values (in most cases zero). This means that any movement in costs due to changes in legislative obligations cannot be met simply by the shareholder accepting a lower return. In addition, the rural businesses' district-based approach to pricing means that there is less flexibility to adjust expenditure and prices in response to such events.

In the previous reviews the Commission took the view that its threshold struck a reasonable balance between the additional costs to be met by the businesses and the administrative costs associated with assessing and adjusting prices for changes in legislative obligations. It considered that a lower threshold would not ensure that the costs of adjusting prices were outweighed by the benefits, especially for smaller businesses.

The move to a five year regulatory period raises issues about what the appropriate threshold level should be. In response to the Commission's consultation paper on initial guidance Yarra Valley Water suggested that

Looking forward, the Company believes the materiality threshold needs to be revisited. It may well be prudent to lower the threshold further because the total revenue will be considerably higher as it included an additional two years.⁴

At this stage the Commission has little actual information on the extent to which businesses have been subject to changes in legislative obligations for the first regulatory period and whether they will meet the materiality threshold. Regulatory account information submitted by the urban businesses indicates that only three businesses have identified new or changed obligations in the first year of the current regulatory period.

⁴ Yarra Valley Water 2006, *Submission to 2008 Water price Review Guidance on Water Plans*, p. 3.

It is also worth noting that a materiality threshold of some kind would still be required if the Commission were to implement a within period adjustment mechanism. As noted earlier the costs associated with within period adjustments are likely to be greater especially in terms of the dulling of the incentive properties of the regime.

2.2.4 Catastrophic events

In its previous reviews the Commission also acknowledged that there may be other unforeseen or catastrophic events beyond the control of businesses that may have an impact on financial viability. These include events such as acts of terrorism, major fires or floods, significant chemical spills into storages, dam bursts and the collapse of major sewers.

While the probability of some of these events happening is relatively low, the potential impact when they do occur is high. Consequently, the Commission proposed to use its discretion to adjust prices within the regulatory period to reflect material increases in costs arising from a catastrophic event. However, it also emphasised that it would only consider an adjustment where:

- businesses could demonstrate that they had taken appropriate steps to plan for or manage the impact of the event (because some of the events identified by the businesses, such as dam bursts and the collapse of major sewers could be mitigated against through appropriate risk management strategies and prudent and efficient expenditure consistent with a long term planning horizon)
- the expenditure incurred was efficient.
- the impact on costs was significant enough to impact on the ability of the business to meet all of its service requirements and obligations, and to maintain its financial viability within the period.

Rather than propose a specific mechanism for dealing with catastrophic events, the Determination for each water business provides for the Commission to amend the Determination or adjust prices where it is necessary or desirable to avoid an unintended consequence of the Determination. If a catastrophic event occurred which significantly threatened a business's financial viability, the Commission would consider this to be an unintended consequence of the Determination. Accordingly, it would use its discretion under this clause to decide whether to amend the Determination or adjust prices during the regulatory period.

This provision also provides the Commission with some flexibility in deciding how to deal with other events that may not have been defined as catastrophic, but nonetheless might have a significant impact on financial viability.

2.3 Adjusting for differences in licence fees

Water businesses are required to pay licence fees as a contribution to the costs incurred by agencies that regulate aspects of their activities. In particular, licence fees are payable as set by:

- the Minister for Health under s.51 of the Safe Drinking Water Act 2003, for costs incurred by the Department of Human Services in administering the Safe Drinking Water Regulations
- the Minister for the Environment under s.24 of the Environment Protection Act 1970, for the costs incurred by the EPA in administering discharge fees and work approvals
- the Minister for Finance in consultation with the Minister for Water under s.4H(2) of the Water Industry Act 1994, for costs incurred by the Essential Services Commission in administering the economic regulatory framework.

Estimates of these licence fees over the regulatory period are included in the businesses' operating expenditure forecasts. Actual licence fees are set on an annual basis and will vary from year to year.

For the first regulatory period the determinations provide for the Commission to adjust prices at the end of the period to reflect any difference between the estimated and actual licence fees levied the EPA, DHS and the Commission.

In response to the Commission's consultation paper on initial guidance to the water businesses on the content of the 2008 water plans City West Water suggested that adjustments for actual licence fees should be made with the regulatory period. City West Water suggested that:

One way to address the issue of licence fee cost variability is to incorporate the recovery of actual licence fees into the price control formula. This would result in the recovery of licence fees moving from a forward looking allowance in the calculation of X factors to a backward-looking recovery of actual fees paid.⁵

The Commission has adopted an 'L factor' approach in regulating the gas and energy sectors and considers that there may be merit in adopting it for water. Under an 'L factor' mechanism prices would be adjusted as part of the annual tariff approval process to reflect the annual change in licence fees (with a 1 year lag). The detailed mechanism and process would need to be developed as part of the consideration of the form of price control.

⁵ City West Water 2006, *Submission to 2008 Water price Review Guidance on Water Plans*, p. 3.

2.4 Summary

Commission's initial position

The second regulatory period should be set at five years from 1 July 2008 until 30 June 2013.

The Commission expects that businesses will reprioritise projects and programs in consultation with customers should priorities change over the regulatory period or as the need arises to offset the impacts of unforeseen events.

There should be limited pass throughs, although there may be scope for reopening of the determination where significant impact on financial viability can be shown.

The Commission considers that there is merit in introducing an 'L factor' mechanism to adjust prices to reflect the change in licence fees on an annual basis.

There may also be merit in having pass throughs for predetermined major projects that were under consideration by Government or other regulators at the time of the determination.

Implications for Water Plan

Businesses' demand and expenditure forecasts to be consistent with the five year regulatory period. Forecasts should be based on best estimates for the period given the known obligations.

Businesses need to identify the projects, programs and other outcomes to be delivered over the five year regulatory period.

Businesses should also seek to identify obligations not yet finalised, but under consideration by Government or other regulators.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- Are there other challenges to moving a longer regulatory period?
- What events during the first regulatory period have had a significant impact on the businesses' costs?
- What should be included in any adjustment mechanism for the second regulatory period?
- Do businesses expect to meet the materiality threshold for end of period adjustments associated with new obligations? What would be an appropriate materiality threshold for the second regulatory period?

3.1 Introduction

The Commission must be satisfied that proposed prices provide water businesses with sufficient revenue to meet the costs of service delivery. Hence, the first step in assessing whether proposed prices will deliver the required revenue is to clearly establish the service standards and other related outcomes that are to be delivered over the regulatory period.

The Commission is responsible for regulating standards and conditions of supply of retail water and sewerage, irrigation water and other prescribed services. The Water Industry Regulatory Order (WIRO) provides scope for the Commission to approve standards set out in a water business's Water Plan, to specify those standards in a Code or to do both.

The WIRO also provides that prices must, among other things, provide the regulated entity with incentives to pursue efficiency improvements and to promote the sustainable use of Victoria's water resources. A guaranteed service level (GSL) scheme is one approach to providing businesses with incentives to deliver acceptable service standards. Because GSL schemes involve businesses making payments or rebates to customers who receive significantly below average service levels they act as an incentive for businesses to improve service levels for the worst served customers.

The following sections discuss the Commission's approach to regulating service standards and issues related to GSL schemes.

3.2 Service standards

Service standards and other related outcomes underpin the businesses' expenditure proposals for the regulatory period and thus proposed prices. Performance against defined service standards and targets also provides a basis for assessing the extent to which additional expenditure is required to maintain or improve existing services and the extent to which seemingly efficient cost gains might have been achieved at the expense of service standards to customers. Customer views and preferences on whether the proposed service standards and targets are appropriate, and whether customers are willing to pay for improved services are key considerations in assessing the appropriateness of the proposals.

3.2.1 Approach to regulating service standards

The Commission's approach to regulating the standards and conditions of supply for water and sewerage services provided to urban and rural customers is to:

- Establish separate customer service codes for urban and rural services. The Urban Customer Service Code has been in place since July 2005. The Commission is in the process of consulting with rural businesses and their customers on the content of a rural code. It is expected that the Rural Customer Service Code will be finalised by March 2007 and come into effect on 1 July 2007. Each code imposes an overarching framework for the delivery of services to customers by setting out service level requirements and standards for key aspects of service delivery. The urban code sets out requirements relating to:
 - connection and service provision
 - charging for services
 - complaint and dispute handling procedures
 - billing, payment and collection processes,
 - the quality and reliability of services provided,
 - works and maintenance programs,
 - information provision to customers
 - certain protections for customers experiencing financial hardship

It is expected that the rural code will cover similar aspects of service delivery.

- Require each business to develop a customer charter that informs customers about the services that it offers, the respective rights and responsibilities of the business and its customers, and the service standards that the business proposes to deliver over the regulatory period. The charter must cover certain minimum information requirements set by the respective customer service codes.
- Provide flexibility for the businesses to propose their own targets for a core set of service standards, rather than require all businesses to meet a consistent performance standard. This flexibility is intended to reflect the different operating environments faced by each business and allow customers to express their preferences for the level of service for which they are prepared to pay. Each business is required to express its standards or targets on the basis of common definitions and the targets are approved as part of the price review process.
- Establish separate performance reporting frameworks for urban and rural businesses that require businesses to report performance against a set of established performance indicators on a quarterly and annual basis. The urban framework has been in place since 2004. The Commission is in the process of consulting on the rural framework and expects it to be finalised by the end of 2006. This performance data forms the basis for the Commission's comparative performance report each year. The reporting regime aims to:
 - inform customers about the level of service they are receiving and identify reasons for good and bad performance
 - identify baseline performance of individual businesses and provide incentives for improvement over time
 - provide information and data for developing regulatory standards (or targets) where required and for ongoing assessment of compliance with such standards

- where appropriate, make comparisons between businesses by gauging relative performance within an industry (comparative competition) or with businesses performing comparable operations in other industries and
- inform the decision making processes of regulatory agencies, water businesses and government.

3.2.2 Approach to assessing proposed service standard targets

The initial guidance sets out the Commission's expectations regarding proposed service standard targets for the second regulatory period. Businesses are required to outline targets for a core set of service standards for each year of the regulatory period. The Commission also expects businesses to:

- outline the basis used for setting proposed service standards and the reasons for adopting such a basis
- identify where proposed service standard targets are above or below current levels
- identify the cost implications of proposing service levels that are above (or below) current levels. In some cases service outcomes may be improved without a significant change in costs.
- set out how they propose to meet the specified service standards, including identifying the expenditure or projects that are targeted at improving service levels over the regulatory period
- provide evidence of consultation with customers and evidence of their support and willingness to pay for the proposed service standards
- indicate how the business proposes to address and mitigate against the occurrence of outlier events.

In assessing proposed service standards the Commission proposes to focus on whether the targets:

- are set in accordance with the definitions outlined in the Commission's performance reporting frameworks
- are consistent with available historic information on actual performance
- reflect the impact of proposed expenditure programs
- reflect customer preferences (especially where businesses are proposing service improvements).

3.2.3 Core set of service standards

As noted, the businesses are required to set out targets for a set of core service standards. There are separate sets for urban services, rural services and Melbourne Water. The composition of these core sets was consulted on as part of the 2005 and 2006 price reviews. The Commission considers that the core sets cover those aspects of performance that are of the greatest concern to customers.

Planned interruptions

In response to the Commission's initial guidance, South East Water suggested that the Commission give further consideration to the relevance of including planned works service standards. South East Water argued that:

- the number of planned outages is strongly linked to the size of the overall works program as opposed to the business's, skill in managing the network
- in some cases an increase in planned outages demonstrates a business's foresight in undertaking preventative maintenance before an unplanned outage occurs
- customers are significantly less impacted by planned outages
- there is a trade-off between planned and unplanned outages and
- it is better to extend the duration of planned outages and complete the work than have multiple outages (a negative indicator in its own right).⁶

The Commission has previously indicated that it considers that interruptions, whether planned or unplanned, are inconvenient to customers. While businesses largely have no control over unplanned events, they can employ strategies to mitigate the impact of planned events. Such strategies include scheduling planned works outside of peak hours and better managing contractors.

The Commission accepts that there may be trade-offs between the incidence of planned and unplanned interruptions and that businesses can and should use planned interruptions as part of their preventative maintenance strategies. By collecting performance data on the frequency and duration of both types of interruptions those trade-offs are made transparent. Consequently customers are given the opportunity to better understand the trade-off and form a view about their own willingness to pay for different outcomes. For example, customers might be satisfied with higher levels of preventative maintenance and the associated planned outages if that means that the frequency of unplanned outages is likely to be reduced.

In approving service standard targets the Commission has not generally formed value judgements about the appropriate target for particular services standards, preferring instead that the businesses consult with their customers in determining appropriate target levels. It should also be noted that for the first regulatory period there is no financial consequence for businesses failing to meet their approved service standard targets.⁷ Businesses are given the opportunity through the performance reporting framework to explain their performance to customers on an annual basis.

⁶ South East Water 2006, *Submission to 2008 Water price Review Guidance on Water Plans*, p. 6.

⁷ Except where performance was linked to a guaranteed service scheme.

For the first regulatory period the Commission did not adopt an S-factor scheme because it considered that there was insufficient reliable performance data.⁸ A key consideration in designing an S-factor scheme is which of the service standards or targets should be linked to prices. Issues related to the design of an S-factor scheme are discussed in chapter 5.

Time to attend versus time to rectify

South East Water also raised concerns about including core service standards relating to the time to attend bursts and leaks (water) and sewer spills and blockages. South East Water argued that:

... the focus of emergency response measures should be the time taken to rectify a problems. There is little value to customers in attending an incident quickly but taking an extended period of time to rectify the problems. It is more effective and cost efficient to make one visit to the site and rectify low impact issues on the spot, than attending quickly but delaying the final resolution of the problem.⁹

The Commission's experience is that customers value both a timely response to burst water pipes (and sewage spills) and the swift rectification of service. Slow response times can lead to property damage through flooding and increased water losses. Targets for attendance times at water pipe bursts were first included in the Customer Contract (which preceded the Customer Service Code) following a number of incidences in which extensive property damage occurred as a result of slow response times to burst water pipes.

A customer should be able to expect that a water business will respond to reports of burst water pipes or sewer spills within a reasonable timeframe to minimise property damage and water losses. The Commission considers that it is appropriate for businesses to set targets for time taken to attend these events.

Restrictions

In its initial guidance the Commission also added two core service standards for which it expects the urban businesses to set targets for each year of the 2008 regulatory period. These relate to:

- restrictions and legal action for non payment
- the number of customers assisted under hardship schemes.

In response to the initial guidance South East Water stated that it is strongly opposed to setting targets for the number of customers subject to restrictions. It noted that although it has an effective program for managing customers facing

⁸ A S-factor scheme typically involves adjusting prices (either upwards or downwards) to reflect the actual performance of a business against its proposed service standards (that is better or worse) on average.

⁹ South East Water 2006, *Submission to 2008 Water price Review Guidance on Water Plans*, p. 6.

difficulties, the number of customers who fail to pay their account and ultimately go through the debt management process is something that is beyond their control.¹⁰

The Commission's Customer Service Code requires that the Victorian urban water businesses must:

- provide alternative payment arrangements in accordance with a customer's capacity to pay including offering a range of payment options (such as flexible payment plans) or redirection of the bill to another person for payment
- offer to extend the due date for some or all of an amount owed
- appropriately refer customers to government funded assistance programs (including the Utility Relief Grant Scheme), or to an independent financial counsellor
- observe minimum periods of notice before applying supply restrictions or pursuing legal action to recover outstanding debts and
- not restrict the water supply of a customer or pursue legal action unless having first taken additional steps to secure payment, including making a reasonable attempt to contact the person, offering a payment arrangement and resolving any dispute over the outstanding amount.
- have a hardship policy that details procedures for assisting residential customers in hardship.

The Commission's monitoring of Victorian water businesses has identified:

- a high rate of restrictions and legal actions against customers for non-payment, particularly in regional Victoria
- a low level of hardship assistance grants made by businesses
- in some businesses a high proportion of customers restricted were on government concessions and
- a low take up of the Utility Relief Grants Scheme administered by the Department of Human Services by some businesses with high rates of restrictions.

A number of consumer groups have expressed concern to the Commission that businesses failed to address the issue of customer hardship and proposals for assisting low income and vulnerable customers in the Water Plans for the first regulatory period. The Consumer Utilities Advocacy Centre (CUAC) in its response to the initial guidance said it anticipates that affordability of water will continue to be a key issue in the next price review. It noted that through its Water Hardship Policies Working Group, the Commission has undertaken a positive role in ensuring that the businesses' hardship policies are improved, but there remains a continued need to encourage water authorities to develop programs that meet the needs of their customers. As such, CUAC again recommends that water companies be required to detail their policies and programs pertaining to financial hardship in the Water Plan (either as a separate component or appendix).¹¹

¹⁰ South East Water 2006, *Submission to 2008 Water Price Review Guidance on Water Plans*, p. 6.

¹¹ CUAC 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, p. 2.

The Commission considers that it is appropriate for Water Plans to identify to customers the extent to which a business intends to make use of restrictions and legal action for non payment and whether the business believes that it will make greater (or lesser use) of these approaches in the future.

3.2.4 Basis for proposing service standard targets

For the metropolitan businesses and to a lesser extent the regional urban businesses, where there has been a history of performance monitoring and reporting, the identification of current service levels should be relatively straightforward. For the rural water businesses, the quality of historic performance information may make this a more difficult task. Businesses will need to make use of the best available information to determine current service levels and set out clearly the nature of information used to form the basis of the proposed service standards going forward.

The initial guidance to businesses suggested that service standard targets should be consistent with the average performance over the previous three years for which actual data is available (2003-04 to 2005-06). In response, Barwon Water suggested that the reliance on only three data points to determine the long term average level of service may not lead to the most efficient outcomes. Barwon Water argued that this would especially be the case where:

- the data period was categorised by one or more extreme, asymmetric exogenous events which in turn skewed the average such that it no longer reflected the long term expected level of service or
- there has been a change in the operating practices of the business, such that the historical nexus between cost and service is broken.¹²

The Commission considers that as a general guide businesses should base their proposed service standards on the average of the past three years of actual data. However, it accepts that in some cases this may not provide an accurate reflection of acceptable or achievable service standard levels. Businesses proposing to use an alternative basis for setting service standard levels will need to clearly set out the basis they have used, the reasons why they adopted such an approach and the relevant data.

Regardless of the time period used to determine proposed service standards, it is still important for businesses to consult with customers to ensure that basing service levels on current performance is acceptable to them. In particular, it is possible that some customers do not believe that existing service levels are appropriate and would prefer to see some improvement over the coming regulatory period. Evidence of support from customer survey results and support from customer consultative groups could be important in this regard.

Businesses may choose to propose service levels that are above (or below) the current average aggregate performance level. Where a business proposes service improvements it will need to identify in its Water Plan the efficient costs associated

¹² Barwon Water 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, pp. 2-3.

with those improvements, the consultation process undertaken to determine customers' service preferences and the willingness to pay for the service improvement. Proposals to lower service standards will be closely scrutinised by the Commission.

In response to the Commission's initial guidance City West Water indicated that it intends to propose a range for a number of its core service standards rather than specific targets. The proposed range will encompass the three year average identified by the Commission. City West Water stated that:

We believe that a range works very well for our customers. Their required level of service is met efficiently. The range allows for fluctuation in conditions such as brought about by weather, and means that we can forecast efficient, consistent spend without the necessity of budgeting for bad years. If performance rises above or falls below the range, it triggers a review of management processes for that KPI.¹³

City West Water has not identified which service standards it considers are better suited to a range rather than a specific target, so it is difficult to fully assess the merit of the proposition. However, the Commission's preference remains for the setting of a target value based on actual past performance rather than a performance range. Where the target is based on historic information it already incorporates fluctuation caused by external events such as weather. A better approach would be for businesses concerned about the influence of external factors on performance to propose an average based on a longer set of data than the three year period.

Where a range is used it may be difficult to determine if the service level has actually been delivered. The argument for the use of a range around the average is that it takes account of unfavourable external circumstance that may impact on performance. This allows businesses to avoid the additional costs of delivering services if such events occur. On the other hand in favourable circumstances a business may cut back on service delivery, increasing profits at the expense of customers, because it takes comfort that it is performing better than its upper target. In effect the upper end of the range becomes the target.

The Commission's experience is that it is not uncommon for businesses to argue for headroom in proposed service standards to take account of external factors but to then exploit the gap between actual performance and the service standard.

3.2.5 Consistency of service standards across businesses

The diversity of services, network conditions and operating environments across the water sector means that many aspects of service performance targets will need to be business specific. For example, reliability targets (unplanned interruption frequency or average interruption duration) will need to be business specific given the significant variations in distribution system performance due to a range of

¹³ City West Water 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, p. 2.

factors (for example, network age, soil conditions, topography). This is likely to be even more so in the rural sector given the diverse range of services provided and delivery infrastructure utilised.

The urban service standard targets approved by the Commission in the 2005 urban price review vary significantly across businesses. This suggests that customers across the state are receiving vastly different levels of service. In part, these differences may be influenced by different operating conditions and network characteristics (that can be influenced by appropriate expenditure) or climatic conditions, such as drought (that are more difficult to control).

There may be scope to harmonise service standard targets across urban businesses, especially those that are less dependent on soil conditions and topography. For example, the time to answer phone calls, the time to attend interruptions, the percentage of interruptions restored within a specified timeframe or the duration of interruptions are largely dependent on management policies and operational practices rather than external environmental factors.

3.2.6 Delivery of outcomes

For the first regulatory period the water businesses identified a number of Water Plan outcomes that they committed to delivering during the regulatory period. These related to key capital projects and renewal and maintenance programs.

As part of its previous reviews the Commission acknowledged comments from customers that they want more detail about what the businesses propose to deliver over the period. This provides a basis for determining whether customers are receiving value for money and allows judgements to be made about whether businesses are meeting their commitments.

Both the rural and urban businesses are required to report on their delivery of key capital projects for the first regulatory period and the rural businesses must report on their renewals and maintenance programs, where relevant.

For the second regulatory period the Commission has asked businesses to identify the top ten projects/programs to be delivered over the regulatory period (see section 4.2.2). This will form the basis for monitoring whether these outcomes are delivered through the period.

3.2.7 Summary

Commission's initial position

Targets for the core sets of service standards should be consistent with the average performance over the previous three years for which actual data is available (2003-04 to 2005-06)

Businesses have scope to propose an alternative basis for targets.

In assessing service standard targets the Commission proposes to focus on whether targets :

- are set in accordance with the definitions outlined in the Commission's performance reporting frameworks
- are consistent with available historic information on actual performance
- reflect the impact of proposed expenditure programs
- reflect customer preferences (especially where businesses are proposing service improvements).

Implications for Water Plan

Businesses need to propose targets for each year of regulatory period consistent with actual performance over previous three years.

Where proposing an alternative basis for setting targets the Plan will need to clearly set out the basis used, the approach was adopted and any relevant performance data.

Water Plans will need to clearly outline the consultation undertaken with customers.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- Are there other factors the Commission should consider in assessing proposed service standard targets?
- Do the core sets identified by the Commission in its initial guidance remain appropriate?
- Is there scope for service standard targets to be harmonised across businesses?
- How is the delivery of Water Plan outcomes best monitored?

3.3 Guaranteed service levels

3.3.1 Introduction

The Commission must be satisfied that the prices it approves provide businesses with incentives to pursue efficiency improvements and promote the sustainable use of Victoria's water resources. In some cases however, what may appear to be efficiency improvements (providing services at lower than forecast cost) may be achieved at the expense of service standards and outputs. Therefore it is important to ensure that service standards and outputs reflected in forecast costs and prices are clearly specified and that businesses are provided with balanced incentives to achieve efficiencies while meeting the required service standards.

The service standard targets proposed by businesses and approved by the Commission generally reflect the average performance expected across all customers. They do not indicate the extent to which some customers may experience worse than average performance. That is, a business could maintain average performance while still providing unacceptably low service standards to some customers.

One approach to enhancing incentives for businesses to meet service standards for all customers is to adopt a guaranteed service level (GSL) scheme where 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. Because the cost of an assumed level of payments is reflected in the business's revenue requirement, there is an incentive to minimise the number of events that give rise to payments.

GSL schemes recognise that customers who receive poor service should not have to pay the same as customers who receive average or better levels of service. In contrast, some other incentive mechanisms (such as performance monitoring and S-factor approaches) typically focus on average performance.

The underlying objective of GSLs is to provide an incentive for businesses to address the incidence of inferior service performance for the worst affected customers rather than to compensate those customers for poor performance.

Five businesses have GSL schemes in place for the first regulatory period. Key issues for the second regulatory period include:

- whether all businesses should be required to implement a GSL scheme
- whether GSLs should be extended to non-residential customers
- whether there should be a minimum core set of GSLs that businesses are required to implement
- what payment levels are appropriate?

3.3.2 Should all businesses be required to implement GSLs?

Five businesses proposed GSL schemes to apply over the first regulatory period namely: City West Water, South East Water, Yarra Valley Water, Barwon Water and Central Highlands Water.

The Commission did not require the remaining regional businesses or rural businesses to adopt GSLs for the first regulatory period. It concluded that it would be difficult to adopt a consistent GSL scheme across all urban businesses because of the lack of historically reliable data. For the rural businesses the Commission recognised that in the absence of a robust performance monitoring framework and extensive customer consultation it would be difficult to introduce a GSL scheme.

Instead, the Commission required all urban businesses to collect additional performance indicators related to some of the GSLs approved for the first regulatory period. The aim of collecting this data was to provide a systematic basis for assessing the benefits and costs of introducing GSLs for other businesses in the second regulatory period.

A number of businesses also indicated that they would observe and learn from the GSL schemes implemented over the first regulatory period. Others indicated that they would conduct further research and consultation on the introduction of GSL schemes for the second regulatory period.

In general, the five businesses that introduced GSLs in the first period have a high level of average performance on the following service standards:

- unplanned interruptions not restored within specified time
- more than 5 unplanned interruptions in 12 months
- planned interruption greater than 5 hours
- planned interruptions in peak hours (5 am to 9 am and 5 pm to 11 pm).
- more than 3 sewerage interruptions in 12 months
- interruptions not restored within specified time
- spills not contained within specified time
- spills not contained within house within 1 hour of specified time.

GSLs are a feature of regulatory frameworks for water in other Australian jurisdictions (NSW and the ACT) and overseas (United Kingdom and Wales). GSL schemes are also a key feature of the regulatory framework applying to the gas and electricity sectors in Victoria. Evidence from these jurisdictions and sectors suggests that GSLs act as an effective incentive mechanism.

CUAC in its response to the Commission's initial guidance noted the incentive effects of GSLs and indicated its continued support of GSL schemes. CUAC also expressed some concern that the requirement to introduce GSLs had not been extended to all businesses:

However, we are concerned that the Guidance Paper offers no encouragement to businesses who have not implemented such schemes to do so, and would recommend that all water businesses be strongly encouraged to develop GSL schemes. CUAC views the expansion of GSL schemes to all businesses as a priority.¹⁴

¹⁴ CUAC 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, p. 2.

The Commission considers that there is merit in all urban businesses adopting a GSL scheme for the 2008 regulatory period. However, it may be difficult for rural businesses to adopt a GSL scheme at this point in time given the lack of reliable performance data. The Commission has yet to finalise its rural performance monitoring framework and not all businesses have collected systematic or reliable performance data in the past. Rural customers also have different water use requirements from regional and metropolitan customers and so are likely to have a different set of priorities for what they would like to see covered under a GSL scheme. The Commission expects the rural businesses to consult with their customers on their preferences for GSL schemes.

The Commission considers that there are two options for the expansion of GSLs to all urban businesses. The first involves urban businesses determining their own suite of GSLs in consultation with customers. This would allow businesses to develop a scheme that covered those aspects of service of most concern to their customers. These GSLs would still be subject to approval by the Commission.

Under the second approach businesses would be required to introduce a consistent minimum core set of GSLs. Businesses would be able to propose additional GSLs beyond the core set in response to particular concerns raised by their customers. These additional GSLs would be subject to approval by the Commission. This approach would result in greater consistency across businesses.

3.3.3 To whom should GSLs apply?

The GSL schemes in place for the first regulatory period were restricted to residential customers. At the time of the 2005 urban price review, the Commission noted that because the GSL schemes applying to the gas and electricity sectors were also restricted to residential customers, there was limited evidence on the merits of expanding GSL schemes to non-residential customers. It also noted that a number of issues would need to be resolved before GSL schemes could apply to non-residential customers, including:

- whether the scheme should apply to all non-residential customers or only small customers who are less likely to be able to negotiate or otherwise influence the level of service received
- whether the scheme should cover the same events as those for residential customers
- whether it is appropriate to have similar payment levels as those for residential customers.

The Commission has now expanded the GSL scheme for electricity distribution businesses to include non-residential customers and is considering doing the same in the gas sector.

3.3.4 GSL events

The underlying objective of GSLs is to provide an incentive for businesses to address the incidence of inferior service performance for the worst affected customers. In its 2005 price review the Commission took the view that customers and businesses are in the best position to form opinions on what areas of services are of most concern to customers. Therefore it did not specify the GSL events to

be offered by businesses. However, in assessing the proposed GSL events the Commission considered:

- whether the business was already obliged to provide the service standard (either by legislation or the Customer Service Code). Where an obligation to meet a certain standard already exists, it is not appropriate to provide businesses with the discretion to make a GSL payment when they do not meet that obligation.
- whether the GSL event reflects those areas of service of most concern to customers, especially where a number of customers receive a level of performance that is well below the average or that received by most customers
- whether the GSL event is readily available such that payments can be made automatically

The events that are covered by the current GSL schemes are summarised in table 3.1.

Table 3.1 **Urban GSL events approved for first regulatory period**

<i>Service</i>	<i>Event</i>
Water	Unplanned interruptions not restored within specified time
	More than five unplanned interruptions in 12 months
	Failure to notify of planned interruptions
	Planned interruption during peak hour (5am 9am and 5pm to 11pm)
	Planned interruption longer than advised
	Planned interruption longer than 5 hours
	Repair of leaking service pipes within 5 days
Sewerage	More than three interruptions in 12 months
	Interruptions not restored within specified time
	Spills not contained within specified time of notification
	Spills not contained in a house within one hour of notification

3.3.5 GSL payment levels

The Commission considers it important that payment levels are set so that they limit the cost of the scheme but also provide a clear incentive for businesses to avoid the costs associated with the GSL event. If payment levels are set too low, businesses may elect to make payments to the worst served customers, rather than investigating and fixing the cause of the event

Payment levels approved as part of 2005 urban price review ranged from \$25 to \$50 per event, and \$500 payment for sewage spills on properties not contained within specified time. For the gas and electricity sectors GSL payments range from \$10 to \$250.

3.3.6 Summary

Commission's initial position

There is value in all urban businesses implementing a GSL scheme for the 2008 regulatory period. Given the lack of reliable performance data it would be difficult for rural businesses to implement GSLs for the 2008 regulatory period. Its worth noting that while the Commission sees merit in extending GSL schemes to all urban businesses it is not proposing to require businesses to adopt GSL schemes.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- What are the outcomes of any further consultation and research undertaken by businesses with respect to GSLs?
- Should urban businesses implement a consistent minimum core set of GSLs? What events should be included in a core set? What payments levels are appropriate?
- Should GSL schemes apply to urban non-residential customers? Should the payments level and GSL events be consistent with those for residential customers?

4.1 Introduction

The Water Industry Regulatory Order (WIRO) requires the Commission to ensure that the prices levied by the businesses provide them with a sustainable revenue stream that does not reflect monopoly rents or inefficient expenditure. It must also be satisfied that the proposed expenditure forecasts are efficient and take into account a long term planning horizon. The WIRO also requires that prices or the manner in which they are determined provide incentives for the businesses to pursue efficiency improvements over the regulatory period.

In determining the level of revenue required, the Commission has to make assumptions about key drivers of a business's revenue requirement such as:

- the operating expenditure needed to deliver services to customers and
- the cost associated with financing past and future capital expenditure

The Commission arrives at its assumptions based on assessing the information provided in the businesses' Water Plans, advice from independent consultants as to appropriateness of the proposed forecasts and its own analysis.

The following sections outline the key issues the Commission will need to consider in assessing the businesses' operating and capital expenditure over the regulatory period.

4.2 Operating expenditure

Operating expenditure is a key component of the revenue requirement and is included in the year in which it is incurred.

Consistent with the approach it took in its previous water price reviews the Commission is proposing to assess operating expenditure by examining historical actual expenditure to assess the baseline or business as usual level of service. The costs associated with any additional obligations, functions or service levels will be considered separately.

In assessing the prudence and efficiency of the businesses' operating expenditure forecasts the Commission proposes to consider whether:

- operating expenditure forecasts clearly reflect obligations that are imposed by the Minister, other regulators such as the EPA and DHS, or improvements demanded by customers
- the potential for efficiency improvements or if efficiency targets have been built into the businesses' proposals

- increases or decreases in operating expenditure forecasts are consistent with the timing of major capital projects and
- the trends in forecast operating expenditure differ from trends in historical expenditure, and whether any differences can be readily explained (through for example, changes in service levels).

The guidance paper identified that Water Plans will need to clearly outline a business's forecasts of operating expenditure for each year of the regulatory period, the key drivers of expenditure, justification of forecast expenditure levels and evidence of productivity improvements (including targets). The Water Plans will also need to outline the relationship between expenditure and the delivery of obligations and service outcomes over the period.

To support forecasts of operating expenditure the guidance paper identified that each Water Plan will need to discuss:

- historical expenditure levels
- benchmarking
- demand forecasts
- introduction of new obligations and
- consultation with government, regulators and customers.

As a general principle the Commission would expect a higher level of justification where a business is proposing a significant departure from historical expenditure levels or where expenditure relates to delivering outcomes that are above and beyond what customers have sought or regulators have mandated.

4.2.1 Defining new obligations

The Commission also identified that the Water Plans will need to clearly distinguish between operating expenditure related to business as usual activities and new obligations. The guidance paper defined new obligations as those that are reasonably expected to take effect from 1 July 2008. The purpose of this is to provide transparency to the Commission, customers, Government and other regulators of the approximate cost of new obligations and hence the impact on prices.

In response to the guidance paper a number of businesses suggested that the proposed definition of a new obligation was unreasonable or sought further clarification on the definition of new and business as usual obligations.

- City West Water commented that it recognises the importance of delineating between business as usual and new obligation expenditure in terms of the assessment of efficiency. However, it argued that the definition as it currently stands may exclude new obligations that arise during the regulatory period, such as the Central Region Sustainable Water Strategy and other new obligations through the Statement of Obligations (SoO). City West Water further suggested

that new obligations be defined as being post 1 July 2005 and not part of the 2005-08 price determination.¹⁵

- Barwon Water commented that further clarification of the phrase 'take effect' is required to ensure correct classification between new obligations and business as usual. It noted that DSE's review of the SoO is likely to be completed and released prior to 1 July 2008 and that any changes will be effective immediately. Barwon Water has suggested that changes to the SoO should be considered as new obligations regardless of the date of ratification. Obligations do not generally specify when the authority must start to implement the action. Barwon Water argued that where the new obligation has arisen post the preparation and completion of the 2005 Water Plan and costs are to be incurred during the 2008 Water Plan period, these should not be considered as 'business as usual' costs.¹⁶
- South East Water commented that the Commission should take into account all unforeseen changes including changes to licence fees, environmental levies and errors made in the initial determination as well as changes to the legislative obligations. South East Water argued that this should include changes that may have been introduced immediately prior to the commencement of the current regulatory period and after the 2005-08 Water Plans had been finalised.¹⁷
- Melbourne Water commented that an alternative would be to define new obligations as those taking effect on or after 1 July 2005 but not included in the ESC's 2005 final determination. Melbourne Water argued that this would clearly delineate the drivers of new expenditure over the current Water Plan period. For example Melbourne Water has a number of changes to the SoO which have involved significant expenditure over the regulatory period and should not be included in any comparison of actual expenditure with the benchmarks included in the 2005 Water Plan.¹⁸

The comments by a number of the businesses appear to confuse the approach for recovering the costs associated with changes in obligations that have occurred during the current regulatory period (the mechanism for dealing with these is discussed in chapter 7) and the forward looking examination of costs to be incurred over the next regulatory period.

As noted, the intent of distinguishing between the costs associated with business as usual and new obligations is to transparently identify the additional costs associated with regulatory decisions that are expected to take effect over the regulatory period. This allows for open debate of the potential trade-offs between competing objectives when reviewing the businesses' Water Plans.

¹⁵ City West Water 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, p. 2.

¹⁶ Barwon Water 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, p. 2.

¹⁷ South East Water 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, pp. 3-4.

¹⁸ Melbourne Water 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, p. 3.

Where obligations have been imposed on the businesses during the first regulatory period these costs will be reflected in the actual operating costs incurred by the business (as opposed to the forecast costs assumed in the last price review). At the time the draft Water Plans are prepared businesses will have two years of actual data (2004-05 and 2005-06) and two years of forecasts (2006-07 and 2007-08) and when the final Water Plans are submitted all businesses will have three years of actual data and one year of forecasts.

The expenditure assessment process should be largely forward looking, that is the focus is on the outcomes to be delivered for the second regulatory period and the expenditure needed to deliver those outcomes rather than revisiting the forecasts from the last review.

The simplest approach therefore is for expenditure associated with the introduction of new obligations imposed by the government and regulators or increased service standards required by customers which take effect (or are reasonably anticipated to take effect) on 1 July 2008 or later to be separately identified and explained.

4.2.2 Use of benchmarking

In response to the guidance paper City West Water sought clarification on how much emphasis should be placed on benchmarking and the appropriate framework that should be adopted.

The Commission's expectation is that where businesses have participated in benchmarking studies that they will make this information available to support their Water Plans. In the previous water price reviews a number of businesses provided benchmarking studies in support of their Water Plans.

The Commission does not have a preferred benchmarking framework but would give greater weighting to studies that are independent of the business and have a larger pool of participants. Benchmarking studies could cover either broad areas of business operations or focus on specific activities (for example, maintenance, asset management or information technology). One limitation of the businesses supplying benchmarking data is that there is an incentive to only provide favourable benchmarking studies. The businesses are less likely to provide benchmarking information where they have performed badly.

Businesses may also wish to make use of the data collected as part of the Commission's performance reporting framework to justify expenditure initiatives. For example, a business with a high level of water quality complaints or a high rate of water supply interruptions or sewer blockages may wish to use this as justification for increased expenditure for water mains cleaning or accelerating water or sewerage renewals programs respectively.

4.2.3 Productivity improvements over the period

The WIRO requires the Commission to be satisfied that the businesses' proposed prices provide for a sustainable revenue stream that does not reflect monopoly rents or inefficient expenditure. The Commission must also be satisfied that the proposed prices will provide the businesses with continuing incentives to pursue

efficiency improvements. The Commission considers that it is reasonable to expect that businesses would be able to deliver efficiency improvements with respect to business as usual expenditure.

The Commission proposes that it will seek to identify the extent to which the businesses' pricing proposals reflect a reasonable trend in operating expenditure that is consistent with an efficient business. In doing so, it will have regard to the extent to which the businesses have explicitly reflected anticipated efficiency improvements in their proposals and the trend in operating expenditure that is implied by the businesses' proposals over the regulatory period.

In reviewing the Water Plans the Commission will also seek to verify that efficiency savings have been built into the forecasts of 'business as usual' operating expenditure. Where this is not evident or where proposed efficiencies are less than thought achievable, the Commission proposes to make adjustments to the forecasts to reflect productivity gains.

In the 2005 urban price review, the Commission considered it appropriate for the businesses to achieve a minimum 1 per cent per year productivity improvement on their growth adjusted expenditure over the regulatory period. Where this improvement would have required an adjustment of greater than 1 per cent of expenditure (excluding bulk water costs), then the Commission assumed a maximum adjustment of 1 per cent. The Commission made similar adjustments in the 2006 rural price review.

4.2.4 Summary

Commission's initial position

Operating expenditure forecasts will be assessed by examining historical actual expenditure associated with baseline or business as usual levels of services. Expenditure related to new obligations, functions or service level improvements will be considered separately.

New obligations are defined as those that are reasonable expected to take effect from 1 July 2008.

It is reasonable to expect that businesses will be able to deliver efficiency improvements with respect to business as usual expenditure over the regulatory period.

Implications for Water Plan

Water Plans will need to separately identify expenditure associated with delivering new obligations and business as usual service levels.

Water Plans will need to identify efficiency improvements to business as usual expenditure.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- Are there other factors the Commission should take into account when assessing the businesses' forecasts of operating expenditure?
- Are there water benchmarking studies that the Commission should consider when assess the businesses' forecasts of operating expenditure?
- What factors should the Commission consider when assessing the potential for productivity improvements?

4.3 Capital expenditure

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

The Commission's initial guidance identified that the Water Plans will need to clearly outline a business's forecasts of capital expenditure for each year of the regulatory period, the key drivers of expenditure (including major projects) and information to show that the expected levels of expenditure are prudent and efficient.

The Commission will assess whether each business's proposed capital expenditure forecast is adequate to efficiently deliver the service levels required by customers and to meet all regulatory obligations imposed on the business.

The Commission's preferred approach is to assess proposed capital expenditure forecasts by using trends in historical expenditure to consider the business as usual level of service, and to consider separately the costs associated with any additional obligations, functions or service levels. The purpose of distinguishing between expenditure on new obligations and business as usual expenditure is to identify clearly the extent to which price increases are the result of additional requirements imposed through regulatory obligations and/or customer driven service improvements.

There are three broad steps involved in the Commission's approach to assessing capital expenditure forecasts. The first step involves ensuring that any significant changes to expenditure levels are driven by realistic forecasts and verified obligations. To do this the Commission requires that any new capital expenditure reflects clear obligations imposed by regulatory agencies or the need to upgrade or invest in new infrastructure to meet the needs or service expectations of customers. Businesses are required to set out the target service levels they propose to deliver over the regulatory period and to show evidence of consultation with customers regarding their willingness to pay for any service improvements.

The focus of the assessment process is to ensure that any significant changes in expenditure levels are linked to clear obligations imposed by regulatory agencies, or that they reflect the need to upgrade or invest in new infrastructure to meet the needs or service expectations of customers.

In doing so, the Commission proposes that it will consider whether:

- the capital expenditure forecasts associated with new obligations clearly reflect additional obligations that are required by the Minister, other regulators such as the EPA, DHS or by customers
- there is evidence of, and consistency with, well developed asset management planning and processes that demonstrate that forecasts have been determined over a planning horizon that extends beyond the three year regulatory period
- the proposed program of expenditure is deliverable over the regulatory period
- the proposed trends in capital expenditure are related to trends in historical expenditure, such that the reasons underpinning any difference in the expected level from those trends can be identified together with any other relevant factors (such as changes in the asset age profiles or in service levels) and
- the business is to receive any government grants to undertake certain projects, to ensure that customers only pay for the projects financed by the water businesses and that these costs are not recovered twice.

Further, the Commission would expect any proposals which significantly increase capital expenditure to be substantiated by supporting information on the following cost drivers:

- for new obligations — evidence of more stringent standards established by regulatory agencies or that there is evidence of significant customer demand for enhanced service levels
- for existing infrastructure — evidence that the water or sewage networks need to be renewed so that businesses can continue to deliver services that meet customers expectations
- for growth-related capital expenditure — significant growth in the number of new connections or in the demand for water, sewerage or other prescribed services and
- for corporate and retail expenditure — demonstrating that the existing assets are not sufficient for businesses to meet the needs of customers.

In order to ensure that businesses' expenditure forecasts represent efficient expenditure and that the proposed projects are deliverable over the regulatory period, the Commission is proposing to engage independent consultants to review each business's expenditure forecasts.

It is also important to note that at the end of the regulatory period the RAB is updated to reflect the actual capital expenditure incurred over the period subject to the Commission being satisfied that the expenditure was prudent and efficient.

In response to its initial guidance, a number of businesses have sought clarity as to how the Commission intends to assess whether actual capital expenditure incurred in the first regulatory period was prudent and efficient. In particular:

- City West Water noted that at the last review the Commission had indicated it would rely on the incentive properties of the regulatory regime with regard to updating the RAB for actual capital expenditure. The Commission also indicated that it would adopt this approach rather than undertake an extensive ex-post audit of the businesses' actual capital expenditures. City West Water sought confirmation that the information requirements outlined in the initial guidance related to forward looking capital expenditure proposals and not actual capital expenditure incurred during the first regulatory period.¹⁹
- South East Water noted that significant effort would be involved if businesses were to justify all past capital investment. It commented that the Commission should seek justification for large unexpected capital projects or projects that have gone substantially over budget. However, where capital expenditure is within a reasonable range of the budget set at the last Water Plan and the business concerned has delivered an appropriate standard of service to customers, the Commission should not question the prudence of this expenditure.²⁰

¹⁹ City West Water 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, p. 2.

²⁰ South East Water 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, p. 3.

The Commission's preference is to rely on the incentive properties of the regulatory regime to encourage efficient expenditure for the water industry, rather than undertake an ex-post review of prudence and efficiency. However, it reserves the right to undertake such a review of the prudence and efficiency of investment in the first regulatory period if it is warranted.

The Commission agrees with the sentiment put forward that a review of the prudence and efficiency of capital expenditure incurred in the first period would be by exception and not a matter of course and would only occur where costs were significantly higher than forecast and outcomes were not delivered without sufficient reason.

Generally, the Commission would have regard to the capital expenditure benchmarks adopted in the first review and the level of departure from these benchmarks. It would also consider other relevant matters such as whether the business had taken account of new information as it emerged, the ability to defer costs, and whether it had explored all means to optimise outcomes against the forecasts that were adopted for the first regulatory period.

The Commission also recognises that the severity of the drought and efforts to improve security of supply will have led to changed priorities and impacted on the capital expenditure forecasts for a number of businesses. Therefore it expects that in some circumstances the departure of actual expenditure from that forecast may be readily explainable without the need for detailed review.

4.3.1 Project delivery

For the first regulatory period there was a significant increase in forecast capital expenditure. This reflected a small number of key projects underpinning the capital expenditure programs of most businesses (for example, a large proportion of proposed capital expenditure for each of the businesses was typically linked to five key projects).

A key issue for the review of expenditure is whether the forecasts submitted by the businesses are realistic in terms of the timing allowed for the delivery of major programs within the regulatory period, noting that major projects often require detailed planning and approvals to be in place before they can proceed. In its previous water price reviews the Commission and its consultants found many businesses were overly optimistic about the timeframes required to deliver major projects.

To assess the capacity of the businesses to deliver the proposed capital expenditure programs the Commission proposes to consider:

- actual performance against previous capital expenditure programs (noting that several water businesses have a history of significantly underspending their capital works budgets and monitoring of actual delivery in the first year of the current regulatory period has revealed delays to many major projects) and the businesses' demonstrated capacity to deliver against capital budgets in the order of those proposed
- current approval status of the proposed projects
- internal and external resources available to the business to deliver the identified projects and

- the business's project management capability.

To assist in reviewing this expenditure and to provide information to customers about the key projects underpinning businesses pricing proposals the initial guidance identified that the Water Plans should contain information on the:

- the top ten projects/programs to be delivered over the regulatory period
- the drivers of each project/program
- the outcomes that will be delivered by each project/program
- the expected delivery date for the project/program and
- the cost of the project/program for each year of the period

In response to the Commission's initial guidance:

- Yarra Valley Water commented that the purpose of providing project specific information is not clear, given the other information that the businesses will be required to provide. The rationale for the requirement for businesses to provide details of ten projects — rather than some other number — is also unclear. In drafting further guidance the Commission should ensure that its information requirements for capital expenditure do not impose arbitrary information requirements on businesses.²¹
- The Consumer Utilities Advocacy Centre (CUAC) commented that there was often a lack of clarity in Water Plans about the status of proposed major capital investment projects and so it was difficult to make accurate judgements about their potential impacts on price throughout the regulatory period. For the forthcoming price review, it recommends that the information on all major new works include the current status of planning and approval, the benefits to arise from the projects and the possible price impacts. The business should include evidence that it has consulted with, and has the support of, customers considering any possible implications for price and willingness to pay.²²

The Commission agrees with CUAC's observation that there was often a lack of detail regarding the major projects that businesses intended to undertake during the first regulatory period. Information on major projects is important for customers to understand what activities the businesses propose to undertake and for the Commission in assessing the prudence and efficiency of the businesses' expenditure forecasts.

While the Commission seeks to identify the reasons for significant changes in capital expenditure rather than undertaking detailed project by project assessment, there are a small number of projects which have a significant impact on total capital expenditure forecasts. The Commission proposes to scrutinise these projects in greater detail to ensure that they are driven by clear obligations, that the outputs to be achieved have been identified and that the associated costs are prudent and efficient.

²¹ Yarra Valley Water, *Submission to 2006 Water Price Review Guidance on Water Plans*, pp. 2-3.

²² CUAC 2006, *Submission to 2006 Water Price Review Guidance on Water Plans*, p. 2.

In reviewing the businesses' expenditure forecasts and the delivery of major projects the Commission will consult with the other regulatory agencies (DHS, EPA, DSE) to understand the regulatory drivers behind any large increases in forecast capital expenditure programs and the urgency with which the regulatory outcomes from these programs are expected to be delivered. The Commission will seek confirmation from these regulators to confirm that the major projects contained in the Water Plans are required to meet regulatory obligations.

A further concern is that the increased overall level of infrastructure activity already committed to and proposed for Victoria (both generally and within the water sector) is likely to put further pressure on businesses with significant capital programs.

4.3.2 Asset management

The Commission expects businesses to ensure that they effectively plan for and manage the renewals and maintenance of existing infrastructure assets and that the augmentation of infrastructure meets the future requirements of new and existing customers for water and sewage services. The WIRO requires that the Water Plans are consistent with a long term planning horizon beyond the regulatory period.

Consistent with these objectives, the Commission will consider whether the businesses have in place adequate asset management systems to accurately forecast the required future investment in maintaining their infrastructure and consequently customer service levels.

Asset management involves the coordination of asset planning, acquisition, operation, maintenance and replacement. Key elements of good asset management include the establishment of asset databases, the use of Geographic Information Systems and SCADA systems, the establishment of condition assessment and internal performance monitoring and the development of economic decision-making tools to evaluate the most cost effective means for deciding whether to renew or rehabilitate assets.

In the first water price review the Commission's consultants expressed a number of concerns about the businesses' capacity to deliver their expenditure programs over the regulatory period. They also suggested that a number of businesses could improve their asset management processes (including business cases) to better link expenditure to key drivers. While businesses have made advances in this area in recent years, continuing improvement is expected to have occurred over the first regulatory period.

4.3.3 Annuities

For the first regulatory period Victorian rural water businesses had a choice as to whether to adopt a regulatory asset value (RAV) approach to recover expenditure on renewing and rehabilitating assets, to continue with a renewals annuity approach, or to apply a combination of both methods.

Goulburn-Murray Water and GWMWater adopted a RAV approach, while three businesses, Lower Murray Water, FMIT and Southern Rural Water continued with the renewals annuity approach to funding expenditure. Under the annuity approach businesses forecast long-term expenditure on renewing and rehabilitating assets,

and then convert this expenditure to an annual figure using an appropriate discount rate. This annuitised amount is then recovered in prices each year through a renewals annuity payment. Importantly, the renewals annuity figure factored into prices will not necessarily equate to the actual renewals expenditure incurred in any given year.

The Commission's role extends to reviewing the proposed renewals annuity amounts, including the key inputs and assumptions adopted by each business, and the implications for the total revenue requirement.

The Commission considers that a renewals annuity amount should:

- provide sufficient revenue to undertake reasonable forecasts of renewals expenditure
- reflect efficient forecasts of expenditure
- have regard for a long term planning horizon (beyond the regulatory period)
- enable customers or potential customers to readily understand the manner in which it is calculated and
- be reviewed on a regular basis.

In order to accurately calculate a renewals annuity, businesses must have an accurate future renewals profile based on a good understanding of existing assets and their condition and degradation characteristics. Businesses also need to have a good understanding of how current assets and future expenditure relate to demand in the long term.

The key choices regarding method, assumptions and inputs underpinning the calculation of a renewals annuity include the:

- nature of assets included in the annuities calculation. The renewals approach is best applied to assets which form an integrated system, where the life of the whole system can be indefinitely extended by the refurbishment and 'renewal' of the component parts. In other jurisdictions regulators such as OFWAT have taken the position that non-infrastructure assets — assets with a defined useful life and which do not form part of a contiguous system — should be depreciated using conventional approaches. A common delineation between infrastructure and non-infrastructure assets is critical to the comparability of renewals estimates between businesses.
- annuity term — the term over which the annuity is calculated. In theory the term should capture a full asset cost cycle for the business. Care should be taken to ensure that there are no 'spikes' in capital maintenance expenditure requirements just outside the chosen annuity period. However, the term also needs to take into account the confidence that businesses have in forecasts, the accuracy of which will necessarily decrease the longer the term.
- discount rate — the discount rate is applied to determine the present value of the payment stream that equates to the expected stream of future renewals expenditure. The discount rate impacts on the renewals calculation as it is used both to discount a stream of future capital maintenance expenditures to a present value, and then to convert this present value to an annuity.

In forming a decision on the basis for annuity calculations, the Commission is informed by independent assessment of company asset management plan assumptions used to construct the annuity estimate. The Commission noted in its rural price determinations that the three businesses that continued to use annuity approaches were inconsistent in their application for each of the three points above.

While some businesses have retained the annuity method, all constructed assets from 1 July 2006 are now subject to the RAV based approach. The RAV valuation methodology is characterised as reflecting the economic value of the business at current prices while ensuring that all criteria related to the long-term financial viability of the business can be met. The opening valuation is subject to ministerial approval. Any future investment is then rolled into the asset base.

The move from an annuity to a RAV approach has been driven by the difficulty in making accurate long-term forecasts about future investment needs and the changing nature of the businesses' asset base. For example, the move from channels to pipelines and the reconfiguration of rural systems means that a like for like replacement of many existing assets may never occur.

4.3.4 Summary

Commission's initial position

Capital expenditure forecasts will be assessed by examining historical actual expenditure associated with baseline or business as usual levels of services. Expenditure related to new obligations, functions or service level improvements will be considered separately.

Any review of the prudence and efficiency of capital expenditure incurred in the first regulatory period will be by exception; particularly where actual costs are significantly higher than forecast and outcomes have not been delivered without sufficient reason.

The drought and efforts to improve security of supply will have led to changed priorities and impacted on the capital expenditure forecasts for a number of businesses. Therefore in some circumstances the departure of actual expenditure from that forecast may be readily explainable without the need for detailed review.

Implications for Water Plan

Water Plans will need to separately identify expenditure associated with delivering new obligations and business as usual service levels.

Water Plans should clearly outline the outcomes that were delivered over the first regulatory period, explain changing priorities and identify the actual capital expenditure undertaken. The Plan should include any information that will assist customers and the Commission in understanding changed priorities.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- Are there other factors the Commission should take into account when assessing the businesses' forecasts of capital expenditure?
- What factors should the Commission consider when assessing the businesses' asset management potential for productivity improvements?
- Do stakeholders have any views as to whether annuities remain an appropriate method for recovering future capital expenditure in the rural sector? If so, what factors should be considered in assessing an annuity?
- Do stakeholders have any views as to whether a RAV model is a better method for recovering capital expenditure in the rural sector?

5 | INCENTIVE MECHANISMS

5.1 Introduction

The Commission is required to be satisfied that prices provide the regulated entity with incentives to pursue efficiency improvements and to promote the sustainable use of Victoria's water resources.

Economic regulators generally seek to ensure that regulated businesses have sufficient incentives to:

- achieve efficiencies in relation to minimising 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 tradeoffs that can often occur between these two competing incentives, incentive-based regulatory approaches are often designed to address both price and service dimensions. It is important to recognise that these incentives do not operate independently. For example, in the absence of any countervailing service incentive, the incentive to minimise costs may be achieved by lowering service quality. In developing well-focused incentive mechanisms, it is necessary to consider the interactions between various incentive mechanisms.

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

- specifying service obligations to apply to the businesses through regulatory codes and/or approving or specifying service standards to apply during a regulatory period as part of the Water Plan (discussed in section 3.2).
- designing financial incentive mechanisms to reward and/or penalise performance that varies from pre-determined benchmarks or standards
- reporting performance against service obligations and standards as part of the performance monitoring and reporting regime or
- combinations of the above.

In other sectors that the Commission regulates (particularly electricity and gas), it has generally adopted an incentive based approach that has typically involved a number of aspects:

- setting a price path for a five year period on the basis of forward looking forecasts of the key components of revenue (including expenditure, returns) and then allowing businesses to retain any benefits that arise from out-performing against the forecasts and equally requiring them to bear any losses resulting

from their performance during the regulatory period. For this approach to work there needs to be limited or no opportunity for the determination to be 're-opened' such that prices are adjusted to reflect actual demand and expenditure levels. A re-opening of the determination weakens the incentive properties of the framework. One of the strengths of this approach is that it enables the regulator to adopt a more strategic approach leaving operational and commercial decisions to the regulated businesses. The length of the regulatory period is discussed in more detail in chapter 2).

- enhancing incentives to achieve efficiencies within the period by allowing the 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)
- in the electricity sector, the Commission has sought to balance the financial incentive to achieve efficiency savings with a financial incentive to pursue service improvements by adjusting the price caps to reflect actual performance against service and reliability targets. This reflects the fact that incentives to achieve cost reductions could be pursued at the expense of service levels (S-factor)
- identifying services that should be subject to guaranteed service level payments (GSLs), which thereby provide an incentive for businesses to address performance to individual customers whose service is poor when compared to the average. This approach has also been adopted for the metropolitan water retailers (discussed in more detail in section 3.2) and
- reporting and auditing the performance of businesses against a set of performance indicators, and thereby providing a solid basis for delivering on the incentives described above. This approach was introduced into the urban water sector in 2004 and is proposed to be introduced into the rural water sector in 2007.

This section discusses these approaches, including:

- how incentive mechanisms may be structured to deliver improved incentives in the Victorian water sector, having regard to the approach and experience of other jurisdictions in regulating the water industry
- whether the mechanisms used by the Commission to deliver incentives in other infrastructure industries (particularly electricity and gas) are likely to be appropriate and as effective for the water sector and
- what practical difficulties and limitations arise in implementing incentive mechanisms in the water sector.

The key issue for this regulatory period is extent to which financial incentive mechanisms should and can be practically introduced for the water sector.

5.2 Efficiency carryover mechanism

A basic feature of the CPI-X approach is that it provides incentives for regulated businesses to continually improve their efficiency by reducing expenditure. Because there is no 'clawback' of revenue at the end of a regulatory period, if businesses can provide the required service at costs that are lower than those set

in the expenditure forecasts, they are also able to retain the revenue within the business or achieve higher returns.

However, using this approach does not in itself provide the optimal incentives to minimise costs. This is because prices are realigned with costs at the end of each regulatory period. As a result, the incentive for a regulated business to make efficiencies declines toward the end of a regulatory period as the period for which they capture gains reduces. For example, a business that achieves a \$50 000 ongoing operating cost reduction in year 1 of a 5 year regulatory period retains a benefit of \$250 000. The same reduction made in year 5 would only return \$50 000 to the business.

In some cases, businesses may have an incentive not to make efficiency savings in the last years of a regulatory period and to instead defer them until the first year of the next regulatory period.

One approach for addressing this issue is to design a mechanism that provides businesses with the same reward for an efficiency gain, irrespective of when (within a pricing period) the particular gain is made. The Commission has adopted an 'efficiency carryover' mechanism in other sectors, such as electricity and gas, which involves increasing the cost benchmarks in one regulatory period to reflect efficiency gains from the previous regulatory period.

The efficiency carryover mechanism should be designed:

- to be objective, transparent, easy to administer, and replicable
- to focus on the efficiency gains that can be influenced through managerial decision making
- to require minimal or no re-opening of prior period forecasts to maintain the incentive
- to provide as far as practicable, equal incentives to make efficiency gains in any given year, and equal incentives in respect of operating expenditure and capital expenditure and
- so that the allowance for efficiency gains is not at the expense of service standards.

5.2.1 Issues in designing an efficiency carryover mechanism

In practice, the design and operation of the efficiency carryover mechanism described above can be complex and a number of issues need to be addressed in finalising the mechanism.

These include:

- the length of the retention period — the longer the period the greater the incentive to make efficiency gains
- whether carryover mechanisms might apply to both operating expenditure and capital expenditure, or just operating expenditure

- how actual expenditure above forecast will be treated — whether penalties should be imposed if costs are exceeded, and if so whether any caps on the penalties should be in place
- how to ensure that efficiency gains are not being made at the expense of imprudently deferred maintenance activity
- how the efficiency carryover interrelates with the rest of the regulatory framework — for example, the carryover mechanism in the gas industry is based on the premise that expenditure in the first year of the next regulatory period will be the same as expenditure in the second last year of the previous period, plus adjustments for 'scope' change. In this way businesses are prevented from artificially moving costs between years or under-reporting expenditure and
- the assumptions that need to be made about expenditure in the final year of a regulatory period — given that actual expenditure in the final year is not known prior to a price decision for the next regulatory period being finalised.

There are two broad factors that need to be considered by the Commission in the application of an efficiency carryover mechanism to the water sector:

- the treatment of any efficiency gains made over the first regulatory period and how these should be reflected in prices applying from 1 July 2008 and
- the approach to any efficiency carryover adopted for the next regulatory period.

In terms of applying an efficiency carryover to the first regulatory period, the Commission identified in the urban price decision that an efficiency carryover would apply and affect prices in the second regulatory period. However, the Commission noted that while there was support for the concept, the detailed basis on which efficiency gains and losses are treated would need to be considered in light of:

- water businesses' actual performance over the first regulatory period, and in particular how effectively they respond to the incentives put in place
- the Commission's broader thinking in terms of how effectively existing efficiency carryover mechanisms are operating in other industries that it regulates.

The Commission also set out key principles that it considered should underpin the efficiency carryover:

- the mechanism will provide a gain (loss) to a business 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 is 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)
- for capital expenditure, the efficiency gain carried forward is the difference between actual and benchmark capital expenditure multiplied by the WACC

(subject to any possible adjustment for changes in scope including the deferral of projects from one period to the next)²³

- where the scope of the projects delivered over the period differs, an adjustment will be made to the carryover where necessary to ensure that businesses are rewarded in a manner consistent with the efficiency gains actually delivered
- the businesses will be able to retain the carryover associated with efficiency gains for five years after the year in which the gain is achieved
- the carryover amounts will only be applied where the net increment to the revenue requirement over the whole of the regulatory period would be positive, after adjusting for the time value of money.

Since the urban determination a number of factors have impacted on whether an efficiency carryover remains appropriate for the water sector in the first period. In particular:

- uncertainty surrounding the forecasts for the first regulatory period
- the short duration of the regulatory period and limited data availability at the time of the draft Water Plans (only 2005-06 actual data will be available)
- the worsening drought conditions across the State leading to changing priorities for a number of businesses and increased operating costs.
- possible changes in obligations that have occurred over the period, with several businesses citing changing obligations impacting on costs
- the Commission's monitoring of major capital projects which suggests that many businesses are falling behind in delivering capital projects. The deferral of major projects to the next regulatory period is not considered to be an efficiency gain and
- several businesses have asked that they be allowed to reforecast capital expenditure for the final year of the regulatory period which if allowed would blunt the effectiveness and relevance of the carryover mechanism.

These factors may mean that applying an efficiency carryover to the first regulatory period may have limited (or no impact) for most businesses. Further the effort required to adjust for the above issues could be unduly complex and outweigh any benefits, especially for capital expenditure. Therefore the Commission considers that there is little merit in applying an efficiency carryover mechanism for the first regulatory period

In terms of the second regulatory period, the Commission considers that it is desirable that the regulatory framework enhance incentives for the water businesses to achieve efficiency gains. In particular, businesses should have a continuous incentive to achieve efficiency gains irrespective of when they arise

²³ It should be noted that since the 2005 Urban Price Review, the Commission has completed its 2006-10 Electricity Distribution Price Review. As part of that review the Commission limited the application of the efficiency carryover to operating and maintenance expenditure. The Commission would need to consider the experience in the electricity sector in finalising the principles that would apply to any carryover mechanism for the water sector.

during the regulatory period. Also, incentives should reflect efficiencies achieved within the control of management.

The Commission considers that applying an efficiency carryover is consistent with the requirement in the WIRO to provide incentives to pursue efficiency improvements.

It is likely that the forecasts for the second regulatory period will be more robust than for the first period and the longer length of the period provides greater incentives to pursue efficiencies.

5.2.2 Summary

Commission's initial position

Applying an efficiency carryover mechanism for the first regulatory period may have limited impact for most businesses. Therefore there is little merit in applying an efficiency carryover mechanism to the first regulatory period.

It is likely that forecasts for the second regulatory period will be more robust and the longer period provides greater incentives for businesses to pursue efficiencies.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- Should an efficiency carryover mechanisms be applied for the 2008 regulatory period?
- If so, how should the efficiency carryover mechanism be designed.

5.3 S factor mechanism

One approach to providing financial incentives for businesses to deliver service levels is to allow prices to be adjusted annually to reflect actual performance against certain specified service standards or targets. This approach provides incentives to achieve or exceed the service targets and standards established during a price determination and improve service performance where economically efficient.

The Commission has adopted such an approach in the electricity sector whereby the businesses may have prices increased or decreased each year to reflect performance against clearly defined average reliability targets. This is referred to commonly as the S factor approach because the CPI-X price control formula includes an S-factor calculated according to pre-determined rates for several different dimensions of service, including the duration and frequency of unplanned interruptions and planned minutes off supply.

Specifically in electricity, the Commission added a term S to the $(1+CPI)(1-X)$ factor in the distribution price control, giving it the form $(1+CPI)(1-X)(1+S)$. The S-factor is calculated by multiplying the gap between target and actual

performance for each year for each key indicator by an incentive rate for that indicator.

A similar approach has been adopted by Ofwat to reward and/or penalise water businesses for their performance against a package of service measures that are used to establish an overall relative performance assessment. Ofwat's approach rewards companies providing the best service with an increase in price limits, and conversely those companies providing the worst service receive decreases. The adjustment ranges between +0.5 per cent and -1.0 per cent of revenue.

In principle, there is no reason to suggest that an S factor approach may not provide additional incentives to encourage Victorian water businesses to achieve and/or exceed service related standards.

However, the application of an S factor adjustment mechanism to the water sector requires consideration of:

- the quality and reliability of performance data so that robust targets can be set. An S factor mechanism cannot work without reliable information on performance levels
- the performance targets to be included in the basket of measures that are to be included in the mechanism and the respective weightings of each measure within the basket
- the percentage of revenue that could be gained or lost from meeting the S factor requirements and that the size of the financial incentive is consistent with the level of expenditure required to achieve the service targets and
- how to ensure that perverse incentives are not created by the businesses focusing heavily on achieving the targets included within the S factor basket of measures at the exclusion of other service levels.

The introduction of an S-factor mechanism was raised at the time of the 2005 urban price review. The businesses were generally cautious about the introduction of an S factor adjustment mechanism.

The Commission decided against the use of an S factor mechanism in the first regulatory period because of the poor quality of the available performance data (with the exception of the three metropolitan water retailers) and the corresponding uncertainty about the reliability of projected service targets.

While the Commission has developed a performance reporting and auditing regime that applies to the water businesses, concerns remain as to whether all businesses have developed their performance reporting systems to a level which would allow an S factor mechanism to be implemented across the entire sector. In the rural water sector where performance reporting and service levels have yet to be established an S factor mechanism cannot be considered.

A further consideration is whether an S factor mechanism is warranted if businesses are only proposing modest service level increases — the Commission is only expecting businesses to maintain service levels consistent with the three year average (see section 3.2). In the electricity sector the S factor adjustment mechanism was implemented in conjunction with the expectation of large

increases in service reliability and corresponding expenditure levels to deliver these outputs.

The Commission does not propose to introduce an S factor adjustment mechanism across the water sector, but it is open to considering whether the approach may be applicable to some businesses.

5.3.1 Summary

Commission's initial position

The Commission is not proposing to implement an s-factor mechanism across the water sector, but it is open to considering whether the approach may be applicable to some businesses.

5.4 Other mechanisms

5.4.1 Performance reporting

One method of providing incentives for businesses to improve their level of service is to establish a regime aimed at disclosing information about performance, thereby increasing the accountability and transparency of regulated businesses.

Additionally, accurate and reliable performance data provides the information necessary for developing service standards (or targets) and other regulatory decisions.

As noted above, the Commission currently adopts performance reporting in the urban water sector as well as the electricity and gas sector. The experience from these sectors suggests that public disclosure and reporting of information can be a strong performance driver and provide a reliable source of information to customers about the services they receive.

The performance reporting framework has an important and complementary function to the establishment and ongoing monitoring of performance against key aspects of the Water Plans. Performance reporting and auditing has provided an important focus and driver of performance in the urban water sector in the first regulatory period.

The Commission has released a discussion paper and conducted a series of meetings with Customer Service Committees in relation to the establishment of a performance monitoring and reporting framework for the rural water businesses. It is also consulting with the rural businesses in relation to the nature of performance indicators that should apply to them.

In addition to reporting on the service and financial performance of the water businesses the Commission has extended the reporting framework to include the delivery of major projects contained in the Water Plans

The information from the Commission's urban and rural performance reporting framework will also be used to supply data to a national reporting framework developed under the National Water Initiative.

5.4.2 Guaranteed service level (GSL) schemes

Another method of providing businesses with incentives to improve service performance is by linking actual service performance to prices. This can be achieved by making payments to customers who receive services that are significantly worse than defined levels of performance (typically referred to as guaranteed service level payments or GSLs). A GSL approach was introduced for the first regulatory period for the metropolitan water retailers, Barwon Water and Central Highlands Water. GSL schemes have also been implemented in the electricity and gas sectors and water in a number of other jurisdictions, including New South Wales, the ACT and in the United Kingdom.

The Commission considers that GSLs are an effective incentive mechanism that has worked well in other sectors. The Commission notes that the Water Industry Act provides the Commission with the power to establish certain codes and allows that a code may provide for any matter relating to requiring a regulated business to develop, issue and comply with customer-related standards, procedures, policies and practices (including with respect to the payment of compensation to customers) in accordance with the code.

GSL schemes are discussed further in section 3.3.

6.1 Introduction

The Commission is responsible for regulating prices for services provided by each of the 20 water businesses. The Water Industry Regulatory Order (WIRO) specifies the following services for which the Commission has the power to regulate prices:

- retail water services — the supply of water by a water business to a retail customer
- retail recycled water services — the supply of recycled water by a water business to a retail customer (a third party)
- retail sewerage services — the removal, treatment and disposal of sewage and trade waste by a metropolitan retailer or a regional water authority
- storage operator and bulk water services — the supply of bulk water from one water business to another
- bulk sewerage services — the conveyance, treatment and disposal of wastewater by Melbourne Water for another water business
- bulk recycled services — the supply of recycled water by Melbourne Water
- metropolitan drainage services — the supply of drainage services by Melbourne Water
- irrigation drainage services — the removal and disposal of run-off of irrigation by a rural water authority
- connection services — the connection of a serviced property to a water supply or sewerage system
- services to which developer charges apply — new customer contributions to the cost of works for connections services
- diversion services — the management, extraction or use of groundwater or surface water by a water business.

The Commission's role of regulating prices does not extend to other services that water businesses may provide, such as plumbing services, waste management services and the sale of gardening products and water tanks.

The WIRO requires the Commission to approve prices for the regulatory period beginning 1 July 2008. In doing so, the Commission may approve all of a business's proposed prices, or the manner in which it proposes to calculate or otherwise determine proposed prices, if it is satisfied that all of the procedural requirements and regulatory principles of the WIRO are met. Alternatively, it may specify the prices or the manner in which the business should calculate or otherwise determine the prices.

As noted, the WIRO contains a number of regulatory principles that relate specifically to the design of prices. Overall, prices must be such that they provide for a sustainable revenue stream without reflecting monopoly rents or inefficient expenditure. In doing so, prices must allow businesses to recover operating and maintenance costs, renewal and replacement costs and a rate of return on existing and future assets.

The regulatory principles of the WIRO also require prices to provide customers with incentives for the sustainable use of Victoria's water resources by:

- providing appropriate signals to customers about the costs of providing particular services and choices regarding alternative supplies for different purposes.
- taking into account the interests of customers, including low income and vulnerable customers
- providing the water businesses with incentives to pursue efficiency improvements and to promote the sustainable use of Victoria's water resources
- enabling customers to readily understand the prices charged.

Therefore in approving prices the Commission needs to be satisfied that the business will earn sufficient revenue to deliver all its obligations, but it also needs to be satisfied that prices send appropriate signals and take into account the interests of customers.

Prices have an important role to play in sending signals to customers about the costs of providing services and they can influence customers' consumption decisions. However, in considering alternative tariff structures, businesses will need to weigh up the benefits arising from having structures that better reflect costs and/or send appropriate signals to customers against the costs associated with implementation and any adverse customer impacts. Any changes in tariff structures will also need to be accommodated within that revenue requirement.

In some cases there may be little to gain, in terms of sending appropriate price signals, from attempting to perfectly allocate costs to individual customers especially if those costs are sunk and have little impact on consumption decisions going forward.

Any change in tariff structures will have an impact on customers and in some cases that impact may be adverse. Such customer impacts are likely to vary across different customer types or classes. The potential for adverse customer impacts is likely to be greater where customers are unable to change their consumption in response to tariff structures. In some cases non-price approaches (such as customer education) may be more successful in terms of influencing customer behaviour.

In assessing proposed prices against the WIRO the Commission prices to address the following considerations:

- proposed prices should be constructed in a way that they are consistent with the objectives of demand and supply strategies

- in meeting demand supply objectives, proposed prices should aim to provide adequate signals to customers
- proposed prices need to have consideration for their impact on customers

In order to satisfy these principles water businesses will need to clearly articulate what they are trying to achieve over the regulatory period in terms of the obligations and outcomes they are proposing to deliver. They will need to and explain how the pricing strategy is consistent with what they are trying to achieve. For example, how proposed tariff structures are consistent with achieving a demand, supply balance.

Where businesses are proposing that prices are being used to provide signals to customers, businesses will need to demonstrate how tariffs have been structured to ensure that those signals are being sent. For example, businesses would need to show how they have had regard to long run marginal cost. Where businesses are proposing to restructure tariffs for the purpose of reallocating costs and there is little or no improvement in the ability of those tariffs to signal or influence customer behaviour, businesses will need to demonstrate that the benefits of reallocating costs are not outweighed by the customer impacts.

Commission's initial position

In assessing proposed prices against the WIRO the Commission is proposing that it be guided by three overarching considerations:

- proposed prices should be constructed in a way that they are consistent with the objectives of demand and supply strategies
- in meeting demand supply objectives, proposed prices should aim to provide adequate signals to customers
- proposed prices need to have consideration for their impact on customers

Further Issues

The Commission invites comments on the above, as well as other related issues, including:

- are there other principles the Commission should have regard to in assessing proposed prices?

The following sections discuss a number of specific tariff structure issues.

6.2 Urban tariffs

6.2.1 Inclining block tariffs

Inclining block tariffs are typically used in conjunction with two part tariffs, and are applied to the usage or variable component of the tariff. The rationale for inclining block tariffs is that charging a higher tariff for discretionary water use gives customers an incentive to moderate this use and that this will lead to a decrease in total water consumption.

For the first regulatory period the Commission approved inclining block tariffs to be applied to residential customers for eight of the twenty Victorian water businesses. For some of these businesses inclining blocks had only been recently introduced and there was little evidence of their impact.

In proposing an inclining block tariff the business will need to consider a number of important issues. These include:

- the number of blocks to be established, and how they are applied over different customer classes
- the level of usage at which the first block should be set, such that non-discretionary water use is affordable for vulnerable households
- the level of usage at which subsequent blocks are set
- the price relativities between the blocks
- the impacts of inclining blocks on large households and
- the complexity of an inclining block tariff.

One of the issues associated with inclining block tariffs (as with other tariff structures) is their potential to adversely impact on a customer's consumption decision. If the first threshold level is set too high, and/or the accompanying price is set below marginal cost, businesses are unlikely to effectively target discretionary water use and may perversely provide customers with incentives to increase water use. If the threshold is set too low and/or the accompanying price set above marginal cost, businesses run the risk of unnecessarily constraining non-discretionary water use.

The World Health Organisation has stated that 100 litres per capita per day will on average provide consumers with enough water to meet adequate consumption for hydration and cooking and hygiene needs. This translates into 400 litres per household per day, which is slightly below the threshold levels currently being implemented by metropolitan retailers.²⁴

An alternative method for determining discretionary water use is to reference changes in a customer's price elasticity of demand at different levels of consumption. It is reasonable to expect that discretionary water use will be accompanied by a relatively higher elasticity of demand.²⁵ The threshold levels should be set so that the level of water consumption identified as being associated with greater elasticity faces a higher price.

Another issue that needs to be considered is the impact of inclining blocks on households with differing compositions. Water use is usually defined for pricing purposes at a household level. For example, a business will typically base threshold levels on what it believes is a level of non-discretionary water use for a four person household. One of the inherent shortfalls of inclining blocks is that they

²⁴ World Health Organisation 2003, *Domestic Water Quantity, Service Level and Health*, WHO.

²⁵ It is reasonable to expect that discretionary water use is more sensitive to changes in price than non-discretionary water use.

do not reflect the relationship between water usage and household composition. In large households high levels of water consumption may not necessarily indicate that water is being used for discretionary purposes rather it may result from the number of household members exceeding that used as the underlying basis for the inclining block. Consequently, block tariffs may have adverse impacts on large households with relatively higher water use, while benefiting smaller households. This may distort the ability of price to provide efficient signals to such customers.

6.2.2 Variable charges for non-residential customers

Proposed variable charges for non-residential customers should be constructed in a way that they are consistent with the objectives of demand and supply strategies and should be effective in providing adequate signals to customers. Currently all non-residential customers face a two part tariff with a flat volumetric component. Alternative approaches may be observed in other industries the Commission regulates, such as electricity distribution and gas. Businesses in these industries have chosen to pursue peak and off-peak tariffs and different tariffs for different classes of non-residential customers. For example, the electricity sector differentiates between small, medium and large industrial customers. Gas businesses also have tariffs specific to large industrial customers. Such tariff structures are appropriate where peak demand or the demand of specific customer groups is a readily identifiable and significant driver of cost.

Action 3.14 of the Sustainable Water Strategy for the Central Region states that the Government intends to work with water authorities and all industries to explore alternative pricing options to encourage sustainable use by industry. The Strategy suggests that one possible alternative pricing structure would be the extension of the block tariff approach to industrial customers.

One of the primary concerns related to the application of non-residential inclining blocks is the question of what constitutes non-discretionary water use, and subsequently where to set the threshold levels. In a residential context non-discretionary water use is intended to represent some level of consumption that allows users to meet basic hydration, cooking and hygiene needs. This definition of non-discretionary water use is inappropriate in a commercial or industrial context.

Another issue is variability in water use by non-residential customers. While in a residential context water use and household composition can be characterised as relatively homogenous, the volume and actual water use for non-residential customers is likely to vary significantly given the range of activities that non-residential customers undertake. For example, it would be reasonable to expect breweries or beverage manufacturers to use relatively more water than clothing manufacturers. Under an inclining block tariff the brewer would face significant increases in its costs of production relative to other users. Inclining blocks for non-residential customers have the potential to result in prices that favour certain industries.

The variability of non-residential use coupled with the inherent difficulties in defining non-discretionary water use for non-residential customers makes it difficult to determine the appropriate level at which to set blocks. It may be more

appropriate to pursue water use efficiency for non-residential customers through voluntary demand management programs such as the Government's Pathways to Sustainability Program.

A possible alternative to block tariffs is the levying of a charge on major customers where these customers are seeking to increase their water use or discharge waste above a predefined level. The Commission considers that levying once off charges on major customers to effectively purchase or reserve a greater level of system capacity is unsound. A more efficient approach and one that is consistent with the WIRO is to ensure usage charges for all (including major) customers provide an appropriate and ongoing pricing signal. Once off access charges for major customers do not do this and may provide incentives for customers to over or underestimate their future supply requirements depending on the structure of the access charges (and any penalties for exceeding capacity limits). Even where capacity constraints on the shared network exist any increase in costs as a result of increased demand should apply to all customers, so that the potential for a demand response is maximised.

Alternatively, it has been suggested that businesses may wish to offer price discounts to business users who decrease their water use or discharge below some predefined level as an incentive. The issue with such an approach is that it may be difficult to administer. Water businesses would need to define targets for individual non-residential customers that reflected reasonable expectations about their future water use. Customers would naturally seek to inflate the targets so as to achieve the discounts. Under the regulatory framework the targets would be set for five years.

Another issue is the appropriateness of using inclining tariff structures to promote increases in efficiency in non-residential water use. Compared to residential water demand, the relationship between non-residential demand and efficiency of water use is more complicated. A non-residential customer's demand for water is derived from the demand for its commercial output and increased efficiency in water use per unit of output does not necessarily result in an overall decrease in the customer's demand for water. It may be more appropriate to pursue water use efficiency through voluntary programs.

As noted, one way of overcoming the inherent diversity of the non-residential customer base is to develop different tariff structures for different types of non-residential customers, based on water consumption characteristics. Tariffs could then play a more effective role in influencing behaviour and achieving demand supply objectives.

6.2.3 Summary

Commission's initial position

The Commission recognises the role that inclining block tariffs can play in providing signals to residential customers regarding sustainability. The Commission has a number of concerns regarding the application of inclining blocks to non-residential customers. However, the Commission believes there are options for more innovative tariff structures for non-residential customers that should be considered. One such option is to relate tariffs to differing categories of customers.

Implications for Water Plans

Proposals in Water Plans will need to show how tariffs are linked to broader supply demand objectives and how tariffs are expected to impact on customer behaviour. In proposing an inclining block tariffs, Water Plans will need to address a number of important issues. These include:

- the basis for defining non-discretionary water use
- the impacts of residential inclining blocks on large households and vulnerable customers
- the impacts of non-residential inclining blocks on different types of customers
- the complexity of an inclining block tariff.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- What has been the impact of inclining blocks in the first regulatory period? Have they had an impact on customer's consumption decisions.
- Do the metropolitan retailers have any information on the impact of inclining blocks for the first regulatory period?
- What impact has the introduction of inclining blocks had on large families? How could an inclining block structure be modified to overcome the adverse impacts on large families?
- How would the use of targets and incentive pricing satisfy the requirements of the WIRO? How would they provide for efficient price signals?

6.3 Rural tariffs

In the 2006 Rural Water Price Review the Commission's role in relation to pricing for rural water services was confined to regulating average price levels or total revenue and not specific prices or price structures. This was an outcome of section 14A of the WIRO, which limited the Commission's examination of prices and pricing structures to urban services. However, section 14A only applied to the first regulatory period and hence for the 2008 Water Price Review the Commission

is required to be satisfied, as with urban services, that prices for rural services meet the regulatory requirements of the WIRO.

The Commission has identified a number of issues which may impact on its assessment of rural prices. These include:

- the unbundling of water rights
- the application of exit fees.

A number of more generic pricing issues also need to be considered. These include:

- the degree to which costs are allocated to specific customer groups and reflected in differential tariffs and tariff structures, as compared to setting 'postage stamp' tariffs that are common across a number of customer groups
- the degree to which tariff structures, including the relative proportion of fixed and variable charges, provide appropriate signals to water users and promote the sustainable use of Victoria's water resources. In particular, the appropriateness of proposed prices in providing signals promoting the sustainable use of water given that rural users may hold rights and will receive allocations of water commensurate with these rights.

Finally, despite the Commission's limited role in the 2005 Urban Water Price Review, a number of specific pricing issues were raised with the Commission. In particular, submissions and comments at public forums raised the following issues:

- potential increases in fixed charges being levied on Wimmera Irrigation District customers by GWMWater
- recycled water charges in the Werribee Irrigation District.

Each of these is discussed in the following sections.

6.3.1 Unbundling of water tariffs

One issue facing all rural businesses and their customers is the unbundling of rural tariffs in line with the unbundled water rights being introduced by the Victorian Government. Unbundling was initially foreshadowed in the Victorian Government's White Paper in 2004 and formally initiated with the passing of legislation in November 2005 providing for water rights in gravity irrigation districts to be unbundled from 1 July 2007.

Three of the rural water authorities — FMIT, Goulburn-Murray Water and Lower Murray have already changed their key tariff structures to align with the new entitlement regime. Southern Rural Water and GWMWater have indicated they may amend their tariff structures in the second regulatory period. The impact of these new tariff structures will differ between customers.

The concept of unbundling recognises that water rights (as they currently exist) consist of three separately identifiable components or 'rights' available to the entitlement holder²⁶. These components are:

- a water share — a share of water available for consumption by the entitlement holder
- a delivery share — an entitlement to have water delivered to the customer's property and
- a water use licence — an entitlement and associated conditions for using water for irrigation purposes on a property.

Unbundling involves the separation of existing water rights into three distinct rights consistent with these components.

The Government has identified a number of potential benefits from the unbundling of water rights. Unbundling will make trade in water entitlements easier and provide for more efficient water use outcomes. The separation of components will also provide flexibility to irrigators in terms of managing their business. For example, new customers wanting to initially secure access to a channel without taking water immediately may do so without being obliged to secure a full water entitlement. Likewise, a separately recognised water share allows farmers to sell and lease back their water to free up capital for their business. Unbundling will also provide additional security of supply for irrigators as they can purchase additional water to ensure they have enough water when allocations are low without incurring additional infrastructure charges.

FMIT, Goulburn-Murray Water and Lower Murray Water have already changed their key tariff structures to align with the new entitlement regime. A key aspect of the new tariffs is that charges for infrastructure access are now based on a customer's 'delivery share' rather than their water entitlement. Previously, if a customer traded away their water entitlement, they would no longer be liable to pay the infrastructure charge even though they still have the potential to benefit in future from the channel infrastructure. However, with unbundled tariffs if a customer trades the water share but not the delivery share they are still be liable to pay the infrastructure charge.

This basis for charging is a more appropriate proxy for the benefits that a property receives (or has the capacity to receive) from access to infrastructure and will ensure that customer benefits are better reflected in prices.

Further, irrigators will be given additional security with the move to property based infrastructure charges. Under current arrangements, irrigators who trade their water entitlements out of a district on a permanent basis cease paying infrastructure access or maintenance charges. This results in maintenance costs being spread over a smaller customer base and price increases for individual irrigators. With unbundled water rights, delivery shares will be tied to properties,

²⁶ Information in this section has been drawn from *Our Water Our Future* Facts Sheets 17-20, available on DSE's website.

and customers permanently trading out of district will be required to continue paying infrastructure charges or exit fees.

The unbundling of rural water tariffs raises a number of issues, including the allocation of costs and the relative size of infrastructure use charges compared to charges for water delivered and the application of exit fees (see below).

This price review provides an opportunity for the Commission, rural businesses, customers and water customer service committees to review the impact of the tariff unbundling that has already been undertaken by FMIT, Goulburn-Murray Water and Lower Murray Water, and to consider the implications for future price setting.

6.3.2 Exit fees

The potential application of exit fees — fees payable where a customer permanently trades water out of an irrigation district or where a customer wishes to discharge their obligation to pay delivery shares — is an important pricing issue. Coinciding with the unbundling of tariffs and the removal of existing limits on the volume of water that can be traded out of individual districts, the Commission understands that some of the rural businesses propose to levy exit fees from 1 July 2007. Although they have not been applied to date in Victoria, in other Australian states exit fees have been charged where customers permanently sell their water entitlements out of a district. Where water rights are unbundled, exit fees may be applied where a customer wishes to relinquish their obligation to pay infrastructure charges.

Exit fees have been justified on the premise that remaining irrigators within the scheme should not be forced to pay higher delivery fees to cover those costs which remain in the system and which must be shared amongst a smaller customer base. However, exit fees, depending upon the level at which they are set, can constitute a barrier to the efficient working of the water market. This is especially so given the quantum of exit fees applied and contemplated in irrigation areas in other States. In some cases the exit fee is a substantial proportion of observed market prices.

The Commission notes that the Productivity Commission has addressed the issue of exit fees in a Staff Working Paper.²⁷ The general conclusion in the paper was that the imposition of exit fees following the sale of entitlement out of an irrigation area would have economic costs, and may not be efficient from the perspective of the whole economy²⁸. Nevertheless, the paper noted that exit fees are sanctioned in a qualified way under the National Water Initiative.

The ACCC, following a referral from the States, has examined exit fees and developed a set of relatively detailed principles by which they may be calculated. The Commission supports the concept of a set of consistent national principles and will carefully examine the ACCC's recommendations and any future Government response. The Commission notes the ACCC's recommendation that exit fees show

²⁷ Roper, H., Sayers, C. and Smith, A. 2006, *Stranded Irrigation Assets*, Productivity Commission Staff Working Paper, Melbourne, June.

²⁸ *ibid.*, p. 104.

direct consideration for any possible avoidable costs arising from the termination of service and should not include costs associated with ex ante obligations. It is important for Water Plans to provide sufficient detail of these costs.

6.3.3 Fees for water trading and access to the water register

Related to the unbundling issue, the creation of the Victorian water register and the fees and charges associated with trading give rise to a number of additional pricing issues. Under amendments to the Water Act a range of fees and charges may be established relating to the trading of water shares and various transactions associated with the water register.

The Commission understands that some of these charges will be prescribed by regulations but some are to be determined by the relevant water business. The Commission will review these new charges to ensure that they are consistent with the WIRO and do not act as a barrier to trade.

6.3.4 Cost allocation and tariff structures

One of the key issues facing rural businesses is the degree to which costs are allocated to specific customer groups and reflected in differential tariffs and tariff structures.

Unlike urban businesses, rural businesses have typically differentiated tariffs to reflect costs specific to groups of customers or areas. For example, Goulburn-Murray Water has a highly complex tariff calculation process, which involves the allocation of authority-wide, basin-wide and district-specific costs, as well as district-specific demand forecasts.

The Commission understands that this reflects historic customer preferences. This issue was highlighted in the 2005 Urban Water Price Review — for example the VFF High Catchment Committee expressed concern that Goulburn-Murray Water's pricing structure resulted in private diverters in the upper catchment cross-subsidising gravity irrigators. The Committee recommended that Goulburn-Murray Water should base its charges on the principles of 'user pays' and 'no cross-subsidisation'.

Differentiated tariffs are consistent with the WIRO principle that prices should provide signals to customers about the cost of providing services. The degree to which tariffs are cost reflective relies on the cost allocation methodologies employed actually reflecting the true costs incurred.

The Commission notes that differentiated tariffs can be relatively complex and costly to administer and may be difficult for customers to understand. The approach may also lead to relatively large price fluctuations in response to changes in expenditure in individual districts, for example as the result of a capital project. The Commission notes that in the first price review the Shepparton and Central Goulburn Irrigation Water Service Committees suggested that 'across the board' or basin-level pricing might be desirable.

6.3.5 Fixed and variable charges

One of the requirements of the WIRO is that prices be set to promote the sustainable use of Victoria's water resources. In the urban context, bearing in mind the externalities associated with water use, this suggests that customer prices should reflect a relatively substantial volumetric component.

However, the Commission understands that in recent years rural tariff structures have generally been trending in the opposite direction. Infrastructure and access charges have been increasing in relative terms, with charges for water deliveries decreasing. This, combined with low deliveries in many areas due to the drought, has resulted in a greater proportion of revenue being derived from fixed charges. Of course, to the extent that variable tariffs broadly reflect the marginal cost of supply, this may be an efficient outcome.

The issue of sustainability is somewhat different in the rural sector. Rural customers generally hold a water right. These rights are primarily rights to a volumetric component and a priority (security). The priority will dictate the manner in which available water is allocated at the beginning of the irrigation season. The Commission recognises that sustainability in a rural context may be addressed through the conditions placed on water rights and bulk entitlements and through the flows allocated to the environment.

The relatively higher proportion of fixed charges has helped insulate the water businesses against some of the negative financial impacts of low water deliveries caused by the drought. Naturally this has had the opposite effect on customers, prompting concerns (including from GMMWater customers) that fixed charges (including area-based charges) represent too great a proportion of customer bills. One alternative, is for businesses to increase the variable component and address issues of revenue uncertainty through the application of the revenue cap price control.

6.3.6 Wimmera Irrigation District fixed charges

The Commission understands that GMMWater has indicated that headworks and distribution charges allocated to the Wimmera Irrigation District may increase significantly in future. These increases appear to have been prompted by changes in cost sharing arrangements under the conversion of the Wimmera Mallee Bulk Entitlement Order. The Wimmera Irrigators Association has expressed concern about the potential price increases.

In the Rural Water Price Review 2006, the Commission expressed concerns about significant changes to fixed cost allocations and tariffs proposed by GMMWater given the large impact that they will have on a relatively small group of customers. It noted with concern remarks by Marsden Jacobs Associates that such an approach will make the irrigation district unviable²⁹.

²⁹ Marsden Jacob and Associates 2005, Water and Wastewater Pricing Review – Final Report, prepared for GMMWater, October , p85

The Commission will examine this matter closely as part of its review of Water Plans for the second regulatory period. It will do so in light of the WIRO principles that require consideration of customer impacts and the signalling of future costs (noting that costs allocated under bulk entitlements are largely if not entirely sunk costs).

6.3.7 Recycled water charges for Werribee irrigators

During the 2005 Urban Water Price Review customers expressed concern that the future of the Werribee Irrigation District (WID) was under increased pressure due to rising water prices and declining water volumes. Southern Rural Water has forecast that the district will have a substantial accumulated deficit by 2009.

The Commission agrees with customers that overall pricing arrangements for the WID need to be carefully considered, including

- the treatment and recovery of accumulated losses
- the cost of recycled water purchased from Melbourne Water and how these costs are attributed to growers within the WID
- the possibility of (and funding arrangements for) piping the entire WID.

The Commission expects Southern Rural Water, Melbourne Water and customers to work closely together to address these issues prior to the submission of the next Water Plan. In doing so, they should have regard to the Commission's approach to the pricing of recycled water. In its review of urban water prices a number of principles were established which included a principle that where water was being recycled in order to comply with specified Government or EPA obligations, the entire cost need not be borne by the specific customers using recycled water. Another principle is that recycled water prices should have regard to the price of alternative substitutes and customers' willingness to pay.

Commission's initial position

In addressing the requirements of the WIRO prices proposed for rural services should have consideration for the following:

- proposed prices should be constructed in a way that they are consistent with the long term objectives of the Water Plan, including reconfiguration/rationalisation plans.
- proposed prices need to have consideration for their impact on customers

Further Issues

Are there other rural tariff structure issues that the Commission will need to consider as part of the 2008 Water Price Review?

6.4 Recycled water services

Under clause 6 of the WIRO, retail recycled water services and bulk recycled water services are specified as prescribed services. As with other prescribed services the Commission will assess proposed recycled water prices or pricing principles against the regulatory requirements of the WIRO.

While the regulatory principles detailed in the WIRO apply to all businesses including rural water businesses, the Commission's expectation is that recycled water services are predominantly an urban issue. For regulatory purposes the Commission has treated recycled water as treated effluent provided to a third party. Under this treatment return flows to rivers or groundwater systems from allocated water are not considered to be recycled water.

In Victoria, the market for the sale of recycled water is driven by a number of factors including the recent drought and limited availability of potable water supplies, concerns about the need to improve environmental impacts and water flows and the increasing price of alternative water sources (including potable water).

In the 2005 Urban Water Price Review the Commission recognised the difficulty in identifying the drivers and beneficiaries of recycled water schemes and the existence of broad policy directions that seek to encourage rather than require businesses to undertake recycling.

The Commission was also cognisant of the fact that recycled water is substitutable with potable water and consequently customers were generally able to consume potable water if the price of recycled water exceeded their willingness to pay.

Given these considerations the Commission did not propose to set or approve maximum prices for recycled water. Instead, it outlined a set of broad pricing principles for recycled water for each business. These were that recycled water prices should be set so as to:

- maximise revenue earned from recycled water services having regard to the price of any alternative substitutes and customers' willingness to pay
- cover the full cost of providing the service (excluding polluter's costs associated with EPA discharge compliance) and
- include a variable component.

The principles for Melbourne Water are slightly different from those for other regulated entities. These differences reflect the recovery of funding shortfalls associated with recycled water from bulk water charges applied to the metropolitan retailers.

6.4.1 Policy developments in recycled water

Since the 2005 Urban Water Price Review the Government has instituted a number of initiatives and policies that directly affect recycled water. These include changes to the Statement of Obligations (SoO) (including new obligations to develop strategies to balance supply and demand and set recycled water targets) and a new power for businesses to mandate recycled water zones.

In accordance with sections 4I and 8 of the *Water Industry Act 1994*, the Minister for Water has notified the water businesses of his intent to vary the SoO applying to Victorian water businesses. The proposed amendments are derived from actions described in the Government's *White Paper — Securing Our Water Future Together*, and include the following changes relevant to recycled water services:

- a new obligation on urban water businesses — by 31 March 2007, and within each five years thereafter, businesses must develop Water Supply-Demand Strategies to identify the best mix of demand measures and supply options. The metropolitan businesses will be required to jointly produce a single Water Supply-Demand Strategy for Melbourne describing the city's long-term supply-demand balance for water.
- a new obligation on hybrid rural businesses to work with large non-residential water users to improve water management outcomes including water conservation, recycling and waste minimisation.

As part of their Water-Supply Demand Strategies urban water businesses will be required by government to set new targets for the substitution of potable water by recycled water and stormwater re-use.³⁰ The urban water businesses will be required to report on progress against the Water Supply-Demand Strategies on an annual basis.

The amendment to GWMWater's and Lower Murray Water's SoOs requires them to participate with those of its urban customers identified by the business as being large non-residential water users, in order to encourage industry to reduce water use (*White Paper*, action 5.18). This amendment is in line with obligations already in place on the metropolitan water businesses under the Government's Pathways to Sustainability Program, requiring them to develop water management plans with customers identified by the business as being large industrial/commercial water users.

From 9 October 2006, clause 56 of the Victoria Planning Provisions allows water businesses to mandate third pipe systems for the provision of recycled water for identified areas in order to maintain a supply demand balance. This has the effect of giving businesses greater control over the uptake of recycled water services in order to meet the targets set out in their Water-Supply Demand Strategies.

Given that businesses are now able to compel certain customers to take up recycled water services, the principles outlined in the 2005 Urban Water Price Review may no longer be appropriate. In particular, the principle of allowing businesses to 'maximise revenue earned from recycled water services having regard to the price of any alternative substitutes and customers' willingness to pay' should no longer be applied.

6.4.2 Water Price Review 2008 — regulatory approach

While the Commission approved pricing principles in the 2005 Urban Water Price Review, it may be appropriate to reconsider the regulatory approach in

³⁰ The metropolitan businesses are required to meet a 20 per cent target by 2010 as set out in the White Paper.

response to the recent policy developments. The Commission typically adopts one of two approaches in approving prices:

- Annual approval of prices — under this approach businesses propose the prices to apply at the start of each year and these are approved by the Commission. Services that are generic in nature and are provided to the majority of customers (for example, water and sewerage services) or specific customers on request may be regulated under this approach.
- Pricing principles — under this approach prices are set by the businesses in accordance with guidelines provided by the Commission. Services that are customer specific and set on a case-by-case basis may be regulated under this approach.

The Commission considers that annual approval of prices is the most appropriate form of regulation for the provision of recycled water to residential customers. The provision of recycled water through third pipe systems is a relatively homogenous service (essentially every customer is getting the same service), and as such the Commission considers that a more structured approach that includes recycled water services to residential customers in the tariff schedule is more appropriate.

Where businesses supply recycled water to large non-domestic customers (such as golf courses and other industrial water users), the Commission considers that pricing principles will be the appropriate form of regulation. Given that such customers will generally have unique service requirements businesses should have the flexibility in these instances to set prices on a case-by-case basis.

The following sections consider the relative benefits of the two approaches.

6.4.3 Pricing principles for recycled water

Pricing principles are a light-handed form of regulation suitable for services that are unique and separately negotiated, or only provided to a small number or specific class of customers. Under a pricing principles approach prices are set by the businesses on a case-by-case basis in accordance with guidelines approved by the Commission. The pricing principles developed by businesses should reflect the requirements of the WIRO regarding sustainability and cost reflectivity.

As noted above, the pricing principles for recycled water outlined in the 2005 Urban Water Price Review may no longer be appropriate given recent policy developments. The current principles state that prices should contain a variable component in order to provide customers with signals about sustainable water use.

However, given that businesses are now able to compel certain customers to take up recycled water services, the principle allowing businesses to maximise revenue earned from recycled water services may no longer be appropriate. Given these new powers it may be more appropriate for pricing principles to reference cost reflectivity. For example, principles may state that prices must not exceed the full efficient cost of providing the service.

6.4.4 Annual approval of prices for recycled water

The alternative approach of annual price approvals requires businesses to propose prices for recycled water services, which are approved annually by the Commission in accordance with the form of price control adopted.

An approach based on the annual approval of prices provides businesses with a price path for the regulatory period based on assumptions regarding service requirements, their associated costs and levels of demand. The price path ensures that businesses have an incentive to efficiently manage their costs.

The Commission has previously noted that businesses are best placed to design tariff structures that reflect the underlying costs of service provision and that there are a number of reasons why businesses may consider adopting different structures to suit differing circumstances. Whatever prices businesses propose in their Water plans must be consistent with the regulatory principles in the WIRO.

Factors that businesses need to consider include the underlying cost justification for particular tariff structures, and the ability of proposed tariff structures to change customer behaviour. In assessing alternative tariff structures, businesses will need to weigh up the benefits arising from having structures that better reflect costs and send appropriate signals to customers against the costs associated with implementation of the tariff structures and any adverse customer impacts. Businesses may also need consider the relationship between recycled and potable water services when pricing recycled water. For example, there may be advantage in pricing recycled water below marginal cost where the subsequent benefits from substitution of potable water outweigh the loss associated with low prices.

Although prices send signals to customers, the extent to which customers respond to those signals will depend on the availability of substitutes and the understandability of tariff structures. Implementation and customer impact issues may reduce the effectiveness of price signals and require programs for educating customers on the benefits and safety of recycled water. As noted above, sustainability should be addressed through including a variable component in prices.

In setting out prices for recycled water, businesses will need to take account of the cost drivers of providing the service. These might include an assessment of the costs of providing third pipe systems and metering, the costs associated with treating water to a suitable standard and delivery costs. Despite the fact that businesses are now able to mandate recycled water areas, the price of recycled water will to a degree be constrained by the substitutability of potable water.

6.4.5 Summary

Commission's initial position

The Commission sees merit in establishing a set of standard tariffs for recycled water to apply in typical residential subdivisions. The Commission also sees merit in continuing the pricing principles approach currently adopted for non-residential or unique (one-off) customers.

Pricing principles need to be amended to reflect recent policy and legislative developments. Principles should make direct reference to cost. For example, principles may state that prices must not exceed the full efficient cost of providing the service.

Implications for Water Plans

Water Plans will need to show how tariffs for recycled water are consistent with the overarching objective of satisfying demand supply balance over the regulatory period.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- Are there any new obligations, other than those identified, that will impact directly on recycled water prices?
- Is annual approval of prices appropriate for third pipe schemes where groups of customers receive a relatively homogenous service?
- Are pricing principles appropriate for large non-domestic customers receiving unique services?
- Do stakeholders have any views on the pricing principles that should be implemented for recycled water services?
- How should recycled water tariffs be structured?

6.5 Miscellaneous services

In addition to providing 'core' water and sewerage services, businesses provide a wide range of other services to customers. These include undertaking new connections, providing special meter readings, conducting meter tests, providing property information statements and reviewing applications to build over easements. Businesses also impose a range of application and 'penalty' fees (such as where customers' cheques are dishonoured).

These services, collectively known as 'miscellaneous services', comprise less than 2 per cent of overall business revenue. However, they are expected to provide over \$100 million in revenue to the urban businesses across the initial 3 year regulatory period and charges can be significant for individual services.

The 2005 Urban Water Price Review highlighted a number of issues associated with the pricing of miscellaneous services that need to be considered prior to the second regulatory period and in its initial guidance to businesses the Commission signalled its intention to consult on the approach to pricing miscellaneous services.

The WIRO provides the Commission with the power to regulate prices and standards of services for a number of prescribed services. Each of these prescribed services is defined in such a way so as to include services provided ‘in connection with’ the core services. For example, ‘retail water service is defined as:

*“**retail water service**” means a service provided by a **regulated entity** in connection with the supply of water to a person other than a **regulated entity**³¹*

Miscellaneous services are considered to fall under the ‘in connection with’ component of this definition. However, the relatively broad nature of the definition requires some judgement in assessing whether certain services are in fact prescribed. In its previous guidance to businesses the Commission indicated that where there was uncertainty it would take into account matters including the degree of competition in providing the service and the strength of the link between the service and other prescribed services.

Once it is established that a particular miscellaneous service is prescribed under the WIRO, the regulatory principles in the WIRO will apply.

In the 2005 Urban Water Price Review the Commission identified a number of issues associated with miscellaneous services:

- the range of miscellaneous services being offered — while there are a number of common services across the businesses, many services are priced by some businesses but not by others. This suggests that some services are either not offered by certain businesses, or that they are effectively offered free of charge as part of the standard water or sewerage service. The water quality test miscellaneous service is an example of this.
- definitions of miscellaneous services — few, if any of the miscellaneous services have been clearly defined by businesses in terms of the specific service being provided. Further, different businesses appear to use different terms to describe what is essentially the same service.
- pricing for miscellaneous services — in the 2005 Urban Water Price Review none of the businesses provided cost information to support the prices being charged for miscellaneous services. In some cases the range of prices proposed for similar services was quite large. Some businesses offer a fixed price for a particular service, while others offer an ‘actual cost’ price for that same service. In addition, each business typically calculates ‘actual cost’ in a different way. Finally there are different levels of stratification and unbundling of charges — for example some businesses charge the same meter test fee regardless of the size of the meter, while others do not.

³¹ See Schedule 1 of the Water Industry Regulatory Order 2003 (as amended 25 October 2005).

These issues are discussed in the following sections.

6.5.1 Range of miscellaneous services

A wide range of miscellaneous services are charged for by the businesses. While there are a number of services common to the majority of businesses, the only miscellaneous services that all businesses charge for appears to be the provision of an information statement and meter testing.

Many businesses have different sub-categories of miscellaneous services, while others have a single service. For example, City West Water offers a standard information statement, an electronic information statement and an urgent information statement, each with a different charge.

In other cases, businesses have different approaches to charging for the same broad service. For example in relation to water tapping:

- some businesses have a defined charge for each different tapping size
- some have a common charge for different groups of tapping size — such as, 20 to 25 mm
- most businesses charge 'actual cost' for larger tapping sizes, although the size at which scheduled prices are no longer levied and 'actual cost' applies varies widely
- while most businesses charge only on the basis of the tapping, some charge based both on the size of the tapping and the size of the main.

The number of miscellaneous services being offered is generally quite extensive. For example, Barwon Water lists over 200 different miscellaneous charges. Given the large number and widely different range of miscellaneous services being offered the Commission considers that it is opportune to review whether the number of miscellaneous services could be reduced.

One option would be to discontinue offering certain miscellaneous services as separate services. In such a case the services would be provided at no additional cost as part of the standard water or sewerage service with the costs of provision effectively being recovered through the general price level across all customers. This might be appropriate where:

- the service is provided at low marginal cost to the business
- the service has a low price and/or generates limited revenue
- there would be limited or no impact on demand for the service if it was offered as part of the main water or sewerage service (ie there is a low elasticity of demand for the service)
- no customer group would be particularly advantaged or disadvantaged.

Similarly, there may also be opportunities to rationalise the number of separate miscellaneous services by combining services with materially similar costs. For example, it may be appropriate to have a single meter removal and testing service and charge, rather than a separate charge for every different size of meter.

The benefits of rationalising miscellaneous services include reduced administrative costs to the business in defining, calculating and applying separate services and charges. A simpler and more uniform charging structure is also likely to have benefits for customers. These would need to be weighed against the disadvantages of reduced cost reflectivity.

6.5.2 Definition of miscellaneous services

Providing clear definitions and descriptions of miscellaneous services is likely to improve the transparency of services and prices, reduce the possibility of disputes and make it easier for customers to understand the rationale for various charges and the manner in which they are applied. Standardised definitions of miscellaneous services would assist the Commission in assessing whether pricing proposals satisfy the WIRO principles by providing greater opportunities for comparison and benchmarking across businesses.

The benefits of greater standardisation need to be weighed against the costs. It is important that businesses' ability to introduce new miscellaneous services to meet customer demand and reflect changing technology should not be unduly constrained. The establishment of a separate electronic information statement service is an example of this.

Potential ways of achieving greater transparency in the provision of miscellaneous service are described below.

Standard terminology

Different businesses appear to give what appears to be essentially the same service, different names. This may make it difficult for customers to understand, particularly where a customer conducts activities across a number of different water authorities.

It also makes it difficult for the Commission to compare charges and services across businesses.

For example, what appears to be the same service is variously described by different businesses as "build over agreement preparation", "build over easement (BOE) application", "sewer build over fee", "build over permit application", "build over easement or sewer", "sewer plan and build-over fee".

A simple solution would be for businesses to agree to use the same name for the same general service, even if the exact nature of the service differs slightly. Issues associated with different terminology may also be addressed by requiring businesses to define the service being offered.

Defining the service offered

Many of the miscellaneous services offered are not well-defined, either in terms of the nature of the service provided, or the standard of service offered. Each business's price schedule provides little or no service definition for most miscellaneous services. In some cases, other documentation may provide such information this is often the exception rather than the rule.

It may be desirable to provide a brief description of the service offered. For example, a miscellaneous service may be included in the tariff schedule in the following manner:

Standard property information certificate — provision of a property information statement in accordance with section 75 of the Water Industry Act, in hard copy form, within 7 days of receiving a request.

Common definition/offering

In other regulated industries such as electricity and gas the Commission has found it to be in the interests of customers for a minimum list of standard miscellaneous (sometimes referred to as ‘ancillary’) services to be commonly defined and/or offered. This would not restrict businesses from offering other miscellaneous services, or variations on the ‘standard’ service, but would require that a common benchmark service be offered.

The benefits of a commonly defined set of miscellaneous services include:

- greater clarity for customers in terms of the nature and standard of service being provided
- reduced confusion where a customer (for example, a developer) conducts activities across a number of different water authorities
- increased price transparency for customers and the Commission.

6.5.3 Pricing of miscellaneous services

The 2005 Urban Water Price Review highlighted businesses’ inability to provide an adequate justification for their miscellaneous service prices, as well as the significant differences between the prices of various miscellaneous services. Differences in prices for some of the more costly miscellaneous services — such as water tapping, connection and plugging fees — appear to be up to several hundred dollars (this may partly be due to differences in service definition and terminology) (see table 6.1).

The Commission considers that prices for miscellaneous services should be cost-reflective, having regard to the WIRO requirements and the efficiency benefits to businesses and customers of relatively simple pricing structures. Given the wide range of prices that currently exists the Commission is not convinced that this objective is being met.

The Commission notes that some businesses charge a different price for an identical service depending upon the identity of the recipient. For example, several businesses charge substantially lower prices for a special meter reading in the case of a change of tenancy. Although the costs involved in providing the service are unlikely to be substantially different, these businesses may argue that lower prices for tenancy meter readings are consistent with the WIRO requirement that prices take into account the interests of low income and vulnerable customers.

Table 6.1 **Selected miscellaneous service prices 2006-07**
Nominal \$

<i>Business</i>	<i>Water Quality Test</i>	<i>Standard Pressure/Flow rate test</i>	<i>Meter Accuracy Test^a</i>	<i>Fire Service Date</i>	<i>20 mm Tapping Fee^b</i>
City West	Actual Cost	174.52	Actual Cost	Actual Cost	211.99
South East		100.15	52.70 (removal)		316.25
Yarra Valley		81.61	36.99		235.04
Barwon	288.98	56.75	66.19	189.14	160.78
Central Highlands	various		84.06	210.17	178.64
Coliban		119.59	120.65		
East Gippsland		154.80	67.73	193.50	116.10
Gippsland	At cost	75.88	75.88	126.47	316.18
Glenelg (Wannon)	49.00	49.00	49.00	210.00	84.00
Goulburn Valley	126.42	147.49	147.49	147.49	44.25
GWMWater			59.50		102.00
Lower Murray			20.00	200	300.00
North East			66.39	189.71	56.90
Portland Coast (Wannon)	37.63	161.68	56.58		97.01
South Gippsland	Actual cost	Actual cost	71.49	204.25	296.16
South West (Wannon)	At cost	102.98	102.98		87.50
Western	Cost plus	Cost plus	71.68	191.50	266.26
Westernport	Actual cost	134.38	62.08	177.37	53.21

^a On site. ^b May be some variance in the service provided.

The Commission considers that one or more of the following approaches warrants consideration for the second regulatory period:

- broad pricing principles — requiring each business to calculate miscellaneous service prices with regard to broad pricing principles. These principles might include such things as cost-reflectivity and administrative simplicity, as well as the specific WIRO principles. In order for prices to be approved by the

Commission, businesses might be required to demonstrate how they have been calculated and that they are consistent with the principles.

- specific pricing formula — the Commission could require prices to be established consistent with a specific formula or approach. This is the approach adopted by IPART in regulating miscellaneous service prices in NSW (see box 6.1). This would not mean that the price of a particular service would be the same across all businesses — as the IPART experience suggests, different ways of providing a service, different overhead allocations and different unit costs will mean that prices vary. However, the Commission expects that establishing a more common basis for pricing will reduce price differentials. It may also assist businesses uncertain about how miscellaneous prices should be calculated.
- common prices — another approach would be to require each business to charge the same price for miscellaneous services. This might not be appropriate for all services and the Commission notes that IPART did not attempt to align all the NSW metropolitan businesses' miscellaneous service prices because there may be significant cost justification for the services being priced differently. However, the Commission considers that it may be appropriate to align prices for a range of miscellaneous services which are commonly sought, are relatively low-cost, and for which the cost would be unlikely to vary significantly between businesses. Examples where this might be appropriate include information statements, special meter readings, fees for account information beyond 3 years and on-site meter testing. Charges for the remaining miscellaneous services could be determined according to pricing principles or a specific pricing formula.

'Actual cost' pricing

A number of businesses do not have a scheduled price for certain miscellaneous services, and instead provide the service either at:

- the external cost incurred by the business (for example, in the case of bank charges for dishonoured payments)
- 'actual cost' – which may be a combination of external and internal costs

While the Commission has a preference for prices to be scheduled, it accepts that the costs of some miscellaneous services can vary significantly on a case-by-case basis and that more flexible pricing arrangements are necessary.

In approving prices for the first regulatory period, the Commission required businesses to provide a description of how actual cost would be calculated. This improved the level of transparency in miscellaneous service pricing, however the Commission notes that:

- the manner in which 'actual cost' is to be calculated differs between businesses in terms of such things as labour rates adopted, overhead or margin percentages, maximum or minimum hours charged for, etc.
- some businesses offer a scheduled price for a service which other businesses offer only at 'actual cost'
- businesses are not required to provide an estimate of costs to the customer

In order to improve transparency and consistency in pricing, there may be benefits in adopting a more standard application of actual cost pricing. This could include

applying a standard pricing formula for actual cost pricing, or restricting the miscellaneous services for which actual cost pricing can be applied. Other provisions, for example businesses providing an estimate of costs to the customer prior to providing the service, might also be desirable.

Box 6.1 IPART pricing principles

In its 2000 price determination for the NSW metropolitan water businesses¹ IPART established pricing principles to provide guidance to establishing miscellaneous services. These were:

1. Charges should be cost reflective. The maximum charge is the full cost of service delivery to customers in accordance with the formula:

$$\text{Miscellaneous charge} = \text{base cost} + \text{direct material cost}$$

Where:

$$\text{Base cost} = [\text{direct cost of labour (including on-costs)} + \text{transport} + \text{equipment}] \times [\text{business unit overheads}]$$

$$\text{Direct material cost} = \text{cost of materials used in the service}$$

2. Where charges increase, evidence supporting the increase must be available
3. Businesses should continue to pursue efficiency gains
4. A customer impact analysis should be performed where significant price changes or new charges are proposed

In 2003, IPART and the businesses formed a working group which agreed on a common definition for the 20 main miscellaneous services offered. As part of its 2005 determination IPART engaged consultants to review the reasonableness of businesses' proposed miscellaneous charges, including the reason for differences between prices. In summary the review found:

- each business adopted different methodologies for allocating overheads
- there were differences in the types of tasks that needed to be performed to deliver the commonly defined miscellaneous services
- there was considerable variation in the estimate of time taken to perform common tasks
- as a consequence the prices were not necessarily comparable
- in general, the prices charged for miscellaneous services were likely to understate the cost of providing services.

Source: IPART (2005) Final Report on the review of miscellaneous charges price proposals for NSW metropolitan water agencies - Prepared for IPART by RSM Bird Cameron.

6.5.4 New miscellaneous services

The Commission currently permits new miscellaneous services to be introduced during the regulatory period. This flexibility was provided in response to arguments from businesses that they needed to be able to introduce new services to meet customer needs and take advantage of new technology. The introduction of new services is subject to Commission approval in order to ensure that businesses cannot introduce new services purely to generate a windfall gain in revenue.

To date only two of the twenty urban water businesses have applied for the Commission's approval of new miscellaneous services — South East Water has made 3 applications and Melbourne Water has made one. The Commission has also received a number of applications that do not relate to new services but sought to correct for errors or omissions from the determination.

Given the small number of applications received and the small amount of revenue (the applications represent 4 per cent of total miscellaneous review for the three year period) associated with these applications it is likely that the costs associated with allowing businesses to introduce new services during the period will outweigh the benefits.

6.5.5 Summary

Commission's initial position

Prices and how they are to be applied should be clearly defined, including a definition of the service being provided. Prices proposed for miscellaneous services should address the following principles:

- prices should be consistent with the broader objectives of the business
- prices should be effective in providing adequate signals to customers
- proposed prices need to have consideration for their impact on customers

The Commission believes there may be opportunities to rationalise the number of miscellaneous service being offered, either by offering some miscellaneous services as part of the main water or sewerage service, or combining certain miscellaneous services at the same price. One of the benefits of rationalisation is that it would provide for relatively simpler administration.

Implications for Water Plans

Water Plans will need to include a clear description of the miscellaneous service being provided and the reasoning underlying the associated price.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- Do stakeholders have any view on how best to deal with the uncertainty about the nature of miscellaneous services being offered?
- Should businesses be required to more comprehensively define their miscellaneous services? Should common definitions be adopted?
- What is the best way of ensuring that miscellaneous service prices are priced appropriately and consistently across businesses?
- Do stakeholders have any concerns with the manner in which 'actual cost' pricing is being applied?.
- Would there be benefits in adopting a more common approach to determining 'actual cost'?
- Should businesses be required to provide an estimate of costs prior to a service being provided?
- Is it necessary to maintain the ability for new miscellaneous services to be introduced during a regulatory period?
- Should the introduction of new miscellaneous services be restricted to the commencement of each regulatory period?

The *Water Industry Act 1994* gives water businesses the ability to require new customers to make an upfront contribution to the costs of connecting to the existing water and sewerage networks. Existing non-serviced property owners are also required to make upfront contributions for the cost of connection. One of the Commission's responsibilities is approving or determining capital contributions or the method by which they are calculated for new and existing customers.

7.1 Legislative framework for levying contributions

Water Businesses have historically had discretionary power to set prices under sections 268 to 279 of the *Water Act 1989* and sections 28 to 29 of the *Water Industry Act 1994* (see box 1.1).

The WIRO was made under section 4D(2) of Part 1A of the *Water Industry Act 1994*. Part 1A of the *Water Industry Act 1994* specifically states that Part 1A will prevail to the extent of any inconsistency between it and the *Water Act 1989*.

Section 4D(2) authorises the Governor in Council to make a water industry regulatory order specifying prescribed services in respect of which the Commission has price regulation powers. Under the WIRO 'prescribed services' are defined to include services to which 'developer charges' apply. Developer charges include:

- contributions to the cost of works imposed under sections 28 and 29 of the *Water Industry Act 1994* and
- contributions to the costs of works imposed under Division 6 of Part 13 of the *Water Act 1989* (which includes sections 268 to 270).

7.2 Customer Contributions and the WIRO

In carrying out this regulatory role, the Commission is guided by its legislative framework. The detailed framework is set out in the Water Industry Regulatory Order (WIRO) made by the Governor in Council (see discussion in section 1.2). The WIRO sets out the process and regulatory principles that will guide the Commission in deciding whether to approve the prices that each water business proposes in its Water Plan.

Customer contributions are a price levied by businesses on customers for the provision of infrastructure to service land. Services to which customer contributions apply are set out in clause 6 of the WIRO as both a declared and a prescribed service. This means that the Commission has the power to regulate standards, conditions of service and supply and price.

Box 7.1 Water Industry Act 1994

28. Contributions for increased services

5. A licensee that provides services to a property may, by notice in writing, require the owner of the property to contribute to the present day cost of any works referred to in section 27(1) if the use of any service for which those things are used increases, or will increase, because of development of the land or any other change, or proposed change, in the use of the land.

6. The amount of the payment required from an owner must—

(a) be assessed by the licensee to be fair and reasonable in all the circumstances; and

(b) take into account any payment that the owner has made or is liable to make under section 27 or 29 in relation to that property.

7. The notice must specify the things set out in section 27(4).

29. Payments for provision of services

1. A licensee may, by notice in writing, require the owner of a property which becomes a serviced property to meet or contribute to the present day cost of any works that are used or will be able to be used directly or indirectly for the provision of services to that property.

2. The amount of the payment must—

(a) be assessed by the licensee to be fair and reasonable in all the circumstances; and

(b) take into account any payment that the owner has made or is liable to make under section 27 in relation to that property.

3. The notice must specify the things set out in section 27(4).

Source: Water Industry Act 1994 No. 121

The WIRO outlines a number of regulatory principles which the Commission must be satisfied have been met before it can either approve proposed customer contributions or the method by which they are to be determined. Clause 14 of the WIRO outlines these regulatory principles. The principles are broad and include:

- Clause 14 (a)(i) — The prices contained in the water plan must be such as to provide for a sustainable revenue stream to the business that nonetheless does not reflect monopoly rents and or inefficient expenditure by the business
- Clause 14 (a)(vi) — The prices contained in the water plan must be such as to provide incentives for the sustainable use of Victoria's water resources by providing appropriate signals to water users about
 - The costs of providing services including costs associated with future supplies and periods of peak demands and or restricted supply

- Choices regarding alternative supplies for different purposes
- Clause 14 (a)(viii) — The prices contained in the water plan must be such as to provide the regulated entity with incentives to pursue efficiency improvements and to promote the sustainable use of Victoria’s water resources
- Clause 14 (a)(xi) — The prices contained in the water plan must be such as to enable customers or potential customers of the regulated entity to readily understand the prices charged by the regulated entity for prescribed services or the manner in which such prices are to be calculated or otherwise determined.

7.3 Approaches to setting customer contributions

The question of what constitutes an appropriate level at which to set contributions can be considered in terms of what is an appropriate balance to strike between full upfront funding of all growth related capital expenditure by customers developing land or alternatively recovering capital expenditure over time from the customers using services. Any arrangement or approach for funding growth related capital expenditure can be seen as lying somewhere on a spectrum between full upfront funding or funding over time. All points along the spectrum allow for full cost recovery. Where a business’s proposal sits on this spectrum represents how it believes it should share the funding of growth assets between the two different groups of customers.

In a competitive environment it would be reasonable to expect that the balance is struck in favour of the users and that prices reflect both a return on and of new capital expenditure. Upfront funding generally occurs in situations where there is a high degree of risk associated with individual customers or groups of customers. For example, there may be circumstances where there is an unacceptable degree of risk associated with the future revenue stream from a group of customers. Businesses may wish to offset this risk by recovering upfront a proportion of the capital expenditure associated with servicing these customers.

In relation to the water sector, upfront funding arrangements are usually justified on the basis of:

- upfront contributions are needed to fund the provision of services
- upfront contributions provide locational signals to developers

With regard to the funding of infrastructure, the decision to fund works upfront or overtime is cost neutral and will have no financial impact on water businesses. The contention that upfront contributions ensure the financial viability of extensions to infrastructure relies on the assumption that prices are not able to adjust to reflect costs. If prices are cost reflective, then any future stream of revenue will include both a return on and of capital expenditure. Where this is the case an upfront contribution calculated on the basis of incremental costs will by definition always be zero.

Historically, some businesses may have used the resulting surplus from developers to offset the costs associated with the broader customer base. One of the principal issues with this approach is that it results in the prices faced by the wider customer base being lower than they would be otherwise and therefore not

providing appropriate signals to customers about their associated costs. Furthermore it implies that the contribution levied on the developer may have exceeded the marginal cost associated with connecting the development. Where upfront contributions are pursued purely for funding arrangements, water businesses need to be cognisant of the impact the contribution may have on customer behaviour — the degree to which the contribution will effect behaviour will depend on the customer's elasticity of demand. Excessive contributions may result in a less than efficient level of development.

Clause 14 (a)(viii) of the WIRO requires prices to provide water businesses with incentives to pursue efficiency improvements and to promote the sustainable use of Victoria's water resources. In assessing the desirability of adopting or maintaining an upfront funding regime, the Commission needs to be cognisant of the impact such an approach has on the underlying incentives to pursue efficiency. Of particular concern is that the upfront funding of capital by customers may dilute incentives for water businesses to pursue the least cost supply solution for particular catchments. Given that the assets used to service developments are generally long lived, and that water businesses can dictate the works required to service a development the requirement for upfront funding may erode the incentives for a water business to pursue least cost supply solutions. Placing the burden of funding directly on the customer developing the land may lead to instances where businesses require customers to fund systems with excessive levels of capacity. Since the implementation of the last price review the Commission is aware of instances where the classification of assets as shared has resulted in the redesign of systems such that less costly assets were required.

In addition to funding issues there is the issue of contributions being able to provide locational signals to customers developing land. Previously water businesses have contended that upfront contributions provide signals to developers of land regarding which land is relatively more expensive to service.

The Commission considers that customer contributions should provide appropriate signals about the costs associated with connecting to the existing network at one location relative to another. In particular, contributions should signal to customers the financing costs associated with bringing forward the provision of shared distribution assets (see section 1.5). From a resource efficiency perspective, setting prices that reflect the marginal costs of connecting at different locations would encourage new customers to connect at the optimal location.

However, the ability of contributions to provide efficient locational signals will be affected by a number of issues. These are:

- inclusion of sunk assets
- inclusion of shared infrastructure
- the degree to which contributions are averaged over a catchment.

The inclusion of costs associated with sunk assets will distort the locational signals provided by the contribution. When a new connection is made to the network, some of the assets required to provide services will already exist. These past investments cannot be changed, so the associated costs are sunk and thus are not caused by nor can react to the locational decision made by the new customer. Any

inclusion of these costs will result in a contribution exceeding that which would provide for an efficient outcome.

If contributions are to provide efficient locational signals, they should also exclude shared costs. The costs of connection and local network costs can be expected to vary according to location, but upstream infrastructure costs are less likely to do so. For interconnected water systems, a demand increase of a given magnitude in any location on the network (whether a new development or an existing connection) must cause an equal need for development of upstream infrastructure such as headworks and treatment plants. That is, upstream infrastructure costs are shared and common to all locations on the network. If efficiency is to be enhanced, price signals should be presented to all those who are in a position to make decisions so that future costs may be avoided. Both new and existing customers of a shared local network should therefore be presented with a usage charge that reflects the cost of increasing demand at that location.

It follows that shared local network costs are no more relevant to the locational decision than they are to the consumption decisions of existing customers. Efficient locational price signalling requires that customer contributions should not include costs that could be avoided by reduced demand on the part of any existing customers at that location (all of whom will continue to make marginal decisions about how much water to consume at that location). Accordingly, new customer contributions should be limited to costs not shared with any existing customers at that location.

Another issue with contributions providing locational signals is the current practice of most water businesses of levying uniform customer contributions across catchment areas. That is, the charge in different areas and towns within a catchment may be equal, notwithstanding any material cost differences that may exist between them. In the presence of material cost differences, uniform catchment based contributions clearly do not provide appropriate locational signals.

However, it is worth noting that locational decisions regarding the development of land are driven by a multitude of factors, not least of which is the availability of zoned land, proximity of land to road and other key infrastructure and the natural amenity specific to particular location. The ability of upfront contributions for water or sewerage infrastructure to provide locational signals will be tempered by the materiality of contributions relative to these other factors. In a 1999 report for IPART, PricewaterhouseCoopers found that upfront developer contributions have no broad impact on urban planning.³²

7.4 Historical arrangements

Previous to the Commission's decision, most water businesses had nominally based contributions on the IPART approach. Technically the IPART approach calculates a new customer contribution as the present value of all capital

³² PWC (1999) Review of Developer Charges, IPART Research Paper No 16, October 1999.

expenditure on assets (existing or future) used to service the development less the net present value of the difference between the future stream of revenue from the customers and the operating maintenance and administration costs expected from servicing the customers. IPART have indicated that in practice prices are set to recover operating, maintenance and administrating costs related to servicing customers in the area. Subsequently, the future stream of revenue is just enough to offset future operating costs and the new customer contribution equates with any associated capital expenditure.

During Urban Water Price Review 2005 the Commission observed that there was a large degree of variability in the manner in which businesses were applying the IPART approach. Most of the businesses had proposed contributions that were not consistent with what the contributions would have been had it been calculated under the IPART approach. For example:

- Barwon Water's approach resulted in new customer contributions of around \$20 000 for both water and sewerage. However, it had proposed to cap contributions on the basis of factors such as the median house price and an assessment of social affordability for each pricing zone. This resulted in a proposed maximum of \$9200 for water and \$3000 for sewerage
- East Gippsland Water developed a model consistent with IPART approach that resulted in new customer contributions in excess of \$38 000 for water and between \$2000 and \$10 000 for sewerage. However, it proposed a notional figure of either \$1000 or \$2000 for water and \$2000 for sewerage on the basis that the calculated charges were excessive.
- Goulburn Valley Water calculated charges of up to \$6132 for water and almost \$10 000 for sewerage, but proposed to cap charges at \$2800 for water and \$2550 for sewerage.
- South West Water calculated charges of up to \$14 000 for water and \$6425 for sewerage. It proposed to reduce charges that are greater than \$4000 with an overall cap of \$5000 by a defined factor to ensure affordability. This resulted in proposals of \$5000 for water and \$4819 for sewerage

The Commission noted that the IPART approach requires a range of assumptions that are uncertain and difficult to forecast, and have a large impact on the resulting estimation of charges.

The calculation of charges using the businesses' proposed approaches was sensitive to the forecasts and assumptions adopted. For example, in estimating capital costs, most of the businesses included a value associated with existing (or sunk) assets. These assets have been valued using various replacement cost valuation methods including: the modern engineering equivalent replacement cost (MEERA), the current replacement cost (CRC) and the optimised depreciated replacement cost (ODRC). These methods result in asset values that are substantially higher than the initial regulatory asset values set by the Minister for Water, which are used to calculate retail water and sewerage charges.

The businesses also adopted different approaches to the inclusion of costs associated with existing assets. A number of businesses included assets installed since the early 1970s, on the basis that there were no new customer contributions before this time because customers paid through ongoing water and sewerage

charges for these assets. This approach can lead to new customers in a pricing zone paying a low new customer contribution because the existing assets were installed before 1970, whereas a new customer in a more recently developed pricing zone may be required to pay a substantial charge. This may have partly explain the variation in new customer contributions across pricing zones for businesses that adopt this approach in their proposals.

The estimated average capital costs also varied considerably both within some businesses' pricing zones and across businesses — for example, \$3 201 to \$21 127 (Barwon Water) and between businesses from \$280 (City West Water) to \$21 127 (Barwon Water).

Businesses also adopted different approaches to estimating operating costs. A couple of businesses estimated the marginal operating cost attributable to new customers, whereas most other businesses used an average cost approach. Estimated average operating costs also vary considerably both within some businesses' pricing zones and across businesses — within a business from \$3 835 to \$7 897 (Western Water) and between businesses from \$1 054 (City West Water) to \$7 897 (Western Water).

In calculating operating costs, Western Water included an estimate of the cost of tax attributable to new customer contributions that is greater than that forecast to be paid by the business as a whole. It estimated \$16.2 million in tax attributable to new customers over the regulatory period, which is significantly higher than its total forecast tax payable for all customers of \$3.7 million.

Finally, the discount rate used to convert future cash flows into present value terms also varied across businesses, from 4.0 per cent to 8.0 per cent (real pre-tax) and 6.0 per cent to 7.5 per cent (real post-tax).

The Commission considered the that proposed contributions did not satisfy the requirements of the WIRO for the following reasons:

- A number of businesses could not provide information to the Commission to enable it to assess the proposed chares or the basis on which they were derived
- The inclusion of sunk costs in the calculation of new customer contributions is not likely to promote efficient decisions by new customers and thus does not provide appropriate signals about the costs of providing services and promote incentives to all customers to use water resources in a sustainable way.
- The interests of new customers had not been taken into account on a comparable basis to those of existing customers. Existing assets had been valued at replacement costs, new customers contributions had been based on geographic locations while tariffs apply at a more aggregated level, the charges reflect a discount rate that is greater than the WACC used to derive ongoing prices, and fixed shared operating costs have been included in the calculation of new customers as well as being fully recovered in tariffs.
- The complexity involved in the calculations for new customer contributions and the Commission's difficulty in reviewing them suggests that customers will not be able to readily understand the way in which the charges were proposed to be calculated

7.5 Current arrangements

On 15 June 2005, the Commission released its first decision on prices that Victoria's metropolitan and regional urban water businesses can charge for prescribed services — including customer contributions. The principles for determining the allocation of costs between water businesses and new customers for the provision of infrastructure to service new properties are set out in each business's price determination. Further guidance on how the principles contained in the determination should be applied is provided in the water industry new customer contributions guideline.³³

In terms of the funding spectrum discussed in section 1.3, all businesses would currently lie somewhere in the middle of the spectrum with customers developing land generally providing upfront funding of capital expenditure associated with reticulation assets (these assets are generally gifted to the water businesses) and part funding large shared infrastructure through new customer contributions. In 2005-06 Victoria customers provided upfront funding of approximately \$175 million of capital works (see table 1.1). Early indications from the Commission's regulatory accounts for 2005-06 suggest that a further \$321 million of capital expenditure will be recovered over time from users.

The key aspects of the current arrangements for new customer contributions are:

- new customers are responsible for providing assets that are to be installed specifically to service their property or development (reticulation assets)
- water businesses may charge a per lot charge up to the scheduled charge for each new property connected. The maximum per lot charge was set at \$500 for 2005-06 and will remain constant in real terms until the end of the regulatory period.
- water businesses are responsible for assets that are generally provided to service more than one development (shared assets).
- water businesses may apply to the Commission to levy a charge above the scheduled charge where shared assets must be constructed ahead of schedule to service a new property or development. In these cases and subject to approval by the Commission, the water business may recover the capital financing costs that are attributable to bringing forward construction of the shared assets.

Under these arrangements reticulation assets are defined as infrastructure assets that are explicitly provided in relation to prescribed services for one development and are not required to be upsized to support other future developments, and may include a pipeline, a water storage tank, a local treatment plant, pumping station, rising main, sewerage flow control facilities, local booster disinfection plant and/or a local sewage pre-treatment system. A water main that is 150 mm or less in diameter and a sewerage main that is 225 mm or less in diameter, and all associated assets that relate to these sized assets are generally considered to be

³³ The guideline can be accessed on the Commission's website at <http://www.esc.vic.gov.au>

reticulation assets, although there may be some situations where these sizes are inappropriate.

Shared distribution assets are defined as infrastructure assets that are generally provided in relation to prescribed services for more than one development and do not include:

- reticulation assets and
- headworks and tailworks.

The Current arrangements were determined by the Commission as interim arrangements. The adoption of a notional up front charge as an interim arrangement recognised that:

- estimating new customer contributions using an incremental cost approach was likely to require detailed assumptions that inevitably require judgments to be made which are likely to significantly alter the calculated charge.
- the level at which new customer connections was set is likely to provide a less important signal to reduce the overall costs of service provision, rather than the level of ongoing tariffs, which signals to all customers (existing and new) to reduce their consumption and thereby avoid costs associated with expanding system capacity.
- the level of new customer contributions, if calculated in strict incremental cost terms, was unlikely to be significant and may be much closer to \$0 than the values proposed previously by the businesses.

A number of issues have arisen since the implementation of the new pricing arrangements. The release of the new customer contributions guideline in December 2005 has assisted in clarifying which assets businesses and new customers are responsible for and the process for reviewing applications to apply non-scheduled charges.

However, the Commission's experience to date indicates that there may be scope to provide even more clarity or guidance in the regulatory instruments that apply to new customer contributions for the next regulatory period.

Since the new pricing arrangements were put in place, the Commission has received 27 applications from businesses to levy new customer contributions above the scheduled charge. The applications have resulted in the Commission considering approximately \$4.7 million of associated revenue from contributions.

The applications relate to cases where the water business must construct shared distribution assets ahead of schedule to connect a new property or development to its system. Most applications received to date have been from the metropolitan retail businesses. South East Water has submitted the most with 16 applications, followed by Yarra Valley Water (6) and City West Water (2). Of the regional urban businesses, Goulburn Valley Water and Coliban Water have submitted two and one applications respectively.

Table 7.1 New customer contributions and gifted assets — 2005-06
\$ million

<i>Business</i>	<i>NCC</i>	<i>Gifted assets</i>	<i>Total</i>
City West	4.781	23.485	28.266
South East	11.281	18.251	29.532
Yarra Valley	4.642	16.480	21.122
Melbourne	30.507	8.565	39.072
Barwon	3.247	9.285	12.532
Central Highlands	1.587	1.845	3.432
Coliban	2.840	3.954	6.794
East Gippsland	n.r.	n.r.	n.a.
Gippsland	1.618	4.445	6.063
Goulburn Valley	0.970	6.841	7.811
North East	n.r.	n.r.	n.a.
South Gippsland	n.r.	n.r.	n.a.
Wannon	1.383	1.346	2.729
Western	3.231	13.944	17.175
Westernport	0.596	0.181	0.777
Total Metropolitan	51.211	66.781	117.992
Total Regional	15.472	41.841	57.313
Total	66.683	108.622	175.305

n.r. not reported. n.a. not applicable.

Source: Annual Reports.

The Commission has received applications in relation to both water and sewerage infrastructure. The applications have also been in relation to a variety of property types, such as residential developments and subdivisions, industrial properties, single residential properties in sewerage backlog areas, schools and other non-residential properties.

In each case where the Commission receives an application, it contacts the customer who has applied to receive a new service and forwards the application for comment. In general, the Commission seeks feedback from the customer on the factual information that the application contains. The Commission has generally taken the approach that it will approve the application if it is satisfied that it is consistent with the guideline and the water business's price determination and the customer indicates that the application is factually correct.

In several cases, the customers have indicated that they are not satisfied with certain aspects of the application or the information upon which the proposed charge is based. Similarly, there have also been cases where the Commission has not been satisfied that the application is consistent with the determination, based on the application's content. In cases like these, the Commission refers the application back to the business for further information. The Commission has so far

approved 21 applications and decided to not approve two applications. It currently has another four applications under consideration.

The main issue surrounding applications for new customer contributions is determining the timeframe for which the construction of shared assets must be brought forward to service the new development. This is discussed in more detail in section 1.6.

The Commission is also concerned that the relatively low number of applications and associated revenue may indicate that the administrative costs and regulatory burden of the current arrangements may outweigh any benefits. One possible way to address this issue would be to increase the nominal amount of the cap on contributions (for example \$1000 per lot for water and \$1000 per lot for sewerage). Such an approach would need to be accompanied by a principle or principles that would seek to ensure that businesses do not levy any contributions on customers where associated costs are immaterial or do not exist (for example, infill developments).

For example, the overarching principle may be that customer contributions are calculated as the per lot cost of shared infrastructure related to the development, with a maximum per lot charge of \$1000. The per lot cost may be estimated as the total associated cost of shared infrastructure divided by the number of lots being developed. In order to reduce regulatory burden, contributions of \$1000 or less would not need to be individually approved by the Commission. Such an approach is relatively simple to understand, ensures that contributions are cost reflective and the information needed to generate per lot costs is readily available.

This approach would not preclude businesses from seeking to recover costs associated with out of sequence developments. Out of sequence development is a separate issue and businesses would still be able to recover the financing costs of bringing forward the provision of assets through an approval process such as that currently in place.

Commission's initial position

The Commission sees merit in increasing the cap on customer contributions to \$1000 per lot for water and \$1000 per lot for sewerage. The increase cap would be accompanied by a principle that contributions reflect the per lot cost of shared infrastructure associated with the development.

7.6 Further Issues

Given that the contributions approved by the Commission in the last price review were interim arrangements, the Commission is now consulting with all interested parties on the issue of customer contributions.

As part of their Water Plans, businesses will need to clearly articulate what the proposed new customer contribution is, how it is calculated and identify the underlying pricing principles. In particular, the Water Plan will discuss the purpose

for the contribution, and how it is expected to affect customer behaviour. Water Plans should also plainly identify those regulatory principles of the WIRO that the proposal addresses. Further guidance on the development of Water Plans is given in the 2008 Water Price Review consultation paper, *Framework and Approach*.

The following discussion outlines some of the broad issues which will need to be addressed in pre Water Plan preparation. The discussion draws direct reference between the regulatory principles outlined in the WIRO and the issues that arise from applying those principles to new customer contributions. The issues identified are:

- defining shared distribution and reticulation assets
- determining the bring forward period for unplanned works
- contributions for recycled water services.

7.6.1 Definition of shared distribution and reticulation assets

The distinction between reticulated assets and shared distribution assets has been subject to significant customer inquiry. The current pricing arrangements provide for all reticulation assets to be provided by the customer. As discussed earlier, the water business may recover (subject to approval by the Commission) the capital financing costs associated with constructing shared distribution assets ahead of schedule from the developer.

Under the guideline definitions reticulation assets are generally defined by the size of the associated main — 150 mm or less for water and 225 mm or less for sewerage. Shared distribution assets are defined as infrastructure assets that are generally provided in relation to prescribed services for more than one development. These do not include reticulation assets or headworks or tailworks assets.

While the main factor in classifying assets is the size thresholds set out in the guideline definitions, the definitions do provide some flexibility for businesses to classify assets differently if strict adoption of the size thresholds is not appropriate. Under the current pricing arrangements, the responsibility for deciding whether an asset is reticulation or shared distribution rests with the water businesses.

This has led to some inconsistency between businesses. The Commission is aware of cases where businesses have installed infrastructure which is smaller than the threshold sizes (and would hence be classified as reticulation assets if the thresholds were strictly applied), but the business has decided to classify them as shared distribution assets on the basis that they would be used to service other properties or designed to cater for future growth. On the other hand, it is also aware of cases where a pipeline equal to or below the threshold size has been installed and the water business has decided to treat it as a reticulation asset, despite the fact that it was capable of servicing additional properties either now or in the future.

While the capacity of a pipeline should be a main determinant in classifying whether it is shared distribution or reticulation, there may be other factors that should also be considered. For example, consider the case where pipelines or other assets to service a new development are below threshold size but have a

greater capacity, are aligned a certain way, installed at a certain depth, or otherwise designed in such a way to service additional properties now or in future that was not required to service the development in question. Where there is a change to the design of works to facilitate additional connections, there may be merit in classifying these assets as shared distribution assets.

The Commission is also seeking feedback from businesses and customers on the appropriateness of customers fully funding reticulation assets. The localised supply or collection system within each development forms part of a wider infrastructure network. As a result there may be customers other than the developer who benefit from the developer's investment in local reticulation. A development's system is usually designed to supply not only the development itself but also forms part of a wider network. As a result, pipes may be larger than necessary, sewerage infrastructure may be laid deeper than necessary and pumping stations may have greater capacity than that needed to service the development itself.

The existence of these external beneficiaries may encourage a less than efficient level of investment by developers. Reimbursement schemes have historically been used by businesses to address this issue. During the last price review the Commission was not presented with enough evidence to satisfy it that the then current reimbursement schemes were consistent with the requirements of the WIRO.

One possible manner in which the issue may be addressed is for businesses to part fund reticulation assets. For example, it may be appropriate for businesses to fund the incremental cost associated with reticulation assets servicing customers external to the development. The incremental cost could be easily identified as the difference between the capital expenditure necessary to service the development and that which would have been necessary if the development did not form part of some future network (treated as a stand alone development).

Since implementing the new pricing arrangements, the Commission has received feedback from various parties that uniform size thresholds is not the most appropriate option considering differences between the metropolitan and regional urban sectors. Anecdotal evidence suggests that in many small towns in regional Victoria, there are no assets that are above the threshold size.

Commission's initial position

The Commission recognises that the current method of using size thresholds to classify assets as either reticulation or shared is a relatively simple mechanism. The Commission is seeking feedback from stakeholders on the value of pursuing a more detailed criteria for classifying assets and what possible form that criteria could take. The Commission is also cognisant that when considering any possible amendments there is a trade-off between the benefits of such amendments and loss of the administrative simplicity inherent in the current arrangements.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- Are the current size criteria appropriate for classifying assets in both metropolitan and regional areas.
- What criteria other than the current size thresholds should be considered in determining whether an asset is classified as a reticulation asset or shared distribution asset?
- How should customers be encouraged to make efficient investments in local reticulation? Would the funding of any incremental costs associated with local reticulation by water businesses provide the appropriate incentive?

7.6.2 Determining bring forward period for unplanned works

Under the current arrangements water businesses can apply to the Commission for approval of non-scheduled contributions. As mentioned earlier, these contributions are based on the bring forward costs associated with out of sequence developments — the financing costs associated with bringing forward the construction of works.

The bring forward period is an estimate of the difference between when the water business had planned to service the customer as a normal part of servicing growth as opposed to the when the customer wants to be serviced. For example, as part of orderly development a water business may have planned to develop a particular sewerage catchment in three years' time. However, a developer may decide to develop the land now; in this instance bringing forward the development to service the land will impose a cost on the business in excess of its forecasted costs.

One of the issues that has arisen during the implementation of the last price review is the estimation of the bring forward period for unplanned developments. The bring forward period is relatively easy to determine in instances where there are existing infrastructure plans, or when the water business has provided prior signals of its intention to service areas. However, for a lot of urban residential and non-residential customers such plans may not be available. This is especially true for smaller sized shared infrastructure or in places that experience inconsistent growth.

The amount of the bring forward period used to determine contributions for unplanned works is currently capped at 25 years. A number of businesses have sought approval for contributions for unplanned works based on bring forward periods lower than the cap. Currently businesses use a number of methods to determine the bring forward period. These include timing estimates given in the Urban Development Program, timing stated in backlog programs, other growth forecasts and council demand estimates.

A number of businesses have sought further guidance from the Commission in determining the appropriate basis for calculating the amount of time that unplanned works are brought forward.

The Commission recognises that there may be a number of issues specific to individual developments which render the development of detailed principles inappropriate. The Commission is also of the position that given the required information, water businesses themselves are best placed to determine the amount of time works are to be brought forward. However, there may be some merit in developing a set of high level principles to guide the estimation of bring forward periods. These principles may include, that bring forward periods should reflect:

- the best estimates of demand/growth available
- a logical development of land that reflects realistic growth patterns
- how each new block of land is incrementally serviced and cost effective incremental steps in the extension of infrastructure
- the least cost supply solution for the total system

Water Businesses have also suggested that there may be merit in incorporating development plans in their Water Plan. These development plans would set out how the businesses intended to extend their networks to service major growth areas over the course of the regulatory period and beyond. The plans would include some indication of the timing of the provision of works. The benefits of including these plans in the water plan is that customers would have an opportunity to provide feedback both to the water business and the Commission and would also be able to build reasonable expectations about the costs associated with out of sequence works.

Commission's initial position

The Commission sees merit in the development of a set of high level principles that provide guidance in the estimation of the period of bring forward associated with non-scheduled customer contributions. The Commission is seeking feedback from stakeholders on the form and content of such principles. The Commission also sees merit in the development of service plans that outline the expected timing for the provision of works in identified growth areas.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- Should businesses develop plans to signal bring forward costs to customers?
- Is there merit in developing high level principles to guide the estimation of bring forward periods? If so what should be included in these principles?

7.6.3 Recycled water

In the Urban Water price review the Commission noted that there are a number of factors that are likely to affect the price that water businesses are able to charge recycled water customers, such as the price and availability of alternative water supplies and the scope to use or substitute recycled water for other water supplies in relevant applications.

In terms of new customer contributions this means that the Commission recognised that customers were not obliged to receive recycled water services. For example, a developer had the opportunity to weigh the benefits they would receive from developing land with third pipe systems against the costs of doing so. The Commission recognised that the decision to develop third pipe systems was voluntary on the part of the developer and if prices (contributions) were excessive the developer could substitute recycled water supply with potable water supply.

In recognition of this substitutability of recycled water services the Commission adopted pricing principles to regulate recycled water services. These principles were:

- prices must be set so as to maximise revenue earned from recycled water services having regard to the prices of any alternative substitutes and customers' willingness to pay
- prices must cover the full cost of providing the service (with the exception of services related to specified obligations)
- prices must include a variable component

While these principles primarily related to the setting of prices for users of recycled water services, they also applied to customer contributions. They make no distinction between upfront funding of works through new customer contributions or funding over time through prices levied on users. The principles are fairly light handed in that they do not cap the contributions that businesses may be able to

levy. The Commission explicitly took this position in consideration of the voluntary nature of the decision by the customer whether or not to pursue recycled water.

Since the Urban Water Price Review 2005 the Government has given water businesses the power to mandate dual pipe systems for areas where they are identified as the best solutions for balancing overall supply and demand (as provided in clause 56 of the Victoria Planning Provisions). This ability to mandate the provision of recycled water to specific areas means that the decision to develop land with third pipe schemes is no longer a voluntary decision on the part of the developer.

The implication for regulation is that pricing principles need to be more directed and have a greater emphasis on ensuring that contributions levied by businesses are consistent with the WIRO, in particular how cost effective they are and how they send signals. One way to accurately capture the net costs associated with providing infrastructure for recycled water services is to isolate the associated incremental costs. The incremental cost is the difference between the capital expenditure needed to supply the development with recycled water and without recycled water.

Once the costs have been identified, the issue of how to fund them will determine what constitutes an appropriate contribution. As with potable water and sewerage services the options lie within a spectrum that ranges from all capital expenditure being rolled into the regulatory asset base and recovered over time from users or funding works upfront from customers developing the land. As with water or sewerage services, businesses will need to reflect in their Water Plan the underlying reasoning behind any contributions for recycled water that they propose.

The stated purpose of mandating recycled water zones is to ensure that the overarching supply demand balance is maintained into the future. Recycled water zones would do this by substituting potable water use with recycled water and thereby freeing up potable water for other users to use. Implicit in this consideration is that the wider customer base benefits in that recycled water substitution will, all things being equal, delay future capital expenditure to augment the system.

As with shared assets, there would appear to be a case for funding works associated with the provision of recycled water from the broader customer base. The costs associated with recycled water (such as third pipe schemes) are shared with existing customers, and may be avoided by reduced demand on the part of any customers, both new and existing. Economic efficiency suggests that costs of this nature should be shared between new and existing customers, since they all contribute to the cost of maintaining the supply demand balance. Conversely, it would be inefficient to require only new customers to pay all of these costs by including them in a contribution. This implies that new customer contributions in terms of new developments connecting to a shared local distribution network should be limited to the costs of connection to that network.

The Commission is also cognisant that the servicing of residential customers with recycled water may impact on expenditure related to potable water services. For example, the provision of a third pipe may reduce the capacity required in potable

water mains. In such instances, are the current size determinants for classifying water reticulation assets appropriate?

Commission's initial position

The current arrangements for recycled water need to be amended to reflect recent policy developments — in particular, the ability of water businesses to mandate water recycling in specific areas. The Commission is seeking feedback from stakeholders on the appropriate form and manner in which to regulate recycled services.

Further issues

The Commission invites comments on the above, as well as other related issues, including:

- What arrangements should be adopted for the funding of recycled water assets in mandated areas? In mandated areas should all recycled water assets (including local reticulation assets) be treated as shared assets.
- If a part funding arrangement is proposed what is the appropriate determinant of shared and reticulation works? The provision of dual pipe may impact on the size of potable water pipes; therefore is 150 mm enough or should it be lower?