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METROPOLITAN MELBOURNE WATER PRICE REVIEW 2008-09

WATER PLANS — ISSUES PAPER

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The three metropolitan retail water businesses (City West Water, South East Water and Yarra Valley Water) and Melbourne Water, in respect of its bulk water and sewerage charges, have submitted Final Water Plans to the Commission for assessment. These plans set out the revenue that each business believes it needs to deliver its water, sewerage and other related services, the prices each business proposes to charge to raise that revenue, and supporting information on proposed strategies and initiatives for the four year period commencing 1 July 2009.

This is the Commission's fourth independent review of water prices. The Commission completed price reviews in June 2005 for the then 17 metropolitan and regional businesses providing urban services and in June 2006 for the five businesses providing rural services. In its 2008 price review, the Commission determined prices for the 16 regional businesses servicing rural and urban customers and for Melbourne Water's drainage and waterways services.¹

The three metropolitan retailers and Melbourne Water, in the case of its bulk water and sewerage services, were not required to submit Final Water Plans to the Commission as part of the 2008 price review process. The review of their prices was delayed following the Government's announcement on 14 August 2007 that the Victorian Competition and Efficiency Commission (VCEC) would conduct an inquiry into the structure of Melbourne's retail water industry. Interim price increases, determined by the Minister, were adopted for these businesses for 2008-09.² In its Final Decision for the 2008 price review, the Commission noted that its decisions on new customer contributions, recycled water and miscellaneous charges in respect of the regional businesses would also apply to the metropolitan retailers and Melbourne Water.

1.1 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* (box 1.1). The more detailed framework is set out in the Water

¹ Essential Services Commission 2008, *2008 Water Price Review: Regional and Rural Businesses' Water Plans 2008-2013, Melbourne Water's Drainage and Waterways Water Plan 2008-2013 — Final Decision*, June. The Commission's Determination in respect of Melbourne Water's drainage and waterways charges for the five year period commencing 1 July 2008 is available on its website www.esc.vic.gov.au.

² The Commission has released Determinations for these businesses setting out approved prices for 2008-09 that are consistent with the interim price increases set out in the Water Industry Regulatory Order (WIRO) and the businesses' Statements of Obligations. The Determinations are available on the Commission's website www.esc.vic.gov.au.

Industry Regulatory Order (WIRO) made by the Governor in Council under the Water Industry Act 1994.³

Box 1.1 The Commission's regulatory objectives

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 1994* contains the following additional objectives that the Commission must meet in regulating the water sector:

- wherever possible, ensure 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
- 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.

³ The WIRO is available on the Commission's website.

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. The WIRO sets out a number of regulatory principles that must be complied with by businesses in proposing prices and the Commission in approving prices (box 1.2).

Box 1.2 WIRO pricing principles

Clause 14(1) of the WIRO requires the Commission to be satisfied that prices are set so as to:

- (i) provide for a sustainable revenue stream to the regulated entity that nonetheless does not reflect monopoly rents and/or inefficient expenditure by the regulated entity;
- (ii) allow the regulated entity to recover its operational, maintenance and administrative costs;
- (iii) allow the regulated entity to recover its expenditure on renewing and rehabilitating existing assets;
- (iv) allow the regulated entity to recover:
 - (A) a rate of return on assets as at 1 July 2004 that are valued in a manner determined by, or at an amount otherwise specified by, the Minister at any time before 1 July 2004;
 - (B) all costs associated with existing debt incurred to finance expenditure prior to 1 July 2006, in a manner determined by the Minister at any time before 1 July 2006;
- (v) allow the regulated entity to recover a rate of return on investments made after 1 July 2004 to augment existing assets or construct new assets;
- (vi) provide incentives for the sustainable use of Victoria's water resources by providing appropriate signals to water users about:
 - (A) the costs of providing services, including costs associated with future supplies and periods of peak demands and or restricted supply; and
 - (B) choices regarding alternative supplies for different purposes;
- (vii) take into account the interests of customers of the regulated entity, including low income and vulnerable customers;
- (viii) provide the regulated entity with incentives to pursue efficiency improvements and to promote the sustainable use of Victoria's water resources; and
- (ix) 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.

Source: Water Industry Regulatory Order, clause 14(1).

1.2 Commission's approach to assessing Water Plans

The Commission is required to assess the Water Plans against the regulatory principles outlined in the WIRO. 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. Revenue must be sufficient to allow the business to recover operating and capital expenditure and receive a reasonable return on assets. The Commission must also ensure that:

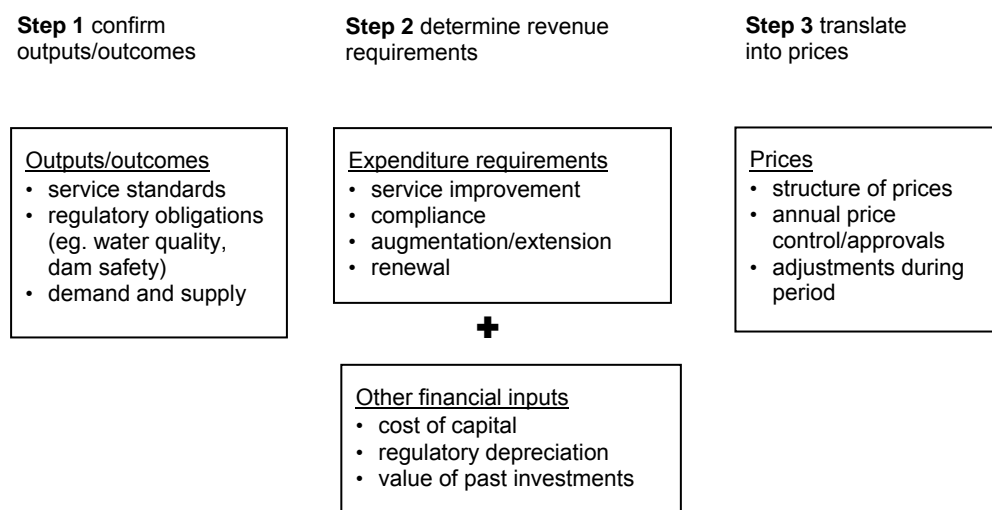
- the expenditure forecasts reflect the efficient delivery of the proposed outcomes outlined in the Water Plan and take into account a long term planning horizon
- the businesses have incentives to pursue efficiency improvements and to promote sustainable water use
- prices signal to customers the costs of using water and give them incentives to use water sustainably
- the interests of customers have been taken into account, and
- customers or potential customers are readily able to understand the prices charged or how they have been calculated.

The Commission's approach to assessing proposed prices is characterised by three steps (see figure 1.1). The first step involves identifying the service standards and other outcomes that a business proposes to deliver over the regulatory period. These standards and outcomes reflect obligations imposed by the Minister for Water through the Statement of Obligations, the Environment Protection Authority (EPA), the Department of Human Services (DHS), the Department of Sustainability and Environment (DSE), and customer preferences for service improvements. Customer service standards proposed by each business must be clear, appropriate and reflect the needs and interests of customers.

In the second step, the Commission determines the revenue the business requires to meet the service obligations and expected outcomes identified in step one. The Commission is required to assess whether the business's expenditure forecasts reflect efficient costs of supply, its capital works program is deliverable over the period, and its business strategy reflects a long term planning horizon. The Commission must also ensure that the businesses receive a return on their capital investments that reflects efficient costs of capital.

The Commission makes assumptions about efficient expenditure to assess whether prices will result in the business earning sufficient revenue to deliver services. However, the assumed expenditure levels do not represent amounts businesses are required to spend or 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.

Figure 1.1 **Steps in assessing and approving prices**



The third step in the process involves determining the prices that will apply. The Commission must ensure, for each business, that prices will generate the business’s revenue requirement, taking into account forecasts of demand (which determine quantities expected to be used). The Commission assesses whether the businesses’ demand forecasts are reasonable and reflect the best available information. The Commission also considers whether prices and proposed tariff structures provide appropriate signals about the costs of providing services, provide incentives for sustainable water use and take into account the interests of customers.

1.3 Context and key issues

Over the last few years, the Victorian water businesses and their customers have had to deal with many challenges associated with prolonged drought conditions. Metropolitan Melbourne customers, like most customers around the state, have been on water restrictions. Security of supply and sustainability of water use have been major issues for the water businesses.

In 2007, the Government announced a number of major supply augmentation projects for metropolitan Melbourne. These projects include the desalination plant, the Sugarloaf pipeline (in conjunction with the Foodbowl Modernisation Project), construction of a water treatment plant at the Tarago Reservoir, and upgrading the Eastern Treatment Plant to increase water recycling.

The augmentation projects will require substantial increases in expenditure by the Melbourne water businesses. In addition, the businesses have proposed additional expenditure to improve or replace assets (such as the Melbourne main sewer) and to meet environmental, drinking water quality and recycling regulatory obligations. The four metropolitan businesses have forecast total expenditure of \$10.8 billion over the regulatory period 2009-13, including \$4.3 billion of capital expenditure.

At the same time, water use is significantly lower than historical levels as a result of water restrictions and water conservation programs. The businesses have forecast a limited recovery in water usage over the period as completion of the large augmentation projects increases water supply.

The large proposed expenditure increases, combined with reduced water use, results in a substantial increase in proposed water prices. In terms of average household bills, proposed Melbourne water bills do not appear out of line with those in regional Victoria (see table 1.1). Proposed Melbourne household bills are also not significantly dissimilar to those in other major capital cities.⁴ However, the Commission recognises that affordability is a major concern for many customers.

Table 1.1 **Average household bills in Melbourne and selected regional Victorian towns**
\$ in January 2009 prices

	<i>2008-09</i>	<i>2012-13</i>
Melbourne Area		
City West Water	568	925
South East Water	566	963
Yarra Valley Water	585	1004
Selected regional Victorian towns		
Ballarat	969	1117
Bendigo	714	994
Geelong	778	1058
Shepparton	626	818
Sunbury/Melton	830	1032
Traralgon	882	1230

^a For each metropolitan water business and each regional town, the average annual household bills are calculated on the basis of a representative annual household consumption level. Actual bills for individual households will depend on customers' annual consumption and usage patterns across the year.

In undertaking its assessment of the businesses' proposals, the Commission will consider whether their proposed expenditures are efficient and prudent. In this context, it will consider whether the proposed profile of capital expenditure should be smoothed to occur more evenly over the period, instead of being concentrated at the beginning of the period. In addition, some expenditure could be deferred into the following regulatory period. Adopting these options would reduce the prices required by the businesses to recover their expenditures.

In considering these options, stakeholders, including the Government and other regulators, will have to weigh up the trade-offs between reducing the proposed price increases and meeting environmental, drinking water quality and service reliability objectives. The Commission will also examine whether businesses have

⁴ Direct comparisons are complex because of definitional differences between states.

the capacity to deliver the proposed large capital program during the short timeframe proposed in their Water Plans.

The businesses' demand forecasts have a significant impact on the prices required to meet their revenue requirements. Although the businesses have forecast an easing of restrictions over the regulatory period as the major supply augmentations are completed, their assumptions about usage appear conservative. Higher demand forecasts would result in lower price increases (and vice versa). The Commission will assess whether the businesses' demand forecasts are reasonable.

The Commission is conscious of the impact of the proposed price increases on customers, particularly low income and vulnerable customers. In undertaking its review, it will ensure that any adverse impacts are managed. It will also consider whether proposed tariff structures are cost reflective and provide appropriate signals to customers.

1.4 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 is practicable. The Commission's general approach to consultation is set out in its *Charter of Consultation and Regulatory Practice*.⁵ Stakeholders generally have a number of opportunities to be involved in the Commission's processes. These usually include at least one public meeting to obtain stakeholder feedback. The Commission 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 the newsletter *Essential Water News*. Copies of the Commission's consultation papers and any submissions received in response will also be made available on its website or from Commission staff. The Commission also consults with other regulators, such as the EPA and DHS, and other government agencies, such as DSE and the Energy and Water Ombudsman (Victoria) (EWOV).

The businesses released draft Water Plans for public consultation in August 2007. With the announcement of the VCEC inquiry and the one-year deferral of the price review process for the metropolitan businesses, the consultation process on these Plans was suspended.⁶ In September 2008, the Commission provided Supplementary Guidance to the metropolitan businesses to assist them in finalising their Water Plans. The Commission also met with each business to discuss issues related to the price review process.

The businesses' Final Water Plans were released for public consultation in November 2008. These plans were also provided to the Minister for Water, the Commission and other regulators.

⁵ The Charter can be found on the Commission's website.

⁶ Melbourne Water submitted a Final Water Plan on its drainage and waterways services in November 2007.

This paper marks the first stage in the Commission's public consultation on the businesses' Water Plan proposals. Prior to making its final decision on the prices to apply, there will be a number of opportunities for interested parties to raise issues and express their views about the detailed proposals put forward by the businesses. An indicative consultation timetable for the price review process is set out in table 1.2. The number, location and timing of public meetings will be determined later in the process.

Table 1.2 Indicative consultation timetable

<i>Indicative dates</i>	<i>Activity</i>
12 December 2008	Release of Issues Paper
9 February 2009	Submissions on Issues Paper due
Early April 2009	Release of Draft Decision
April/May 2009	Consultation on Draft Decision
Mid-June 2009	Release of Final Decision

Stakeholders are invited to provide written comments on the proposals set out in the businesses' Water Plans and/or the issues raised in this paper. They are also encouraged to identify any further issues that they consider should be addressed in assessing the businesses' proposals. The paper highlights specific questions (set out in boxes at the end of relevant sections) on which the Commission is seeking feedback but comments may be made in relation to any aspect of the businesses' proposals. The process for making submissions is set out in section 1.5 below.

The Commission is required to release a draft decision setting its preliminary views about whether the businesses' proposed prices satisfy the detailed requirements of the WIRO. The draft decision will take into account the Commission's assessment of the Water Plans and comments on the Water Plans from customers, their representatives and other stakeholders.

The draft decision will be released publicly in April 2009. Businesses, customers and other interested parties will have an opportunity to comment on the draft decision before the Commission makes its final decision in mid-June 2009. The new prices approved in the Commission's final decision will take effect from 1 July 2009.

1.5 Purpose and structure of this paper

This paper provides a high level overview of the key aspects of the businesses' Water Plans and identifies some of the issues that the Commission will consider as part of its assessment process. Where relevant, the paper also sets out the Commission's proposed approach to assessing the businesses' proposals. It is intended to assist stakeholders to understand the broad nature of the businesses' proposals, in particular the price increases, service standards and other key outcomes that businesses plan to deliver over the four year period from 1 July 2009.

This paper is structured as follows:

- Chapter 2 summarises the businesses' proposals with respect to the key elements of the revenue requirement (operating expenditure, capital expenditure, financing capital investments, and demand forecasts).
- Chapter 3 summarises the businesses' proposed prices and tariff structures.
- Chapter 4 summarises the businesses' proposals with respect to service standards and guaranteed service levels.

1.6 Responding to this paper

The Commission encourages stakeholders to comment on the issues raised in this paper and any other aspects of the proposals contained in the businesses' Water Plans. The responses received and information generated through the public consultation process will assist the Commission in assessing the businesses' proposals and making its decision on whether or not to approve the businesses' proposed prices.

Interested parties can comment on the issues raised in this paper or on the businesses' Water Plans by sending a written submission or comments to the Commission **by Monday 9 February 2009**.

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

Essential Services Commission
Level 2, 35 Spring St
Melbourne VIC 3000

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

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.

2 | PROPOSED REVENUE AND DEMAND

Under the Commission's 'building block' approach (summarised in section 1.2), prices reflect the revenues required to recover the efficient cost of delivering services over the regulatory period, taking into account forecast levels of demand. The Commission must be satisfied that the prices it approves will provide each business with sufficient revenue over the regulatory period to meet its obligations and deliver the level of service required by customers. It must also ensure that prices do not reflect monopoly rents or inefficient expenditure.

The revenue benchmarks are used solely to assess whether prices will result in each 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, taking into account changing circumstances, and to pursue innovation and efficiencies that enable them to outperform the revenue benchmarks.

The businesses' revenue requirements comprise their forecast operating expenditure, a return on assets (existing and new assets) and regulatory depreciation (return of assets).

The businesses have forecast total expenditure of \$10.8 billion over the regulatory period (see table 2.1). Total expenditure includes \$6.5 billion in operating expenditure and \$4.3 billion in capital expenditure (see table 2.2).

This chapter summarises the businesses' proposals with respect to operating expenditure, capital expenditure, the financing of capital investment (that is, the return on and of assets), and demand forecasts.

Table 2.1 **Breakdown of proposed revenue (all businesses)**
\$ million in January 2009 prices

	<i>2009-2010</i>	<i>2010-2011</i>	<i>2011-212</i>	<i>2012-2013</i>	<i>Total</i>
Operating expenditure	1 211	1 369	1 745	2 151	6 476
Return on existing assets (30/6/08)	591	583	577	572	2 323
Regulatory depreciation existing assets (30/6/08)	133	123	92	80	428
Return on new assets	125	196	247	279	847
Regulatory depreciation new assets	44	69	87	102	302
Adjustments from last period	5	5	5	5	19
Benchmark tax liability	38	40	39	39	155
Total revenue requirement	2 148	2 384	2 792	3 227	10 550

Table 2.2 **Forecast capital and operating expenditure — total for 2008-09 to 2012-13**
\$ million in January 2009 prices

	<i>Operating expenditure</i>	<i>Gross capital expenditure</i>	<i>Total expenditure</i>
City West Water	1 147	470	1 617
South East Water	1 742	603	2 345
Yarra Valley Water	1 747	913	2 660
Melbourne Water	1 840	2 291	4 130
All businesses	6 476	4 276	10 752

2.1 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 taken in previous price reviews, the Commission is proposing to assess operating expenditure by establishing a baseline or 'business as usual' level of costs derived from the current expenditure incurred by businesses at the end of the regulatory period, being 2007-08. The businesses will be required to demonstrate that they

are proposing to achieve productivity improvements in the delivery of business as usual levels of service. Costs associated with additional obligations, functions or service levels will be considered separately.

In assessing the prudence and efficiency of the businesses' operating expenditure forecasts the Commission will consider whether the operating expenditure forecasts clearly reflect obligations that are imposed by the Minister, other regulators such as the Environment Protection Authority (EPA) and Department of Human Services (DHS), or improvements demanded by customers.

The Commission has engaged Deloitte and Halcrow to assist it in assessing the businesses' forecasts of operating expenditure.

2.1.1 Overview of business proposals

By 2012-13, Melbourne Water's proposed operating expenditure totals \$727 million, representing a 157 per cent increase over the 2007-08 base year. Melbourne Water's proposed operating expenditure of \$1.8 billion over the four year regulatory period represents nearly 50 per cent of its total revenue requirement.

Melbourne Water collects revenue from the retailers in the form of bulk water and sewerage charges, which are reflected in the retailers' operating expenditure and has a major impact on their total revenue requirements.

The metropolitan retail businesses have proposed operating expenditure totalling \$4.6 billion over the four year regulatory period. Operating expenditure is forecast to increase from \$708 million in 2007-08 to \$1.4 billion in 2012-13 (see table 2.3), inclusive of Melbourne Water's bulk charges.

Table 2.3 **Total operating expenditure**
\$ million in January 2009 prices

	<i>2005-06</i>	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>	<i>2012-13</i>
Melbourne Water	206	226	282	285	292	307	514	727
<i>Retailers</i>								
City West Water	182	179	177	207	228	264	305	350
South East Water	246	251	258	290	343	399	463	537
Yarra Valley Water	262	268	273	311	348	400	463	537
All retailers	689	697	708	808	919	1 062	1 231	1 424

^a Total operating expenditure in 2005-06 to 2007-2008 are actual numbers while operating expenditure for 2008-09 is a forecast.

Bulk charges, with licence fees and the environmental contribution, form components of the retailers' expenditure which are not directly controllable by the

businesses. Excluding these components allows the Commission to consider if the operating expenditure that the businesses directly control is efficient and prudent.

Over the regulatory period, the businesses' controllable operating expenditure (see table 2.4) totals \$1.3 billion. Controllable operating expenditure is proposed to be 15 percent higher in 2012-13 than its 2007-08 level. The businesses' controllable expenditure represents between 26 and 29 per cent of total operating expenditure.

Of the retailers, City West Water has proposed the largest increase in controllable operating expenditure over the regulatory period, with a 21 per cent increase from 2007-08 to 2012-13. South East Water's proposed operating expenditure increases by 16 per cent while Yarra Valley Water has proposed a 10 per cent increase.

All three retailers have proposed a significant increase in controllable operating expenditure from 2007-08 to 2009-10. City West Water's operating expenditure increases 11 per cent (from \$72 million to \$80 million), South East Water's 11 per cent (from \$110 million to \$122 million), and Yarra Valley Water's 7 per cent (from \$104 million to \$111 million). The rate of increase in proposed operating expenditure slows over the last three years of the forthcoming regulatory period (see table 2.4).

Table 2.4 **Controllable operating expenditure**
\$ million in January 2009 prices

	<i>2005-06</i>	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>	<i>2012-13</i>
City West Water	64	70	72	78	80	83	86	88
South East Water	94	102	110	112	122	124	125	128
Yarra Valley Water	90	99	104	107	111	113	114	114
All retailers	248	270	286	297	313	320	325	330

^a Controllable operating expenditure for 2005-06 to 2007-2008 are actual numbers while the 2008-09 number is a forecast.

Bulk water and sewerage expenditure

Forecast bulk charges payable by the retailers are based on the retailers' forecast demands for wholesale water and sewerage services and Melbourne Water's proposed prices. Over the regulatory period, total bulk service expenditure is proposed to be \$3.2 billion, with expenditure rising from \$375 million in 2007-08 to \$1.1 billion in 2012-13. The Commission notes that the bulk charges assumed in City West Water's and Melbourne Water's water plans were inconsistent; it will ensure that a consistent forecast is used in determining prices.

Expenditure by the retailers on bulk water services is forecast to increase from \$179 million in 2007-08 to \$602 million in 2012-13 while bulk sewerage expenditure increases from \$196 million to \$448 million (see table 2.5).

Table 2.5 **Bulk charges**
\$ million in January 2009 prices

	<i>2005-06</i>	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>	<i>2012-13</i>
Water								
City West Water	58	53	50	63	82	102	125	151
South East Water	63	62	62	76	112	143	180	220
Yarra Valley Water	68	68	67	82	123	153	189	232
All retailers	190	184	179	221	317	398	494	602
Sewerage								
City West Water	47	44	44	55	55	68	83	101
South East Water	71	69	69	86	92	116	142	173
Yarra Valley Water	83	82	83	103	96	118	143	174
All retailers	201	195	196	243	244	301	368	448

^a Bulk charges from 2005-06 to 2007-2008 represents actual, operating expenditure for 2008-09 is a forecast .

Licence fees and environmental contributions

The environmental contribution paid to the Department of Sustainability and Environment (DSE) and licence fees paid to the Environment Protection Agency (EPA), Department of Human Services (DHS) and Essential Services Commission are outside the businesses' control and are put through at cost. Melbourne Water is not required to pay the environmental contribution.

Business forecasts for all licence fees and the environmental contribution are shown in table 2.6. The Commission will verify the licence fees with the relevant regulatory bodies and make any required adjustments.

Table 2.6 **Environmental contribution and licence fees**
\$ million in January 2009 prices

	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>	<i>2012-13</i>
City West Water	11	11	10	11
South East Water	17	16	16	16
Yarra Valley Water	18	17	17	17
Melbourne Water ^a	2	2	2	2
All businesses	47	46	45	45

^a Melbourne Water is not required to pay the environmental contribution.

2.1.2 Drivers of forecast operating expenditure

Businesses identified a number of drivers for increased operating expenditure related to new obligations, growth in customer numbers and increases in input costs. The Commission will assess the basis for these drivers and form a view about the reasonableness of the assumptions underpinning the businesses' forecasts.

Additional obligations

The Commission provided guidance to businesses that Water Plans should distinguish between operating expenditure related to business as usual and new obligations (or new service initiatives).

A number of expenditure increases have been linked to obligations contained in Government strategies, which may have regard to a number of scenarios over a long period. The Commission will assess whether the water businesses have used the latest information when putting forward obligations for the regulatory period based on longer term strategies.

Operating expenditure surrounding supply augmentation was identified by Melbourne Water as a significant new obligation totalling \$678 million, comprising toll payments for the desalination plant over the last two years of the regulatory period⁷ and operating expenditure associated with the Sugarloaf Pipeline and with the reconnection of Tarago Reservoir.

The Central Region Sustainable Water Strategy was identified by businesses as a key document in defining obligations for water conservation and recycling.

South East Water and City West Water have forecast increased water conservation expenditure. Yarra Valley Water proposed to maintain its water

⁷ These figures are preliminary estimates based on the feasibility study assumptions. Finalisation of toll payment amounts will occur after completion of the tender process.

conservation expenditure at its 2007-08 level of \$6 million per annum over the period.

The retailers have identified new operating expenditure associated with the development of recycled water projects. City West Water has the greatest proposed operating expenditure with \$27 million over the regulatory period, with annual expenditure in 2012-13 being more than 200 per cent higher than the 2007-08 level. City West Water's forecast includes \$5 million for the Altona Recycled Water Project and \$1 million for the West Werribee Dual Water Supply Scheme over the regulatory period. South East Water and Yarra Valley Water both propose increased operating expenditure related to recycled water projects.

Melbourne Water has proposed operating expenditure for recycled water of \$30 million over the regulatory period, with average annual expenditure of \$8 million, compared to \$6 million in 2007-08.

Businesses have proposed changes to operating expenditure to meet obligations related to reducing greenhouse gas emissions. These obligations include projects where the Government has mandated that energy usage is fully offset, such as the desalination plant, Sugarloaf Pipeline and Altona Sewerage Treatment upgrade. The proposed targets are not consistent across businesses:

- City West Water and Yarra Valley Water have proposed no net greenhouse gas emissions
- South East Water has proposed to reduce emissions by 10 per cent per annum over the regulatory period from 2007-08 level and
- Melbourne Water has proposed a 40 per cent reduction from 2000-01 levels by 2013, including moving to 61 per cent of total energy used or sold to the grid coming from renewable sources.

The Commission noted that Yarra Valley Water is pursuing certification for the showerhead exchange program for greenhouse abatements. The Commission may consider the overall emission reductions for the metropolitan businesses as a whole to ensure that expenditure is reasonable.

Growth

The retailers' forecasts for average annual growth in customer numbers in their regions varies from 2.3 to 2.6 per cent for City West Water, 1.5 to 1.6 per cent for South East Water and 1.2 to 1.3 per cent for Yarra Valley Water over the regulatory period. The Commission will assess whether forecast growth in operating expenditure is consistent with forecast growth in customer numbers.

Changes to growth rates identified through the review of demand (see section 2.5.2) will be reflected in the associated operating expenditure.

Input costs

Businesses identified real increases in input costs as a key driver of operating expenditure. The Commission will review these proposed increases in expenditure to ensure that they are prudent and reasonable. In particular, the Commission will consider the assumptions underlying the input cost forecasts and, where large real

input cost increases have been assumed, whether those assumptions remain reasonable given the recent downgrading in the economic outlook over the regulatory period.

In respect of labour costs, the Commission notes that businesses have proposed labour price increases greater than the forecast consumer price index (CPI). Melbourne Water has stated that its assumption is consistent with its current enterprise bargaining agreement, which gives a 4 per cent per annum nominal increase. City West Water has assumed a 1.1 per cent real increase and South East Water a 2.5 per cent real increase. Yarra Valley Water's Water Plan did not explicitly state its assumption but included additional expenditure for real increases.

In the 2008 Water Price Review of regional businesses, the Commission adopted a 1.25 per cent real per annum increase in labour rates.

Where growth in staffing levels are forecast to increase above customer growth rates, the Commission will seek further information on the drivers of labour expenditure, including staff identified for new programs.

Real increases in energy were also identified as a driver of increased operating expenditure. South East Water forecast a 39 per cent increase in electricity prices over the regulatory period while Melbourne Water forecast an increase of more than 15 per cent. City West Water and Yarra Valley Water did not include their assumptions on energy costs in their Water Plans.

During the 2008 price review, the Commission adopted a 15 per cent real increase above 2006-07 levels for energy costs for the regional businesses. Businesses entering into contracts during 2007-08 were generally at or below the Commission's benchmark.

South East Water included a 20 per cent increase in fuel costs for 2009-10, followed by annual increases of 10 per cent. The other businesses did not include forecasts for fuel costs in their Water Plans.

Businesses also identified real increases in material and civil, mechanical and electrical contract rates as driving operating expenditure increases. Businesses have generally identified escalating rates in the broader infrastructure and utility sectors as the basis for the increases.

The metropolitan water businesses commissioned Econtech to forecast construction price indexes for the Victorian Water Industry. City West Water used Econtech's forecasts to apply a 2.5 per cent annual real increase in civil and maintenance costs. The other businesses did not directly state in their Water Plans whether they used the Econtech indexes in developing their operating expenditure forecasts.

The Commission will ask South East Water, Yarra Valley Water and Melbourne Water if they used the Econtech indexes, or other construction indexes, in forecasting their civil and maintenance expenditure. The Commission will also seek guidance from Deloitte and Halcrow (its expenditure consultants) on the validity on the construction indexes developed by Econtech, given changes to the economic outlook since the indexes were developed.

Transaction costs

The retailers have proposed increases in expenditure associated with customer service and billing. While growth in customer numbers contributes to the higher expenditure, other factors identified by businesses include higher transaction costs, debt management and management of hardship customers.

Other issues

The Commission has identified a number of other issues that it will be seeking further information from the businesses on, these being:

- Melbourne Water's proposed \$23 million increase in land tax due to the increased value of unimproved land and planned changes in its land portfolio
- quantifying the impact of Melbourne Water assuming a CPI of 2.5 per cent compared to the Commission's assumption of 2.9 per cent
- Melbourne Water's inclusion of around \$19 million in its 2007-08 expenditure for write downs associated with its defined benefits superannuation scheme - The Commission will remove this provision from 2007-08 expenditure when analysing trends in expenditure
- South East Water's proposed doubling of its graduate program from \$1 million to \$2 million per annum and
- the benefits expected to result from increased operating expenditure on information technology.

The Commission and its expenditure consultants may identify further issues on which further information will be sought from the businesses.

2.1.3 Productivity improvements

The Commission considers it reasonable to expect businesses to improve the efficiency of delivery for their business as usual expenditure over the regulatory period. It considers that a 1 per cent per annum growth adjusted productivity improvement provides a reasonable baseline for business as usual expenditure over the period.

The Commission proposes to take 2007-08 (the last year of actual expenditure) as the base year. It will seek to understand the drivers of any changes from this base year and assess whether the proposed expenditure is reasonable and reflects productivity improvements.

Efficiency measures proposed by the businesses include the introduction of shared services, as recommended in the Victorian Competition and Efficiency Commission's (VCEC) report on reform of the Melbourne metropolitan water sector. VCEC estimated that sharing services and coordinating bulk procurement of common inputs could achieve savings of around \$8 to \$10 million dollars a year.

The businesses have estimated savings over the regulatory period from sharing services, with Melbourne Water and City West Water at \$6 million each and South East Water and Yarra Valley Water at \$4 million each. South East Water has proposed additional operating expenditure of \$1 million to implement the VCEC

recommendations on shared services, ring fencing, third party access and transition to a statutory corporation.

City West Water's full savings from shared services commence from the first year of the regulatory period. The other businesses do not propose to achieve the full savings until the end of the period.

2.2 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 weighted average cost of capital (WACC) multiplied by the RAB) and a return of the RAB (through regulatory depreciation).

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. In doing so, the Commission must be satisfied that any significant changes in capital 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 Commission has engaged Deloitte and Halcrow to assist it in assessing the businesses' forecasts of capital expenditure. The review will focus on the top ten projects identified by the businesses.

2.2.1 Overview of business proposals

Over the four year regulatory period, capital expenditure proposed by the businesses totals \$4.3 billion (see table 2.8). The main capital expenditure projects proposed by the businesses are listed in table 2.9.

Table 2.8 **Capital expenditure**
\$ million in January 2009 prices

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
City West Water	71	69	76	90	140	160	109	61
South East Water	65	93	103	123	157	156	148	142
Yarra Valley Water	170	179	164	234	277	231	215	189
Melbourne Water	221	268	451	1 129	947	690	407	246
All businesses	526	609	794	1 577	1 521	1 237	879	639

^a Gross operating expenditure for 2005-06 to 2007-2008 are actual numbers while operating expenditure for 2008-09 is a forecast.

Table 2.9 **Key capital expenditure projects**
\$million in January 2009 prices

<i>Proposed capital expenditure project/program</i>	<i>2008-09</i>	<i>Regulatory period</i>	<i>Total</i>
<i>Melbourne Water</i>			
Sugarloaf pipeline	479	522	1 011 ^a
Northern sewer project	87	192	279
Eastern Treatment Plan tertiary treatment	9	294	303
Melbourne main sewer augmentation	40	135	175
<i>City West Water</i>			
West Werribee dual pipe	1	73	74
Altona recycled water project	1	58	59
<i>South East Water</i>			
Dual pipe recycled water	2	43	45
Pakenham–Narre Warren Sewer	15	28	43
<i>Yarra Valley Water</i>			
Northern Sewer project	47	113	160
Epping-Craigieburn Sewer Project Stage 1	2	64	66
Epping branch sewer – Section 1	2	43	45

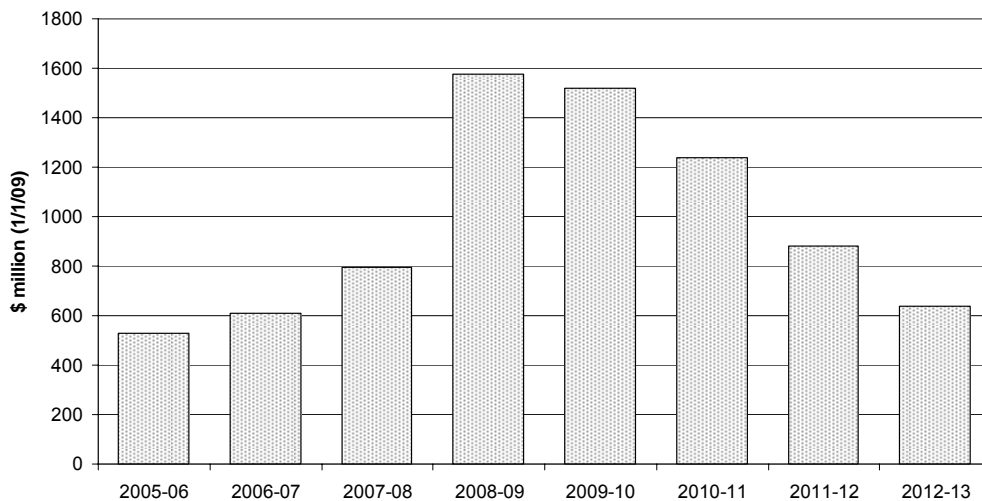
^a Includes \$10 million of expenditure to occur in third regulatory period.

2.2.2 Project timing and delivery

The proposed profile of capital expenditure is shown in figure 2.1. The businesses' total capital expenditure increased considerably in 2008-09 compared to the first regulatory period, due to the commencement of a number of large projects,

including the Northern Sewer Project and the Sugarloaf Pipeline. Capital expenditure in the first year of the regulatory period is proposed to remain at similar levels to 2008-09 and then decline over subsequent years to end the period at a similar level to expenditure in the first regulatory period.

Figure 2.1 **Total capital expenditure profile**



The large proposed capital expenditure in the early years of the regulatory period will place increased pressure on the capacity of the businesses to deliver their proposed projects. The substantial increase in expenditure is attributable to a small number of very large projects. Melbourne Water and Yarra Valley Water are the businesses showing the greatest jump in capital expenditure in the early years of the regulatory period.

The Commission has some concern about the ability of businesses to deliver the proposed large capital program during their proposed timeframe. Actual 2007-08 expenditure was well under forecast levels, suggesting businesses may have been overly optimistic about their capacity to deliver the capital program in a short time period.

In considering the capacity of businesses to deliver their capital programs, the Commission may consider the priority of some projects and programs. Delaying of some programs may allow smoothing of the capital expenditure profile over the period while causing minimal impact on current customer service levels during the period. Programs where businesses could be asked in further detail about priorities for pricing purposes include renewals programs, sewer backlog and metering. The Commission will consult with other regulatory agencies to gain an understanding of the drivers behind the forecast capital expenditure and the urgency with which proposed capital programs are expected to be delivered.

2.2.3 Real increases in capital program input costs

As with operating expenditure, businesses identified real increases in input costs as a component in their proposed expenditure. The Commission will consider the reasoning behind the input cost forecasts and impact of the changed economic outlook on the forecasts.

The metropolitan water businesses commissioned Econtech to provide forecasts of construction cost indexes. South East Water and City West Water used the consultant's report in developing their capital expenditure forecasts, with City West Water escalating all capital expenditure by 2.5 per cent. Melbourne Water noted that, to ensure that price increases are consistent with the Government's pricing expectations, it did not increase its proposed capital expenditure for forecast real increases in construction costs. Yarra Valley Water did not indicate whether any real increases in construction costs were used in developing its proposed capital expenditure.

2.2.4 Uncertain capital expenditure

Section 3.3 discusses the approach to deal with uncertainty during the regulatory period.

In its Water Plan, Melbourne Water proposed that projects with significant uncertainty should be subject to a within-period review and possible price adjustment. It identified such projects as including:

- the desalination plant
- the Eastern Treatment Plant outfall extension or tertiary treatment and
- the Western Treatment Plant biosolids energy recovery project.

None of the retail businesses nominated specific projects but they discussed the broader treatment of uncertainty.

2.3 Financing capital investments

The Water Industry Regulatory Order (WIRO) requires the Commission to ensure that the prices proposed in the metropolitan businesses' Water Plans provide a return on all investments made after 1 July 2004 to augment existing assets or construct new assets. This implies that businesses' revenue should provide:

- a return on the value of the regulatory asset base
- a return of the initial investment over time through an allowance for regulatory depreciation.

2.3.1 Rolling forward the regulatory asset base

Each water business's regulatory asset base (RAB) represents the value of its past capital investments. The RAB reflects the initial regulatory asset value (as at 1 July 2004) set by the Minister for Water and the value of new assets constructed by the businesses since the initial value was set. This resulting value is the value on which a business can expect to earn a return (return on capital) and the value that is returned to the business over the economic life of the assets (as regulatory

depreciation). The standard formula for calculating the opening RAB for each business at 1 July 2009 is:

Opening RAB	₂₀₀₉
<i>equals</i>	Opening RAB ₂₀₀₄ (set by the Minister)
<i>plus</i>	Gross capital expenditure ₂₀₀₄₋₂₀₀₉
<i>less</i>	Contributions (by both government and customers) ₂₀₀₄₋₂₀₀₉
<i>less</i>	Proceeds from disposal of assets ₂₀₀₄₋₂₀₀₉
<i>less</i>	Regulatory depreciation ₂₀₀₄₋₂₀₀₉

The Commission's approach to determining the RAB at 1 July 2009 is to use the actual capital expenditure, contributions, proceeds from disposals for the period 1 July 2004 to 31 June 2008, and the regulatory depreciation figures adopted in the 2005 Water Price Review Final Decision. This information has been provided by the businesses in their Water Plans. The businesses have also provided forecasts of capital expenditure, contributions and disposals for 2009. The Commission will seek actual figures from the businesses for the July to December 2008 period and updated estimates for the January to June 2009 period.

Once the opening value has been established, the same approach is then used to determine the opening value for each year of the regulatory period. Forecasts of capital expenditure, contributions, regulatory depreciation and disposals are used for this calculation.

Under this approach, an adjustment would be made in 2013 for any difference between assumed and actual net capital expenditure for 2008-09 when the opening RAB is calculated for the next regulatory period. Regulatory depreciation remains the same as that estimated in this price review. The Commission has previously indicated that it would consider proposals from the businesses to use an updated forecast of 2008-09 net capital expenditure to update the RAB.

The metropolitan businesses have adopted this approach in determining the opening asset base from 1 July 2009 and for rolling it forward over the regulatory period. However, they have also incorporated adjustments to their opening regulatory asset bases on advice from the Minister for Water. Melbourne Water has reduced its opening regulatory asset base by \$300 million dollars, while South East Water and City West Water have increased their opening regulatory asset values by \$189 million and \$111 million respectively.

The Commission is required to ensure that prices allow businesses to earn a return on and of all new assets and the opening regulatory asset value (as of 1 July 2004) as determined by the Minister for Water. The regulatory asset transfers proposed by the businesses will need to be implemented through changes to the opening regulatory asset values. The Commission will seek advice from the Minister for Water on this matter during the price review.

The Commission will also ensure that the businesses' opening asset values are consistent with approved values contained in each businesses' regulatory accounting statements for 2005-06 and 2006-07.

2.3.2 Weighted average cost of capital

The rate of return component of a business's revenue requirement is calculated by multiplying its regulatory asset base by the approved rate of return. As part of its Water Plan, each business was required to propose an estimate of the rate of return using a real post-tax weighted average cost of capital (WACC).

In previous regulatory decisions, the Commission, and most other regulators in Australia and the United Kingdom, have used the capital asset pricing model (CAPM) to provide an estimate of the required return on equity. The return is calculated as the sum of the return earned by risk-free assets, and a premium for risk:

$$R_e = R_f + \beta_e(R_m - R_f)$$

where R_e is the required return on equity

R_f is the risk free rate

β_e is the equity beta

$(R_m - R_f)$ is the return in excess of the risk-free rate (the equity or market-risk premium) that investors would need in order to invest in a well diversified portfolio of assets.

The cost of debt financing is then normally estimated from the observed, or estimated, debt financing costs of businesses in the water industry or comparable utility infrastructure businesses. Therefore, the weighted average cost of capital can be represented as:

$$WACC = R_e \frac{E}{V} + R_d \frac{D}{V}$$

where R_d is the cost of debt

E/V and D/V are the shares of equity and debt in the financing structure, respectively.

Applying this methodology requires assumptions to be made about the following:

- the real risk free rate of return (R_f)
- equity (market) risk premium ($R_m - R_f$)
- equity beta (β_e) and
- cost of debt (R_d) and capital structure (E/V and D/V)

As part of their Water Plans, each business was required to propose an estimate of the rate of return using a real post-tax WACC. The Commission provided an estimate of the WACC in its Guidance Paper based on the 20-day period from 7 February to 6 March 2007.

In its Final Decision on the 2008 price review, the Commission approved a WACC of 5.8 per cent for all regional urban and rural businesses. The individual parameters used to calculate the approved WACC are set out in Table 2.6.

Table 2.10 **Real post-tax WACC**
2008 Water Price Review Final Decision

<i>Real risk free rate</i>	<i>Equity beta</i>	<i>Market risk premium</i>	<i>Debt margin</i>	<i>Financing structure</i>	<i>Franking credit value</i>	<i>WACC</i>
(per cent)	(β)	(per cent)	(per cent)	(per cent)	(γ)	(per cent)
3.227	0.65	6.00	1.75	60	0.5	5.8

Each business has adopted a WACC of 5.8 per cent calculated in accordance with the Commission's Final Decision in June 2008.

The Commission notes that there have been significant changes in financial market conditions over the previous two months, including large reductions in the official cash rate by the Reserve Bank of Australia. The Commission will recalculate the WACC to reflect financial market conditions at the time of the Draft Decision.

The following provides a brief outline of the parameters used to calculate the WACC and the issues involved.

Risk-free rate of return

In principle, the risk-free benchmark in the Capital Asset Pricing Model (CAPM) should reflect the yield on a risk-free investment. In the 2008 price review, the Commission used nominal rates on risk-free bonds and developed a forecast of inflation to calculate a real risk-free rate. It did this by calculating an average over a 40 day trading period.

The Commission previously used Commonwealth Treasury Issued Bonds to calculate the risk-free rate. However, analysis undertaken during the recent Gas Access Arrangements Review revealed that this approach resulted in both absolute and relative bias. The Commission previously calculated the risk-free rate on a 20 day trading period but adopted the longer 40 day trading period to account for a higher than usual level of financial market volatility.

Equity beta

The equity beta reflects the non-diversifiable risk of an asset relative to the market as a whole. Assets with an equity beta greater than the market average of one would be expected to compensate investors for greater risk through higher returns. In the 2008 price review, the Commission used an equity beta of 0.65. This reflected analysis from the Gas Access Arrangements Review that illustrated that an appropriate equity beta for gas distribution businesses to be 0.75, and the accepted view that the non-diversifiable risk for regulated water sector activities is likely to be lower than that for the energy sector.

Melbourne Water noted that it and the other businesses commissioned the Strategic Financing Group (SFG) to provide an empirical estimate of the WACC for their businesses. Melbourne Water stated that while it has not used SFG's recommended approach, it considers that the issue for setting an appropriate WACC for water businesses should be debated, particularly the empirical estimates for the equity beta and the gamma.

In calculating the WACC to be applied to the metropolitan businesses, the Commission will assess the appropriateness of applying an equity beta of 0.65 as used for the regional businesses. However it will consider an equity beta that is within the range identified by the Allen Consulting Group for the 2008 GAAR between 0.5 to 0.8,⁸ rather than the beta range of 0.9 to 1.1 recommended in the SFG report.

Market risk premium

The market risk premium reflects the return an investor would expect to earn over and above the risk-free rate by holding a well-diversified portfolio of assets.

In previous decisions, the Commission adopted an estimate of 6 per cent for the expected market risk premium. This estimate was:

- below long-run historical returns (7.3 per cent) but otherwise within the range provided by results (3.4 to 7.3 per cent) modelled over varying time periods that extend beyond a full market cycle and
- within the 95 per cent confidence interval associated with the long-term historical returns (4.3 to 10.4 per cent) and above forward looking estimates (4 per cent).

The Commission notes that it can be difficult to establish an accurate estimate of the market risk premium. However, other recent regulatory decisions have applied a market risk premium of 6 per cent and this was applied in the 2008 Water Price review.

Debt margin

Traditionally, Australian regulators adopt a benchmark for the cost of debt that reflects the latest market evidence available on the borrowing costs of an efficiently financed business. The estimated debt margin is based on a BBB+ rated debt with a 10 year term to maturity.

These assumptions are made because generally the regulator does not have information available to it as to the actual debt margins faced by the regulated businesses. However, during the last price review, the Commission noted that all the water businesses acquire debt through the Treasury Corporation of Victoria (TCV). TCV is Victoria's central financing authority, providing loans and financial services to Victoria's Government Business Enterprises (GBEs).

The Commission's Final Decision for the 2008 price review allowed a debt margin of 1.75 per cent for all water businesses based on confidential advice provided by

⁸ Allen Consulting Group, *Empirical evidence on proxy beta values for regulated gas distribution activities*, June 2007.

TCV. For its draft decision the Commission will update its assumption of the debt margin based on recent actual data.

Financing structure

The standard practice amongst Australian regulators is to adopt benchmark assumptions about financing arrangements, rather than use the businesses' actual positions. This allows regulated businesses to benefit from innovative (and more efficient) financing decisions while protecting customers against any inefficient financing decisions.

For the 2008 price review, the Commission adopted a financing structure of 60 per cent debt to regulatory assets. This was considered consistent with:

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

Franking credits

As the form of the WACC outlined above provides for an after-tax return, a separate allowance must be included in each of the businesses' revenue benchmarks (which are defined in pre-tax terms) to cover any expected taxation liabilities. This allowance, or adjustment, is known as the gamma or franking credits. In previous consultations, including the 2008 price review, the WACC has been assumed a gamma of 0.5. This reflects an assumption that franking credits are valued at 60 per cent of their face value and that 82 per cent are distributed. A gamma of 0.5 is consistent with the majority of businesses' proposals during the last price review and recent regulatory decisions, including the 2008 GAAR.

2.3.3 Regulatory depreciation

The purpose of allowing a 'return of' capital expenditure through regulatory depreciation when setting regulated charges is to return to investors the value of the capital that has been invested over the life of the relevant asset. In the past, water businesses have generally proposed straight-line depreciation profiles and these have been approved by the Commission. However, in the current situation where the metropolitan businesses' asset bases are growing rapidly over a short time period, it is appropriate to consider whether other approaches to regulatory depreciation may be more appropriate.

The Commission's current approach is to recognise regulatory depreciation from the year in which the expenditure is incurred. For projects taking a number of years to be completed, this approach results in businesses receiving regulatory depreciation on projects prior to the assets coming into service. For small projects and projects that are spread across one or two years, this has little impact. However, for major projects with large capital costs spread across a number of years — as will occur in Melbourne over the next period — the impact is more significant.

The Commission considers it reasonable for businesses to receive regulatory depreciation on assets when they are completed. Businesses should only receive a

sufficient return on the asset while under construction to ensure that working capital is available to finance the asset. The Commission advised the businesses that they should prepare their Water Plans on the basis that depreciation is not claimed on major assets until the asset enters service.

The VCEC Inquiry into the Reform of the Metropolitan Retail Water Sector also recommended that, in order to achieve the Government's pricing expectation, regulatory depreciation should be deferred to the next regulatory period.

In their proposed revenue requirements, City West Water and Yarra Valley Water deferred the receipt of depreciation on major capital expenditure projects until the year they are expected to come into operation. They also deferred some depreciation on existing assets to assist in meeting the Government's pricing objectives. Melbourne Water deferred the depreciation on all new capital expenditure undertaken during the regulatory period. South East Water also proposed a shift of regulatory depreciation from existing assets although did not defer depreciation received on major projects constructed during the period. In their Water Plans, all businesses requested that any costs savings identified during the review process result in a shift back of deferred depreciation.

South East Water also proposed a depreciation schedule using a declining balance approach. The Commission is concerned that this approach is not consistent with the VCEC recommendation to defer regulatory depreciation to assist with achieving the Government's pricing objectives and that the depreciation profile should better reflect the utilisation profile of an asset.

In its assessment of proposed regulatory depreciation, the Commission will consider the depreciation profile and asset lives used, the deferral of depreciation for pricing purposes, and whether any further depreciation could reasonably be deferred for major projects that do not come into service until later in the regulatory period.

2.4 Demand forecasts

Changes in customer numbers and consumption are important determinants of the capacity of the water and sewerage infrastructure to provide services and of the need for expenditure on renewal and augmentation. The water businesses' demand forecasts represent a critical element of their service and expenditure proposals for the regulatory period.

The demand forecasts also have a direct bearing on the prices that customers will pay during the period. Demand forecasts play an important role in determining the prices needed to meet the revenue required by businesses to deliver services over the regulatory period. Where businesses propose overly conservative (optimistic) demand forecasts, everything else being equal, prices will be higher (lower) than they otherwise would.

The Commission has engaged PricewaterhouseCoopers to assist in a detailed review and assessment of the demand forecasts. The detailed review will encompass water, sewage, recycled water and trade waste. It will focus on:

- the assumptions underpinning demand forecasts and customer growth rates

- assumptions about future levels of restrictions and price elasticity of demand and
- the demand reduction targets that form the basis of businesses' forecasts and the impact on these targets of the substantial supply augmentations planned for metropolitan Melbourne over the regulatory period.

2.4.1 Overview of forecasts

The key demand parameters influencing prices and revenue are the total volume of water sold and the number of water and sewerage connections (which are primarily influenced by the new connection growth rate). The volume of wastewater is also a key charging parameter, although it is directly related to the volume of water sold. Figure 2.2 shows actual and forecast total water consumption from 2002-03 to 2012-13 for each urban business. Figure 2.2 indicates that the businesses are not forecasting volumes to return to levels consumed in 2002-03.

Figure 2.2 **Historical and forecast sales volumes (ML)**

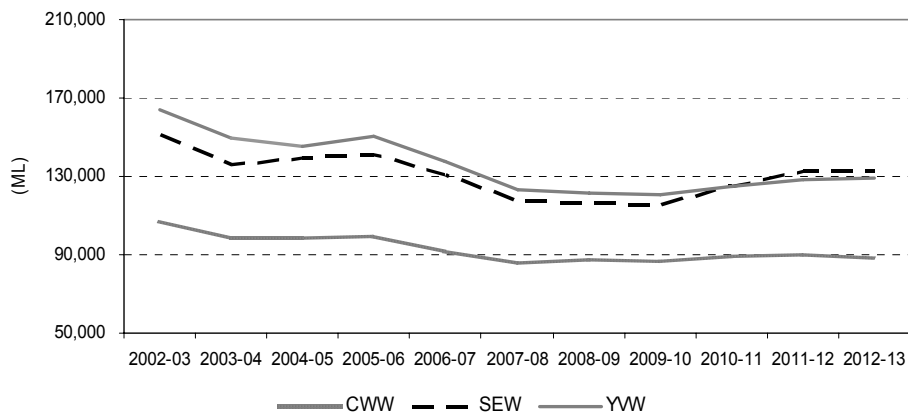


Table 2.11 outlines the water sales forecast for the regulatory period. South East Water and Yarra Valley Water have forecast an increase in sales as restrictions are eased during the regulatory period. City West Water has forecast volumes to remain consistent over the period, largely due to planned substitution to recycled water later in the period.

Table 2.11 **Forecast water sales volumes (ML)**
(excluding recycled water)

	2009-10	2010-11	2011-12	2012-13	Total
City West Water	86 311	88 942	89 639	88 683	353 575
South East Water	115 613	125 213	132 194	132 699	505 719
Yarra Valley Water	120 406	125 239	128 132	129 250	503 027
Total	322 331	339 393	349 965	350 632	1 362 321

Overall, the businesses' demand forecasts appear to be quite conservative, reflecting drought conditions, uncertainty about future climate conditions and demand reduction targets. A key issue is whether the level of conservatism in the demand forecasts provides for a reasonable sharing of risk between businesses and customers.

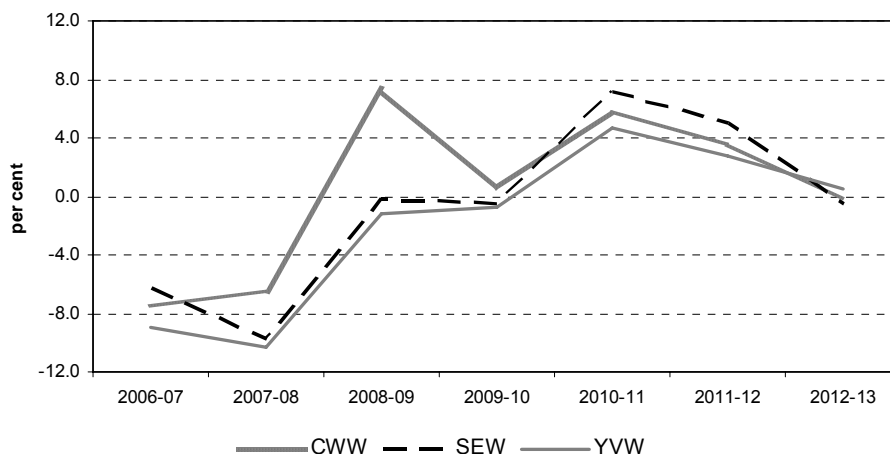
Given the uncertainty surrounding future demand and the conservative approach to the forecasts, the review will also consider the interaction between the demand forecasts and the form of price control proposed by each business.

2.4.2 Key issues

Residential water usage

Figure 2.3 outlines the forecast change in total residential volumes for each of the retail businesses.

Figure 2.3 **Forecast annual change in total residential usage**



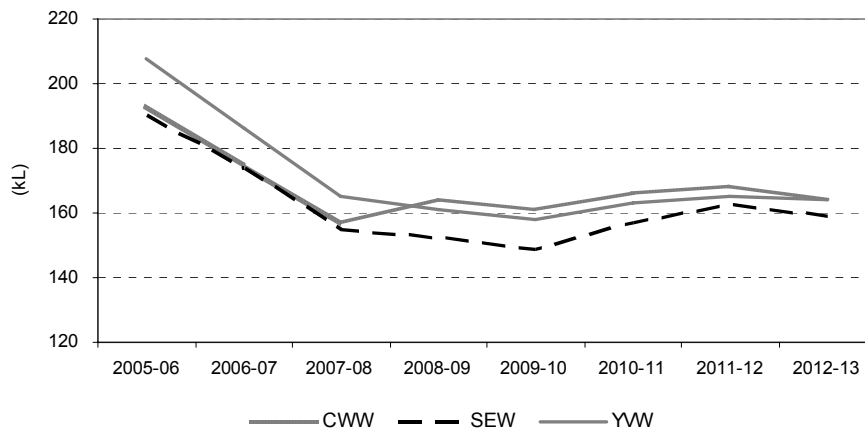
The demand forecasts proposed by each retailer assume the same restriction schedule of Stage 3a in 2008-09 and 2009-10, stage 2 in 2010-11, stage 1 in 2011-12, and permanent water saving rules in 2012-13. The majority of residential consumption for each business is forecast to occur within tier 1. As restrictions are eased, growth in usage over the period is forecast to largely occur in tiers 2 and 3, though consumption in tier 3 remains a small proportion of total consumption.

All businesses have forecast increases in residential water consumption from 2010-11 onwards due to the augmentation projects planned to begin operation and the consequent easing of restrictions. Each business has also forecast a tapering off of growth in usage by the end of the period, with City West Water and South East Water forecasting a small reduction in demand in the final year of the period. The businesses have also assumed that demand will not return to pre-restriction levels due to the impact of restrictions and CRSWS water conservation measures such as water efficient showerheads and rain water tanks.

The Commission will review the recovery/growth of demand following the easing of water restrictions for the later years of the regulatory period. The Commission will also consider the purpose of certain water saving measures, given the augmentation projects being undertaken, and the impact of these measures on consumption over the regulatory period. The Commission will also consider whether the growth in customer numbers is reflected in growth of total volumes.

Figure 2.4 sets out the businesses' proposed average residential consumption per customer for each business.

Figure 2.4 **Proposed average household consumption (kL)**



The businesses have generally forecast an increase in average household consumption as restrictions are eased from 2010-11 onwards. City West Water has forecast average annual household consumption from 2007-08 to 2012-13 increase from 157 kl to 164 kl, South East Water to increase from 155 to 159 kL, and Yarra Valley Water to decrease from 165 kl to 164 kL.

The Commission considers that, as restrictions are forecast to ease over the period, average household consumption will increase over the next regulatory

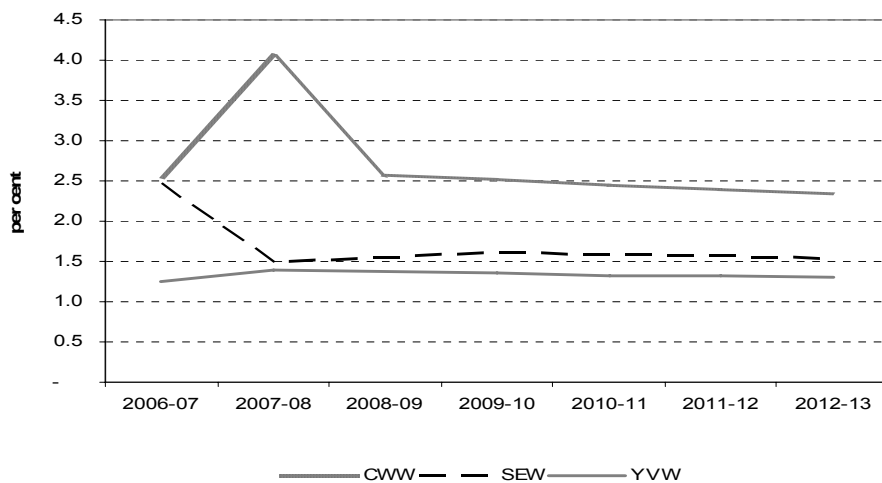
period. In its review of residential usage forecasts, the Commission will assess whether the average household usage is reasonable, given the easing of restrictions over the period.

Customer growth

Figure 2.4 summarises the businesses' forecast customer growth over the next regulatory period. All three businesses have forecast an average annual growth rate of between 1 and 2.5 per cent based on DSE's 2004 *Victoria in the Future* population and dwelling projections.

The annual increase in customer numbers is similar across businesses, though figure 2.4 indicates a higher growth rate for City West Water 2.3 to 2.6 per cent, due to its smaller customer base. This compares with South East Water (1.5 to 1.6 per cent) and Yarra Valley Water (1.2 to 1.3 per cent). Although City West Water experienced higher than normal growth in 2007-08 of 4 per cent due to a large increase in household numbers, its forecast is consistent with historical levels.

Figure 2.4 **Average growth water customer numbers 2006-07 to 2012-13**



The businesses have forecast non-residential customer growth generally consistent with residential customer growth, though South East Water has forecast a higher growth for non-residential customers at around 2 per cent. The Commission will ensure the businesses' forecasts are consistent with the updated *Victoria in the Future 2008* population and household projections data and recent ABS data on population growth.

Price elasticity

Table 2.11 outlines the assumptions regarding price elasticity for residential and non-residential consumption.

Table 2.11 **Price elasticity of demand assumed by the metropolitan businesses**

	<i>City West Water</i>	<i>South East Water</i>	<i>Yarra Valley Water</i>
Tier 1	0.0	0.0	0.0
Tier 2	-0.1	-0.1	-0.11
Tier 3	-0.14	-0.15	-0.21
Non-residential	-0.185	-0.185	<i>See table 2.12</i>

Table 2.12 **Non-residential price elasticity assumed by Yarra Valley Water**

	<i>Top 42</i>	<i>>10ML</i>	<i>Council</i>	<i>Other</i>
Yarra Valley Water	0.0	-0.25	-0.33	-0.26

City West Water and South East Water based their assumptions regarding residential price elasticity on work commissioned by the Water Services Association of Australia and undertaken by KPMG. The non-residential elasticity assumptions were drawn from a report commissioned by the Smart Water Fund and undertaken by ACIL Tasman. These were the same studies used by the regional and rural businesses in the 2008 price review and are based on a normal year of consumption with no restrictions.

Yarra Valley Water has assumed similar price elasticity for residential customers, though slightly higher in the third tier, and for non-residential customers has assumed different price elasticities for different customer groups, as outlined in table 2.12.

In its Water Plan, City West Water outlined the impact of price elasticity on its forecast volumes across each year of the next regulatory period. South East Water stated that it only incorporated the impact of price elasticity for residential and non-residential customers later in the regulatory period when the impact of restrictions is forecast to reduce. Yarra Valley Water did not make clear in its Water Plan how its price elasticity assumption have been incorporated into its forecasts.

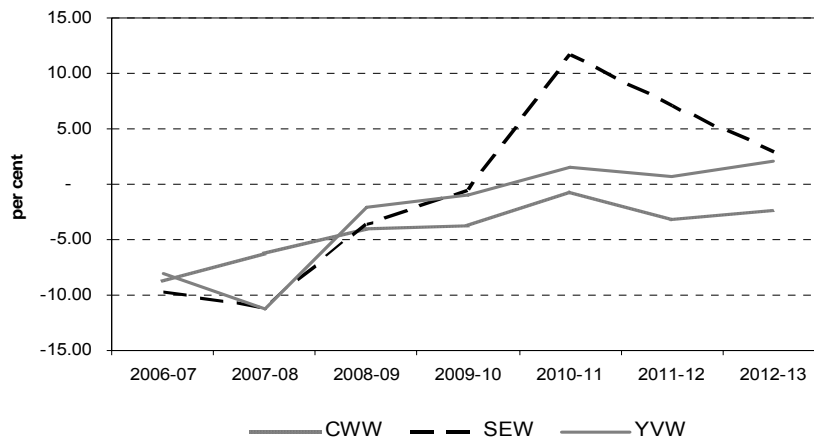
The Commission considers that price elasticity will not have a material impact on residential usage during high level restrictions as discretionary water use has largely been removed by the restriction requirements. At the same time, price elasticity may impact the level of recovery to the original volumes as restrictions are removed.

The Commission will need to assess whether it is reasonable to factor in the impact of price elasticity on volumes over the regulatory period, given the low volumes consumed under restrictions.

Non-residential water usage

Figure 2.5 demonstrates movements in actual and forecast consumption in total non-residential volumes.

Figure 2.5 Forecast change in total non-residential usage



City West Water forecast an annual decline of 2-4 per cent of its volumes, which includes the impact of price elasticity and substitution to recycled water. In its Water Plan, it stated that non-residential volumes have been forecast by multiplying the average per customer forecast by the expected number of customers, and that the average per customer forecast is adjusted each year to reflect water savings in this segment. City West Water has forecast non-residential customer growth to average 2.5 per cent.

South East Water forecast non-residential usage to further decline in 2008-09 and 2009-10 before increasing over the final three years of the period. South East Water stated in its Water Plan that non-residential consumption is based on a five year historic average usage per customer, taking into account growth in customer numbers and the impact of restrictions on affected customers.

Yarra Valley Water has forecast non-residential water usage to decline in 2009-10 and increase by 1 to 2 per cent in the final three years of the period. It stated in its Water Plan that it expects a slightly greater increase in demand in the residential sector than in the non-residential sector, as a greater proportion of efficiencies in the non-residential sector have been locked in.

The Commission will consider whether the proposed forecasts are reasonable given the easing of restrictions over the regulatory period, the substitution to recycled water and the impact of other conservation measures.

Residential and non-residential sewage volumes

City West Water has forecast sewage volumes for residential customers at 63.5 per cent of water volumes over the next regulatory period. For non-residential

customers it has forecast a decline in volumes consistent with its water volume forecasts for non-residential customers and adjusted the sewerage discharge factor from 38 to 34 per cent (of water used).

South East Water forecast residential sewage volumes at around 67 per cent of water volumes. It based its forecast on published seasonal factors and the known sewage disposal charge factors assigned to customers. Yarra Valley Water forecast an increase in the proportion of residential sewage volumes to water usage for the next regulatory period. It stated that, since restrictions have resulted in much less water being used on gardens, a higher proportion of water entering a typical household is returned to the sewer. Yarra Valley Water proposed that the sewage discharge factor would reduce over the period as restrictions are eased.

The Commission will consider whether the proposed forecasts are consistent with growth rates for water usage and whether sewage volumes reflect the impact of restrictions and reduced amount of outdoor usage.

Recycled water

City West Water has proposed a significant substitution of around 3.2 GL from non-residential water to recycled water in the final two years of the period, while residential recycled water volumes are forecast to increase to 277 ML. The growth in recycled water volumes are largely based on the Altona Recycling Plant beginning operations in 2010-11.

South East Water has forecast residential recycled water volumes to increase from 120 ML in 2008-09 to 566 ML by the end of the regulatory period. Yarra Valley Water has forecast usage for non-residential customers to increase from 0 to 300 ML and for residential customers to increase from 50 to 220 ML by the end of the period.

The Commission will assess whether the level of substitution to recycled water is consistent with the Commission's review of the businesses' expenditure on completion of recycled water projects.

Trade waste

City West Water stated in its Water Plan that the 'less than 10 ML' group's forecasts are increased in proportion to the growth in total water usage, to reflect that this category will be influenced by new businesses being formed to service the growing population. It has however forecast average annual reductions in trade waste volumes across the five volume categories of between 4 and 5.5 per cent.

South East Water has forecast small reductions in trade waste over the regulatory period. It stated that these forecasts reflect the success of targeted environmental improvement and regulatory cleaner production programs. The resulting reductions in pollutant volumes are offsetting growth in customer numbers.

The Commission will assess the consistency of proposed forecasts with forecasts for non-residential customer growth and usage over the regulatory period.

Uncertainty in demand forecasts

All businesses have proposed that, should restrictions change during the period due to supply constraints, demand forecasts will need to be adjusted accordingly. The Commission acknowledges that there may be uncertainty over future demand

levels and will deal with this uncertainty through a within-period review, under an uncertain and unforeseen events mechanism similar to that introduced for the regional and rural businesses in the 2008 price review (see section 3.3).

3 | PROPOSED PRICES AND TARIFF STRUCTURES

The Water Industry Regulatory Order (WIRO) specifies the principles against which the Commission is required to assess prices. These principles require that prices must:

- 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 and
 - choices regarding alternative supplies for different purposes
- take into account the interests of customers, including low income and vulnerable customers and
- enable customers to readily understand the prices charged, or the manner in which such prices are to be calculated or otherwise determined.

The metropolitan businesses' demand forecasts and total revenue that they propose to recover over the forthcoming regulatory period were discussed in the previous chapter. This chapter discusses how the businesses propose to collect this revenue from customers through prices. It discusses the impact of the businesses' proposals on prices and how the proposed prices have been structured.

It is important to note that as part of this price review, the Commission will only assess prices for the metropolitan businesses' water and sewerage services (including trade waste, recycled water and Melbourne Water's bulk services). Melbourne Water drainage and waterways charges and the Parks Victoria charge are not subject to the current price review.⁹ All figures presented in this chapter exclude Melbourne Water and Parks Victoria charges.

3.1 Impact of proposed prices on customer bills

To show the overall impact of the metropolitan water businesses' proposals, the Commission has estimated the expected average annual household bills over the regulatory period. Average household bills are calculated using the water and sewerage prices proposed by the metropolitan retailers and the expected consumption levels of an average household. This measure indicates the overall impact of the businesses' proposals as it considers both the proposed prices and expected use over the regulatory period.

⁹ The Commission approved prices for Melbourne Water's drainage and waterways services in the 2008 water price review final decision. Parks charges are collected on behalf of Parks Victoria and are set annually by Governor-in-Council on recommendation by the Minister for the Environment and the Treasurer.

Table 3.1 compares the expected average annual household bills for each of the three retailers. Under the businesses' proposals, average annual household bills will increase over the four year regulatory period by 70.2 per cent for South East Water, 71.4 per cent for Yarra Valley Water and 62.8 per cent for City West Water. In absolute terms, customers can expect their water and sewerage bills to increase by around \$80 to \$120 a year.

It is important to note that the actual impact of the businesses' proposals will vary between customers, depending on individual consumption patterns and how customers respond to price changes. More detail on the proposed water and sewerage tariffs is provided in section 3.2.1.

Table 3.1 Estimated residential bill from 2008-09 to 2012-13

Metropolitan retail businesses (\$ in January 2009 prices)

	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>	<i>2012-13</i>
City West Water	568	671	751	841	925
South East Water	566	667	774	867	963
Yarra Valley Water	585	725	838	921	1004

Note: Average annual household bills based on average consumption of 165kL per annum. Figures do not include Melbourne Water drainage and waterways charges or Parks Victoria charges.

3.1.1 Drivers of proposed price increases

In setting out their proposed prices for the forthcoming regulatory period, the Commission asked the metropolitan water businesses to demonstrate the link between the proposed prices and the outcomes that will be achieved over the regulatory period. This is important so that customers can understand the drivers of the proposed price increases.

It is also important to note that the proposed price increases result from a combination of factors. The more revenue that a business requires to meet operating and maintenance cost and to finance capital investments, the higher prices need to be to recover that revenue. However, forecasts of customer numbers and consumption, which in turn depend on the level of water restrictions, also affect the price. Lower demand, including reduced consumption levels, requires higher prices to recover a fixed amount of revenue.

Each of the metropolitan water businesses provided information on the individual components contributing to the proposed price increases. The top five contributors to Melbourne Water's price increases are (in order) the desalination plant, reduced demand, other capital investments, the Sugarloaf Pipeline and the higher average cost of capital. South East Water indicated that increased bulk charges from Melbourne Water and reduced demand were the key contributors to its proposed price increases. City West Water and Yarra Valley Water have indicated that higher bulk charges from Melbourne contributed significantly to their revenue requirements.

Chapter 2 discusses the cost drivers (including the water supply augmentation projects) and demand forecasts in more detail.

3.1.2 Managing customer impacts

The Commission notes that while the proposed price rises are considerable, its role is to assess whether or not the increases represent prudent and efficient expenditure by the business and have regard to customers' willingness to pay for service improvements. However, the extent of the proposed price increases raises affordability issues. The WIRO requires the Commission to be satisfied that the businesses' proposed prices take into account the interests of customers, including low income and vulnerable customers.

Accordingly, a key focus of this review will be to understand how each business's proposed prices are likely to affect various customer classes and how the businesses propose to manage customer impacts. In its Guidance paper, the Commission indicated that businesses should outline the customer impacts of proposed prices, in particular how low income and vulnerable customers will be affected, and how these impacts will be addressed.

The Government has previously indicated that it expects water bills will no more than double over the five year period from 2008-09. All the businesses have noted that their pricing proposals are consistent with the Government's pricing expectations.

The Commission has specified in the Customer Service Code the minimum requirements on water businesses for addressing hardship issues. The Code requires all businesses to have a hardship policy that provides a range of options for assisting customers experiencing financial hardship, including flexible payment plans, referral to financial counsellors and other relevant agencies and providing information on concessions and other government assistance that customers may be entitled to.¹⁰

Have the businesses adequately addressed customer impacts resulting from the proposed price increases?

3.1.3 Proposed price paths

A price path represents how prices change over the duration of the regulatory period. The prices (and the associated price paths) proposed by each business should be set so as to recover the total revenue requirement over the regulatory period. The businesses are not required to set prices in accordance with revenue requirement in each separate year. Instead, the businesses may under-recover in some years and over-recover in others, for example, to smooth out price changes. In doing so, a variety of price paths may be adopted.

Each of the metropolitan retailers proposed prices paths with higher than average price increases in 2009-10 followed by lower price increases in the later years of the regulatory period. Table 3.2 sets out the annual price increases proposed by the metropolitan retail businesses and the average price increase over the regulatory period.

¹⁰ The Customer Service Code is available on the Commission's website. Clause 5.4 of the Code sets out the hardship policy requirements. Water businesses are required to publish their hardship policies on their website and to provide a copy on request.

Table 3.2 **Proposed price paths from 2008-09 to 2012-13**
Metropolitan retail businesses (per cent)

	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>	<i>2012-13</i>	<i>Average</i>
City West Water	18.0	12.0	12.0	10.0	14.0
South East Water	18.0	16.0	12.0	11.0	15.3
Yarra Valley Water	19.0	17.0	11.0	10.0	15.7

Note: Prices for the three retail businesses increased by 14.8 per cent in 2008-09.

City West Water noted that the proposed price path reflects the distribution of revenue requirements over the regulatory period and reduces the need for price reductions in the following regulatory period. South East Water also noted that larger initial price increases will provide additional incentives to conserve water before the planned supply augmentation projects are completed and ensure a smooth transition into the following regulatory period.

In the coming regulatory period, where expenditure by the businesses (particularly capital expenditure) is concentrated in the first part of the period, adopting a price path with larger price increases at the start of the period has the advantage of more closely aligning prices to underlying costs. However, this approach may increase the likelihood of adverse customer impacts because of the larger price increase in the first year.

When assessing businesses' proposed price paths, the relevant WIRO principle taken into account by the Commission is the interests of customers. The Commission has previously indicated that adverse customer impacts can be minimised by spreading price increases more evenly over the regulatory period. However, the disadvantage of this approach is that prices are more likely to be higher than costs at the end of the regulatory period due to the need to recover shortfalls from previous years. In this case, price reductions would be required in the following regulatory period, which may not be well understood by customers. In addition, price increases that are followed by price decreases may send inappropriate signals to customers.

Regardless of the price path proposed, businesses will still recover the same amount of revenue from customers, the only difference being the stage of the regulatory period that the revenue is recovered in.

3.2 Proposed tariff structures

3.2.1 Retail water and sewerage services

City West Water, South East Water and Yarra Valley Water charge a two-part tariff for residential water services consisting of a fixed annual charge and a usage charge based on actual consumption. The retailers also have in place inclining block tariffs for residential customers, where customers pay higher usage charges for water use above a certain level that is generally regarded as non-discretionary, providing incentives to moderate discretionary water use. The inclining block tariffs for each retailer consist of three levels with thresholds at 160 kL and 320 kL per annum respectively for the second and third tier usage charges.

The retailers also have two-part tariffs in place for non-residential water services with a single usage charge.

Two-part tariffs are also in place for sewerage services. The variable component of the sewerage tariff is based on an estimate of the volume of wastewater discharged into the sewer system. This estimate is calculated as a function of metered water use and takes into account other relevant factors (such as property type, customer type and time of year) that affect the proportion of water discharged into the sewer.

City West Water, South East Water and Yarra Valley Water have all proposed to retain their current tariff structures for retail water and sewerage services. Further, the proposed price increases will be applied equally to all retail water and sewerage tariffs in each year of the regulatory period at the rates set out in table 3.2. This means there will be no rebalancing of retail water and sewerage tariffs over the regulatory period and the proportion of revenue collected from water and sewerage tariffs respectively will stay the same.

Table 3.3 compares current retail water and sewerage tariffs and those proposed for 2012-13.

In assessing the retail water and sewerage tariffs proposed by the metropolitan retailers, the Commission must be satisfied that the tariffs reflect costs and send appropriate signals to customers. The Commission has previously indicated that variable usage charges should be set with reference to long run marginal costs. The three retailers have not provided estimates of LRMC in their water plans.¹¹ However, the Commission questions the extent to which the individual tariff components will be cost reflective by the end of the regulatory period.

First, a key cost driver behind the price increases are large scale water supply augmentation projects. The costs of providing water will therefore increase by significantly more than the costs of sewerage provision. This suggests that water prices would have to increase by more than sewerage prices to ensure that water and sewerage prices are cost reflective. Under the retailers' proposals, price increases will be the same for water and sewerage services.

Second, given the significant change in the sourcing (and nature) of water for Melbourne occurring over the regulatory period, the ratio of fixed to variable costs in providing water could change. Applying the price increases equally to both fixed and variable tariff components may prevent any underlying change in costs from being effectively signalled to customers. Further, customers indicated a strong preference in submissions during the past price review that variable charges should be higher, relative to fixed costs, to give them more control over their bills.

¹¹ In its September 2008 Supplementary Guidance to the metropolitan water businesses, the Commission indicated that any significant changes in the ratio of fixed to variable charges should be accompanied by estimates of LRMC. The retailers have applied the proposed price increases equally across all tariffs so that the ratio of fixed to variable charges will not change.

Table 3.3 **Retail water and sewerage tariffs 2008-09 to 2012-13**
Metropolitan retail businesses (\$ in January 2009 prices)

	<i>City West Water</i>		<i>South East Water</i>		<i>Yarra Valley Water</i>	
	<i>2008-09</i>	<i>2012-13</i>	<i>2008-09</i>	<i>2012-13</i>	<i>2008-09</i>	<i>2012-13</i>
Residential water service charge (per annum)	126.52	206.05	56.96	96.93	75.54	128.42
Residential water usage charge (block 1) (per kL)	1.02	1.67	1.01	1.71	1.02	1.73
Residential water usage charge (block 2) (per kL)	1.20	1.96	1.22	2.08	1.20	2.03
Residential water usage charge (block 3) (per kL)	1.78	2.89	1.97	3.36	1.77	3.00
Residential sewerage service charge (per annum)	134.59	219.15	192.67	327.86	184.54	313.72
Residential sewage disposal charge (per kL)	1.34	2.18	1.26	2.14	1.32	2.24
Non-residential water service charge (per annum)	184.27	300.06	56.96	96.93	122.62	208.45
Non-residential water usage charge (per kL)	1.14	1.85	1.22	2.08	1.10	1.87
Non-residential sewerage service charge (per annum)	237.67	387.01	228.81	389.36	287.18	488.21
Non-residential sewage disposal charge (per kL)	1.30	2.12	1.26	2.14	1.28	2.18

Note: All prices rounded to 2 decimal places.

City West Water indicated that while it did not propose any change in tariff structures in its Water Plan, it may be worthwhile reviewing them during the regulatory period. It identified a number of issues that maybe subject to review, including the method for applying service charges, more effective targeting of essential and discretionary water use, and the basis for setting recycled water and trade waste prices.

South East Water noted that tariff restructuring in the short term is problematic as it would result in differential price movements between customer groups. As a result, the Government's expectation of water bills no more than doubling over five years may not achieved for all customers. It noted that any restructuring of retail water and sewerage tariffs is more likely to take place in the regulatory period commencing on 1 July 2013.

Yarra Valley Water expressed a similar view. It also noted that, given the magnitude of the proposed price increases, customers may not want to deal with a tariff restructure as well. The Commission recognises that restructuring during a period of rapid price rises could result in some customers experiencing larger bill increases than other customers, depending on their consumption patterns.

It is important to note that the metropolitan retailers may apply to the Commission to restructure their tariffs during the regulatory period. The Commission seeks feedback on whether a mid-period restructuring of tariffs may be appropriate.

Should the businesses increase prices for some services by more than other services (such as water prices compared to sewerage prices) to better reflect underlying costs?

Should usage charges increase by more than fixed charges to better reflect costs and to give customers greater control over their bills?

Should the businesses restructure their tariff structures now or apply to restructure their tariffs later in the period after customers have adjusted to higher bills?

Should variable usage charges more closely reflect estimates of long run marginal costs?

Estimating sewage disposal volumes

Yarra Valley Water has proposed to adjust its seasonal indices for estimating sewer discharge volumes. It noted that the current seasonal indices were based on pre-restriction consumption patterns, when a lower proportion of water was discharged to the sewer due to higher outdoor usage. The current method for calculating sewage volumes was developed in the 1990s when consumption was considerably higher than present. The proposed seasonal indices reflect more recent consumption patterns and would vary depending on the level of water restrictions in force.

Sewerage tariffs are more likely to reflect the cost of providing the service if sewer discharge volumes can be better estimated. The Commission notes that consumption patterns have changed significantly in recent years and that a broader review of the method for estimating sewage discharge volumes may be

worthwhile. The Commission seeks feedback from City West Water and South East Water on their current methods for calculating sewer volumes and whether a revised approach may be considered.

Should City West Water and South East Water review their methods for estimating sewage discharge volumes to reflect current consumption patterns?

3.2.2 Bulk water and sewerage services

The WIRO defines storage operator and bulk water services as services provided by a regulated business in connection with the provision of a supply of water to another business. Melbourne Water provides storage operator and bulk water services to City West Water, South East Water, Yarra Valley Water, Gippsland Water and Western Water. Bulk sewerage services are defined as a service provided by Melbourne Water in connection with the conveyance, treatment and disposal of wastewater for a regulated entity. It provides bulk sewerage services to the three metropolitan retailers.

In its Water Plan, Melbourne Water has described its method for calculating the bulk water charges payable by each retailer. These are calculated using the following approach:

- The revenue required to provide each service is calculated.
- The share of revenue required from each retailer is determined according to its use of Melbourne Water's systems.
- Usage charges are based on the long run marginal cost of providing the services.
- Residual costs are recovered from retailers as fixed service charges according to their share of use of Melbourne Water's systems.

Melbourne Water's cost allocation method was reviewed by the Victorian Competition and Efficiency Commission (VCEC) as part of its recent inquiry into the metropolitan water sector.¹² VCEC recommended that Melbourne Water's sunk costs be allocated between the retailers according to 2004-05 volumes instead of the 1998 volumes currently used for this purpose. It also recommended that future costs are allocated to the retailers according to forecast volumes and pollutant loads, with the Eastern and Western Treatment Plants being treated separately.

Bulk water

Melbourne Water's bulk water prices consist of fixed service charges for each retailer and usage charges for each ML of water stored and delivered to the retailers. It also charges separately for the headworks and transfer components of its bulk water services.

Melbourne Water proposes to retain the current tariff structure for bulk water services over the next regulatory period but with a significant restructuring of tariffs

¹² Victorian Competition and Efficiency Commission, 2008, *Water Ways: Inquiry into Reform of the Metropolitan Retail Water Sector – Final Report*, February.

in 2009-10.¹³ It proposes to introduce uniform usage charges for headworks to reflect the common security of supply provided to the retailers. The exception is Gippsland Water, which will be charged lower usage charges for headworks to reflect the untreated and less reliable supply it receives from Tarago reservoir. Usage charges for the transfer component will remain differentiated to reflect each retailer's usage of Melbourne Water's transfer system and its forecasts of where future expenditure to meet growth in water demand will occur.

Melbourne Water has also revised its method for allocating fixed costs, using 2004-05 volumes as the allocation basis. This is consistent with the VCEC recommendations and the Commission's advice in the 2005 Water Price Review Final Decision that the allocation method should be updated. Restructuring of bulk charges is proposed to be implemented in 2009-10, with uniform price increases for each tariff component over the remaining years of the regulatory period.

Melbourne Water has provided estimates of long run marginal cost in support of its pricing proposals. In assessing Melbourne Water's proposed bulk water charges, the Commission will review these estimates and whether the allocation of fixed costs is consistent with the VCEC recommendations.

Bulk sewerage

Melbourne Water's bulk sewerage charges consist of service charges for each retailer and a series of usage charges for sewer volumes and pollutant loads. Volumetric charges currently apply to the total sewage volume and total volume of non-major trade waste load received and treated. Major trade waste usage charges are currently applied to each tonne of the following pollutants received and treated from the retailers: biological oxygen demand, suspended solids, total nitrogen and total dissolved solids. Bulk sewerage usage charges are further differentiated between the Eastern and Western Treatment Plants to reflect the different costs incurred at each plant.

Melbourne Water has proposed to retain the same general structure to its bulk sewerage services over the next regulatory period but with some variation in the basis for applying usage charges.¹⁴ As for bulk water, it has proposed a significant restructuring of bulk sewerage tariffs in 2009-10.

It proposes to introduce a single volume charge for both the Eastern and Western Treatment Plants in place of separate sewage volume and non-major trade waste load volume charges. It has indicated that this change will make the volumetric tariffs easier to understand while remaining cost reflective.

Further, Melbourne Water has proposed to vary the basis on which two of its major trade waste usage charges are applied. The usage charge on total nitrogen will be replaced by a charge on total kjeldahl nitrogen. It noted that total kjeldahl nitrogen more accurately reflects the drivers of future costs associated with meeting

¹³ See page 203 of Melbourne Water's Water Plan for details on the proposed bulk water prices. Its Water Plan is available on the Commission's website www.esc.vic.gov.au.

¹⁴ See page 211 of Melbourne Water's Water Plan for details on the proposed bulk water prices, available on the Commission's website at www.esc.vic.gov.au.

nitrogen discharge requirements and can be measured with greater accuracy. The retailers broadly supported its use when it was raised during the 2005 price review.

Melbourne Water has proposed to increase its current salt price over the regulatory period in order to meet the EPA requirement that untreated sewage received at the Western Treatment Plant does not exceed a medium concentration of 1000 milligrams per litre by 2009. It proposes to almost double the charge in 2009-10 as the first step in a longer term phasing in of the proposed increase. In addition, it has proposed to apply the charge to inorganic total dissolved solids instead of total dissolved solids. This change in the method of charging is intended to address the issue of double counting between total dissolved solids and biological oxygen demand and to create more meaningful price signals to industry.

As with bulk water, Melbourne Water has revised its method for allocating fixed sewerage costs to using 2004-05 volumes and provided estimates of long run marginal cost. It has also proposed that the restructuring of bulk sewerage charges take place in 2009-10 with uniform price increases for each tariff component over the remaining years of the regulatory period. In assessing Melbourne Water's proposed bulk sewerage charges, the Commission will review its long run marginal cost estimates and assess whether the allocation of fixed costs is consistent with the VCEC recommendations.

3.2.3 New customer contributions (developer charges)

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 unserved 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.

In the 2008 Water Price Review Final Decision for regional and rural water businesses, the Commission approved scheduled new customer contributions for water, recycled water and sewerage according to the following categories:

- Category 1: \$550 per lot per service for water, sewerage and dual pipe recycled water for developments that are designed so as to have minimal impact on future water resource demands and that can be catered for without additional investment to upgrade the medium-term distribution capacity. These developments are typically a lot with an area no greater than 450 square meters.
- Category 2: \$1100 per lot per service for water, sewerage and dual pipe recycled water for urban developments that will require further investment in infrastructure. These developments are typically traditional Greenfield urban developments with lot sizes between 450 square meters and 1350 square meters.
- Category 3: \$2200 per lot per service for water, sewerage and dual pipe recycled water for developments designed in such a way that properties will create demand for water resources over and above high-density developments and that will require further investment in infrastructure. These developments are typically Greenfield developments with lot sizes exceeding 1350 square meters, for example, lots with potentially large outside water use that will influence near term investment in infrastructure decisions.

Developments also connecting to recycled water will be subject to a 50 per cent reduction in the applicable scheduled charge for water. The scheduled per lot contributions will be increased each year in line with inflation and will apply equally to new residential and non-residential customers.

The Commission also approved principles for determining how the costs of additional infrastructure to service new developments are to be shared between new customers and water businesses. The key features of the pricing principles for regional urban businesses are:¹⁵:

- New customers are generally responsible for providing assets that are to be installed specifically to service their property or development (reticulation assets).
- Water businesses are responsible for assets that are generally provided to service more than one development (shared distribution assets).
- The main determinant of whether an asset is a reticulation asset or a shared distribution asset is pipe size. Water mains that are 150 mm or less in diameter or sewer mains that are 225 mm or less in diameter and assets associated with pipes of this size (pump stations, for example) are generally considered to be reticulation assets, although there may be cases where the size thresholds are not appropriate.
- In cases where a developer is required to provide reticulation assets that exceed the requirements of their development in a material respect, the developer can only be required to contribute to the costs of the reticulation assets an amount that reflects the requirements of their development. The balance of the costs of the reticulation assets may be recovered via contributions from subsequent customers connecting to the reticulation assets in question.
- Water businesses may recover a contribution from developers for the provision of shared distribution assets if the assets do not form part of a logically sequenced network expansion and could not reasonably be expected to be required by the business within a short to medium term planning horizon.
- A non-scheduled contribution equivalent to 40 per cent of the cost of the shared assets will apply if the assets could reasonably be expected to have been required by the business within a long term planning horizon.
- A non-scheduled contribution equivalent to 70 per cent of the cost of the shared assets will apply if the assets could not reasonably be expected to have been required by the business within a long term planning horizon.
- Where a water business seeks to recover a non-scheduled contribution for shared distribution assets, it must inform the developer of its right to appeal any non-scheduled charge to the Commission.

City West Water proposed to adopt the approach to setting new customer contributions as approved by the Commission for regional urban businesses in the

¹⁵ For further discussion on the pricing principles, refer to Essential Services Commission 2008, *2008 Water Price Review Final Decision, op. cit.*, chapter 12. The pricing principles are set out in each regional urban business's price Determination, which are available on the Commission's website.

2008 price review. South East Water and Yarra Valley Water generally proposed to adopt the Commission's approach but with some minor variations.

South East Water proposed a separate methodology for determining bring forward costs for works in defined sewerage backlog areas. It noted that it has a clearly defined plan for sewerage backlog works, which it developed in consultation with stakeholders. It proposed that the financing costs of bringing forward construction of sewer backlog works be based on the specific timeframes contained in these plans, rather than the discrete bring forward categories under the Commission's approach. South East Water also noted that, on advice from the Department of Sustainability and Environment, it proposes to maintain its nominal charge of \$500 for backlog customers connecting to the network.

Yarra Valley Water proposed that the scheduled new customer contribution for water should not be reduced by 50 per cent where the property also connects to recycled water. It indicated that new customer contributions are notional amounts that do not reflect the cost to the water businesses to extend the networks and result in funding shortfalls that are borne by the general customer base. It also noted that reductions in potable water use by customers does not equate to an equivalent reduction in pipe size as water assets must meet fire fighting requirements. It further argued that a reduction in pipe size does not equate to an equivalent reduction in cost, as excavation and other costs do not change.

Yarra Valley Water also proposed that there be no sharing of costs of reticulation assets between developers in cases where a developer is required to provide reticulation assets that exceed the requirements of their development in a material respect. It argued that this approach represents an administration burden for little gain. It further argued that this approach does not send appropriate costs signals as it overstates the incremental cost of connection and is not likely to promote efficient decisions.

The Commission notes that it recently approved a standard set of pricing principles for calculating new customer contributions for all water businesses. If the variations proposed by South East Water and Yarra Valley Water were adopted, it would result in differences in approach between businesses. The Commission will consider the proposed variations, particularly to the extent that the proposed variations address issues specific to the relative business. The Commission also welcomes any feedback from developers on this matter.

Melbourne Water applies drainage developer charges to new customers located in defined drainage development schemes. In its Final Decision on the 2008 price review, the Commission approved pricing principles for drainage developer charges for the 2008-2013 period. These principles are not subject to this review.¹⁶

Should a standard set of pricing principles for calculating new customer contributions apply to all water businesses or should the principles be varied to address issues specific to the relative business?

¹⁶ See Essential Services Commission 2008, *2008 Water Price Review Final Decision*, *op. cit.* and Essential Services Commission 2008, *2008 Water Price Review, Melbourne Water Drainage and Waterways Water Plan 2008-13 — Draft Decision*, May.

3.2.4 Trade waste charges

Trade waste is waste other than normal domestic sewage that is discharged into the sewerage system by industrial and commercial customers. Trade waste charges are applied by each of the metropolitan retailers on customers disposing of trade waste.

In the 2008 price review, the Commission approved scheduled trade waste charges for standard types of trade waste and a set of principles for determining trade waste charges where a customer's trade waste volume or strength is unique and a separately calculated price is appropriate. These principles are that:

- Volumetric and load based prices should, to the extent practicable, reflect the long run marginal cost of trade waste transfer, treatment and disposal.
- The total revenue received from each customer should be greater than the cost that would be avoided from ceasing to serve that customer, and (subject to meeting avoidable cost) less than the stand alone cost of providing the service to the customer in the most efficient manner.
- The methodology used to allocate common and fixed costs to that customer should be clearly articulated and be consistent with any guidance provided by the Commission.
- Prices should reflect reasonable assumptions regarding the volume and strength of trade waste produced by that customer.
- Depreciation rates and rates of return used to determine prices should be consistent with those adopted by the Commission in its Final Decision.
- Customers should be provided with full details of the manner in which prices have been calculated.
- Where applying these principles results in significant changes to prices or tariff structures, arrangements for phasing in the changes may be considered and any transitional arrangements should be clearly articulated.

City West Water's trade waste charges consist of a series of fixed trade waste agreement and application charges and usage charges applied to discharge volumes and the amount of pollutant load discharged (biological oxygen demand, suspended solids, total kjeldahl nitrogen and total dissolved solids). It also applies a number of trade waste charges relating to food waste. South East Water's and Yarra Valley Water's trade waste charges also consist of fixed trade waste agreement and application charges, usage charges (volume, biological oxygen demand, suspended solids, and nitrogen) and fixed food waste charges. South East Water also has a separate charge for sulphur discharge while Yarra Valley Water has a charge for total dissolved solids.

Each of the metropolitan retailers has proposed to maintain its current trade waste tariff structures and to use the same pricing principles for calculating non-scheduled trade waste charges. They also propose to apply the same percentage increase to all scheduled trade waste prices in line with the increases set out in table 3.2.

A key issue for this review is whether the retailers should introduce usage charges for inorganic total dissolved solids in response to Melbourne Water's proposal to

increase salt charges for bulk sewerage received at its treatment plants. Melbourne Water indicated that the higher salt charges will provide signals to customers to decrease their salt discharges. However, these signals are not likely to be effective if the retailers do not send similar price signals to their trade waste customers.

Yarra Valley Water noted Melbourne Water's proposals in its Water Plan but indicated that it would not change its trade waste pricing structures because it does not have demand forecasts to understand the impact of the changes on customers. It proposes to pass through the costs in the following regulatory period once the customer impacts can be assessed and customers have been consulted.

While noting that it may not be feasible to introduce a salt charge at the retailer level from 2009-10, the Commission will consider whether it is appropriate to introduce a salt charge during the regulatory period. The Commission seeks comments from the three metropolitan retailers and Melbourne Water.

Should the metropolitan retailers introduce a salt charge into their trade water pricing structures to provide a signal to customers to decrease their salt discharges?

The Department of Sustainability and Environment (DSE) is currently conducting a review of trade waste management. If any significant changes to trade waste charges or their calculation method are recommended during the regulatory period, the Commission proposes that the businesses apply to restructure their tariffs under the hybrid form of price control (see section 3.3).

3.2.5 Recycled water prices

Recycled water prices are regulated through a combination of scheduled prices and pricing principles. In the 2008 Water Price Review Final Decision for regional and rural water businesses, the Commission approved a uniform set of principles for calculating recycled water prices for each business. These principles are that prices must:

- have regard to the price of any substitutes and customers' willingness to pay
- cover the full cost of providing the service (with the exception of services related to specified obligations or maintaining the balance of supply and demand) and
- include a variable component.

These principles apply in cases where recycled water services are provided to large non-residential or unique customers, where it is appropriate to set prices on a cases-by-case basis to reflect each customer's circumstances.

In cases where a water business does not propose to recover the full costs of providing recycled water, it must demonstrate to the Commission that:

- it has assessed the costs and benefits of pursuing the recycled water project
- it has clearly identified the basis on which any revenue shortfall is to be recovered
- if the revenue shortfall is to be recovered from non-recycled water customers
 - the project is required by 'specified obligations' or

- there has been consultation with the affected customers about their willingness to pay for the benefits of increased recycling.

The Commission also approved scheduled recycled water tariffs for businesses that provide recycled water to customers through third pipe systems. City West Water, South East Water and Yarra Valley Water currently have two-part tariffs for third pipe residential recycled water services. The current prices are \$20 for the fixed charge, with the recycled water usage charge set at the respective business's first tier potable water usage charge. City West Water also has a scheduled non-residential recycled water usage charge, that is set at 75 per cent of the potable water usage charge.

The three retailers have all proposed to continue to adopt the Commission's approach to recycled water prices. All scheduled recycled water prices are proposed to increase in accordance with the annual increases set out in table 3.2.

Melbourne Water provides bulk recycled water from both the Eastern and Western Treatment Plants. The recycled water service provided by Melbourne Water differs in quality and security of supply for each customer. It provides the services under supply agreements, with prices calculated in accordance with the approved pricing principles. Melbourne Water has proposed to maintain the current approach to pricing recycled water. It also noted that it would set prices to be more cost reflective once current supply agreements expire.

Werribee Irrigation District

One of Melbourne Water's key bulk recycled water agreements is with Southern Rural Water, which provides recycled water from the Western Treatment Plant to the Werribee Irrigation District. The current agreement with Southern Rural Water is due to expire on 30 June 2008. The Commission understands that the price in the current agreement does not cover the full cost of providing the service and that Melbourne Water intends to establish a more cost reflective price from 2008-09.

The Commission has been advised that the recycled water supplied to the Werribee Irrigation District was intended to supplement existing supplies. However, recycled water has become a major source of supply over the past two years because of the drought, low allocations and a recent ban on groundwater use. As such, there may be significant price increases for recycled water supplied to the Werribee Irrigation District if a cost reflective price is introduced from 2008-09.

While the current pricing principles for recycled water suggest that prices should recover the full cost of providing the service where possible, the Commission is concerned that this could cause substantial adverse impacts on Werribee Irrigation customers. The Commission will seek to clarify Melbourne Water's proposals for the Werribee Irrigation Recycled Water Scheme and assess the extent of any adverse customer impacts. It will also be reviewing Southern Rural Water's proposed prices from 1 July 2009 over the coming months.

What customer impacts are expected if recycled water prices for the Werribee Irrigation District are increased to cover the full cost of providing the service?

3.2.6 Miscellaneous fees and charges

In addition to core services such as water and sewerage, the metropolitan retailers also provide miscellaneous services that are supplied in connection with these core services. New connections and tappings, special meter reads, property information statements and applications to build over easements are examples of miscellaneous services provided by the metropolitan retailers. Like core services, miscellaneous services are prescribed services under the WIRO and are subject to price regulation by the Commission.

In the 2008 price review, the Commission introduced new arrangements for regulating miscellaneous charges for regional urban businesses. Each of these businesses was required to nominate a set of 'core' of miscellaneous services, which would consist of the business's most important miscellaneous services and would generate a significant proportion of miscellaneous revenue. Prices, and a brief description of each core miscellaneous service, were approved for each business. These prices are subject to individual price caps. Businesses charge for non-core miscellaneous services in accordance with pricing principles that are related to actual cost.

As part of the 2008 price review, the Commission approved prices for core miscellaneous proposed by the retailers for 2008-09 and pricing principles for calculating prices of non-core miscellaneous services.

In their Water Plans, the three metropolitan retailers proposed prices and pricing principles for miscellaneous services that are consistent with the Commission's approach. City West Water, South East Water and Yarra Valley Water have all proposed to retain their core sets of miscellaneous services from 2008-09 for the next regulatory period. They have indicated that proposed prices for miscellaneous services are based on the cost of providing the service, but that single year increases in any miscellaneous charge will be capped at the annual average increase for the business (see table 3.2). This is consistent with the Commission's Final Decision in the 2008 price review, where miscellaneous charges were capped to the average annual increase for each business.

Several miscellaneous services will decrease in price over the regulatory period under the businesses' proposals. Details of retailers' proposals are contained in their Water Plans.¹⁷

Melbourne Water does not have any major miscellaneous services related to its bulk services. It has a number of miscellaneous charges related to waterways and drainage, which have already been approved for the forthcoming regulatory period as part of the 2008 water price review.

¹⁷ See the relevant business's Water Plan, available on the Commission's website www.esc.vic.gov.au, for details on proposed miscellaneous charges (City West Water: pp. 69-61, South East Water: pp. 103-104, Yarra Valley Water: pp. 86-88).

3.3 Form of price control

In the Final Decision on the 2008 price review, the Commission approved two mechanisms to assist the regional businesses in managing uncertainty over the regulatory period:

- a hybrid form of price control (for the regional urban businesses) that combines individual price caps with scope for businesses to adjust their tariff strategies (and/or rebalance prices) at the time of the annual price review, and
- an uncertain and unforeseen events mechanism that sets out a process for applying for a price adjustment, either during or at the end of the regulatory period, to take account of events that were uncertain or unforeseen at the time of the price review process, such as major capital projects that were uncertain in timing or cost, significant differences between actual and forecast demand levels, changes in legislative and other Government-imposed obligations, and catastrophic events (such as fire, earthquake or act of terrorism).

In its September 2008 Supplementary Guidance, the Commission suggested that these same mechanisms would be appropriate for the metropolitan businesses since they will also have to deal with a higher than normal level of uncertainty over the coming regulatory period.

City West Water, South East Water and Melbourne Water all proposed a hybrid form of price control, as approved for the regional urban businesses in the 2008 price review. Yarra Valley Water proposed a revenue cap for services where costs do not vary with volumes and a pass-through mechanism for services where costs vary with volumes, such as bulk water charges.

All businesses supported a mechanism for within-period or end-of-period price adjustments to take account of uncertain and unforeseen events, such as those identified in the Final Decision on the 2008 price review. Melbourne Water proposed a threshold of one per cent of revenues while Yarra Valley Water proposed a threshold based on a one per cent or greater annual adjustment to prices (with a maximum price adjustment of four per cent in any one year).¹⁸ South East Water suggested that the Commission specify the degree of divergence from original estimates required before an application for an adjustment could be made.

In its Final Decision on the 2008 price review, the Commission stated that defining materiality thresholds would reduce businesses' and the Commission's flexibility to make appropriate adjustments for uncertain and unforeseen events. It recognised that a number of aspects of the businesses' activities would be subject to a relatively high degree of uncertainty during the regulatory period. Consequently, it considered that variations from the assumptions used in determining prices should be considered in totality, rather than taking account of each change separately. In some cases, positive and negative changes may offset each other, resulting in little impact on businesses' costs or revenues overall and requiring no price adjustment.

¹⁸ A threshold based on a one per cent adjustment to prices would be equivalent to a threshold of around 10 per cent of revenues. The threshold approved by the Commission for the 2005-08 regulatory period was 2.5 per cent of revenues.

In other cases, a number of small changes (that would individually fall below a materiality threshold) may add up to a significant impact, either in one year or taken together over a series of years during the regulatory period.

In terms of the timing of a price adjustment, the Commission noted that a within-period price adjustment may be approved in some cases. However, in other cases, adjustments may be deferred until the end of the regulatory period, particularly when there is a possibility that variations in later years' costs and/or demand levels may offset differences from assumed levels in the particular year in question.

4 SERVICE STANDARDS AND GUARANTEED SERVICE LEVELS

The Commission is responsible for regulating standards and conditions of supply for retail water, sewerage 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, or to specify those standards in a Code, or to do both.

The Commission has approved Customer Service Codes to apply to all Victorian water businesses, including the metropolitan businesses. The businesses are required to propose targets for a core set of service standards in their Water Plans. The core service standards reflect the key issues of concern to customers and key cost drivers for businesses. Generally, the Commission would expect targets to reflect the average of the previous three years' performance.

Service obligations may also be externally imposed by other regulators for a range of technical, environmental and social obligations. For example, water quality standards are set principally by the Department of Human Services (DHS); environment related sewerage standards are a matter for the Environment Protection Authority (EPA); resource capacity requirements, water conservation and dam safety are the responsibility of the Department of Sustainability and Environment (DSE).

The Commission's approach to regulating the standards and conditions of supply has three aspects:

- Businesses have the flexibility to propose their own service level targets, taking into account their operating environment and customer needs and preferences.
- When the service standards have been approved by the Commission, each business must reflect these standards in its Customer Charter.
- The Commission monitors each business's performance against its targets and reports on its performance in its annual performance reports.

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 service levels and the extent to which seemingly efficient cost gains may have been achieved at the expense of service standards. 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.

4.1 Core service standards

The Commission consulted on a core set of service standards for all regional urban water businesses during the first regulatory period and has been monitoring businesses' performance against targets since 2005-06. Many of the core service standards are taken from the Commission's performance reporting framework, which the metropolitan businesses have been subject to for more than 10 years.

Most businesses met their targets in the first regulatory period. Where there were variances, explanations have been provided. Most failures to meet targets resulted from the prolonged drought, water conservation measures, and water restrictions.

4.1.1 Proposed service standards

In their Water Plans, the metropolitan businesses have pursued a 'business as usual' approach to service standards for the period, setting targets based on actual historical performance. City West Water and Yarra Valley Water have set targets for the core service standards based on the average performance over the last three years. This is the approach favoured by the Commission in the first regulatory period and in the 2008 regional price review.

South East Water has used a longer term average as the basis for its standards. This has resulted in some targets implying that customers can expect a poorer level of service than the most recent three year performance.

Table 4.1 shows the average performance for the three years ending 30 June 2008 and the proposed target for the regulatory period for all businesses' core service standards.

Table 4.1 Core urban service standards

Retail water	City West Water		South East Water		Yarra Valley Water	
	3 yr avg ^a	target	3 yr avg ^a	target	3 yr avg ^a	target
Number of unplanned water supply interruptions (per 100 kilometres)	61.1	61.1	29.6	35	63.1	63.1
Average time taken to attend bursts and leaks (minutes) Priority 1	24.1	24.1	37.2	40	26	26
Average time taken to attend bursts and leaks (minutes) Priority 2	34.3	34.3	110	120	38	38
Average time taken to attend bursts and leaks (minutes) Priority 3 ^b	235.6	235.6	944	550	357	357
Unplanned water supply interruptions restored within 5 hours (per cent)	86.1 ^d	86.1	99.7	99.6	99.5	99.5
Planned water supply interruptions restored within 5 hours (per cent)	93.3	93.3	78.5	75	99.6	99.6
Average unplanned customer minutes off water supply (minutes)	47.6 ^d	47.6	17	25	24.9	25
Average planned customer minutes off water supply (minutes)	7.8	7.8	7.7	15	12.2	12
Average frequency of unplanned water supply interruptions (number)	0.307	0.307	0.196	0.230	0.28	0.28
Average frequency of planned water supply interruptions (number)	0.058	0.058	0.040	0.060	0.08	0.08
Average duration of unplanned water supply interruptions (minutes)	175.5 ^d	175.5	88	95	88.8	89
Average duration of planned water supply interruptions (minutes)	139	139	206	220	140.6	141
Customers experiencing more than 5 unplanned water supply interruptions in the year (number)	64	64	139	250	770	770
Unaccounted for water (per cent)	9.2	9.2		^c	13.6	13.6
Minimum flow rates at 20 millimetres		20		20		20
25 mm		35		35		35
32 mm		60		60		60

Retail water	City West Water		South East Water		Yarra Valley Water	
Minimum flow rates at 40 mm		90		90		90
50 mm		160		160		160
Retail sewerage						
Number of sewerage blockages (per 100 kilometres)	26.9	26.9	19.5	21.5	45.2	45.2
Average time to attend sewer spills and blockages (minutes)	23.4	23.4	45.9	56	50.6	51
Average time to rectify a sewer blockage (minutes)	115.9	115.9	161	180	246.9	249
Spills contained within 5 hours (per cent)	100	100	100	100	99.99	100
Customers receiving more than 3 sewer blockages in the year (number)	0	0	2.7	8	15	15
Retail customer service						
Complaints to EWOV (per 1000 customers)	0.55	0.55	0.15	0.15	0.07	0.07
Telephone calls answered within 30 seconds (per cent)	78.6	80	c	c	87.9	87.9

Notes: ^a Includes unaudited 2007/08 performance. ^b This was an additional standard in first period. ^c South East Water has chosen to redefine these measures. The alternatives are included as additional standards in table 5.2. ^d City West Water has re-calculated past performance based on new field practice introduced in 2007-08.

4.2 Additional service standards

Beyond the core set of standards, businesses or the Commission can nominate additional service standards that reflect business-specific or localised issues. All metropolitan businesses proposed additional standards in the first regulatory period.

In the 2008 price review, the Commission required regional businesses to specify targets for additional service standards in relation to some of the key expenditure areas in their Water Plans. Regional businesses were required to define measures and standards relating to the following six service areas:

- greenhouse gas reductions/green energy (CO₂ equivalent emissions)
- recycled water (per cent)
- biosolids reused (per cent)
- sewer backlog connections (number)
- environmental discharge licence requirements
- drinking water quality compliance with standards.

In its Supplementary Guidance on Water Plans (issued September 2008), the Commission suggested that all metropolitan businesses incorporate these areas into their service standards proposals for the upcoming regulatory period.

The Government indicated in its response to the Victorian Competition and Efficiency Commission's (VCEC) report on the metropolitan water sector that it would amend the businesses' Statements of Obligations to specify outcomes for obligations related to these service standards. All businesses have proposed measures and targets for these areas in their current Water Plans.

4.2.1 Proposed additional service standards

Table 4.2 lists the additional service standards and targets proposed by the businesses. South East Water and City West Water have proposed further service measures in addition to the six items to be included in the Statement of Obligations and additional service targets in place since the first regulatory period. Yarra Valley Water has not included targets for the additional service standards that were included in their first Water Plan.

Table 5.2 **Additional service standards**

City West Water	3 yr avg	2008-09	2009-10	2010-11	2011-12	2012-13
CO ₂ generated (tonnes)		9 400	9 100	14 200	18 000	18 000
CO ₂ green energy/offset purchases (tonnes)		5 900	5 700	10 900	14 700	14 700
CO ₂ generated (net tonnes) (calculated by ESC for consistency)		3 500	3 400	3 300	3 300	3 300
CO ₂ showerhead replacements (tonnes)		9 200	10 300	10 000	10 000	10 000
Recycled water (ML)		320	370	1 710	3 250	3 440
Biosolids reused from Altona plant (per cent)		100	100	100	100	100
Sewer backlog connections (number of lots)		0	60	13	13	0
Compliance with EPA discharge licence at Altona plant (percent)	80.6	100	100	100	100	100
Compliance with drinking water quality standards (percent)	100	100	100	100	100	100
Water quality complaints (per 1000 customers)	1.1	1.1	1.1	1.1	1.1	1.1
Average time to rectify water faults (days)	1.0	1.0	1.0	1.0	1.0	1.0
Water main breaks (per 100 km)	71.5	71.5	71.5	71.5	71.5	71.5
Systems faults calls answered within 30 seconds (per cent)	93.3	93.3	93.3	93.3	93.3	93.3
Accounts enquiries answered within 30 seconds (per cent)	74.5	74.5	74.5	74.5	74.5	74.5
Interruptions to sewerage services restored within 5 hours (per cent)	97.6	97.6	97.6	97.6	97.6	97.6
Sewer spills within a house contained within 1 hour of notification (per cent)	100	100	100	100	100	100
Priority 1 bursts responded to within 1 hour (per cent)	99.8	99.8	99.8	99.8	99.8	99.8
Customer correspondence responded to within 10 working days (per cent)	100	100	100	100	100	100
Sewer spills per 1000 properties	1.8	1.8	1.8	1.8	1.8	1.8

South East Water	3 yr avg	2008-09	2009-10	2010-11	2011-12	2012-13
CO ₂ generated (net tonnes)	29 899	24 500	22 000	19 000	16 500	13 750
Recycled water volumes (from TPs, SE Outfall and dual pipe estates) (ML)	4 219	6 900	7 200	7 300	7 400	7 500
Biosolids recycled (per cent)		105	105	105	105	105
Sewer backlog properties services (number)	596	300	400	600	800	900
Compliance with drinking water regulations (per cent)	100	100	100	100	100	100
Demand by potable substitution schemes (ML)		200	300	900	1 000	1 100
Sewer odour complaints (per 1000 customers)	42	50	50	50	50	35
Sewer spills (per 100km)	5.7	7.0	7.5	7.5	7.5	7.5
Compliance with EPA licence effluent standards for STPs (per cent)	100	100	100	100	100	100
Planned water supply interruptions (per 100km)	4.9	6.0	6.0	6.0	6.0	6.0
Accounts enquiries answered within 30 seconds (per cent)	97.4	93	93	93	93	93
Systems faults calls answered within 30 seconds (per cent)	96.9	96	96	96	96	96
Unaccounted for water (ML/km) ^a	1.6	1.66	1.65	1.63	1.62	1.61
Yarra Valley Water	3 yr avg	2008-09	2009-10	2010-11	2011-12	2012-13
CO ₂ generated (net tonnes)	8 389	0	0	0	0	0
Recycled water from Yarra Valley Water sewerage treatment plants (per cent)	15.7	27	27	27	27	27
Biosolids recycled (per cent)	0	0	0	0	0	0
Sewer backlog properties provided with a connection point (number)		147	147	147	147	147
Water conservation: per capita water consumption (litres/person/day)	277	242	242	242	242	242
Water quality complaints (per 1000 customers)	5.6	5.6	5.6	5.6	5.6	5.6
Non-revenue water (GL)	21.3	21.3	21.3	21.3	21.3	21.3

^a South East Water has proposed this in place of the core measure Unaccounted for Water (per cent).

There are a number of additional service standards that are common to all the metropolitan businesses, especially in the six areas to be included in businesses' Statements of Obligations. The Commission has a role in analysing these indicators to consider if a common definition for the measures will improve their usefulness by facilitating comparisons among businesses. In addition, there is scope for the Commission to consider whether any of the additional measures put forward by businesses should be included in the core set of standards.

Should the Commission devise common definitions for any or all of the additional service standards?

Should any of the additional measures put forward by businesses be included in the core set of standards?

4.2.2 Assessment of service standards

The Commission has historically favoured targets for performance based on actual average performance. This approach allows customers to understand whether businesses are aiming to improve on the current level of service. City West Water's and Yarra Valley Water's targets are consistent with this practice.

South East Water's proposed targets in many cases reflect a service level below the average of the last three years. Taking longer term performance into account, some of the proposed targets are still worse than any single year in the last five. Even with customer research concluding 'that customers consider existing levels of service to be sufficient and were not willing to pay for any general improvements',¹⁹ the Commission questions whether it is appropriate to set targets outside the average range.

Are the targets proposed by the businesses satisfactory?

4.3 Guaranteed service levels

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 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

¹⁹ South East Water 2008, *2009-10 to 2012-13 Water Plan*, November, p. 29.

average performance while still providing unacceptably low service standards to some customers.

Guaranteed service level (GSL) schemes enhance businesses' incentives to meet service standards for all customers. Under GSL schemes, 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.

The Commission's approach to assessing relevant targets is to highlight the service measures of most concern to stakeholders and to target the worst served customers in these areas.

4.3.1 Existing GSLs

All the metropolitan retailers have GSLs in place. Payments are \$25, except in the case of the two *sewer spills* measures where payments are \$500.

Table 5.3 **Current approved GSLs**
Metropolitan retailers

	<i>City West Water</i>	<i>South East Water</i>	<i>Yarra Valley Water</i>
Water			
Unplanned interruptions not restored within specified time	✓ ^a	✓ ^a	✓ ^b
More than five unplanned interruptions in 12 months	✓	✓	✓ ^c
Failure to notify of planned interruptions			✓ ^d
Planned interruption during peak hours (5am to 9am and 5pm to 11pm)			✓
Planned interruption longer than advised			✓
Planned interruption longer than five hours			✓
Sewerage			
More than three interruptions in 12 months	✓	✓	✓
Interruptions not restored within specified time	✓ ^a	✓ ^b	✓ ^b
Spills not contained within specified time of notification	✓ ^a	✓ ^a	✓ ^b
Spills not contained in a house within one hour of notification	✓	✓	✓

^a Within five hours of notification. ^b Within four hours of notification. ^c More than five unplanned water *or* sewerage interruptions *in total* during any 12 month period. ^d Failure to give at least three days notice of planned interruptions.

4.3.2 Proposed GSLs

All businesses have proposed to maintain their current GSL measures during the next regulatory period. No new GSL measures have been identified or proposed.

Yarra Valley Water has proposed a doubling of its payments in line with the price increases in its Water Plan. Citing a period of cost constraints, City West Water and South East Water have not proposed any change to the existing payment levels of \$500 for sewer spills and \$25 for the other measures. In its June 2008 Final Decision, the Commission set payments at a minimum of \$50 for regional businesses where GSL schemes apply.

Total annual costs in GSL payments are forecast at \$138 000 for City West Water and \$92 000 for South East Water. If GSL payments were to double, these forecast costs would also double.

Is it appropriate to increase GSL payments in the current operating environment, taking into account the proposed increases in customer bills?

Are there further areas that would benefit from the introduction of GSL measures to improve service to customers?