Essential Services Commission

South East Water Expenditure Review

March 2009

Final Report

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and
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Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Prepared by	Checked by	Authorised by
1	A	Draft Report	28/01/09	MY/NC	DS/PL	DF
1	0	Final Report	20/03/09	MY/NC	DS/DF/PL	DF
1	1	Final Report + minor ESC comments	31/03/09	DF/NC	PL/DF	DF
1	2	Final Report – Public Version	15/04/09	DF	DF	DF

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We would like to thank South East Water staff including Alison Le Fevre, David Capellari and Gordon Logan for their assistance in relation to this report.

Contents

1 Executive Summary

1.1 Background

The ESC is currently conducting a price review of the proposed prices to be charged by metropolitan Melbourne's bulk water supplier Melbourne Water and the three retail water businesses – City West Water, South East Water and Yarra Valley Water. The proposed prices relate to the period 1 July 2009 to 30 June 2013, referred to in this document as 'the next regulatory period'.

The metropolitan water businesses (the businesses) have submitted Water Plans to the ESC for the next regulatory period. The Water Plans include forecasts of operating expenditure, capital expenditure and demand, proposed service standards and prices. The ESC will review the Water Plans and intends to release a draft decision in April 2009, with a final decision issued in June 2009.

Halcrow and Deloitte have been engaged by the ESC to review the businesses' expenditure forecasts.

The ESC has requested that in our review of the capital expenditure forecasts we focus on the major projects that comprise a significant proportion of the total capital expenditure forecasts and provide advice on whether the projects meet certain key criteria.

In relation to operating expenditure we have been asked to provide advice on whether:

- the proposed trend in operating expenditure over the regulatory period is consistent with existing obligations and the service standards are reasonable
- the operating expenditure forecasts associated with meeting new obligations and/or meeting higher service levels reflect their likely expenditure requirements.

1.2 Overview of approach

In summary, the approach followed by the review team to this project was as follows:

- prior to commencing work, the review team met with the ESC to discuss the review and identify any areas of particular interest

- the review team reviewed, in detail, the businesses' Water Plans and prepared an issues paper for consideration by the ESC which set out specific areas of interest or concern. The issues paper was discussed with the ESC and used as a basis for developing and refining interview questions for the businesses
- two core review teams held discussions with the businesses, each over two days, as set out below. The discussions mainly comprised key personnel from the businesses presenting information regarding their expenditure forecasts, with the opportunity for the review team to ask questions and request further information where necessary
- a detailed review of the information collected prior to, during and subsequent to the interviews with the businesses was undertaken to assess, to the extent possible, the prudence and efficiency of the proposed capital and operating expenditure forecasts.

As part of the review we also:

- sought further information from the businesses on a number of specific issues
- held further telephone and email discussions with the businesses
- had regard to documentation and information prepared by independent third parties, including by the ABS, Reserve Bank of Australia, ABARE, and the US Energy Information Administration.

1.3 Strategies, drivers and service standards

South East Water's corporate plan focuses on delivering customer value and the 2015 Vision. Their Customer Charter outlines customer service standards that the business aims to deliver. From the obligations set out in these documents, asset management strategies are developed for each area of the business. These strategies form a major component of the business' Water Plan.

South East Water's capital program can be divided into three main programs, water, wastewater and recycled. These programs can generally be split into three main drivers, growth, reliability and quality. South East Water has approved 30 service standards, ranging from water interruptions to sewer blockages, complaints to minimum flow rates. Over the next regulatory period, South East Water is proposing to either maintain or decrease their service standards to reduce the impact on prices.

1.4 Generic issues

The ESC's metropolitan Melbourne price review is taking place against a background of unprecedented change and uncertainty. Southern and eastern Australia has experienced sharply reduced rainfall and inflows to storages and in response, the water industry has forecast massive capital investment over the next five years and beyond. In addition, global economic conditions have significantly deteriorated over the past six to nine months and a marked slowdown in the Australian economy has occurred.

These issues are important considerations for this expenditure review. At the time that Water Plans were prepared, real labour costs and the prices of key inputs to water and wastewater infrastructure, such as oil and steel, had been rising consistently for a number of years. Therefore, the businesses' Water Plans incorporated, to varying degrees, sustained increases in the cost of these inputs.

Since July 2008, however, oil and steel prices have fallen sharply, construction activity has declined and unemployment has now started to rise. Adjustments to the businesses' forecasts have therefore been required to reflect these changed circumstances, which have lowered capital and operating expenditure forecasts.

Another key background issue is the recent review of the structure of the metropolitan water sector by the Victorian Competition and Efficiency Commission (VCEC). In its investigation of the Melbourne water sector, VCEC recommended, and the Victorian Government supported, that annual savings in the order of $8-$10 million from 'shared services' be incorporated in the businesses' Statement of Obligations. The water businesses are in the process of assessing the possible sources of these savings, and a number of areas have been identified for further consideration.

In aggregate the businesses have not proposed that savings of this extent will be achieved until 2012/13. We do not consider this is consistent with the government's support of VCEC's recommendations and accordingly we have suggested that shared services savings are greater than have been forecast.

1.5 *Operating expenditure*

Table 1.1 following summarises our recommendations for changes to South East Water's operating expenditure. Reasons for the adjustments are set out later in this document.

Table 1.1 Overview of recommended changes to operating expenditure ($m, 2008/09)

South East Water	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Total Water Plan operating expenditure	258.06	290.28	343.07	398.69	463.25	537.34
Adjustments for errors						
Bad debts	-1.02	-1.10	-1.27	-1.45	-1.67	-1.92
Superannuation	-6.4					
Total adjustments for errors	-7.42	-1.10	-1.27	-1.45	-1.67	-1.92
Adjusted Operating expenditure	**250.64**	**289.18**	**341.81**	**397.24**	**461.58**	**535.42**
Other recommended amendments						
Operating cost escalation			-0.61	-1.06	-1.52	-2.00
VCEC savings		0.00	-1.00	-1.00	-0.50	0.00
Labour costs		-0.53	-2.10	-2.13	-2.21	-2.44
Electricity		0.51	-0.93	-0.87	-0.80	-0.80
Vehicle operating costs		-0.01	-0.11	-0.17	-0.14	-0.23
Chemicals		-0.02	-0.03	-0.03	-0.04	-0.06
Billing and collections (excl. bad debts)		-0.20	-0.30	-0.30	-0.40	-0.50
Water conservation		2.00	-0.85	-2.26	-2.23	-2.73
Brainwaves Cup		-0.18	-0.48	-0.48	-0.49	-0.49
Total other amendments	**0.00**	**1.58**	**-6.42**	**-8.30**	**-8.34**	**-9.24**
Total amendments and error adjustments	**-7.42**	**0.48**	**-7.68**	**-9.75**	**-10.01**	**-11.16**
Total recommended operating expenditure	**250.64**	**290.76**	**335.39**	**388.94**	**453.24**	**526.18**

1.6 *Capital expenditure*

Table 1.2 following summarises our recommendations for changes to South East Water's capital expenditure. Justifications for our revised forecast are contained within this document.

Table 1.2 Overview of recommended changes to capital expenditure ($m, 2008/09)

Expenditure item		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Water Main Replacements	Water Plan	11.3	9.2	16.3	15.0	14.8	14.9
	Revised forecast		9.3	16.0	11.0	11.5	12.0
	Net change		**0.1**	**-0.3**	**-4.0**	**-3.3**	**-2.9**
Sewer Renewals - Gravity	Water Plan	6.0	6.6	8.3	8.0	9.5	9.5
	Revised forecast		6.4	8.1	7.8	7.8	7.8
	Net change		**-0.2**	**-0.2**	**-0.2**	**-1.7**	**-1.7**
Mt Martha STP – Growth Upgrade	Water Plan	0.6	0.8	1.6	5.05	7.67	0.6
	Revised forecast		0.4	0.8	6.25	7.67	0.6
	Net change		**-0.4**	**-0.8**	**1.2**	**0.0**	**0.0**
Capital Cost Escalation	**Net Change**		**0.00**	**-2.36**	**-5.18**	**-6.46**	**-8.48**
Total Water Plan forecast			**123.48**	**157.24**	**156.22**	**147.70**	**141.50**
Net changes			**-0.50**	**-3.66**	**-8.18**	**-11.46**	**-12.08**
Total revised forecast			**122.98**	**153.58**	**148.04**	**136.24**	**129.42**

2 Introduction

2.1 Background

2.1.1 *The 2009 metropolitan water price review*

Under the provisions of the *Water Industry Regulatory Order* (WIRO), the Essential Services Commission (ESC) has the power to regulate prices for prescribed services, including water and wastewater services. According to the WIRO, the ESC must be satisfied that expenditure forecasts 'reflect the efficient delivery of the proposed outcomes contained in the Water Plan and take into account a planning horizon that extends beyond the term of the Water Plan.'

The ESC is currently conducting a price review of the proposed prices to be charged by metropolitan Melbourne's bulk water supplier Melbourne Water and the three retail businesses – City West Water, South East Water and Yarra Valley Water. The proposed prices relate to the period 1 July 2009 to 30 June 2013, referred to in this document as 'the next regulatory period'.

The metropolitan water businesses (the businesses) have submitted Water Plans to the ESC for the next regulatory period. The Water Plans include forecasts of operating expenditure, capital expenditure, demand, proposed service standards and prices. The ESC will review the Water Plans and intends to release a draft decision in April 2009, with a final decision released in June 2009.

2.2 Scope of work

2.2.1 *Nature of advice*

Under the existing legislative framework the ESC is required to be satisfied that the businesses' expenditure forecasts:

- reflect efficient expenditure
- are consistent with delivering the required service levels, outputs and obligations over the regulatory period, and
- take into account a planning horizon that extends beyond the regulatory period.

Halcrow and Deloitte have been engaged by the ESC to review the businesses' expenditure forecasts. The ESC has requested that, in our review of the capital expenditure forecasts, we focus on the major projects that comprise a significant proportion of the total capital expenditure forecasts and provide advice on whether the projects meet the following criteria:

- **appropriate in relation to key drivers and obligations** – with evidence provided of such drivers and in accordance with the Statement of Obligations that sets out responsibilities of each of the businesses.
- **robust (with adequate supporting analysis and systems)** – as demonstrated by reports which clearly enunciate the problems faced by the business, and sets out the analysis undertaken of the options to resolve that problem and identifies the preferred solution. The preferred solution should also fall within an overall strategy by the business.
- **deliverable over the regulatory period** – the key activities comprising the delivery of the project from planning to construction need to have been identified and thought through and there should be evidence that the projects can be practically delivered within the proposed timeframe.
- **reasonable cost estimate** – the cost estimate should be well supported either by a schedule of quantities using typical rates currently being experienced in the industry, or compare favourably with other similar projects, or preferably both of the above.

In relation to operating expenditure we have been asked to provide advice on whether:

- **the proposed trend in operating expenditure over the regulatory period is consistent with existing obligations and the service standards are reasonable** – having regard to expected productivity improvements, trends in input prices and the impact of growth on operating expenditure needs and any other relevant factors
- **the operating expenditure forecasts associated with meeting new obligations and/or meeting higher service levels reflect their likely expenditure requirements** – having regard to any benchmarking or other quantitative techniques considered appropriate.

In providing advice on the above, we have been asked to have regard to:

- any guidance issued by the ESC with respect to how it will assess the businesses' proposed expenditure forecasts

- the information set out in the businesses' Water Plans (and accompanying information templates) and any explanations that the businesses provide with respect to the basis used to derive the forecasts including any assumptions used
- any readily available data and information that the consultants have available to assess expenditure forecasts
- the experience of the consultants' proposed review team in preparing and assessing the veracity of forecasts as well as costing projects in the water sector.

2.2.2 *Issues outside the scope of this project*

We have been asked by the ESC not to consider the following matters:

- toll payments (operating expenditure) by Melbourne Water associated with the proposed desalination plant
- waterways and drainage expenditure by Melbourne Water – except to the extent that the allocation of corporate costs will have implications for water and wastewater expenditure
- whether expenditure is categorised as 'operating' or 'capital'
- the structure of bulk water prices.

2.2.3 *Other work*

The ESC has received advice from another consultant regarding the veracity of the businesses' demand forecasts. While we are broadly aware of this work it was not received in sufficient time to be incorporated into our report.

2.3 *Structure of the report*

This report is focussed on the expenditure forecasts submitted by South East Water. It is structured as follows:

- chapter 3 outlines the methodology adopted by us in reviewing South East Water's expenditure forecasts
- chapter 4 discussed South East Water's strategies, cost drivers and service standards
- chapter 5 discusses some issues common to both South East Water's operating and capital expenditure forecasts
- chapter 6 outlines South East Water's operating expenditure forecasts, and presents our analysis and conclusions/recommendations
- chapter 7 outlines South East Water's capital expenditure forecasts, and presents our analysis and conclusions/recommendations.

3 Overview of approach

3.1 Process undertaken

The process adopted for this expenditure review is set out below.

3.1.1 *Inception Meeting with the ESC*

Prior to commencing work, the review team met with the ESC to discuss the review and identify any areas of particular interest for the ESC. At the inception meeting, the ESC provided the review team with a paper that outlined some of the key issues to be considered. These included:

- the ability of the businesses to deliver their capital programs within the regulatory period
- analysing each of the businesses' top ten capital projects
- the cost escalation factors used in the businesses' forecasts
- using 2007/08 as the 'base year' for expenditure
- paying particular attention to:
  - energy costs (including electricity and green energy)
  - any purchases of greenhouse gas offsets
  - productivity improvements
  - conservation programs and how they relate to the supply-demand balance
  - the cost of managing bulk entitlements

3.1.2 *Preparation of issues paper*

The next stage of the expenditure review process was the preparation of an issues paper for consideration by the ESC. The review team reviewed in detail the businesses' Water Plans and set out specific areas of interest or concern. The issues paper was discussed with the ESC and used as a basis for refining discussion questions for the businesses.

3.1.3 *Initial interviews with the businesses*

In the initial stages of the project, two core review teams held discussions with the businesses, each over two days, as detailed in Table 3.1 below.

Table 3.1 Initial meetings with businesses

Date	Business
4 and 5 December	South East Water
8 and 9 December	Yarra Valley Water
9 and 10 December	Melbourne Water
10 and 11 December	City West Water

Prior to the interviews, the businesses received a paper prepared by the review team highlighting the key areas for discussion. The interviews mainly comprised key personnel from the businesses presenting information regarding their expenditure forecasts, with the opportunity for the review team to ask questions and request further information where necessary.

3.1.4 Review of proposed expenditure

A detailed review of the information collected prior to, during and subsequent to the interviews with the businesses was undertaken to assess, to the extent possible, the prudence and efficiency of the proposed capital and operating expenditure forecasts. The assessment included a review of the following:

- the planning process through which capital projects are identified and implemented
- the ability to deliver the proposed level of capital expenditure program
- the cost escalation factors adopted
- the proposed level of capital expenditure
- the main components of forecast operating expenditure.

As part of the review we also:

- sought further information from the businesses on a number of specific issues
- held further telephone and email discussions with the businesses
- spoke to external parties (including DSE) where required
- had regard to documentation and information prepared by independent third parties, including by the ABS, Reserve Bank of Australia, ABARE, and the US Energy Information Administration.

3.1.5 *Preparation of draft report*

The process and findings of the review undertaken by the review team were documented in a draft report, together with recommendations in respect to the prudence and efficiency of the proposed expenditure. This draft report was discussed with the ESC and distributed to the businesses for comment.

3.1.6 *Further interviews with businesses*

Following the submission of the draft report to the ESC and the receipt of comments from the businesses, we held further interviews with the businesses, as detailed in Table 3.2 below, to discuss their proposals.

Table 3.2 Further meetings with businesses

Date	Business
23 February, 16 March	South East Water
12 March	Yarra Valley Water
12 March	City West Water

3.1.7 *Preparation of final report*

In preparing this final report, we have had regard to:

- comments provided on the draft report by the ESC and the businesses
- further information provided by the businesses concerning their responses to the draft report in their comments on the draft report and in interviews, telephone and email discussions.

In general terms our review has been more extensive and covered more areas than those discussed in this report. That is, where we have reviewed areas of expenditure and are satisfied at this time, based on the information provided to us, with the projections incorporated in the forecasts, we have generally not commented on that area in this report.

4 Strategies, drivers and service standards

4.1 Corporate Strategies

4.1.1 Overview

We conducted an analysis on a number of aspects of South East Water's asset management and strategic planning activities. This included reviewing:

- South East Water's vision and corporate strategies, such as the Corporate Plan, Customer Charter, and expenditure policies, etc
- South East Water's asset management plan, strategies and capacity plans
- procedures for determining capital project deliverability, ongoing monitoring and post-implementation reviews
- aspects of South East Water's operations, such as maintenance contract procurement, budgeting, efficiency targets.

4.1.2 Corporate frameworks

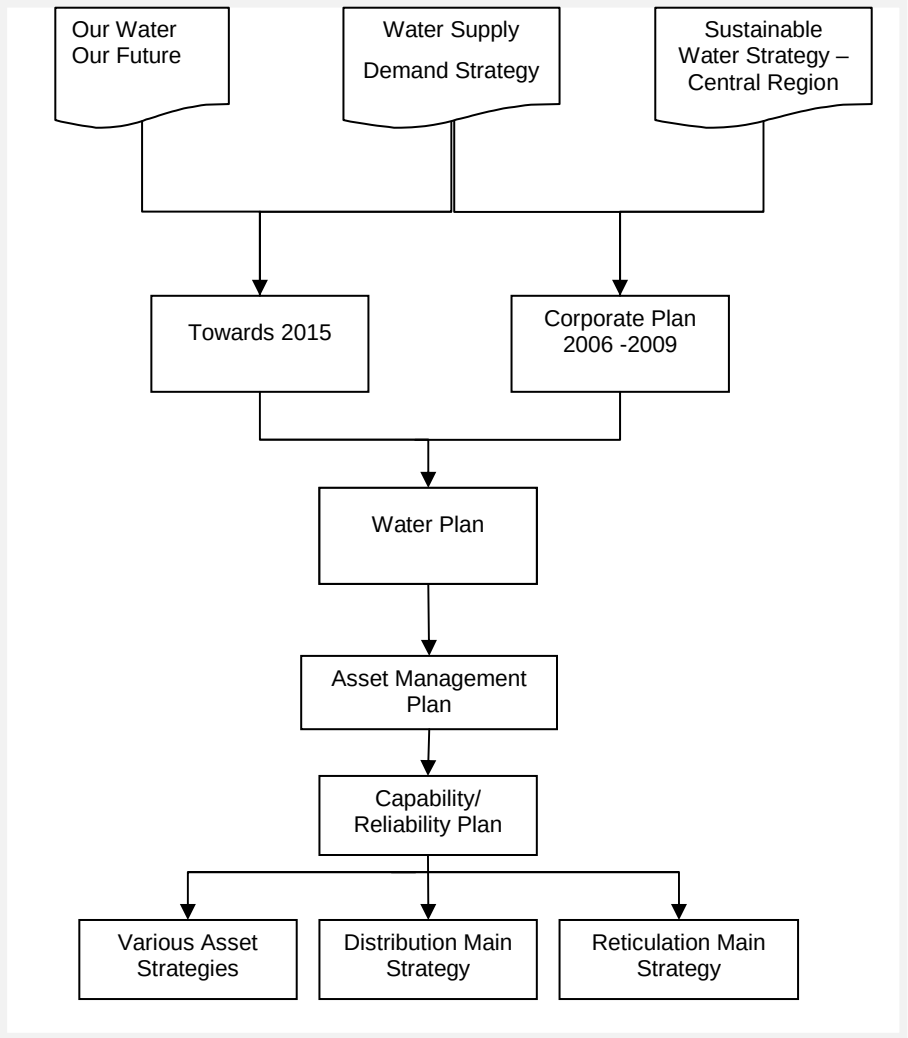
To meet South East Water's 2015 Vision, the business sets three strategic directions to provide customer water solutions, efficiency and growth, and improved environmental and social outcomes.

South East Water's Corporate Plan focuses on delivering customer value and the 2015 Vision. The process of updating the Corporate Plan is undertaken annually and involves a review of current performance, and identifying upcoming challenges and opportunities for South East Water. This process results in an adjustment to the businesses strategies and activities.

South East Water's Customer Charter outlines customer service standards that the business aims to deliver. The charter is prepared with advice from South East Water's Customer Advisory Committee. The charter also meets or exceeds minimum customer service standards specified in ESC's Customer Service Code.

An example of South East Water's documentation hierarchy for Water Reliability (Renewals) program is shown in Figure 4.1.

Figure 4.1 – Hierarchy of documents at South East Water



4.1.3 *Asset management planning*

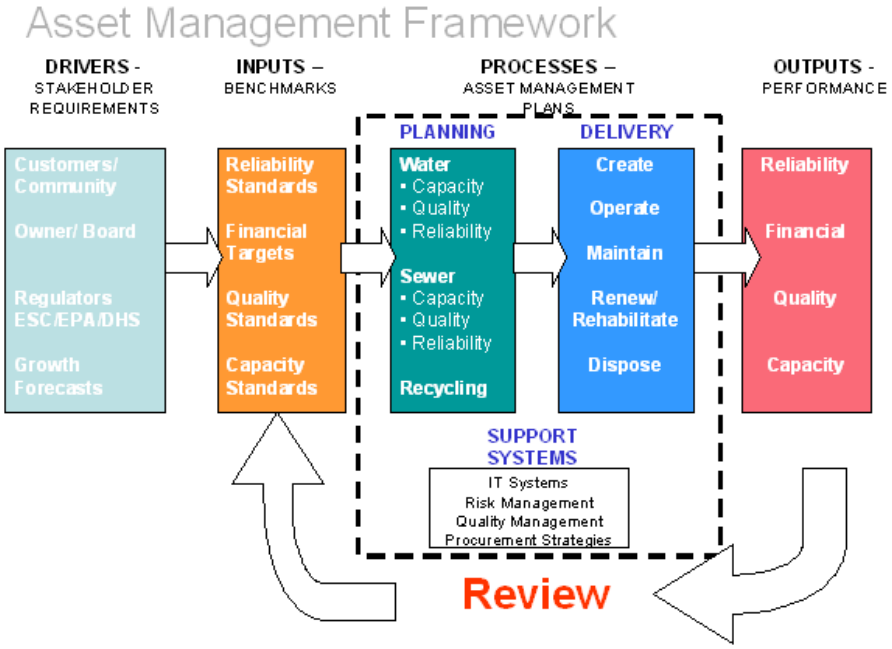
South East Water's Asset Management Manual describes the infrastructure Asset Management System. The Manual is used throughout the business to provide guidance and reference to meet the requirements of the South East Water's asset management obligations. The Asset Management Framework is shown in Figure 4.2.

South East Water's Asset Management Manual may be used to provide:

- policy information to customers, contractors and employees
- evidence that an Asset Management System is established, implemented, reviewed and maintained
- training employees in the Asset Management System.

The maintenance of this Asset Management Manual is the responsibility of the General Manager of Infrastructure.

Figure 4.2 – Asset Management Framework (South East Water)



Asset strategies are prepared for all assets that deliver services to customers. The asset strategies form the basis of Asset Management Plans which are a major component of the annual Corporate Plan and the Water Plan.

The individual Asset Management Plans for each area of South East Water's business provide a rational framework for the management of their hydraulic assets. The development of these Asset Management Plans involved assessment of stakeholder requirements, system performance and demands, identification and quantification of risks and trends and determining appropriate performance targets and KPIs for the system.

Asset Management Plans are prepared in order to meet South East Water's future requirements in terms of system capacity, quality and reliability. All capital projects listed in the 2009 Water Plan are identified in an Asset Management Plan.

4.1.4 *Capital and Operational projects*

South East Water has a significant capital and operating program over the next regulatory period. South East Water's capital projects can be divided into three main programs: water, wastewater and recycled. Both the water and wastewater programs are delivered through drivers that can be categorised as capacity (growth), reliability or quality.

South East Water follows a set procedure for the development of all of its capital projects. The procedure ensures that all project work carried out by the Infrastructure Group meets South East Water's strategic goals and business requirements.

The projects identified in the South East Water's Asset Management Plans are allocated to a Project Manager who coordinates planning and design phases for each project. Each option generated in this phase is evaluated and the preferred option selected for functional design including an initial project estimate. Each project is submitted for approval, in accordance with the Schedule of Delegated Authority, whereby Managers can approve any project under $0.25 million, General Manager any projects under $0.5 million while the Board must approve any projects up to $5 million. Any projects over $5 million must have Department of Treasury and Finance (DTF) approval. Post implementation reviews are undertaken for all projects greater than $0.5 million.

Once approved the project undergoes detailed designed and is issued for tender or development of total outturn cost (TOC) for delivery via South East Water's alliance arrangement with Utility Services. South East Water use this alliance arrangement to deliver the majority of its capital and operations program. The alliance undertakes the following tasks:

- manages and carries out civil, mechanical, electrical and other work for the operation and maintenance of South East Water's assets and infrastructure
- designs, constructs, installs and commissions capital works with a forecast cost of $10 million or less.

For specialist works such as STP Class A upgrades, or projects greater that $10 million, South East Water has an open tender system. Should Utility Services not intend to bid for the work, they would then project manage the work.

Contract rates provided by Utility Services are reviewed on an annual basis, and to maximise efficiency a painshare/gainshare arrangement has been established. For further information regarding South East Water's painshare/ gainshare arrangement, refer to Section 5.5.2.

We have briefly reviewed various documents and strategies in place at South East Water and we are comfortable that South East Water's planning arrangements are able, if appropriately implemented, to deliver an efficient capital program.

4.2 Service standards

4.2.1 *Historical service standards*

In the 2005 price determination, the ESC set service standards for each metropolitan and regional water business. The ESC approved 21 service standards for South East Water, ranging from water interruptions to sewer blockages, complaints to EWOV and minimum flow rates. South East Water further proposed (and the ESC approved) nine additional service standards.

South East Water met or exceeded most of their target service standards, on average, over the current regulatory period. The targets that South East Water did not meet (within a five per cent threshold) are presented in Table 4.1 below.

Table 4.1 Service standards not met (2005/06 to 2007/08)

Service standard	Target	Actual	Variance
Average time taken to attend priority bursts and leaks (minutes)	655	944	44% higher
Sewer blockages per 100km of main	18.0	19.5	8% higher
Total time taken to rectify sewer blockage (minutes)	132	161	22% higher
Number of complaints to EWOV per 1,000 customers	0.12	0.15	25% higher

South East Water explained that the average time taken to attend bursts and leaks was adversely impacted by increasing traffic congestion and road works. To improve response times South East Water has purchased a number of small cars which has seen South East Water's response time fall to around 250 minutes. Sewer blockages were greater than anticipated because of the effects of the drought, with drying soil leading to tree roots intruding into the mains in search of water. The time to rectify sewer blockages increased because prior to the drought most interruptions were related to mains cleaning, which is relatively fast, but the drought has placed more emphasis on fixing larger interruptions that take longer.

South East Water performed significantly better[1] on several indicators compared to target in the current regulatory period. These include, as detailed in Table 4.2 below:

Table 4.2 Service standards 20% or more better than target (2005/06 to 2007/08)

Service standard	Target	Actual	Variance
Number of customers experiencing more than five unplanned water supply interruptions in a year	235	139	41% lower
Average unplanned customer minutes off water supply	22	17	23% lower
Average planned customer minutes off water supply	23	7.7	67% lower
Number of customers receiving more than three sewer blockages in a year	8	2.7	66% lower

4.2.2 *Proposed service standards*

South East Water has proposed to keep the same targets for essentially all of its service standards in the next regulatory period. South East Water explained that it was focusing on maintaining its current level of service because, based on its market research, customers were satisfied with the level of service they are receiving and did not want to pay more for increased levels of service.

It should still be noted that the level of service that customers have been receiving over the past three years is in fact better than South East Water is proposing to target on a number of indicators (although South East Water has advised targets are treated as the minimum that can be achieved). We note that South East Water's maintenance and customer service forecasts are, for the most part, higher than what has been spent in the current regulatory period, although it is difficult to determine an exact relationship between these costs and service delivery.

[1] Which we have defined as beating target by 20 per cent or more

5 Generic issues

5.1 *Overview*

This section discusses the review team's approach to analysing certain issues which are generic across each of the businesses and in several cases apply to both operating and capital expenditure. These include:

- general cost escalation factors
- labour cost increases
- productivity and other cost savings
- gainshare/painshare arrangements and other outcomes of alliance contracts.

5.1.1 *Proposed price rises*

A substantial augmentation program has been proposed, and indeed is underway, in order to increase the amount of water available to Melbourne customers. The augmentation projects, when combined with ongoing expenditure proposed by the businesses, will result in a dramatic increase in expenditure over the forthcoming regulatory period. The four metropolitan businesses' Water Plan forecasts were for total expenditure of $10.8 billion over the next regulatory period 2009/10 to 2012/13, including $4.3 billion of capital expenditure. Across the industry this represents a 64 per cent annual real increase in operating expenditure (including projected toll payments for the desalination plant) and a 35 per cent increase in capital expenditure over base year (2007/08) expenditure.

This increase in expenditure, when combined with reduced water use, results in a substantial increase in proposed water prices. Under the businesses' proposals, prices will increase by almost 100 per cent in real terms over the next regulatory period. Given this increase; in its issues paper the ESC has noted that, in addition to its usual examination of whether proposed expenditures is efficient and prudent, it will also consider: [2]

- 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

[2] ESC 2009, Melbourne Metropolitan Water Review 2008/09 Water Plans – Issues Paper, December, pp 6-7.

- whether some expenditure could be deferred into the following regulatory period
- whether businesses have the capacity to deliver the proposed large capital program during the short timeframe proposed in their Water Plans
- stakeholders views on the trade-offs between reducing the proposed price increases and meeting environmental, drinking water quality and service reliability objectives.

It is not the role of this consultancy to directly address the issue of proposed price increases. However, given the ESC's comments; in reviewing the businesses' proposals we have been cognisant of the magnitude of the price rises proposed and therefore the importance of ensuring that that discretionary expenditure is minimised or eliminated entirely.

5.1.2 The current economic climate

This review is taking place at a time of significant economic uncertainty. For the vast majority of the current regulatory period, the Australian and Victorian economies have been in a phase of strong growth. Economic conditions have been characterised by:

- a falling unemployment rate, which was around 4.25 per cent for the majority of 2008
- strong growth in real wages, particularly in professions impacted by the 'mining boom'. This includes engineering and other technical skills engaged in infrastructure industries such as the water sector
- a relatively strong Australian dollar which almost reached parity with the US dollar in mid 2008
- increasing commodity prices, particularly in late 2007 and early 2008
- increasing oil prices, which had flow-on effects to oil by-products such as certain chemicals and plastics products
- steadily increasing domestic inflation and nominal interest rates.

We note that the ESC's decision in relation to gas distribution prices, released in March 2008, took the view that continuing real increase in wages in the utilities industries were likely, and that non-labour cost inputs were also likely to rise.

However, there has been a significant change in the global and domestic economic outlook since mid 2008. Widely attributed to failures in the US banking system, short to medium term economic conditions will be significantly different to those in previous years. Economic conditions are likely to reflect:

- reducing employment and increasing unemployment
- substantially lower private sector capital investment, particularly in resource industries; although this may be partly offset by higher levels of Federal and State Government investment in capital infrastructure
- a weaker Australian dollar against most currencies
- substantially lower commodity prices, including oil prices
- lower interest rates and inflation
- relatively volatile property and housing prices, with significant falls in some areas.

In our draft report we noted that although economic growth had slowed, some economic indicators had not yet moved. However, since our draft report more recent data shows that:

- full time employment is falling sharply. The Australian unemployment rate has now risen to 5.2 per cent, with Victoria's unemployment rate well above the average at 5.6 per cent
- gross domestic product fell 0.5 per cent in the December quarter – the first quarterly decline since 2000/01.

This data was released after the most recent economic forecasts released by the Australian Government[3] and the RBA[4]. The Government's forecast of key economic parameters is shown in Table 5.1 below.

Table 5.1: Key economic parameters[5]

Parameter (year average percentage change)	2008/09	2009/10	2010/11	2011/12
Real GDP	1.0	0.75	3.0	3.0
Employment	1.0	-0.75	1.25	1.25
Wage Price Index	4.0	3.5	4.0	4.0
CPI	2.0	2.0	2.5	2.5
Nominal GDP	6.75	0.0	5.25	5.25

[3] Commonwealth of Australia, *Updated economic and fiscal outlook*, February 2009

[4] Reserve Bank of Australia, *Statement on Monetary Policy*, 6 February 2009

[5] Commonwealth of Australia, *Updated economic and fiscal outlook*, February 2009, p. 7.

The Government has forecast that unemployment will reach 7 per cent by June 2010. The Reserve Bank's forecasts are similar to the Government's. In its forecast of upcoming economic conditions the Reserve Bank noted that:

- business investment is expected to fall throughout most of the forecast period, with falls in commodity prices and resource company share prices resulting in a substantial scaling-back of mining-related investment. Non-residential building is also forecast to contract significantly
- wage growth is likely to slow in line with conditions in the labour market.

It is also worth noting that a clear feature of the current economic downturn has been that forecasts of economic activity have consistently proved overly optimistic. This includes both forecasts by government as well as independent commentators.

Noting the above, two things are clear. Firstly, economic conditions experienced in the current regulatory period will not provide a good guide to economic conditions over the future regulatory period. Secondly, forecasts of certain input prices which were prepared in early to mid 2008 are unlikely to reflect current market conditions. In particular, impacts of the downturn are likely to include (compared to a 2007/08) baseline:

- equal or lower cost of materials such as steel, plastics-based pipes and chemicals
- equal or lower unit capital expenditure costs due to less competition from other large infrastructure projects, not only in the mining sector but in construction more generally
- equal or lower fuel costs
- reduced pressure on wages.

Finally, we encourage the ESC to closely monitor the changing economic circumstances and take them into account in its decisions.

5.2 General cost escalation factors

Aggregate operating and capital expenditure forecasts are a function of both the level of activity required in the forecast period, plus the forecast change in price of the individual cost inputs.

Individual price changes will differ across cost items. While some cost items will generally follow price levels in the economy (as measured by the CPI) others will be above or below CPI. Depending on the nature of the industry in question, cost escalation for a large proportion of input costs may differ markedly from the CPI.

5.2.1 *Operating Expenditure Escalation*

South East Water forecast

South East Water has provided a spreadsheet indicating all of its operating expenditure escalation factors. Many of the operating expenditure line items were assumed to move with CPI, that is, South East Water forecast that those items would not increase in price (in real terms) over the period. These included the major sub-contracting roles undertaken by Thiess and Siemens for maintenance (not including labour or plant). There were several expenditure items, however, that South East Water did forecast price increases for. These are presented below in Table 5.2.

Table 5.2 Operating expenditure price escalations above CPI

Operating expenditure item	Escalation above CPI			
	2009/10	2010/11	2011/12	2012/13
Thiess labour	4.0%	4.0%	4.0%	4.0%
Thiess plant	9.8%	2.2%	2.2%	2.2%
Siemens labour	2.5%	2.5%	2.5%	2.5%
Siemens plant	4.4%	2.2%	2.2%	2.2%
IT contract labour	5.0%	5.0%	5.0%	5.0%
Communication services – data	-5.0%	-5.0%	-5.0%	-5.0%
Legal expenses	1.5%	1.5%	1.5%	1.5%
Audit fees	1.5%	1.5%	1.5%	1.5%
Vehicle operating costs	6.0%	3.0%	3.0%	3.0%
Agency staff	1.5%	1.5%	1.5%	1.5%
Plumbers	2.5%	2.5%	2.5%	2.5%
Cleaning	1.5%	1.5%	1.5%	1.5%
Consulting – engineering/technical	3.5%	3.5%	3.5%	3.5%
Consulting – general	1.5%	1.5%	1.5%	1.5%
Lease/rental – accommodation	0.5%	0.5%	0.5%	0.5%
Gas	9.0%	0.0%	0.0%	0.0%
Electricity	38.5%	0.0%	0.0%	0.0%
Internal audit services	1.5%	1.5%	1.5%	1.5%

Note: South East Water has also forecast real increases in labour costs. Increases in labour costs, electricity and vehicle operating costs will be addressed in sections 5.3, 6.2.2 and 6.2.3 respectively.

South East Water also provided its forecast expenditure (in real dollars) for the above accounts.

Discussion

South East Water has, for the most part, assumed that the unit rates underpinning operating expenditure will have no real increase over the next regulatory period. Table 5.1 outlines those services that South East Water is forecasting an increase above CPI, which cover a range of services. We do not propose to comment on every individual expense item and we note that some may increase above or below what South East Water has forecast. Two areas that we have addressed are the accounts listed in Table 5.2 are likely to be influenced by labour costs, and the price increases for Thiess and Siemens plant.

The accounts in Table 5.2 most likely to be closely related to labour are:

- Thiess labour
- Siemens labour
- IT contract labour
- agency staff
- plumbers
- cleaning
- consulting (engineering/technical and general)
- internal audit.

Increases for electricity and vehicle operating costs will be addressed in sections 6.2.2 and 6.2.3.

For the reasons outlined in section 5.3, we have set labour cost increases at CPI + 1.5 per cent. We have applied the same labour price increases to those accounts we have identified as being influenced by labour costs.

The other key area that we have addressed is plant costs charged by Thiess and Siemens. South East Water advised that the real price increases were derived from estimates of the various inputs to plant costs, including fuel (which comprised 22 per cent of total costs), leasing costs (54 per cent) with the remainder of costs such as depreciation, repairs, finance costs and insurance. South East Water advised it had assumed a 20 per cent increase in fuel prices in the first year (2009/10) and 10 per cent thereafter whereas leasing prices were assumed to increase 10 per cent in the first year with no subsequent increase. Price increases in other costs were assumed to be insignificant and therefore no increase was assumed.

As set out in section 6.2.3, we are of the view that no real increase in fuel costs should be assumed in the regulatory period. Further, the assumption of a 10 per cent increase in plant leasing costs (with no increase thereafter) is likely to be overstated with the economic crisis impacting on construction activity and associated costs (such as plant assets, see discussion in section 5.2.2). We are therefore of the view that, on balance, plant costs should grow by no more than CPI in the next regulatory period.

The combination of the 1.5 per cent increase in labour-related costs and zero per cent increase in plant costs has resulted in downward adjustments to South East Water's operating expenditure, as set out in Table 5.3.

Table 5.3 Overview of recommended changes to operating expenditure due to cost escalation ($m, 2008/09)

		2008/09	2009/10	2010/11	2011/12	2012/13
Operating Cost Escalation	Water Plan		28.04	28.63	28.70	29.72
	Revised forecast		27.43	27.57	27.18	27.72
	Net change		**-0.61**	**-1.06**	**-1.52**	**-2.00**

5.2.2 *Capital expenditure*

The Econtech report

The businesses engaged economic consultants Econtech (now KPMG Econtech) to prepare a report that provided forecast increases for capital project prices. This report, finalised in July 2008, included forecasts for changes in water distribution, reticulation, wastewater transfer and treatment costs, as well as information on other economic indicators such as CPI, average earnings, etc. Each of the businesses has applied the data contained in the Econtech report to their forecasts in different ways. Econtech's main forecasts are included in Table 5.4 below.

Table 5.4 Econtech forecast capital project prices 2008 to 2014

Index	Annual price increase (nominal)
Water distribution	5.7%
Reticulation	4.2%
Sewerage transfer	3.2%
Treatment	2.8%
CPI (Australia)	2.6%

South East Water forecasts

South East Water has used the Econtech forecasts as the basis for its capital escalation assumptions. South East Water provided a spreadsheet of its capital program which demonstrated how each line item had been allocated to one of the four (non-CPI) indices in Table 5.3 and the escalation factors adopted. South East Water's spreadsheet indicates that the 2008/09 capital expenditure has not been escalated from 2007/08.

Discussion

It is clear that many of the assumptions and forecasts contained in the Econtech report are not appropriate. This is not to question the veracity, integrity or methodology underlying the Econtech report. It simply reflects the fact that the sudden (and generally unanticipated) change in economic conditions since the report was prepared means that it has been overtaken by events and is not longer relevant.

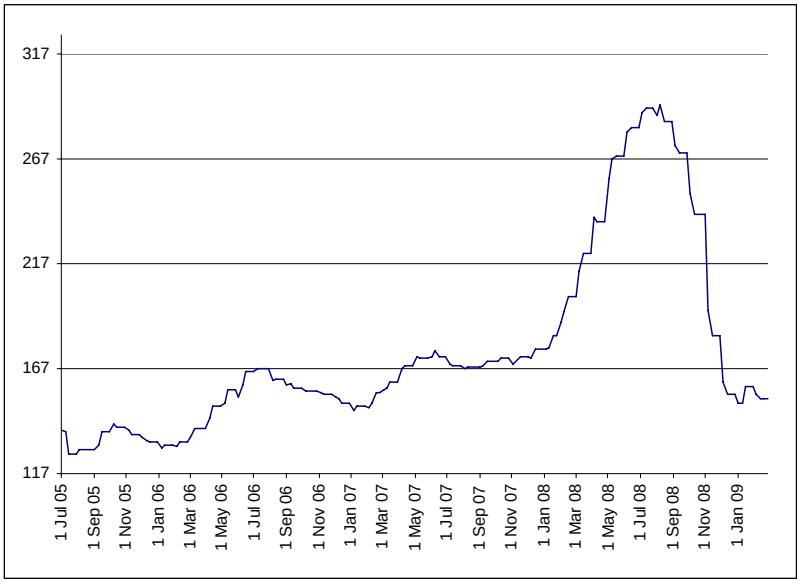
For example, a key assumption inherent in Econtech's report is a "sustained increase" in oil and steel prices, which are key inputs to water infrastructure. When the report was finalised in July 2008, this was a reasonable assumption, as both commodities had indeed experienced sustained increases for some time.

Since the Econtech report was finalised, however, there has been significant turmoil in global equity, credit and commodity markets. Section 6 of this report details the recent (i.e. post-July 2008) falls in global crude oil prices, which decreased by 53 per cent in real AUD terms between July 2008 and March 2009. Further, futures contracts for delivery in oil up to June 2013 are settling for around US$50-65, which is far less than AUD oil prices in July 2008.

Gauging the price of steel is a more difficult matter, because there are multiple steel products and markets throughout the world. One firm that does calculate a weighed steel price index is the CRU Group, which publishes its CRUspi index comprised of six carbon steel indices, together with indices for stainless steel and metallics. Figure 5.1 shows how the CRUspi global steel index has moved since July 2005 and shows a clear decline towards the present day.

Since July 2008, the CRUspi index has declined by 48 per cent. This mirrors the widely recognised Reuters-/Jeffries CRB (global commodities) index, which has dropped 49 per cent since early July 2008.

Figure 5.1 CRUspi global steel prices index



Recommendations

It is clear that the Econtech assumption of a sustained increase in commodity prices, including steel and oil has not eventuated and indeed most commodities have experienced sharp falls in prices. Given steel and oil are key inputs to water infrastructure, it is also clear that South East Water's capital escalation factors, based on Econtech's forecasts, are too high and should be reduced.

Determining what the revised capital escalation factor should be is a difficult exercise. Even back in 2005 when there was clear evidence of increases in construction costs, in its 2005 Determination for Sydney Water, IPART commented that:

"Having carefully considered the evidence available to it, the Tribunal believes that while there may be short-term variations in the rate of growth in the CPI and Total Non-dwelling Construction costs, both of these price indices are likely to follow general movements in the Australian economy as a whole. With this in mind the Tribunal does not consider that the recent higher rate of growth in Total Non-dwelling Construction costs represents a long-term trend which requires special consideration in the 2005 determination period.

This was reiterated in IPART's 2008 draft Sydney Water price decision (confirmed in the final decision), where IPART concluded:

"… there are significant uncertainties in the global equity markets and credit markets that could have a negative impact on construction activity. Construction activity (and costs) could also be dampened by anticipated further increases in domestic interest rates, which would increase borrowing costs for businesses.

On balance, IPART has decided against Sydney Water's proposal to inflate the future capital expenditure by the construction cost index and, instead, proposes that this expenditure be escalated by the CPI."

If a separate construction index is to be used then the issue of how that index should be determined will need consideration. The mix of input costs facing the Victorian metropolitan water businesses will be unique and an accurate index would need to consider such things as prices and parameters and weightings.

Anecdotal evidence available to us suggests that the economic downturn has resulted in greater competition amongst contract maintenance and engineering/construction businesses in the water sector due to the downturn in the mining industry. This is supported by evidence from the RBA which noted in its February 2009 *Statement on Monetary Policy* that in the December 2008 quarter that there was "a significant fall in construction costs in Victoria". However we also note that this significant fall may be offset to some degree in future by the Australian Government's stimulus package which will increase capital spending in the residential and education sectors in particular.

Given current economic circumstances and the difficulties in forecasting a new construction index, we therefore feel it is reasonable to adopt the CPI rather than a separate construction cost index as the basis for forward projections. While the CPI and a construction index will diverge over the short term, over the medium to longer term we believe the CPI provides the best measure of changes in input costs.

Adopting CPI as the escalator in the next regulatory period also has the advantage of simplicity. If something other than CPI was used to inflate future prices, it would be necessary to identify escalators for different services and materials. Some may be forecast to rise relative to CPI, whereas others may fall relative to CPI. On balance, CPI is the best indicator to use, as it represents a bundle of goods and services and is easily accessible.

We have adopted the assumption that on average water sector construction costs will increase at the CPI – i.e. that there will be no real increase in prices. While there is arguably a strong case that increases in construction costs will be lower than CPI, a CPI-based increase reduces the risk that a below-CPI increase would provide to businesses.

Expenditure adjustment

Using the spreadsheet provided by South East Water, it was possible to reconstruct what its forecast capital expenditure program would have been had a single capital escalation factor of zero had been applied. When calculating the escalation adjustment, any other capital expenditure adjustments, as set out in section 7.6, were taken into account so as not to double count any capital escalation.

The results of the downward capital escalation adjustment are demonstrated below in Table 5.5.

Table 5.5 Overview of recommended changes to capital expenditure due to cost escalation ($m, 2008/09)

		2008/09	2009/10	2010/11	2011/12	2012/13
Capital Cost Escalation	Water Plan	123.48	157.24	156.22	147.70	141.50
	Revised forecast (see section 7.6)	124.28	154.64	153.22	142.70	136.9
	Revised forecast	124.28	152.28	148.04	136.24	128.42
	Net change	**0.00**	**-2.36**	**-5.18**	**-6.46**	**-8.48**

5.3 Labour cost increases

5.3.1 Benchmark increases

Initial business proposals

In their Water Plans, each of the businesses proposed increases above CPI for labour costs for the next regulatory period, with forecasts ranging from 1 per cent to 2.5 per cent per year. The businesses' escalations in labour costs were determined via a number of means, including on the basis of:

- consistency with their respective EBAs and assumptions about inflation
- independent forecasts of wage increases.

2008 price review for regional water businesses

In its price review which was concluded in June 2008, the ESC allowed for a 1.25 per cent real annual increase in labour costs over the regulatory period. This rate was applied as a benchmark across all businesses.

Mercer and Econtech labour cost forecasts

One of the retailers indicated that it had relied on information provided by recognised human resource consultants Mercer Human Resource Consulting when determining its proposed real annual increase in labour costs.

In a 2006 report Mercer established forecasts for base salary and employment costs for a range of 'job families' extending to 2008/09, with base salary increases for construction and engineering professions increasing by 6.0 per cent and 6.3 per cent (in nominal terms) respectively in 2008/09.[6]

In February 2008 Mercer commissioned Econtech to model the size and structure of the Australian workplace in 2012 in terms of workforce, employment and occupations for its report – *Workplace 2012: What does it mean for employers?*

In its November update to its Workplace 2012 series, Mercer commissioned Econtech to provide updates of the demand for, and supply of, labour to account for events from February to October 2008.

Key points behind Econtech's labour cost growth forecasts include:

- unemployment was forecast to increase from a low of 4.0 per cent in February 2008 to over 5.3 per cent in 2009
- the shortage of skilled workers and wage pressure from a tight labour market are key drivers of labour costs
- wages growth in the utilities sector is assumed to be higher than for all Australian industries, due to the higher concentration of skilled workers
- inflation was forecast to range from 2.5 per cent in 2009/10 to 3.0 per cent in 2012/13.

One of the key drivers of labour costs identified in the Econtech report was the pressure on wages (and wages of skilled labour in particular) arising from a tight labour market driven by the commodities boom.

Heavy investment by the mining industry was projected to continue, placing further pressure on demand for skilled workers in the engineering and construction sectors. The utilities industry, being forced to compete with the mining and construction industries for skilled labour would also be subject to the skills shortage and upward pressure on wages.

Draft report recommendation

In our draft report, we concluded that recent developments including falling commodities prices, strongly reducing private sector investment and rising unemployment were likely to reduce pressure on wages for the next regulatory period in all industries, including the water industry.

[6] Mercer Human Resource Consulting (2006), *Quarterly Salary Review: Analysis of trends*, September 2006

While strong investment is likely to continue in the water sector, in the context of recent developments and current wage price data, the draft report proposed a real increase in wages of 1 per cent above CPI per annum for the next regulatory period, noting that we would review this assumption in light of the RBA's February 2009 Statement on Monetary Policy.

Revised business proposals

Following the release of our draft report, the businesses provided revised proposals based on advice received from the Victorian Government in relation to the wage price index and CPI. The advice provided by the Victorian Government was based the forecasts and projections of key economic parameters used by the Commonwealth in its *Updated Economic and Fiscal Outlook* (UEFO), and is set out in Table 5.6 below.

The businesses are now forecasting real wage increases of 1.5 per cent per annum. They have noted this is consistent with their expectations that their enterprise bargaining agreements (EBA) will be negotiated to allow for a 4 per cent per annum nominal increase in wages over the period.

Table 5.6 Commonwealth forecasts and projections of key economic parameters

Parameter (year average percentage change)	2008/09	2009/10	2010/11	2011/12
Real GDP	1.0	0.75	3.0	3.0
Employment	1.0	-0.75	1.25	1.25
Wage Price Index	4.0	3.5	4.0	4.0
CPI	2.0	2.0	2.5	2.5
Nominal GDP	6.75	0.0	5.25	5.25

Note: all parameters are year average percentage changes, except CPI which is through the year growth to June quarter. Source: Commonwealth of Australia, *Updated Economic and Fiscal Outlook*, February 2009

Key points in the Commonwealth's domestic economy forecasts include:

- more substantial falls in commodity prices are now expected than originally forecast in the *Mid-Year Economic and Fiscal Outlook 2008-09* (MYEFO)
- tight credit conditions leading to reduced investment, with a number of projects being cancelled or deferred

- unemployment is expected to increase to 5.5 per cent by June 2009 and reach 7 per cent by June 2010.[7]

It should also be noted that these figures also take into account the Commonwealth's fiscal stimulus package for 2008/09 and 2009/10.

Recent developments

Similarly to the UEFO, the RBA's 6 February 2009 Statement on Monetary Policy observed weakening domestic economic conditions characterised by reductions in capital expenditure forecasts (particularly in the mining sector) as a result of the global financial crisis and tighter credit conditions.

While CPI was 3.7 per cent to the year ended December 2008, it is expected to decline in coming quarters, with medium term expectations consistent with the Commonwealth's forecasts.

In relation to labour, the RBA noted that while employment grew by 0.2 per cent in the December quarter (1.6 per cent higher over the year to December), full-time employment was estimated to have fallen. Further softening of labour market conditions is expected in early 2009 with labour surveys pointing to weaker demand for labour and higher unemployment in the next year.[8]

Labour figures released by the Australian Bureau of Statistics (ABS) on 12 March 2009 were worse than generally expected, with national unemployment at 5.2 per cent and Victorian unemployment at 5.6 per cent.[9]

As noted above, the Commonwealth has estimated that unemployment will rise to 7 per cent by June 2010. However, recent predictions of Victorian unemployment by economists surveyed by *The Age* range from 7 per cent, to as high as 7-10 per cent (National Institute of Economic and Industry Research) and 12 per cent (Institute of Public Affairs).[10]

[7] Commonwealth of Australia (2009), *Updated Economic and Fiscal Outlook – February 2009*

[8] Reserve Bank of Australia (2009), *Statement on Monetary Policy*, 6 February 2009

[9] Australian Bureau of Statistics, 6202.0 - Labour Force, Australia, Feb 2009

[10] Bachelard, M. (2009), "How will Victoria's economy fare?", *The Age*, 15 March 2009

Conclusion and recommendation

In our view, the 1.5 per cent real growth in wages may be slightly on the high side given current economic conditions. Nevertheless, we consider that the guidance provided by the Victorian Government (on the basis of the Commonwealth's UEFO) provides the clearest indicator for the businesses in relation to forecasts of real wages growth. Therefore we have adopted a real increase in wages of 1.5 per cent above CPI per annum for the regulatory period.[11]

While we believe that this provides a reasonable basis for real wage increases over the period, taking into account a projected recovery in the domestic economy from 2010/11, we note that on the basis of the current figures for inflation it may overstate real wage increases in the short term, which are likely to be close to zero. However, it may understate increases in the later years of the period if the Government's predictions of a 4 per cent wage price growth come to fruition.

5.3.2 Training and Graduate Programs

Some of the businesses have sought additional funding above baseline levels in relation to training and graduate programs.

While these programs may indeed be appropriate, we have taken the view that they need to be undertaken in the context of a businesses' overall workforce management program and should not be the source of price rises for customers. For example, we would expect a higher graduate intake to be offset, for example, by a lower level of recruitment of employment of more experienced workers. Increased training will generally be reflected in higher productivity levels. Therefore, in determining revised forecasts of labour costs while we have had regard to businesses' overall employment levels (as reflected in FTE numbers) we have not provided for additional labour costs associated with such training.

[11] We note that on 27 March 2009 the Treasurer of Victoria issued a press release stating that Victorian public sector wages growth would be limited to 2.5 per cent, a reduction from its existing policy of 3.25 per cent. It is not clear to us whether this restriction is applicable to wages for the water businesses' employees: while we have assumed this is not the case, the announcement adds weight to the view that a 1.5 per cent real wage increase is likely to represent the upper end of a reasonable range of increases.

5.4 Productivity Savings

5.4.1 The VCEC report

Background

In August 2007 the Victorian Government directed the Victorian Competition and Efficiency Commission (VCEC) to undertake a review of the Melbourne metropolitan retail water sector, with a view to recommending areas for improvement. In February 2008, VCEC released its final report *Water Ways: Inquiry into Reform of the Metropolitan Retail Water Sector.*

VCEC's final report included 21 recommendations for the government to consider, associated with structural and non-structural reform, future contestability (i.e. competition) and governance arrangements. The government supported all but one of VCEC's recommendations, which related to setting a three year regulatory period. One key recommendation receiving government support related to the potential costs savings of 'shared services'. Specifically, VCEC's recommendation 4.1 called for:

> *"… (the development) and (implementation of) shared services and bulk procurement of materials. The Government should amend the water businesses' Statement of Obligations to establish a target level of future annual savings to be achieved of at least $8 to $10 million per annum and ensure that this is incorporated in their corporate plans."*[12]

VCEC recommended that the annual savings be achieved within six to 12 months after receiving government support. VCEC identified areas such as IT systems, coordinated procurement of capital projects and procurement of materials for minor capital works.

In its response to the VCEC recommendations, the Victorian Government supported recommendation 4.1 and indicated its intention to amend each business's Statement of Obligations (SoO) to "examine opportunities for shared services and co-ordinated procurement of common inputs, and implement such arrangements where it is assessed that they will yield material net savings in business costs."[13]

[12] Victorian Competition and Efficiency Commission (2008), Water Ways: Inquiry into Reform of the Metropolitan Retail Water Sector, February 2008, p.xxxi
[13] Victorian Government response to the VCEC inquiry, July 2008 p.7

It is unclear whether this is an explicit endorsement of VCEC's recommended cost savings or timeline, however it is understood from discussions with the businesses and the ESC that the government intends for the businesses to achieve productivity savings recommended by VCEC. On balance, therefore, we have assumed that businesses will achieve the mid-point of VCEC's recommended savings, that is, $9 million per annum.

Proposed savings

Table 5.7 following outlines the savings that each business has included in its Water Plan, less any implementation costs associated with VCEC recommendations.

Table 5.7 Proposed net shared services and bulk procurement savings ($m, 2008/09)

Business	2008/09	2009/10	2010/11	2011/12	2012/13
City West Water	1.00	1.50	1.50	1.50	1.50
South East Water	0.00	0.00	0.50	1.50	2.00
Yarra Valley Water	0.00	0.00	0.50	1.50	2.00
Melbourne Water	0.00	0.00	0.00	2.75	2.75
Total	**1.00**	**1.50**	**2.50**	**7.25**	**8.25**

As can be seen from Table 5.7 above, most businesses are not expecting to realise the full savings until the final year of the next regulatory period and Melbourne Water does not believe it can reach its target. Further, Yarra Valley Water and South East Water have included costs associated with the identification of the cost savings from shared services. These costs amount to $0.5 million for each business in each of the first two years, and relate to costs such as becoming a statutory authority, moving from single contracts into joint contracts and consulting fees.

Melbourne Water has advised that it will incur costs, however is not seeking to pass these through to customers. City West Water is also not claiming any costs associated with identifying the savings to be implemented. These two businesses, therefore, have forecast relatively higher net productivity savings than South East Water and Yarra Valley Water. City West Water and Melbourne Water's approach also appears to be the most sensible to take – the savings resulting from shared services should be thought of as being net of any costs required to identify them.

Analysis of businesses' proposals

Although the government has not been specific on when it expects businesses to begin realising savings from shared services, it did support VCEC's recommendation 4.1 which called for the savings to be implemented within six to twelve months after the government endorsed the savings. It could therefore be argued that this is the timeframe the government has in mind.

Although all businesses believed the cost savings would be difficult, if not impossible to achieve in the next regulatory period. It should be noted, however, that VCEC's independent view was that the savings could be achieved and this was a better outcome than merging the businesses into one. The Victorian Government, as shareholder, supported this recommendation.

In addition, to the quantum of savings, Melbourne Water also argued that its share of the expected savings should be relatively lower than the retailers. Melbourne Water argues that, given its size, it is already achieving large economies of scale and the retailers are better placed to gain advantages in this area.

We are of the view that Melbourne Water's arguments have some merit. It is likely that Melbourne Water is already achieving significant economies of scale and for some of the areas identified by VCEC, such as customer information and billing systems, the benefits would likely accrue mainly to the retailers. On the other hand, even if Melbourne Water was expected to match the retailers' savings ($4.5 million assuming $9 million in total), this would represent just 1.6 per cent of its business as usual operating expenditure over the period. The remaining $4.5 million, shared amongst the retailers, would equate to 1.4 per cent of their collective controllable operating expenditure.

Irrespective of the allocation, all businesses are of the view that there is little to be gained in the area of IT systems such as billing and collections nor in the adoption of consolidated call centres. Further, documentation provided by the retailers shows a number of contracts not expiring until later in the regulatory period, reducing the ability to move to 'bulk procurement' options.

Progress to date

To date, the businesses have not realised any productivity savings from shared services. The businesses have convened a working group to identify areas that could be the target of shared services or procured on a 'bulk' basis. The working group first met in November 2008 and has established a number of sub-groups to further detail the potential savings identified by the working group.

As part of its submission on our draft expenditure report, South East Water provided an extract of the progress of the working group as at 11 February 2009. The working group was assessing opportunities across a range of services, including:

- electricity
- banking
- fuel
- vehicles
- IT and telecommunications
- insurance
- over the counter collections
- laboratory services
- water tanker management
- meter purchasing
- meter reading
- media services.

South East Water's submission noted that the preliminary views of the working group suggested that its original proposed VCEC savings were reasonable.

Recommendations

We have reviewed the additional information provided by South East Water (and the other businesses), however it has not provided any robust argument for revisiting the savings included in our draft report. VCEC has identified the opportunity to realise efficiencies above and beyond what the businesses have been achieving and determined that the quantum of savings was between $8 million to $10 million across the industry.

We reiterate that the government has supported VCEC recommendation 4.1, which explicitly outlined both the quantum and timing of savings. We recognise that no savings have been so far realised, and in light of this fact, and the businesses' response to our draft report, we deem it reasonable to expect that the businesses aim to achieve the VCEC cost savings, in full, by the third year of the next regulatory period (2011/12). Given work is currently underway to identify savings, it is reasonable to assume that 50 per cent of the identified savings will be achieved in 2009/10, with 75 per cent in 2010/11.

It is once again worth noting that the VCEC cost savings have been endorsed by the businesses' shareholder – the Victorian Government. Should the ESC approve revenue requirements that include these cost reductions, and the businesses are then unable to meet them, it is ultimately to the shareholder's detriment. It is unlikely that the adoption of the cost savings targets would result in the businesses facing financial distress and the nature of the savings are a one-off saving imposed on the businesses (i.e. savings are not cumulative).

In terms of allocating the $9 million per annum between the businesses, on balance, we are of the view that 60 per cent, or $5.4 million, should be allocated to the retailers, with the remaining 40 per cent ($3.6 million) allocated to Melbourne Water. This approach partly reflects Melbourne Water's position that many of the benefits of shared services are likely to accrue to the retailers, whilst recognising that, in terms of Melbourne Water's total operating expenditure such a saving is not a significant burden.

In its response to the draft report Melbourne Water indicated that a 40 per cent allocation was too high and that it should contribute no more than 25 per cent to any target because:

- a number of the areas identified for saving are not applicable to Melbourne Water or are in areas where Melbourne Water has minimal expenditure
- Melbourne Water already has the lowest unit costs in many areas due to its scale and mature procurement processes.

We agree that Melbourne Water probably has less opportunity to make savings than the retailers. A 40 per cent allocation to Melbourne Water already represents a relatively lower share (as a percentage of total controllable operating expenditure) than the retailers. While it is ultimately a matter of judgement, we believe that a 25 per cent allocation ($2.25 million) to Melbourne Water is too low as it would represent a non-compounding reduction in costs of only 1.2 per cent. It would also require substantially greater reductions from the retailers if the overall targets are to be achieved. Although it is ultimately a matter of judgement, we consider that retaining the allocation as per our draft report is reasonable.

With regard to the allocation of the $5.4 million between the retailers, we believe an allocation based on controllable operating expenditure is the most appropriate approach. The potential savings identified by VCEC will have to be derived from the retailers' controllable operating expenditure, and apportioning the $5.4 million on, say, customer numbers does not reflect the differences between the businesses' customers. For instance, many of City West Water's non-residential customers are not analogous to Yarra Valley Water's non-residential customers.

Since 2007/08 is the most recent year of actual expenditure, we have therefore recommended that the $5.4 million VCEC savings are based on 2007/08 controllable expenditure, adjusted for any 'one-offs' in 2007/08 as outlined in section 6.1.2. This results in the proportional split as outlined in Table 5.8 below.

Table 5.8 Recommended allocation of $5.4 million shared services and bulk procurement savings between retailers ($m, 2008/09)

Business	2007/08 controllable opex	Adjustments	Net controllable opex	Per cent of each retailer	Rounded VCEC saving
City West Water	72.41	0.00	72.41	26%	1.40
South East Water	110.20	-7.42	102.78	37%	2.00
Yarra Valley Water	103.73	-4.78	98.95	36%	2.00

Our proposed allocation of the $9 million in savings is summarised in Table 5.9 below.

Table 5.9 Recommended allocation of shared services and bulk procurement savings ($m, 2008/09)

Business	2008/09	2009/10	2010/11	2011/12	2012/13
City West Water	0.00	0.70	1.05	1.40	1.40
South East Water	0.00	1.00	1.50	2.00	2.00
Yarra Valley Water	0.00	1.00	1.50	2.00	2.00
Melbourne Water	0.00	1.80	2.70	3.60	3.60
Total	**0.00**	**4.50**	**6.75**	**9.00**	**9.00**

Note: Figures may not add due to rounding

Based on South East Water's forecast shared services savings and associated costs, the adjustments shown in Table 5.10 are recommended.

Table 5.10 Overview of recommended changes to shared services savings ($m, 2008/09)

		2008/09	2009/10	2010/11	2011/12	2012/13
VCEC net savings	Water Plan	0.00	0.00	0.50	1.50	2.00
	Revised forecast	0.00	1.00	1.50	2.00	2.00
	Net change	**0.00**	**-1.00**	**-1.00**	**-0.50**	**0.00**

Note: net savings refer to savings from shared services less implementation costs

5.4.2 *Other Productivity savings*

In addition to the VCEC shared services savings, the ESC expects businesses to achieve a one per cent per annum (growth adjusted) productivity improvement compared to the baseline (2007/08) operating expenditure. The productivity expectation is calculated by:

- determining the appropriate baseline operating expenditure, which should be net of non-controllable expenditure or any 'one offs' which are not expected to continue in the next regulatory period
- escalating the baseline operating expenditure by a factor equivalent to the growth in customers
- reducing the resultant amount by a compounding one per cent. That is, in the first year, the saving would be one per cent of the growth adjusted baseline operating expenditure, in the second year, it would be the productivity saving from the first year, plus an additional one per cent of the second year's growth adjusted operating expenditure, and so on.

The same spreadsheet provided by South East Water that showed its operating cost escalation factors also included their additional productivity savings. South East Water has applied a one per cent productivity saving to every operating expenditure line item with the exception of superannuation, tax (e.g. land tax, fringe benefits tax), long service leave, bad debts and lease/rental (accommodation). It also does not apply to government and regulatory obligations, such as the environmental contribution and licence fees. We were able to confirm that South East Water's approach to calculating productivity savings is consistent with the ESC approach.

South East Water was requested to provide the dollar amounts for each account listed in the original spreadsheet. When this was provided it was apparent that many account lines were reducing by one per cent, in line with the productivity savings. Some account lines were increasing by more or less than one per cent and South East Water was able to confirm that this was due to higher or lower activity levels.

On balance, it appears that South East Water has incorporated a one per cent productivity saving into its forecasts for controllable expenditure. Therefore no adjustment is required for increased productivity.

5.5 Gainshare/painshare and alliance arrangements

5.5.1 Introduction

Each of the businesses, including South East Water, have historically contracted out large amounts of their operations, maintenance and capital expenditure programs to third party service providers. These contracting arrangements have typically included paying agreed amounts for the delivery of capital works or for undertaking specific maintenance activities or programs.

In recent years the businesses have altered their relationship with third party service providers such that they reflect more of an 'alliance' arrangement. Alliance arrangements are an increasingly common procurement strategy. While they differ on a case-by-case basis, they typically involve the following features:

- long term agreements
- the business pays the alliance partner's direct costs and overheads
- the business also pays the alliance partner an agreed percentage profit margin
- forecast costs for individual projects or programs are estimated up-front and agreed by both parties
- a sharing of cost 'savings' or 'over-runs' between the business and the alliance partner (often referred to as 'gainshare' or 'painshare' payments)
- an 'open book' level of transparency on costs and other operational matters
- there is a commitment on both parties to work together in a collaborative manner and to avoid contract disputation and cost variations.

Alliance contracts have the potential to lead to cost reductions. For example, a review of South East Water's alliance agreement conducted by the Victorian Auditor-General in May 2008 found that: [14]

- South East Water was achieving ongoing savings of $1.63 million annually as a result of the alliance
- South East Water was paying 6.4 per cent less for operations and maintenance work than it would have had the schedule of rates from 2005 continued, and 6.5 per cent less for a sample of capital works projects than it would have had the alliance not existed.

The Auditor General also found that the alliance has generated additional revenue for South East Water and introduced new technologies benefiting South East Water and the water industry more generally, including through low staff turnover.

[14] Victorian Auditor-General 2008, *Review of South East Water's Alliance Agreement*, May, p. 2.

However the Auditor-General also criticised South East Water's arrangement and found that:

- there was a lack of rigour applied in choosing alliancing as the preferred procurement strategy. South East Water did not adequately assess its chosen alliance option against other options
- there were inadequacies in the alliance commercial framework including that the margin payable was higher than for the other metropolitan retailers and that the contract, including the margins, was not reviewable for 12 years.

From a regulatory viewpoint, alliance contract issues that typically need to be considered include:

- whether alliance contracts are the most cost effective approach to procurement
- ensuring that cost savings and efficiencies are appropriately passed back to customers not entirely retained by the alliance contractor
- identifying whether any gainshare or painshare payments to the alliance partner are built into base year (2007/08) expenditure and, if so, whether it is appropriate that these payments be carried forward into future year expenditure
- whether that the process for establishing 'forecast' costs (which ultimately will determine whether gainshare or painshare payments are made) is appropriate
- whether the margins are consistent with market rates.

In price determinations conducted by the ESC in the gas and electricity industries the ESC has expressed strong concern about certain contracting and alliance arrangements - including margin payments and other fees - particularly where the contractor or alliance partner is a related party. In several cases the ESC has not considered that payments to related parties represent efficient expenditure.

The ESC has also expressed concerns regarding the fact that painshare/gainshare may limit the amount of 'painshare' experienced by the contractor, but not the amount of gainshare – thus providing somewhat asymmetric incentives.

5.5.2 *South East Water's alliance arrangements*

South East Water's alliance arrangement is described in the Auditor-Generals report (see Appendix B) and summarised below. The alliance arrangements were entered into in 2005 and run for 12 years, although it can be terminated after seven without financial penalty. The alliance agreement comprises South East Water and two businesses: Thiess Services and Siemens and trades as Utility Services. Utility Services:

- manages and carries out civil, mechanical, electrical and other work for the operation and maintenance of South East Water's assets and infrastructure
- designs, constructs, installs and commissions capital works with a forecast cost of $10 million or less.

South East Water is invoiced monthly and pays the commercial participants:

- approved direct costs – salary, labour and on-costs plus other relevant direct costs
- an agreed margin. The margin for operating and maintenance costs is a base amount plus an additional amount adjusted every four months to reflect the commercial participants' performance against 16 key performance indicators. The margin for capital costs is the base amount
- any applicable gainshare (payable from South East Water to the commercial participants) or painshare (payable by the commercial participants to South East Water) amount. These amounts are payable if the commercial participants exceed or fall short of benchmarks. Gainshare and painshare arrangements are different for major capital and operations and maintenance works. In the case of capital works cost underruns are shared equally with the consortium. Cost overruns are also shared equally, but there is a ceiling for the consortium equal to the amount of their margin.

To determine the target outturn cost for capital works, South East Water's planning branch identifies the need for work, analyses the best way to address the need and then does a preliminary design. The alliance then prepares a detailed design which is used to develop a cost estimate. There is an expectation that this cost estimate be market tested, which may be achieved through a number of approaches, including having independent quotes from contractors or getting a consultant to price the work. Following further examination by Utility Services and South East Water, a final target outturn cost (TOC) is agreed and used as the basis of the budget submitted for Board approval. South East Water usually awards the work to Utility Services if it provides the lowest quote (including costs, margin and risk allowance). If not, the work is awarded to a contractor and Utility Services pays the full capital works margin provided in the agreement.

It is understood that, with experience, South East Water has removed the risk component of some projects undertaken by Utility Services and is moving towards shifting risk outside the TOC into a contingency, thus removing gainshare payments that occur due to risk events not occurring.

Although it is not a key objective of this report to review in detail the painshare/gainshare arrangements, we agree with the comments made by the Auditor General, particularly in respect of the fact that the contract and margins cannot be reviewed for 12 years.

We also note that:

- the painshare/gainshare arrangement is not symmetrical in that the gainshare is not limited but the painshare is limited to the amount of the margin
- although a part-owner of Utility Services, South East Water does not receive a portion of the painshare/gainshare amount paid. If a project has a target cost of $100 but is delivered for $90, then South East Water might pay Utility Services $95. This extra 'profit' of $5 is retained by Thiess/Siemens and South East Water does not receive a share.

6 Operating Expenditure

6.1 Historical and forecast operating expenditure

6.1.1 *Overview of outcomes compared to 2005 determination*

In the 2005 determination, the ESC approved operating expenditure for South East Water totalling $672.2 million (in 2004 dollars) for the three years to 2007/08. Deducting Melbourne Water's bulk charges and other non-controllable expenditure (such as the environmental contribution and licence fees), and converting the currency to 2009 dollars, South East Water's approved operating expenditure was $295.5 million, as shown in Table 6.1 below.

Over the same three year period, South East Water has actually incurred $309.3 million, which South East Water attributes to the impact of the drought, including higher maintenance costs and demand management/water restrictions expenditure, as well as increases in unit costs such as fuel and professional services fees.

Table 6.1 Actual controllable expenditure and variance to 2005 determination ($m, 2008/09)

South East Water	2005/06	2006/07	2007/08	Total
2005 determination	97.8	98.1	99.6	**295.5**
Actual expenditure	104.6	101.9	102.8	**309.3**
Variance	**6.8**	**3.8**	**3.2**	**13.8**

Source: South East Water regulatory accounts (2005/06 and 2006/07) and price review template (2007/08). Note: 2007/08 actual operating expenditure has been revised downwards by $6.4 million to remove expenditure related to a write down of South East Water's defined benefits fund and $1 million to reflect incorrect treatment of bad debts.

Despite controllable expenditure being higher than forecast, South East Water's actual expenditure in total was approximately the same as forecast. Including uncontrollable expenditure such as Melbourne Water's bulk charges, South East Water incurred $765 million in operating expenditure,[15] compared with a $772 million forecast in the 2005 price decision (in 2009 dollars). Lower than forecast bulk charges (due to less water delivered) was a key factor in this outcome.

[15] According to regulatory accounts and the price review template

6.1.2 *Overview of forecast*

South East Water has forecast that its operating expenditure will increase significantly over the regulatory period and almost double in real terms from $258 million in 2007/08 to $537 million in by 2012/13. A substantial proportion of the forecast increase is due to forecast increases in bulk water and wastewater charges from Melbourne Water. Aggregate forecasts are provided in Table 6.2.

Table 6.2 South East Water operating expenditure forecast 2007/08 to 2012/13 ($m, 2008/09)

South East Water	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Water	56.67	57.45	61.89	61.75	61.81	62.62
Wastewater	51.17	51.86	56.80	58.29	60.02	62.45
Recycled water	2.36	2.39	2.64	2.90	3.00	3.05
Controllable expenditure	**110.20**	**111.70**	**121.32**	**122.94**	**124.83**	**128.12**
Major projects			1.05	0.85	0.15	0.15
Melbourne Water bulk charges	131.29	161.28	203.91	258.56	322.36	393.44
Licence fees	0.81	0.73	0.68	0.69	0.70	0.86
Environmental contribution	15.76	16.57	16.11	15.65	15.21	14.78
Total	**258.06**	**290.28**	**343.07**	**398.69**	**463.25**	**537.34**

Source: South East Water price review template

Tables 6.3 and 6.4 below summarises South East Water's forecast controllable operating costs from 2007/08 to 2012/13 for water and wastewater. Controllable costs are forecast to rise across the period by 23 per cent for water and 22 per cent for wastewater.

South East Water advised it had included $6.4 million in the baseline 2007/08 operating expenditure for a write down in its superannuation asset, which should have been classified as a non cash adjustment. It also advised that it had included bad debts as an expense – which is strictly what bad debts are, however the ESC does not treat bad debts as regulated operating expenditure, rather it deducts any forecast bad debts from the regulated revenue earned by the business. In effect this 'uncollected revenue' is allowed for when businesses are setting prices (that is, approved prices are higher than they otherwise could be if there was no uncollected revenue).

Therefore these errors need to be deducted from the 2007/08 actual operating expenditure in order to appropriately compare the forecast to the baseline. Bad debts also need to be removed from the forecast operating expenditure. The superannuation has been allocated entirely to water, as the figures in the price review template suggests this was the approach taken by South East Water for superannuation and for simplicity, we have taken the same approach with bad debts.

Table 6.3 Forecast controllable operating expenditure – water ($m, 2008/09)

South East Water	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Operations and maintenance	24.06	24.39	24.61	24.82	24.95	25.03
Customer service and billing	12.03	12.19	12.21	12.54	12.82	13.09
GSL payments	0.01	0.01	0.01	0.01	0.01	0.01
Corporate	19.61	19.87	24.25	23.70	23.46	24.02
Other	0.97	0.99	0.81	0.68	0.57	0.47
Less: write down in superannuation incorrectly entered in 2007/08	-6.40					
Less: bad debts incorrectly entered in 2007/08	-1.02	-1.10	-1.27	-1.45	-1.67	-1.92
Total water	**49.26**	**56.35**	**60.62**	**60.30**	**60.14**	**60.70**
Gross increase over 2007/08		**7.09**	**11.36**	**11.04**	**10.88**	**11.44**
Gross increase over 2007/08 (%)		**14%**	**23%**	**22%**	**22%**	**23%**

Source: South East Water price review template

It is difficult to compare the individual line items in Table 6.3 without knowing which line contains the base year write down in superannuation, however from South East Water's Water Plan, it is clear that the majority of the increase in water operating expenditure is due to implementation of initiatives in the Water Supply Demand Strategy and corporate operating expenditure.

The increase in wastewater expenditure is similar to that for water over the entire period, however it is staged differently, with most of the increase occurring in 2009/10. This is mostly due to increases related to sewerage treatment plant and sewer reticulation upgrades.

Table 6.4 Forecast controllable operating expenditure – wastewater ($m, 2008/09)

South East Water	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Operations and maintenance	18.30	18.55	19.75	20.04	20.42	20.68
Treatment	5.36	5.44	6.59	7.05	7.60	8.49
Customer service and billing	12.73	12.91	14.00	14.61	15.33	16.18
GSL payments	0.01	0.01	0.01	0.01	0.01	0.01
Corporate	13.76	13.95	15.53	15.80	16.00	16.52
Other	1.00	1.01	0.91	0.78	0.67	0.57
Total wastewater	**51.17**	**51.86**	**56.80**	**58.29**	**60.02**	**62.45**
Increase over 2007/08		0.70	5.63	7.12	8.85	11.28
Increase over 2007/08 (%)		**1%**	**11%**	**14%**	**17%**	**22%**

Source: South East Water price review template

6.2 *Expenditure items*

6.2.1 *Labour*

Water Plan Proposal

In its Water Plan, South East Water indicated that labour costs were expected to increase by 2.5 per cent per annum in real terms, with increases above CPI being due to a tight labour market for skilled labour, particularly in technical disciplines.[16] South East Water noted that it had relied upon a 2006 report by Mercer that provided forecasts of labour rates for different disciplines in determining the 2.5 per cent per annum real increase to labour costs.[17]

In the price review templates submitted to the ESC, South East Water's labour costs per full-time employee (FTE) are increasing by from 5.5 per cent to 1.4 per cent per annum. South East Water has advised that the increase in total labour costs from 2007/08 to 2008/09 is partly due to a misallocation of costs from conservation activities.

Table 6.5 below shows the increases in ordinary labour operating expenditure from the base 2007/08 level.

[16] Water Plan, p.75
[17] Mercer Human Resource Consulting (2006), *Quarterly Salary Review: Analysis of trends*, September 2006

Table 6.5 Ordinary labour operating expenditure (including overtime) ($m, 2008/09)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Base year expenditure	36.47					
Increase		2.48	5.43	6.13	6.58	7.37
Total	36.47	38.96	41.91	42.60	43.06	43.84
Increase over 2007/08 (%)		**7%**	**15%**	**17%**	**18%**	**20%**

Source: SEW Attachment 1 – Labour cost assumptions – 2008-12-15

Draft report recommendations

In our draft report, we provided a revised forecast of South East Water's labour costs, on the basis of the following adjustments:

- increasing South East Water's actual 2007/08 cost per FTE by 1 per cent per annum to obtain a baseline cost per FTE for each year of the regulatory period
- multiplying the base cost per FTE in each year by South East Water's forecast number of FTEs for that year.

South East Water revised proposal

In response to the draft report, South East Water made the following adjustments to its original proposal:

- a revised forecast of real increases to labour costs of 1.5 per cent real per annum to reflect advice from the Victorian Government, with the revised forecast taking oncosts into account
- additional costs in relation to defined benefits contributions on the basis of advice provided to South East Water by its fund manager.

South East Water's proposed increase in unit labour costs is in accordance with our views and recommendations on labour cost increases as set out in section 5.3.

Oncosts

South East Water identified a range of oncosts contributing to its total operating expenditure for labour that amount to an additional 24.1 per cent on top of its base wage rate in 2007/08. Oncost rates are generally in the range of 20 to 35 per cent, depending on the industry. Based on the information provided, we consider that South East Water's oncost rate for 2007/08 of 24.1 per cent is reasonable.

Cost per full time employee

South East Water has identified total costs per FTE of $83,000 in 2007/08. This figure is based upon a full cost of labour (direct costs plus oncosts) of $36.5m and 438 FTEs, and appears reasonable in comparison with the costs identified by the other businesses.

Changes in employee numbers

South East Water is proposing to add an additional 13.5 FTEs to its labour force over the next regulatory period as shown in Table 6.6 below.

Table 6.6 South East Water increase in staff numbers (FTEs)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Base year	438					
Increase in FTEs over 2007/08		6	15.5	16.5	14	13.5
Total	**438**	**444**	**453.5**	**454.5**	**452**	**451.5**

The majority of additional FTEs forecast by South East Water are graduates, with movements also accounting for some turnover of graduates. South East Water's proposed additional FTEs appear reasonable in the context of its base 2007/08 FTE numbers and expenditure program.

South East Water's graduate program contributes to a significant increase in costs to its operating expenditure for labour. In addition to direct labour and oncosts, South East Water has identified around $10,000 per graduate for training and materials.

As noted in section 5.3.2, we consider that the additional costs of training and graduate programs should be managed within existing arrangements. Therefore we have not included an allowance for this additional expenditure in our revised forecast of labour operating expenditure for South East Water. While South East Water's programs may indeed be appropriate, we have taken the view that they need to be undertaken in the context of a businesses' overall workforce management program and should not be the source of price rises for customers. For example, we would expect a higher graduate intake to be offset, for example, by a lower level of recruitment of employment of more experienced workers. Increased training will generally be reflected in higher productivity levels.

Defined benefits contributions

On the basis of advice provided by its fund manager, South East Water has requested that its revenue requirement be increased to allow for additional operating expenditure for defined benefits superannuation contributions. South East Water provided advice from its fund manager confirming the need for additional contributions, and has forecast the amounts shown in Table 6.7 following for the next regulatory period.

Table 6.7 South East Water defined benefit superannuation contributions ($m, 2008/09)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Contributions	-	0.90	0.90	0.90	0.90	0.90

We consider this a reasonable adjustment and recommend that South East Water's revenue requirement be increased to reflect this additional operating expenditure.

Recommendation

As noted in section 5.3, we consider 1.5 per cent per annum in real terms a reasonable allowance for increases in labour costs over the next regulatory period. Our revised forecast based on this benchmark has been determined by:

- increasing South East Water's actual 2007/08 cost per FTE (as set out above) by 1.5 per cent per annum to obtain a baseline cost per FTE for each year of the regulatory period
- multiplying the base cost per FTE in each year by South East Water's forecast number of FTEs for that year.
- providing additional expenditure for defined benefits superannuation contributions, as advised by South East Water.

Table 6.8 sets out South East Water's original proposal in relation to operating expenditure for labour, a revised forecast based on our recommendations outlined above, and the net change to South East Water's revenue requirement.

Table 6.8 – Overview of recommended changes to labour operating expenditure ($m, 2008/09)

Expenditure item		2008/09	2009/10	2010/11	2011/12	2012/13
Labour costs	Water Plan	38.96	41.91	42.60	43.06	43.84
	Revised forecast	38.43	39.81	40.48	40.85	41.40
	Net change	**-0.53**	**-2.10**	**-2.13**	**-2.21**	**-2.44**

6.2.2 *Electricity costs*

Components of electricity costs

The businesses' water and wastewater pumping and treatment operations, as well as their head offices, can use significant amounts of energy. This energy is typically sourced from the electricity grid, although gases from wastewater treatment are used as alternative energy sources at wastewater treatment plants. Electricity costs comprise the following key components:

- raw energy, which is typically priced on a peak/off peak basis
- network and metering charges for distribution and transmission. These are regulated charges which are determined according to a CPI - X price path set by the ESC and Australian Energy Regulator (AER). The current distribution price path (which represents the majority of network charges) expires at the end of 2010 and generally provides for annual price increases of CPI - 0.8 per cent to CPI - 1.5 per cent, depending upon the distributor.[18] The subsequent distribution price path will be set by the AER. Transmission prices currently follow a predetermined revenue path until 2013-14
- other miscellaneous charges such as energy levies associated with the Mandatory Renewable Energy Target (MRET) and Victorian Renewable Energy Target (VRET) schemes, NEMMCO pool fees and ancillary services fees etc
- loss factors.

Several businesses have also chosen to source some part of their energy requirement from green energy sources. They can do this by either:

- directly purchasing green energy, which is priced at a premium to the raw energy cost. The current green energy premium is about 6 c/kWh
- purchasing renewable energy credits (RECs). The current price of a REC is in the range of 4-5 c/KWh.

Many Victorian Councils and water businesses participated in a combined electricity tender co-ordinated by Strategic Purchasing and which fixed raw energy prices for the three year period commencing in July 2009. Under the contracts other cost components (including network charges) are passed through. Because pool prices have generally increased in recent years, for most businesses the raw energy prices were higher than their previous contracts. This has translated into higher forecast electricity costs.

[18] However variations around these price changes are possible depending upon factors including the level of service provided and the impact of any cost pass-through events

Future changes in energy costs

The businesses' electricity costs are likely to change across the next regulatory period for a number of reasons, including:

- as their existing contracts expire and new contracts are entered into that reflect current energy costs
- as a result of changes in network charges, both within the existing price paths and following the reset of distribution network charges on 1 January 2011
- as a result of the changes in metering costs brought about by the introduction of smart meters in Victoria. The installation of smart meters will commence in 2010 with the rollout being completed by 2013. The rollout will increase electricity prices, however at this stage the extent of the price change, and the profile of the price change over the period to 2013, is uncertain. Distributors are required to make their first submission to the AER in relation to forecast costs and charges in February 2009
- the impact of the Australian Government's introduction of a carbon pollution reduction scheme on 1 July 2010. This scheme will take a 'cap and trade' approach whereby emitters of greenhouse gases – such as coal fired electricity generators - need to acquire a permit for every tonne of greenhouse gas that they emit. This will increase the price of raw energy, although the extent of this price increase is difficult to gauge.

Overall electricity prices are likely to increase from current levels as the impact of price increases from smart meters and the carbon pollution reduction scheme is likely to exceed the impact of any possible reduction in distribution network charges or reduction in energy costs that might be brought about by the economic turndown. However the level of the price changes is extremely uncertain. In preliminary discussions the ESC has raised the prospect of providing for a pass through of these changes and we support this approach. Our analysis below is therefore based on the assumption that the pass through arrangements will apply and that, on balance, the impact of other factors will be a zero net change in the cost of electricity.

Green energy

The businesses' large energy usage can mean high levels of greenhouse gas emissions. Water businesses have various obligations to operate in an environmentally sustainable manner. For example, South East Water's Statement of Obligations requires it to:

- apply sustainable management principles

- improve its sustainability performance, including responding to climate change.

The businesses have interpreted their obligations in different ways, but have generally pursued one or more of the following options to reduce their environmental footprint:

- purchasing a proportion of their energy from renewable (green energy) sources. The premium for green energy is in the order of 6c/kWh
- purchasing their energy from non-renewable sources, but purchasing renewable energy certificates (RECs). RECs are established pursuant to the Mandatory Renewable Energy Target (MRET) scheme whereby renewable generators create RECs provided they can demonstrate renewable energy production above a given baseline. RECs can be traded and then surrendered. The price of RECs is similar to that of green energy, given that they are related products, however because they are tradeable prices vary on the open market
- creating Victorian Energy Efficiency Certificates (VEECs) through the Victorian Energy Efficiency Target scheme (VEET). VEECs represent one tonne of carbon abatement and have the potential to be created through the retailers' showerhead replacement program
- using energy generated from their own operations (eg mini-hydros, use of biogas).

We note the ESC has previously indicated that purchasing 10 to 20 per cent of green energy or equivalent offsets is not inconsistent with the Statement of Obligations requirement, but that where a business proposes higher abatement levels it needs to demonstrate sufficient customer support for the associated expenditure.

Water businesses may also have separate agreements regarding energy and greenhouse gas emissions with the EPA in respect of individual capital works projects.

South East Water's forecast energy costs

South East Water has adopted a target of reducing its greenhouse gas emissions by approximately 10 per cent of 2007/08 levels each year until 2012/13. As part of this strategy it proposes to use renewable energy and (as a last resort) purchase offsets.

South East Water's forecasts reflect an assumption that it will continue to purchase 10 per cent of its energy costs from green energy sources. We note this is consistent with the ESC's previous position on the matter. South East Water has forecast an increase in energy costs across the regulatory period as shown in Table 6.9 following.

Table 6.9 South East Water projected energy cost ($m, 2008/09)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Forecast	2.39	2.58	3.72	3.79	3.87	4.02

South East Water's energy contract for large sites expired at the end of 2007, and a new three year contract was entered into for 2008 to 2010. Pool prices at the time of renegotiation were high and South East Water's new agreement provided for a 'front-ending' of prices with a large increase in 2008 particularly for peak energy, followed by falls in the subsequent two years, as shown below. Energy costs for large sites represent around 90 per cent of South East Water's energy bill.

Small site tariffs were renegotiated commencing in 2008 and are presented in Table 6.10 below. Peak energy rates increased from 14.923c/kWh in 2007 to 20.570c/kWh in 2008. Off peak energy rates increased from 6.129c/kWh in 2007 to 12.440c/kWh in 2008.

Table 6.10 South East Water unit energy cost (c/kWh) –

	Jul-Dec 2007	2008	2009	2010
Large site - peak	3.738	11.1184	7.5985	6.7095
Large site - off-peak	2.495	3.8785	3.7454	3.7188
Small site - peak	14.923	20.570	20.570	20.570
Small site – off-peak	6.129	12.440	12.440	12.440

Key assumptions underlying South East Water's energy cost forecasts are:

- that per unit energy costs will increase 38.5 per cent in 2009/10 following the renegotiation of its energy contract, but will remain unchanged thereafter in real terms
- load at most sites (excluding head office) to increase by 15 per cent in 2008/09, 7 per cent in 2010/11, 8 per cent in 2011/12 and 12 per cent in 2012/13 in line with increases in 'activity levels', less a one per cent productivity improvement

South East Water has provided detailed information on its current electricity contracts and its forecast cost. We have reviewed South East Water's electricity costs in detail and have concerns about three aspects of the forecasts, being:

- that the increases in energy load at the treatment sites appear high and somewhat inconsistent with its strategy of reducing greenhouse gas emissions
- that they do not reflect the contracted reduction in energy prices in 2009 and 2010
- that the 38.5 per cent increase in costs assumed for 2009/10 is excessive.

In relation to energy use at the treatment sites, South East Water has forecast that some of its categories of expenditure at treatment plant sites – including electricity but also items such as chemicals - will change partly in proportion to changes in 'activity levels' at the South East Water's sewage treatment plant sites. The change in 'activity levels' have been calculated by South East Water based on the change in maintenance expenditure at the plant.

Rather than changing proportionate with changes in maintenance levels we consider it is more likely that electricity and chemicals costs will change according to throughput at the plant itself, as well as any changes in treatment processes. Throughput will primarily be related to customer levels and water usage. Therefore, we believe an annual increase in energy use at the treatment plant sites of around five per cent is more appropriate. This provides an allowance for increased throughput volumes proportionate to increases in customer numbers, upgrades to treatment processes at the Boneo STP in 2009 and Mt Martha and Somers STPs in 2012 and increased treatment volumes associated with the easing in restrictions. In its response to our draft report South East Water has agreed that an increase in usage of five per cent is appropriate.

We have therefore recalculated South East Water's forecast of electricity costs as shown in Table 6.11 below. Our adjustments provide for an increase over South East Water's forecasts in 2008/09, but then a decrease in subsequent years.

Table 6.11 Overview of recommended changes to electricity expenditure ($m, 2008/09)

		2008/09	2009/10	2010/11	2011/12	2012/13
Electricity	Water Plan	2.58	3.72	3.79	3.87	4.02
	Revised forecast	3.09	2.78	2.92	3.07	3.22
	Net change	**0.51**	**-0.93**	**-0.87**	**-0.80**	**-0.80**

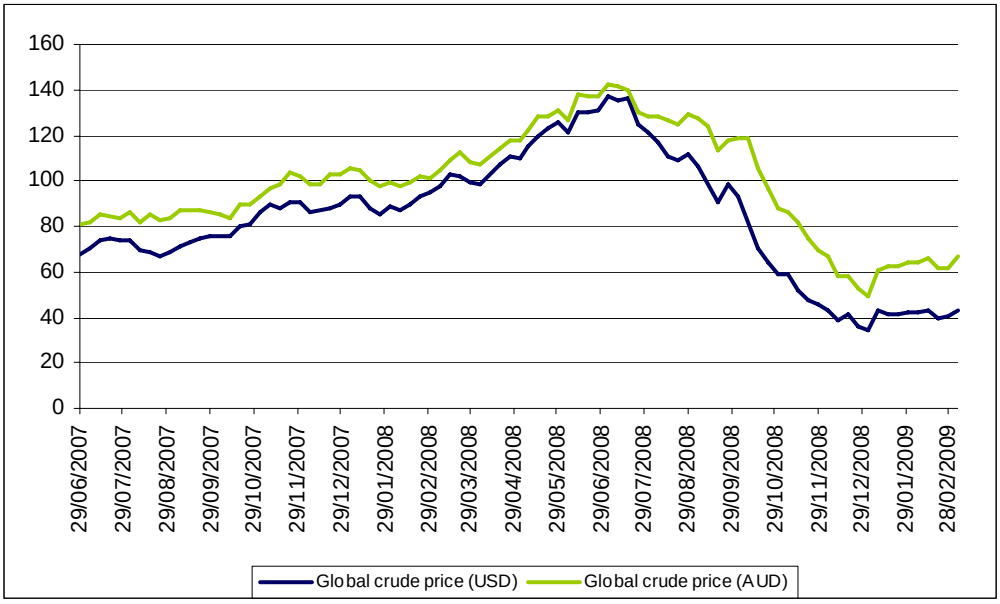
6.2.3 *Oil and fuel costs*

Changes in oil and fuel costs

Fuel costs (as represented by world crude oil prices) are an important input cost for the businesses. The businesses (or their outsourced contractors or alliance partners) will run a maintenance fleet. Oil prices also impact the price of chemicals and the cost of pipelines including those of PvC and similar construction material.

Fuel costs rose during 2007/08 from $80AUS/barrel at the start of the year to $140 at the end and averaged approximately $102 across this period. However, they fell sharply from July to December 2008 before increasing slightly since then and were approximately $67 in early March 2009. This represents a 35 per cent fall from average 2007/08 levels in nominal terms, and a fall of approximately 39 per cent in real terms. The changes are presented in Figure 6.1 below.

Figure 6.1 Global crude oil prices, $ per barrel (nominal)



Source: US Energy Information Administration web site, accessed 15 March 2009
http://tonto.eia.doe.gov/dnav/pet/pet_pri_wco_k_w.htm.

Future movements in oil prices are difficult to predict, however longer term oil contracts suggest that prices will rebound to some degree. For example, in March 2009 oil futures contracts for delivery in March 2012 were around $65US[19] or approximately $100AUS in nominal terms (and less in real 2008/09 terms). This is slightly lower than occurred in 2007/08.

[19] http://moonshineoil.info/info/news2.htm

Our view is therefore that it is reasonable to assume for forecasting purposes that oil-dependent costs will be at around the same level in real terms as occurred in 2007/08. South East Water's forecast in its Water Plan increases in vehicle operating costs of six per cent (in real terms) in 2009/10 and three per cent per annum (real) for the remainder of the period.

In response to the draft report South East Water reduced its forecasts of vehicle operating costs downwards to levels slightly higher than our draft report, as shown in Table 6.12 below.

Table 6.12 Comparison of vehicle operating costs ($m, 2008/09)

		2008/09	2009/10	2010/11	2011/12	2012/13
Vehicle operating costs	Water Plan	2.31	2.51	2.57	2.64	2.73
	Draft Report	2.31	2.37	2.36	2.35	2.35
	SEW Revised	2.30	2.40	2.40	2.50	2.50

Given that South East Water's forecasts are broadly consistent with those in our draft report, and accepting that vehicle operating costs may rise towards the end of the next regulatory period with a larger and potentially more widespread customer base, we are satisfied that South East Water's revised forecast is reasonable. Table 6.13 shows our recommended operating cost adjustments.

Table 6.13 Overview of recommended changes to vehicle operating costs ($m, 2008/09)

		2008/09	2009/10	2010/11	2011/12	2012/13
Vehicle operating costs	Water Plan	2.31	2.51	2.57	2.64	2.73
	Revised forecast	2.30	2.40	2.40	2.50	2.50
	Net Change	**-0.01**	**-0.11**	**-0.17**	**-0.14**	**-0.23**

6.2.4 Chemical Costs

South East Water has proposed increases in chemical costs across the regulatory period as shown in Table 6.14 below.

Table 6.14 South East Water projected chemical costs ($m, 2008/09)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Sewerage treatment plants	0.34	0.50	0.54	0.56	0.58	0.62
Other, including Class A plants			0.04	0.04	0.31	0.55
Total	0.34	0.50	0.58	0.60	0.89	1.17

Chemicals are used predominantly in the wastewater treatment process but also for dosing water supply and odour control in the South East Water system. Increases in South East Water's chemical costs beyond 2008/09 are due to increased activity levels at its wastewater treatment plants and the extra chemicals associated with the Class A plants. South East Water has indicated that the reasons for the increase between 2007/08 and 2008/09 are:

- lower than normal levels of chemical use in 2007/08 at Mt Martha and Pakenham STPs
- an upgrade at Pakenham STP in 2008/09
- a greater than normal number of pump stations and rising mains commencing in 2008/09, most of which require chemical dosing
- higher chemical prices in 2008/09 (which South East Water has assumed will continue across the regulatory period).

We accept that South East Water will have used higher amounts of chemicals in 2008/09 compared to 2007/08. However any analysis of prices undertaken in late 2008 is likely to overstate average prices in 2008/09 given the steadily decreasing cost of most relevant chemicals that has occurred as a result of a significant decline in world industrial output. For example, in relation to alumina, in March 2009 ABARE[20] noted that:

> *In 2008, the spot alumina price averaged around US$380 a tonne, but has since fallen to less than US$200 a tonne. Falling demand for aluminium and hence its production, has reduced consumption of alumina and increased its availability. This situation is forecast to continue in 2009 as cuts in alumina production lag cuts to aluminium production where companies are not vertically integrated. Alumina prices are expected to begin recovering in 2010 as demand for aluminium increases and aluminium production increases. Increased demand for alumina ahead of a recovery in production is projected to result in prices rising to 2012. After this time, prices are expected to remain relatively stable.*

It is also worth noting that:

- sulphur prices underwent a massive 'spike' to US$763 per tonne peak in July 2008 but were just US$37.50 in January 2009.[21]

[20] see http://www.abare.gov.au/publications_html/ac/ac_09/ac09_March_b.pdf, p. 187

[21] see http://www.scotiacapital.com/English/bns_econ/bnscomod.pdf

- sulphuric acid prices rose rapidly in late 2007 to late 2008 on the back of supply shortfalls however this situation has reversed markedly in recent months and prices have plummeted in the face of large oversupply.[22]

Thus there is a strong case for a reduction in unit chemical costs which are based on 2008/09 base prices.

South East Water has not explicitly forecast how much of the 2008/09 increase is due to higher assumed prices, and how much is due to higher volumes. Therefore we have made a relatively small and conservative reduction of five per cent on chemical costs cross the regulatory period, as shown in Table 6.15 below.

Table 6.15 – Overview of recommended changes to chemicals expenditure ($m, 2008/09)

		2008/09	2009/10	2010/11	2011/12	2012/13
Chemicals	Water Plan	0.50	0.58	0.60	0.89	1.17
	Revised forecast	0.48	0.55	0.57	0.85	1.11
	Net change	**-0.02**	**-0.03**	**-0.03**	**-0.04**	**-0.06**

6.2.5 Other Operations and Maintenance Costs

South East Water proposed operations and maintenance costs are shown in Table 6.16. We have identified a couple of key operations and maintenance related costs, that is:

- sewer program - approximately $1.67 million across the next regulatory period
- STP program – approximately $2.9 million across the next regulatory period

Table 6.16 – Operating and Maintenance Costs ($m, 2008/09)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Sewer Program	11.26	12.44	12.60	12.71	12.74	12.77
STP Program	16.32	17.91	18.88	19.44	20.02	20.94
Water Program	17.20	17.41	17.11	17.22	17.18	17.24
Recycling Program	0.0	0.0	0.14	0.27	0.30	0.31

[22] http://cruonline.crugroup.com/Default.aspx?tabid=484

Information on these new expenditure items was not available for inclusion at the time of completing the draft report, however South East Water has subsequently provided supporting information for these projects. Our review of this information is presented in the following sections.

Sewer Program

South East Water is proposing a total of approximately $1.6 million between 2009/10 to 2012/13. This covers a range of new operations and maintenance activities, such as:

- house connection branch CCTV program – undertake a CCTV survey of house connection branches in high blockage rate areas, generally in conjunction with the programmed Reticulation sewer CCTV program
- sewer pressure system – relates to the new sewer pressure system being installed in the backlog areas of the Mornington Peninsula
- sewer pump station eduction - eduction is often required when undertaking sewer based maintenance activities. To date these costs were regularly charged against M&E emergency waste water in the event where a pump failed requiring emergency eduction to maintain sewer network functionality
- syphon repairs – for minor repairs and improvements to access to the inlet/ outlet structures, identified during the inspection and cleaning programs
- sewer creek crossing inspections and minor repairs – repairs to crossings identified as part of the inspection programs are required for safety, structural and serviceability requirements
- sewer vents – to date there has not been a regular preventative program for the ongoing maintenance of sewer vents. Following a number of collapses, a program of regular inspection and repair has been developed
- sewer catchment relief structures – inspection program is an existing program that has been reviewed, with increased inspection frequency on high risk assets. Minor repairs previously were charged to a miscellaneous sewer repair account, the allocation seeks to better define the activities undertaken
- gas check manholes – based on the cost of minor repairs identified as part of the preventative maintenance gas check manhole inspection program

We have reviewed the supplied documentation of all these new programs and are satisfied with each of these programs. Expenditure in each of these programs is relatively minor in comparison to South East Water's overall operations and maintenance budgets.

STP Program

The maintenance for the recycling program starts within the next regulatory period. This is as expected given that no Class A recycling program currently operates. South East Water is planning on constructing three plants within the next regulatory period.

The operating costs for each of the three plants is shown in Table 6.17.

Table 6.17 – Operating Costs for Class A Recycling Program ($m, 2008/09)

	Water Plan 2009-2013			
	09/10 Budget	**10/11 Budget**	**11/12 Budget**	**12/13 Budget**
Boneo STP	0.145	0.156	0.156	0.156
Somers STP	0	0.2	0.2	0.253
Pakenham STP	0	0	0	0.142
TOTAL	**0.145**	**0.356**	**0.356**	**0.551**

South East Water provided details of ongoing maintenance costs for the three plants and these are shown in Table 6.18.

Table 6.18 – Maintenance Costs for Class A Recycling Program ($m, 2008/09)

		Water Plan 2009-2013			
	08/09 Budget	**09/10 Budget**	**10/11 Budget**	**11/12 Budget**	**12/13 Budget**
Preventative	0	0	0	0	0
Remedial	0	0.145	0.371	0.371	0.620

We have reviewed the supplied information from South East Water on the maintenance and operations cost's of the Sewerage Treatment Plant Class A upgrades and are generally satisfied with the basis for these programs. We are aware that South East Water has more detailed information on the operational expenditure forecasts for sewerage treatment plants, however we have not been provided with this information.

6.2.6 Billing and collection

Water Plan proposal

In its Water Plan, South East Water proposed an increase in operating expenditure for billing and collection services of $4.07 million or 54 per cent in real terms over 2007/08 levels by the end of the next regulatory period. This is shown in Table 6.19 below.

For the purposes of this chapter and comparison with the other businesses, we have included the following South East Water operating expenditure items in the category of billing and collection:

- postage services
- printing
- agency debt collection
- agency collection (cash receipts)
- bad debts.

Table 6.19 South East Water billing and collection operating expenditure ($m, 2008/09)

0	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Base year expenditure	7.50					
Increase		0.52	1.28	2.07	2.99	4.07
Total	7.50	8.01	8.77	9.57	10.49	11.56
Increase over 2007/08 (%)		**7%**	**17%**	**28%**	**40%**	**54%**

Source: data provided by South East Water, 'Item 2 - spreadsheet with each opex line' and 'Attachment 2 – 2008-1-16'.

The increase in costs above 2007/08 is almost entirely due to increases in transaction costs associated with collecting customer payments (agency collection) and bad debt write offs.

South East Water indicated that costs associated with customer billing services are forecast to grow in line with population at 1.2 per cent per annum, while transaction costs associated with collecting customer payments (agency collection costs) and bad debt write offs are forecast to grow by 15 per cent per annum to reflect value-based bank charges increasing as a proportion of customer bills and bad debts due to price rises placing financial pressure on customers.

Draft report recommendations

In our draft report we recommended a revised forecast for billing and collection on the basis that:

- South East Water appeared to have overstated the increases in costs for agency collection (cash receipting), as not all of these charges are related to the size of the bill
- South East Water's provision for increased costs in relation to bad debts is appropriate, however, this item should be recorded as 'revenue not collected' rather than operating expenditure.

South East Water's revised proposal

In response to the draft report, South East Water made the following adjustments to its original proposal:

- the removal of $1.7 million in operating expenditure to account for agency collection charges related to the number of transactions rather than the size of the bill
- the transferral of bad debts from operating expenditure to revenue not collected (resulting in a $7.4 million reduction in operating expenditure)
- additional bill printing costs of $0.3 million in 2011/12 and $0.3 million in 2012/13 due to the expiry of its current printing contract at the end of 2010/11.

South East Water indicated that its current contract for bill printing was awarded at significantly below market rates, and mergers in the printing industry since the last tender have resulted in less competition, estimated to lead to an increase in costs of around 30 per cent.

We are not in a position to determine whether or not South East Water's contract rates for printing services represent a significant reduction from market rates. However, we do not believe that there should be an allowance for increased costs on the basis that a less favourable contract is anticipated to be negotiated in 2010/11. In particular, we note a recent article in *The Australian Financial Review* which states that due to its low barriers to entry and over-supply of competitors, printing is characterised by 'intense' competition in relation to price.[23]

Further, changes to market rates such as this should be considered to be part of the 'swings and roundabouts' of a normal expenditure cycle. Businesses will have a number of expenditure items that will vary from year to year depending upon circumstances at the time, and while some contract prices might increase there are also likely to be a number of decreases in rates. Therefore, we have not included the additional operating expenditure proposed by South East Water in relation to bill printing costs.

Recommendations

Table 6.20 sets out South East Water's original proposal in relation to operating expenditure for billing and collection, a revised forecast based on our recommendations outlined above, and the net change to South East Water's revenue requirement.

[23] Shoebridge, N. (2009), "Hardball's the name of the game", *The Australian Financial Review*, 3 March 2009

Table 6.20 – Overview of recommended changes to billing and collection operating expenditure ($m, 2008/09)

Expenditure item		2008/09	2009/10	2010/11	2011/12	2012/13
Billing and collection	Water Plan	8.01	8.77	9.57	10.49	11.56
	Revised forecast	6.71	7.21	7.81	8.42	9.14
	Net change	**-1.30**	**-1.57**	**-1.75**	**-2.07**	**-2.42**

6.2.7 *Conservation programs*

Background

Each of the metropolitan businesses has proposed expenditure associated with achieving water conservation targets and delivering related initiatives as required under the water policy framework in Victoria. The total conservation expenditure across the industry is shown in Table 6.21. The majority of this expenditure is related to new obligations and would not have been incurred five years ago.

Table 6.21 Total water conservation expenditure by business[1] ($m, 2008/09)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
City West Water	7.27	8.10	10.26	8.79	8.36	8.32
South East Water[2]	5.04	8.60	10.60	10.20	8.80	8.90
Yarra Valley Water	7.37	9.98	12.08	9.19	8.79	9.23
Melbourne Water	2.30	4.80	4.59	4.20	3.20	3.10
Total	**21.98**	**31.48**	**37.53**	**32.38**	**29.15**	**29.55**

Note: [1] Expenditure shown in this table includes any changes proposed by businesses in response to the draft report. [2]South East Water's forecast expenditure on restrictions was not included in the water conservation expenditure total. We have included this in the total for the purpose of comparison.

The per customer expenditure on water conservation for each business is set out in Table 6.22.

Table 6.22 Water conservation expenditure per customer[1] ($m, 2008/09)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
City West Water	22.03	23.90	29.55	24.73	22.97	22.36
South East Water	8.23	13.81	16.74	15.85	13.46	13.40
Yarra Valley Water	11.77	15.71	18.76	14.08	13.30	13.78
Average expenditure per customer	**12.54**	**16.91**	**20.76**	**17.66**	**16.18**	**16.40**

The key issues for review are:

- ensuring conservation programs are consistent with the policy framework for conservation measures in metropolitan Melbourne
- ensuring conservation programs are consistent with forecast restrictions and capital projects.

In particular, as noted by the ESC in its Issues Paper, this review needs to 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. This is important because the *Central Regional Sustainable Water Strategy* (CRSWS) (October 2006) pre-dates significant supply augmentations accelerated by the Victorian Government in *Our Water Our Future - The Next Stage of the Government's Water Plan* (June 2007) following further decline in water flows and the adoption of worst case scenario inflow assumptions. Committed projects include the desalination plant, the food bowl modernisation in Northern Victoria, the Sugarloaf pipeline and the expansion of the Victorian Water Grid. The new water supply options are expected to provide additional water supply of 240 gigalitres per year to Melbourne by 2011, which is half of Melbourne's annual water use.

These planned augmentations will inevitably alter the balance between the supply and demand of water in metropolitan Melbourne. There is some uncertainty about the ongoing role that conservation measures will have in managing the supply-demand balance after augmentations are in place and restrictions begin to ease.

The Victorian Government policy in relation to conservation measures has not been revisited following the decision to accelerate the augmentation projects. The *OWOF - Next Stage of the Government's Water Plan* reiterated the continuing importance of water conservation of measures and per capita water consumption targets established in the CRSWS.

However, the Victorian Competition and Efficiency Commission's *Water Ways: Inquiry into Reform of the Metropolitan Retail Water Sector* report notes the importance of an iterative and adaptive approach to planning which permits adjustments as circumstances change and recommends that:

> *current data and assumptions regarding the supply and demand outlook for water inform both the* over-*arching strategy document, including the Central Region Sustainable Water Strategy, and the retailers' draft water plans.*[24]

[24] Victorian Competition and Efficiency Commission 2008, Water Ways: Inquiry into Reform of the Metropolitan Retail Water Sector, final report, February.

Similarly, the Victorian Auditor-General, in its audit of planning for water infrastructure in Victoria, notes that the scale of augmentation changes means that:

> *the Department needs to revisit the strategy objectives, targets and actions in the light of these actions. For example, once these augmentation projects come on line, the justification for the scale of* spending *on conservation and recycling needs to be revisited.*[25]

In reviewing the businesses' water conservation expenditure for the next regulatory period, our view is that it is reasonable to expect the businesses to aim to achieve the water savings required by the Victorian Government under OWOF and the CRSWS. We also note that, given the extremely low storage levels and potential impact on water supply of the recent bushfire events, forecast restrictions levels have been revised since Water Plans were submitted, with restrictions of at least Level 1 expected to be in place until the end of the next regulatory period. The new Target 155 program has also been implemented by the Government to further promote water conservation.

Having said that, we still believe that it is important to review the purpose of individual conservation measures proposed by each business, particularly in light of the fact that the long-term headline water conservation and recycling targets to be achieved in the Melbourne region by 2015 under the CRSWS have already been met or exceeded.

As noted in the Government's 12 month progress report on OWOF, Melbourne's per capita water consumption in 2007-2008 will beat the 2020 target.[26] We also note that the metropolitan water businesses are spending $128.6 million in total on conservation over the next regulatory period. While each individual program may have merit, when considered in aggregate terms the investment in this program is substantial.

We have therefore considered issues such as the timing of proposed expenditure and the diminishing returns of additional water conservation expenditure in terms of water saved and economic benefits.

[25] Victorian Auditor-General, Planning for Water Infrastructure in Victoria, April 2008, p.28.

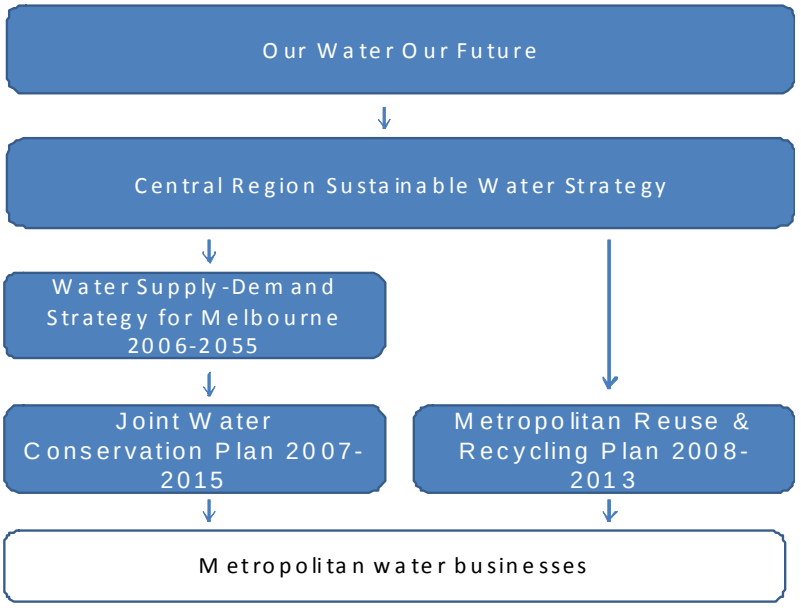
[26] Victorian Government, *12 Month Progress Report*, June 2008.

Policy framework for water conservation

OWOF is the over-arching policy framework for long-term water planning in Victoria. With the aim of securing Victoria's water supplies for the next 50 years, it sets out 24 water conservation actions aimed at achieving a target of a reduction in per capita drinking water consumption in Melbourne of 15 per cent by 2010 compared to the 1990s average.

The OWOF policy framework for water conservation for metropolitan Melbourne is applied through regional strategies and implementation plans as illustrated in Figure 6.2.

Figure 6.2 Policy framework for water conservation in metropolitan Melbourne



The development of Regional Sustainable Water Strategies is a key action from OWOF. The strategies set out actions to secure water for industry, cities and towns in a region while safeguarding the region's rivers and aquifers. The CRSWS, which was released in October 2006, sets key water conservation and efficiency actions for industry, cities and towns in the Central Highlands, Barwon, Port Phillip and Westernport regions while safeguarding the region's rivers and aquifers.

The *Water Supply-Demand Strategy for Melbourne* details how the metropolitan water authorities will implement the Government's policy directions and actions announced in the CRSWS. The Water Supply-Demand Strategy, which was required to be developed under the Statement of Obligations of each business, is specifically focused on securing supplies for Melbourne urban water customers for the next 50 years. It is the principal planning document for the metropolitan water authorities.

The *Joint Water Conservation Plan 2007-2015* (JWCP) and the *Metropolitan Reuse & Recycling Plan 2008-2013* (MRRP) have been developed by the businesses and they both establish implementation plans for the businesses to meet the water conservation actions and targets set by Government in the CRSWS and outlined in the Water Supply-Demand Strategy for Melbourne. Under the Statement of Obligations for each business, programs developed for sustainable water resource management must be consistent with these plans.

The JWCP is focused on identifying the most effective delivery method to meet the 2015 water conservation target of a 30 per cent reduction in water usage by 2015 (from a 1990s average). This target represents a water saving of 74 gigalitres per year by 2015, including 42 gigalitres for maintaining savings and 32 gigalitres of additional savings. Of the additional savings requirement, the JWCP directly allocates the gigalitre target to each business as follows in Table 6.23.

Table 6.23 Water savings under the JWCP to meet targets[27]

	Water saving GL/year by 2015
City West Water	6.9
South East Water	12.0
Yarra Valley Water	12.7
Total	**31.6**

The MRRP identifies the most efficient and prudent recycling and reuse schemes that achieve the potable substitution target (and interim target) established in the CRSWS. Thirteen priority projects have been identified by the water businesses to achieve the 2015 interim target and the 2030 target at a cost of $307.3 million. For the purpose of this review, recycling projects have been considered under capital expenditure if they fall into the top 10 projects by value. Appendix B maps the programs set out in the JCWP to the policies, strategies and objectives set out in OWOF, the CRSWS and the Water Supply-Demand Strategy.

South East Water's proposal

South East Water forecast in its Water Plan that its expenditure on conservation programs will double from $5.04 million in 2008/09 to $10.15 million in 2012/13. This represented a significantly higher increase in conservation expenditure in both dollar terms and percentage terms than that proposed by the two other retail water businesses.

[27] Note this table includes only additional savings and only those savings that have been directly allocated to each of the four. businesses

In response to the draft report, South East Water revised its forecasts for each year of the regulatory period as shown in Table 6.24, including changes to reflect inclusion of additional expenditure for the Target 155 program and reductions to reflect draft report recommendations.

In relation to expenditure proposed in the Water Plan, a breakdown of South East Water's expenditure shows that most items of expenditure increase by 75 per cent from 2008/09 to 2009/10 before staying at a relatively constant level from 2009/10 onwards.

South East Water has advised that the increase in total expenditure is due mainly to the large increase in its showerhead program. The forecast cost of the showerhead program is a function of the forecast number of showerheads replaced and the forecast unit cost per showerhead. The forecast cost of the showerhead program depends on the forecast number of showerheads replaced and the forecast unit cost per showerhead. In terms of the number of showerheads to be replaced, South East Water has advised that it is expecting to replace approximately 50,000 showerheads in each year of the next regulatory period.

This is consistent with South East Water's target under the JWCP and also with the 56,000 showerheads replaced by South East Water in 2007/08. While we expect that there is some risk to these targets as it becomes increasingly difficult over the next regulatory period for the businesses to achieve uptake, South East Water's target seems reasonable.

As the rate at which customers will bring in their old showerhead and exchange for new showerheads is expected to decline, South East Water notes that more expensive retrofitting is seen as the next logical strategy to achieve the CRSWS conservation targets. South East Water estimates that the cost of retrofitting is 3 to 4 times the current cost of $25 for a showerhead replacement.

We note that there are a number of uncertainties related to delivery of the showerhead program over the next regulatory period. While we agree that the customer initiated exchange method is unlikely to achieve the targets because the people with a propensity to exchange their showerheads will already have done so, we are not satisfied that South East Water's proposed cost per showerhead reflects an efficient economic outcome. We note that, with supply augmentations expected to come on line and restrictions ease from 2011/12 onwards, the return on this investment is likely to decrease considerably.

Table 6.24 South East Water's conservation expenditure[1] ($m, 2008/09)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Fire services program	0.03	0.35	0.61	0.57	0.55	0.57
Other non-residential programs - cooling towers, hydro share, spray rinse valves, rebates	1.08	1.00	1.75	1.62	1.58	1.63
Showerheads program	1.46	1.80	3.16	2.92	2.85	2.94
Washing machines	0.01	0.20	0.35	0.32	0.32	0.33
Watersmart	-	0.40	0.70	0.65	0.63	0.65
Hardship	0.09	0.20	0.35	0.32	0.32	0.33
Tank incentive	0.40	0.25	0.44	0.41	0.40	0.41
R&D/Segmentation	0.08	0.20	0.35	0.32	0.32	0.33
Comms and marketing	0.07	0.15	0.26	0.24	0.24	0.25
Toilet retrofit	-	0.05	0.09	0.08	0.08	0.08
Restrictions	0.90	1.00	1.00	1.00	1.00	1.00
Labour	0.92	1.00	1.75	1.62	1.58	1.63
Total Water Plan proposal	**5.04**	**6.60**	**10.82**	**10.09**	**9.86**	**10.15**
Revised proposal in response to draft report	**8.6**	**10.6**	**10.2**	**8.8**	**8.9**	**8.6**

In addition, we believe that the introduction of the Victorian Energy Efficiency Target (VEET) scheme on 1 January 2009 may impact the volumes delivered by retailers and also has the potential to reduce the unit cost of a replacement. This is because under the VEET scheme, accredited agents would compete to replace showerheads in order to earn 'white' certificates. While South East Water's future targets seem reasonable in the absence of competition in the market, it is likely that there will be some impact on volumes able to be delivered by the retailers.

The metropolitan businesses will also be able to contract out the replacement activity to an accredited agent and therefore avoid having to create their own delivery channels as retrofitting becomes necessary. Alternatively, if businesses take part directly in the VEET scheme they will be able to offset program expenditure by reducing their purchase of Renewable Energy Certificates.

In summary, we acknowledge that in order to meet targets, more intensive delivery channels are required for the showerhead program in future years. However, we believe that the introduction of the VEET scheme offers opportunities for the

businesses to offset the potential cost increase as a result of retrofitting and also means that some showerheads are likely to be replaced by other accredited VEET providers. We therefore believe that showerhead program costs should continue to reflect only the cost of customer initiated exchanges.

We therefore recommend that South East Water's forecast expenditure be reduced by $4.91 million over the next regulatory period to reflect a reduction in the allowance for the unit cost of a showerhead replacement to the cost of an exchange (i.e. no retrofitting cost) proposed by Yarra Valley Water for each year of the period. This reflects our view that the cost of a customer initiated replacement proposed by Yarra Valley Water represents efficient costs. This reduction includes $1.7 million in 2009/10, $0.9 million in 2010/11, $0.8 million in 2011/12 and $0.9 million in 2012/13.

The other large increase in South East Water's proposed water conservation expenditure is related to the Target 155 program. As this program was introduced by the Government after submission of the Water Plan in November 2008, South East Water has proposed that $2.0 million additional expenditure be included in each of 2008/09, 2009/10 and 2010/11. Both the timing and amount of this proposed expenditure need to be considered.

We note that Yarra Valley Water and City West Water are proposing expenditure for this program in only the 2009/10 year reflecting the period for which the project is currently committed. We believe that it is not reasonable for South East Water to include expenditure on this program in the 2010/11 forecast and recommend that the expenditure proposed in the original Water Plan not be revised to include this.

In terms of the magnitude of Target 155 expenditure, we note that we have received information from the Department of Sustainability and Environment indicating that during 2008/09, additional funding of $3.7 million is required to fund Target 155 and that the campaign costs have been split equally between the four metropolitan businesses. If we take this as a benchmark, it seems reasonable for a business to be spending approximately $1.0 million in 2009/10 on Target 155 plus an allowance some for in-house costs.

We also note that South East Water's average proposed expenditure per customer of $3.50 across 2008/09 and 2009/10 is at the lower end of the range of what has been proposed by the retailers. We therefore believe that South East Water's proposed expenditure for 2008/09 and 2009/10 is reasonable.

South East Water has advised that, apart from the showerhead and Target 155 programs, the other reason for the significant increase in its water conservation expenditure is that water conservation programs in general are forecast to ramp up as a result of continued drought conditions. South East Water states that the retail water businesses and DSE are currently undertaking extreme drought initiatives such as the Target 155 program and are also planning for further initiatives such as accelerated appliance take ups (for example, washing machines, toilets, etc).

However, our review of the forecast water conservation expenditure of the other two retail water businesses shows that they are forecasting much more modest increases in expenditure than South East Water, and are even expecting some reductions in expenditure for particular water conservation measures throughout the next regulatory period. While South East Water's expenditure in 2007/08 was lower than the expenditure of the other retailers (in both total cost and annual cost per customer terms), the large proposed increases in expenditure mean that it is planning to spend significantly more than the other retailers over the next regulatory period.

South East Water has not adequately justified this increase. The assumption of an across the board 75 per cent increase in costs from 2007/08 to 2008/09 also appears quite arbitrary and does not indicate that the program of measures has been designed with reference to particular obligations and targets under the policy framework.

We have therefore benchmarked South East Water's annual expenditure per customer against Yarra Valley Water's annual expenditure per customer[28], which is at the lower end of the cost range. In each year of the next regulatory period when there is a large difference between the forecasts of the two businesses, we have reduced South East Water's expenditure so that the expenditure per customer is the same as Yarra Valley Water's (as recommended in this review). This change reduces South East Water's total expenditure by a further $1.19 million in 2009/10 $1.34 million in 2010/11, $1.38 million in 2011/12 and $1.79 million in 2012/13.

Recommendations

Table 6.25 sets out South East Water's original proposal in relation to additional expenditure for water conservation, a revised forecast based on our

[28] Post any revisions as a result of our review.

recommendations outlined above, and the net change to South East Water's revenue requirement.

Table 6.25 – Overview of recommended changes to water conservation expenditure ($m, 2008/09)

Expenditure item		2008/09	2009/10	2010/11	2011/12	2012/13
Water conservation	Water Plan	6.60	10.82	10.09	9.86	10.15
	Revised forecast	8.60	9.97	7.83	7.63	7.42
	Net change	**2.00**	**-0.85**	**-2.26**	**-2.23**	**-2.73**

6.2.8 *Information technology*

South East Water is proposing only small increases in information technology (IT) operating expenditure for the next regulatory period, as shown in Table 6.26.

Table 6.26 Information technology costs ($m, 2008/09)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Base year expenditure	4.36					
Increase		0.22	0.20	0.18	0.17	0.15
Total	**4.36**	**4.58**	**4.56**	**4.55**	**4.53**	**4.51**
Increase over 2007/08 (%)		**5.1%**	**4.7%**	**4.2%**	**3.8%**	**3.5%**

Source: Additional information provided by South East Water, Attachment 2 – 2008-1-16, Attachment 4 – opex by account.

The increases in costs are due to primarily to increases in time and materials support costs, although these are not substantial, amounting to $0.14 million above 2007/08 expenditure by 2012/13. In relation to software licences, maintenance and support operating expenditure, South East Water is forecasting a small increase of $40,000 or 1.4 per cent in real terms over 2007/08 levels by 2012/13. Increases in volumes for communications services are offset by reductions in unit rates, resulting in a slight decrease in costs by the end of the period.

Recommendation

We have not recommended any adjustments to South East Water's proposed operating expenditure for IT.

6.2.9 *Gainshare/ painshare arrangements*

South East Water has advised that gainshare payments of[29] $[redacted] for operating expenditure and $[redacted] for capital expenditure were paid in 2007/08. The capital expenditure gainshare payment has been included in the RAB. According to South East Water:

- forward forecasts of capital have been based on expected actual project costs and do not include pain/gain share. Pain/gain share will only be payable on the portion of the capital works carried out by Utility Services if there is a variation from expected cost
- forward estimates of operating expenditure have been developed on the basis of units rates that include the base margin only. This base margin will only be adjusted should performance vary from the expected standard (either up or down).

6.2.10 *Other expenditure*

Brainwaves Cup

Overview

South East Water has forecast $2 million over the next regulatory period for an initiative called the 'Brainwaves Cup'. South East Water advised this was an annual program which commenced during the current regulatory period, for which staff form teams and propose innovative solutions/programs that they believe would be of use to South East Water and its customers.

The Brainwaves Cup is forecast to cost approximately $500,000 per annum. Approximately half of this cost is attributable to labour – South East Water employ two full time staff to administer the Brainwaves Cup. A further $110,000 is forecast to be spent on consultants to aid in the development of the program and implementation of any successful initiatives.

South East Water provided literature on the 2007 Brainwaves Cup, which identified the initiatives which were approved. These were:

- billing services for third parties
- a Green Transport Plan to reduce impacts on the environment from staff travelling to work
- a 'celebrating cultural diversity' program

[29] South East Water has requested that these figures not be made publicly available.

- reducing the amount of potable water used when testing fire sprinkler systems
- the development of a 'sustainability game' to increase South East Water's profile in 'sustainability thinking'
- a wet tapping connection service.

Discussion and recommendation

Whilst we agree that promoting innovation should be a consideration for the water businesses, we have a number of concerns regarding the Brainwaves Cup. First and foremost, customers are to face large price increases over the regulatory period. Against this background, we feel it incumbent on water businesses to constrain expenditure where possible and defer non-essential programs.

Second, it appears that at least three of the six initiatives approved in 2007 are of a not-prescribed nature (billing services for third parties, the green transport plan and the 'sustainability game'). Although it is not possible to anticipate what initiatives will be approved in the next regulatory period, customers should not be expected to fund the Brainwaves Cup in full when they may ultimately receive only part of the benefits.

Third, through discussions with South East Water it was established that the two people employed full time on the Brainwaves Cup had been employed at South East Water for a number of years, and therefore would already be in the baseline expenditure (either as direct employees or contractors). An increase of $250,000 over and above the base year expenditure is therefore unjustified.

For the reasons outlined above, our draft report recommended that the expenditure identified for the Brainwaves Cup be removed from South East Water's forecast. In its response to the draft report, South East Water advised that the expenditure associated with the Brainwaves Cup was actually its entire innovation program (the Brainwaves Cup comprised $0.30 million of the annual $0.48-0.49 million sought). South East Water argued that its innovation program drives efficiency savings and reflects South East Water's vision to be innovators in the industry.

South East Water's response did not provide any new information in support of the reinstatement of the costs associated with the Brainwaves Cup. Therefore, we have not revised our draft findings and recommend the entire program is removed from South East Water's forecast.

We reiterate that there should be sufficient funding available within South East Water's baseline 2007/08 operating expenditure for innovation and discretionary expenditure in times when annual bills are increasing significantly should be scaled back.

Our recommended changes are presented in Table 6.27.

Table 6.27 Overview of recommended changes to Brainwaves Cup ($m, 2008/09)

		2008/09	2009/10	2010/11	2011/12	2012/13
Brainwaves Cup	Water Plan	0.18	0.48	0.48	0.49	0.49
	Revised forecast	0.00	0.00	0.00	0.00	0.00
	Net change	**-0.18**	**-0.48**	**-0.48**	**-0.49**	**-0.49**

6.2.11 *Not prescribed*

South East Water receives a payment from Melbourne Water to undertake billing for parks and drainage services undertaken on behalf of Melbourne Water and Parks Victoria. The revenue and expenditure associated with this service are shown in Table 6.28 below.

Table 6.28 Revenue and expenditure associated with billing for parks and drainage services (2008/09, $ million)

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Revenue	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Operating expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Difference	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The key issue with the costs and revenue figures for this activity relates to the allocation of costs. A higher allocation of costs will reduce the cost pool for regulated services, and hence reduce water and wastewater charges. A lower allocation will increase water and wastewater charges.

While we have not reviewed the not prescribed costs in any detail, we note that South East Water's allocated costs are approximately equal to the revenue earned. On this basis we are satisfied that the costs are appropriately allocated.

While South East Water noted in its response to the Draft Report that some proportion of costs should be moved from non-prescribed to prescribed expenditure reflecting the approach applied in the Draft Report to the other metropolitan water businesses, we have accepted South East Water's original cost forecast as efficient and prudent and do not believe that this would be appropriate.

Having said that; given the uncertainty and inconsistency of approach to estimating the costs of this service that seems to exist amongst the retailers, we suggest that the revenue and costs associated with this service might be an area for further review by the ESC – either through the issuance of cost allocation guidelines or possibly at the next waterways review.

6.2.12 Not prescribed versus prescribed revenue

South East Water included non-prescribed revenue totalling $56.10 million relating to the sale of assets, with a profit of $18.91 million. South East Water advised this revenue and expenditure is largely driven by the sale of land at the site of the decommissioned Cranbourne WWTP site. We note that South East Water's internal capital expenditure spreadsheet identified that $1.76 million had been spent on the site since 2005. Since the ESC included capital expenditure on the Cranbourne WWTP as prescribed expenditure in its 2005 price decision, customers should receive some of the proceeds from the sale. We recommend that the ESC adjust South East Water's RAB to reflect this asset disposal.

6.3 Conclusions and recommendations

For the reasons set out above, we recommend that the changes recommended in Table 6.29 be made to South East Water's operating expenditure forecasts:

Table 6.29 – Recommended changes to operating expenditure ($m, 2008/09)

South East Water	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Total Water Plan operating expenditure	258.06	290.28	343.07	398.69	463.25	537.34
Adjustments for errors						
Bad debts	-1.02	-1.10	-1.27	-1.45	-1.67	-1.92
Superannuation	-6.4					
Total errors	-7.42	-1.10	-1.27	-1.45	-1.67	-1.92
Adjusted operating expenditure	**250.64**	**289.18**	**341.81**	**397.24**	**461.58**	**535.42**
Other amendments						
Operating cost escalation			-0.61	-1.06	-1.52	-2.00
VCEC savings		0.00	-1.00	-1.00	-0.50	0.00
Labour costs		-0.53	-2.10	-2.13	-2.21	-2.44
Electricity		0.51	-0.93	-0.87	-0.80	-0.80
Vehicle operating costs		-0.01	-0.11	-0.17	-0.14	-0.23
Chemicals		-0.02	-0.03	-0.03	-0.04	-0.06
Billing and collections (excl. bad debts)		-0.20	-0.30	-0.30	-0.40	-0.50
Water conservation		2.00	-0.85	-2.26	-2.23	-2.73
Brainwaves Cup		-0.18	-0.48	-0.48	-0.49	-0.49
Total other amendments	**0.00**	**1.58**	**-6.42**	**-8.30**	**-8.34**	**-9.24**
Total amendments and error adjustments	**-7.42**	**0.48**	**-7.68**	**-9.75**	**-10.01**	**-11.16**
Total recommended operating expenditure	**250.64**	**290.76**	**335.39**	**388.94**	**453.24**	**526.18**

7 Capital Expenditure

7.1 *Historical and forecast capital expenditure*

Note all figures listed at in 2008/09 dollars unless otherwise noted.

7.1.1 *Overview of outcomes of 2005 determination*

In the 2005 determination, the ESC approved capital expenditure for South East Water totalling $215.4 million (in 2004 dollars) for the three years to 2007/08. Converting to 2009 dollars, South East Water's approved capital expenditure was $247.3 million, as shown in Table 7.1.

Over the same three year period, South East Water has actually incurred $268.0 million, which is approximately eight per cent of the determination forecast. The profile of actual versus forecast expenditure is, however, significantly different. In the first year of the current regulatory period, South East Water's capital expenditure was $28 million less than forecast (29 per cent lower), whereas in the 2007/08, it was $37 million more than forecast (57 per cent higher).

Table 7.1 Actual capital expenditure and variance to 2005 determination ($m, 2008/09)

Business	2005/06	2006/07	2007/08	Total
2005 determination	96.3	85.3	65.7	**247.3**
Actual expenditure	68.8	96.1	103.1	**268.0**
Variance	**-27.5**	**10.8**	**37.4**	**20.7**

Source: South East Water regulatory accounts (2005/06 and 2006/07) and price review template (2007/08)

South East Water attributes the variance in capital expenditure to:

- across the board increase in input costs, including engineering wages, raw materials and fuel
- delays to programs resulting from change to the urban growth boundary
- 'errors' in the ESC's 2005 determination in relation to funding of large scale water and wastewater assets (it is unclear whether this means genuine errors or the forecasts not containing major projects because they were unforeseen at the time).

The variance in 2007/08 is also attributable to a number of drought projects that could not have been anticipated at the time of the last price review.

It is important to note that the impact on businesses which incur capital expenditure greater than forecast is minimised to some extent by either the driver for the increased expenditure, or the regulatory system. That is:

- if capital expenditure exceeds forecast because of higher than expected growth, the higher expenditure will be offset by higher revenue from additional customers
- at the end of the regulatory period, actual capital expenditure is rolled into the regulated asset base, on which businesses receive a return on and return of capital.

Therefore, the financial impact on the business is the short term cost of funds between incurring the additional expenditure and having it rolled into the regulated asset base, less any additional revenue from higher than forecast growth.

7.1.2 *Overview of forecast*

South East Water has proposed a capital expenditure program of $605 million over the next regulatory period. This represents almost a doubling in annual average expenditure compared to the current regulatory period.

South East Water's capital expenditure forecast can be broken down in to three main programs: water, wastewater and recycling. Within the water and wastewater programs, the expenditure is split into three different categories, capacity (growth), reliability and quality.

Water Program

Capacity – South East Water's water capacity program ensures the water supply network has sufficient capacity to deliver water to its customers. South East Water only has a limited number of areas where minimum flow requirements are not currently being met. Expenditure within the next regulatory period is focussed on maintaining standards and extending services to new customers, which are estimated from land release forecasts. For the next regulatory period, South East Water proposes a capital expenditure of $64.3 million for this program.

Reliability - The water reliability program provides South East Water's customers with a reliable supply of water. Although South East Water is not proposing to increase its KPI targets over the next regulatory period, the expenditure in this program has increased significantly. South East Water expects the unit rate of their various renewals programs to increase as a result of increased material and other associated costs. In the unit rates for water main renewals, the mains also have higher replacement costs due to stringent access requirements and management of risk to other essential services. Over the next regulatory period, South East Water proposes to spend $69.8 million on its water reliability program.

Quality – This program aims to maintain 100 per cent compliance with South East Water's regulatory/licence requirements, as well as minimise customer complaints. South East Water proposes to spend $0.56 million over the next regulatory period on this program. South East Water also proposes significant expenditure on its meters program. The drivers for the meters capital program are growth in customers and replacement of meters when they become faulty. Replacing meters at pre-determined intervals provides South East Water with greater meter and bill accuracy, assists in maintaining revenue adequacy, identification of water leakage, and other system losses and assessment of the effectiveness of water conservation initiatives. For the meters program, South East Water proposes a capital expenditure of $22.8 million over the next regulatory period.

Wastewater Program

Capacity – South East Water's primary objective of sewer system capacity program is ensuring that there is sufficient capacity in the sewer system to safely collect and transfer sewage. The key drivers of this expenditure are extending the network to service growth and EPA requirements to cater for storm flows of a one in five year return period. South East Water proposes a capital expenditure of $103.2 million for this program.

Reliability – The sewer reliability program aims to provide a reliable collection system for wastewater. The primary driver of program is the avoidance of spills due to system failure. South East Water has recently experienced an increase in sewer blockages, which it attributes to two factors, the discontinuation of the sewer cleaning program and increased tree root penetration due to the drought. For the next regulatory period, South East Water is proposing to increase the rate of inspection and the sewer cleaning program by 50 per cent.

South East Water is not expecting the rate of sewer renewals to change during the regulatory period. Including the renewals and cleaning programs, South East Water proposes capital expenditure of $82.5 million over the next regulatory period.

Quality – South East Water's sewer quality program involves dealing with trade waste from industrial customers and odour issues associated with the network. South East Water is proposing a capital expenditure of $6.4 million over the next regulatory period.

South East Water also operates eight sewage treatment plants with the requirement to maintain 100 per cent compliance with EPA waste discharge licences for discharge quality. Of these plants, five are now at capacity. These will be upgraded during the next regulatory period. The key drivers of the planned upgrades at these plants include growth, backlog, Class A recycled water, and environmental requirements. For sewerage treatment plants, the total proposed capital expenditure for the next regulatory period is $63.7 million.

South East Water also has an existing Sewer Backlog Program to provide connection to the wastewater system for properties that are currently supplied with water, but are largely using septic tanks to treat wastewater. This program was originally designed to be completed over a 40 year term, however upon the government's request, it is now proposed to complete the program by 2025. The Sewer Backlog Program proposes a capital expenditure of $78.6 million over the next regulatory period. Further information on this program is contained in Section 7.4.1.

Recycling

South East Water's recycling program is principally driven by government requirements to deliver 20 per cent recycling of effluent by 2010 and 10 gigalitres of potable substitution by 2030. In order to ensure these targets are achieved at best value, South East Water participated in a cooperative process with the other metropolitan water retailers which ranked all the known potable replacement programs on a triple bottom line basis and compare these potential projects with the cost of other sources of either additional supply or demand reduction, such as desalination. South East Water proposes capital expenditure of $85.3 million for its recycling program over the next regulatory period.

Table 7.2 provides a breakdown of South East Water's total proposed capital expenditure over the next regulatory period by service. As can be seen, South East Water's total estimated capital expenditure is expected to increase significantly from 2008/09 to 2010/11 before falling in 2011/12 and 2012/13.

Table 7.2 Proposed capital expenditure ($2009m)

Business	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Water	35.10	29.56	40.59	41.10	46.73	45.16
Wastewater	66.52	84.72	95.33	83.66	82.53	80.78
Recycled Water	1.46	9.20	21.33	31.46	18.44	15.56
Total Expenditure	**103.08**	**123.48**	**157.24**	**156.22**	**147.70**	**141.50**

Source: SEW Template submitted to ESC

7.1.3 *Actual expenditure to 31 December 2008*

South East Water has provided details of expenditure to 31 December 2008 and revisions to forecasts to 30 June 2009. South East Water has spent approximately $54.6 million of their annual budget of $123.5 million representing approximately 44 per cent of the annual budget. South East Water has stated that this figure is consistent with historical performance and they expect to achieve their annual budget in the six months to 30 June 2008.

The revised annual budget incorporates the deferral of a total of $6.7 million from 2008/09 to the next regulatory period, however South East Water has also brought forward $6.7 million in other projects. As such, South East Water advised that there would be no change to their overall budget for 2008/09. Details of these deferrals and project brought forward are presented and discussed in the following sections.

Analysis of Deferred Projects from 2008/09

South East Water has provided details on the proposed deferral of $6.7 million from 2008/09 to the next regulatory period 2009/10 to 2012/13 and $6.7 million from the next regulatory period back into 2008/09. These details are presented in Table 7.3.

Table 7.3 South East Water – Proposed Expenditure Deferrals from 2008/09 to the 2009/10 to 2012/13 Regulatory Period ($2009 m)

Projects	08/09	09/10	10/11	11/12	12/13
Projects Delayed					
Pakenham to Narre Warren Sewerage Transfer system	-$2.8	+$2.8			
Hastings Industrial Recycling	-$1.6	+$1.6			
Somers Sewerage Treatment Plant	-$1.0	+$1.0			
Mt Martha STP Sludge Handling Upgrade	-$1.3	+$1.3			
Projects Brought Forward					
Boneo Sewerage Treatment Plant Augmentation	+$6.3	-$6.3			
Other minor projects	+$0.4	-$0.4			

The proposed deferrals from 2008/09 have corresponding allocations in the next regulatory period while the proposed deferrals from the next regulatory period have corresponding allocations in 2008/09. The result of these adjustments is no net change to the proposed capital expenditure in 2008/09 or 2009/10.

South East Water provided further details on the specific adjustments, as out lined below.

- Pakenham to Narre Warren Transfer Sewer – a proposed pipeline, is to be located within a future road reserve. Council now has finalised road plans and the project is proceeding. Deferral of these costs to 2009/10 will not affect the planned expenditure for 2010/11. The project remains on schedule for completion in 2010/11 to meet commitments with the EPA. South East Water is proposing to defer $2.8 million from 2008/09 to 2009/10.
- Hastings Industrial Project – Project financing arrangements have now been finalised and the project is proceeding. The customer commitment of project completion in 2009/10 will still be met. South East Water is proposing to defer $1.6 million from 2008/09 to 2009/10.
- Somers Sewerage Treatment Plant – The proposed works are associated with the above mentioned Hastings Industrial Project. South East Water is proposing to defer $1.0 million from 2008/09 to 2009/10.
- Mt Martha STP Sludge Handling Upgrade – The level of stakeholder engagement for this project has been increased. The overall project duration of four years remains unchanged and annual proposed expenditure for 2010/11 to 2012/13 will remain unchanged. South East Water is proposing to defer $1.3 million from 2008/09 to 2009/10.
- Boneo Sewerage Treatment Plant Augmentation – Early agreement with the design and construct contractor regarding the type of Class A treatment plant to be adopted has resulted in an opportunity to bring forward these works. The project will now be completed in 2008/09 giving greater certainty for the supply of recycled water to customers to fill their storages prior to the 2009/10 summer period. South East Water is proposing to bring forward $6.3 million from 2009/10 to 2008/09.
- South East Water is also proposing to bring forward $0.4 million in other minor projects from 2009/10 to 2008/09. No details have been provided on what this capital expenditure includes.

7.2 Ability to deliver capital program

South East Water's annual proposed capital program for the next regulatory period is around double the capital program delivered during the current regulatory period. As outlined in South East Water's Water Plan, the nominated top five capital projects account for approximately 42 per cent of its proposed capital program. These projects are the Sewer Backlog Program, Water Main Replacements Program, Dual Pipe Recycled Water Program, Pakenham to Narre Warren Sewerage Strategy and Sewer Renewals Gravity Mains Program.

Delivery of this program will pose a number of challenges to South East Water. There is a large capital works program in the water industry across the country. In addition to the $2.5 billion that will be spent on the capital programs of water businesses in rural and regional Victoria in the next regulatory period, a further $3.6 billion will be spent by Melbourne metropolitan water businesses. The Victorian Desalination project is also to be delivered by the end of 2011. Water businesses throughout Australia, such as those in urban New South Wales and Western Australia, are also proposing significant capital expenditure in the period to 2012-13. This will place pressure on South East Water's program, however this pressure will be significantly less than might have been forecast 12 months ago due to:

- a rapidly slowing economy with significantly reduced demand for construction materials and labour
- a number of significant mining projects being cancelled or delayed
- higher levels of unemployment forecast across the economy

The above economy-wide factors are likely to ensure that there is substantially less cost pressure on capital expenditure, however we believe that due to the large water sector capital program there remains a risk of projects being delayed as the realignment of resources from other sectors to the water sector may take some time to occur.

South East Water also faces a number of business-specific challenges. Firstly, it is possible a slowdown in development may occur due to the economic downturn or changes in the Government 2030 Strategy. Changes in these areas would have flow on effect on the timing of the capital program.

Secondly, a number of South East Water's projects relate to the upgrade of sewerage treatment plants and the provision of recycled water. Our experience in the industry suggests that planning delays and difficulties are far more likely to occur with wastewater and recycled water programs than water programs.

Therefore, successful delivery of the proposed capital program represents a significant challenge to South East Water. While there are systems and processes in place to manage the impact of the challenges being faced, on balance it is likely that the delivery of some projects will be deferred or pushed back, with consequent impacts on project capital and operating expenditure requirements.

7.3 Capital escalation

As noted in section 5.2.2, South East Water escalated its capital expenditure costs by the percentages outlined in the Econtech report. For the reasons outlined in section 5.2.2, we have scaled back South East Water's escalation to ensure unit capital costs increase by no more than CPI.

7.4 South East Water's Top 10 Capital Projects

The following Section reviews the top ten capital projects contained in South East Water's proposed capital program.

7.4.1 *Sewer Backlog Strategy*

Project Overview

The Sewer Backlog Program is the largest proposed capital expenditure in South East Water's program for the next regulatory period. The Backlog Program provides centralised wastewater facilities to properties that are served by failing septic tank systems. South East Water has the responsibility of providing reticulated wastewater services to properties within its boundary. South East Water has developed a Sewerage Backlog Strategy (March 2007), which details how backlog wastewater services will be provided.

The Sewer Backlog Program was initially scheduled to be completed in forty years, however a ministerial decision accelerated the program, bringing forward the proposed completion date to 2024/25.

Brief details of the areas proposed to be undertaken in the next regulatory period are described below:

- Flinders and Shoreham sewer backlog program contains approximately 1,230 unsewered properties. Construction works on a pressure system to transfer wastewater to Somers Sewerage Treatment Plant (STP) for treatment and disposal was commissioned in February 2008. Expenditure during the next regulatory period for this scheme is related to property connections.
- Nar Nar Goon and Tynong have 200 and 131 unsewered lots respectively. A design of a gravity reticulation and pumped transfer system from Pakenham STP was completed recently.
- Upper Beaconsfield contains six unsewered areas totalling 220 lots, which includes a Primary School and a local strip shopping centre. Wastewater from this area can be pumped to the Hallam Valley system approximately 5.8 kilometres to the south.

- Belgrave and Belgrave Heights contains 555 and 806 unsewered allotments respectively, which are proposed to be serviced by the 500 mm diameter Monbulk Creek Main Sewer.
- Mornington Peninsula Backlog Area covers areas including Rye, Sorrento, Blairgowrie and Portsea. There are a total of 18,250 unsewered properties in this area, which represents the majority of South East Water's Backlog program. The area will be serviced in seven stages, firstly maximising the use of the existing transfer system in the area and constructing a new Rye Portsea transfer main from Boneo treatment plant to service the remaining 14,000 backlog properties from Rye to Portsea.
- Officer is located in the Cardinia – Casey growth corridor which is to be developed over the next 30 years. To service this proposed development, it is proposed to use the Pakenham to Narre Warren transfer system that is planned to be constructed by 2011.

Also as a part of the Sewer Backlog Program, an upgrade at the Boneo plant is proposed to accommodate new customers connected as part of the backlog program.

Project Expenditure

The proposed capital expenditure for the Sewer Backlog Program is detailed in Table 7.4 following.

The annual level of expenditure for the Sewer Backlog Program has been significantly increased due to the decision to bring forward the expected completion date to 2024/25. As Table 7.4 shows the average expenditure per year is approximately $19.7 million over the next regulatory period. However, a significantly higher spend is forecast for the final year of the regulatory period.

South East Water's Backlog Sewerage Strategy indicates the accelerated 20 year program would require an average capital expenditure of approximately $21 million per year over the next regulatory period and approximately $26 million per year to 2024/25.

Table 7.4 Sewer Backlog Strategy Proposed Capital Expenditure ($2009m)

	2009/10	2010/11	2011/12	2012/13	Total
Flinders Shoreham Backlog Scheme					**5.107**
Flinders Backlog Connections 2008-2011	2.607	0.949			
Shoreham Backlog Connections 2009-2012	1.188	0.579			
Nar Nar Goon - Tynong Backlog Scheme					**2.196**
Nar Nar Goon Connections 2009-2012	0.574	0.574			
Tynong Backlog Connections 2009-2012	0.383	0.383			
Nar Nar Goon Connections 2012/13			0.225		
Tynong Backlog Connections 2012/13			0.150		
Upper Beaconsfield Backlog Scheme					**4.84**
Upper Beaconsfield Backlog Reticulation	1.147				
Upper Beaconsfield Transfer System	1.772				
Upper Beaconsfield Backlog Connections 2010-2013	0.851	0.638	0.638		
Sherbrooke Backlog Scheme					**24.836**
Belgrave Heights (Sherbrooke C) Backlog Reticulation	7.088	10.424	7.297		
Belgrave Heights (Sherbrooke C) Backlog Connections					
Selby (Sherbrooke B) Backlog Reticulation				1.080	
Dromana Portsea Backlog Scheme					**33.975**
Rye Coastal					
Wilson Rd PS Augmentation	0.118				
Bimble St PS Augmentation		0.334			
Marshall St PS Augmentation		3.268			
Eastbourne Rd PS Augmentation		1.042	5.299		
Diamond Bay Rd PS Transfer Main				6.789	
Diamond Bay Sorrento Reticulation				4.272	
Dromana Portsea Pressure Pump Connections 2009-2013	0.435	0.417	0.417	6.890	
Franklin & Fitzjohn PS (Augmentation?)		0.383			
Franklin and Fitzjohn PS Transfer Main					
Balar Rd PS Rye				0.776	
Baylar Rd PS Transfer Main			0.711	4.267	
Officer Backlog Scheme					**1.671**
Officer Backlog		0.174	1.568		
Miscellaneous Pressure Pump Connections					**0.6**
Miscellaneous Pressure Pump Connections 2008-2011	0.156	0.156			
Miscellaneous Pressure Pump Connections 2012-2015			0.156	0.156	
	18.404	**19.321**	**16.461**	**24.417**	**78.602**

South East Water has indicated that 2,700 properties will be serviced over the next regulatory period, at an estimated cost of approximately $29,112 per property. We note that the average per connection expenditure is consistent with that used by the other water businesses. In the previous regulatory period, a total of 1,687 properties were serviced, at an average cost of $18,886 per property serviced. However, this value varies significantly, from approximately $16,000 to $56,000 per property, depending on location and other factors. Proposed capital expenditure per property is shown in Table 7.5 below.

Table 7.5 Sewer Backlog Strategy Proposed Capital Expenditure per property ($2009m)

	2009/10	2010/11	2011/12	2012/13
Properties Serviced	400	600	800	900
Average Capital Expenditure per Property	$46,010	$32,202	$20,576	$27,130

In the current regulatory period, the expenditure significantly increased with the roll out of the program. The expenditure started at $1.4 million and increased to $19.2 million in 2007/08. Similar annual expenditure to 2007/08 is forecast for the next regulatory period, until 2012/13 when expenditure is expected to increase to $24.4 million, due to a couple of large individual projects.

The significantly higher cost per property identified in Table 7.5 for 2009/10 relates to a long transfer sewer required for the Upper Beaconsfield Scheme.

Project Delivery

Table 7.4 above outlined the capital delivery program for the Sewer Backlog Program. As shown it is proposed to undertake each particular backlog area in progressive stages which maximises the efficiency of the project.

Under the accelerated program, South East Water will undertake works at two or three towns concurrently, in order to complete the program by 2024/25.

South East Water's Backlog Sewerage Strategy (March 2007) indicates the impact of accelerating the program to completion in 2024/25 will include:

- capital expenditure increases of seven million dollars per annum over the next regulatory period.
- an increase in properties served from 1680 to 4480 households over the 2008/13 period.

We note South East Water are currently proposing to deliver services to 2700 properties, which is less than the 4480 properties stated in the Sewerage Backlog Strategy. However this is to be expected as the level of activity was reduced to lessen the impact on prices. We expect that South East Water will provide more sewerage backlog services to properties in future regulatory periods, to make up for the lower level of activity in the next regulatory period.

Findings

The Sewer Backlog Program's forecast expenditure is consistent with the requirement to meet the 2024/25 deadline. Unit rates vary for each project, depending on the location and the works required, however overall the rates are comparable to the other businesses.

We have reviewed the increase in the proposed expenditure and found that it is consistent with the revised completion date, but takes into account a reduced level of activity to lessen the impact on prices.

Given the accelerated program for completion by 2024/25, it is recommended that the Sewer Backlog Program remain in the capital expenditure for the next regulatory period with expenditure as shown in Table 7.6.

Table 7.6 Recommended Expenditure Profile – Sewer Backlog Program

Recommended Expenditure Profile ($M 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	20.0	18.4	19.3	16.5	24.4	**78.6**
Revised forecast	20.0	18.4	19.3	16.5	24.4	**78.6**
Net change	0.0	0.0	0.0	0.0	0.0	**0.0**

7.4.2 Water Main Replacements Program

Project Overview

This program aims to improve the reliability of potable water supply to South East Water's customers. The Water Main Replacements program includes both distribution and reticulation water mains. South East Water's approach to potable water management is underpinned by the Water Reliability Management Plan and the distribution and reticulation water mains strategies. The hierarchy of documents relating to this program was presented in Figure 4.1.

The objective of the Water Main Replacement Program is to minimise the number of customer disruptions as a result of distribution and reticulation water main failure. The key driver for managing the reliability of the potable water supply system is customer satisfaction and their expectation of service standards. This is measured and monitored by key performance indicators such as:

- unplanned interruptions per customer
- restoration time of unplanned interruptions
- number of unplanned interruptions per 100 kilometres of main
- average duration of unplanned interruptions and
- non revenue water losses.

Over the next regulatory period, South East Water states that it will continue to manage the potable water supply system efficiently and reduce water losses, whilst maintaining the current levels of service.

Distribution Mains

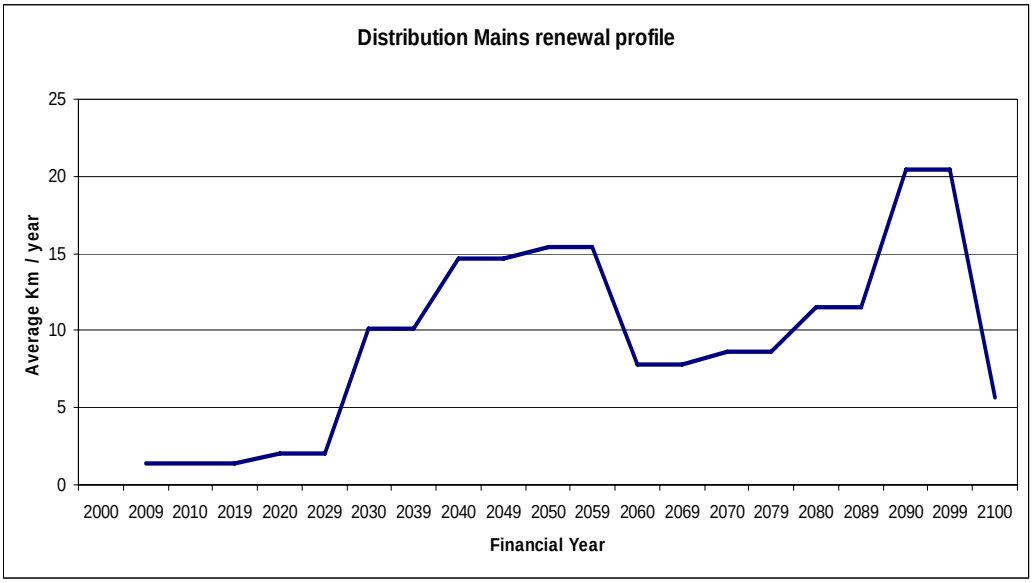
South East Water's distribution main network for potable water supply comprises approximately 1000 kilometres of mains. Each length of distribution main has been allocated a likelihood and consequence based risk ranking established by known asset information, which is available from the business's asset information system. The likelihood of failure is assessed on known pipe characteristics such as material and asset age. Consequence includes the environment, customer, reputation, regulatory and financial impacts of each asset. For further details of South East Water's risk matrix refer to Section 7.5.1

The consequence of a distribution main failing is much higher than that of a reticulation water main. As such, replacement or remediation is required prior to the asset failing. Currently identification of distribution mains for renewal is based upon:

- identification of the likelihood and consequence of failure of a distribution main based upon the above mentioned risk ranking system
- detailed condition assessments of identified pipes and
- determining the estimated remaining life of an asset based upon the detailed condition assessment

A distribution main renewal profile (shown below in Figure 7.1) has been produced to determine the long term requirements for distribution main replacements. This profile is based on life expectancy for the various materials used for distribution mains.

Figure 7.1 Replacement rates of South East Water's distribution mains

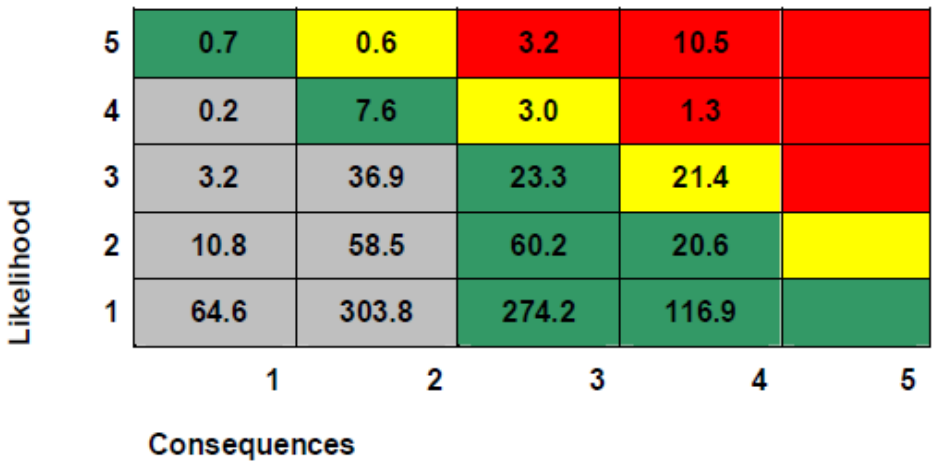


Source: South East Water – Water Mains Strategy

This profile indicates that in the short term an average replacement of approximately 1.5 – 2 kilometres per annum would meet the expected end of service life for distribution mains.

The water distribution mains to be replaced during the next regulatory period are determined by considering not only the asset remaining life, but also the recent burst history and the impact of failure. The likelihood of failure for higher risk assets is then confirmed through actual condition assessment to obtain a true remaining asset life. The risk profile below, in Figure 7.2, is projected to 2012/13.

Figure 7.2 Risk matrix for Water Distribution mains showing lengths to be replaced



Reticulation Mains

South East Water has 7,443 kilometres of reticulation mains for potable water supply. Similar to distribution mains, a risk ranking for each length of reticulation main has been developed based on known pipe information, including performance data that is contained in the business's asset information system.

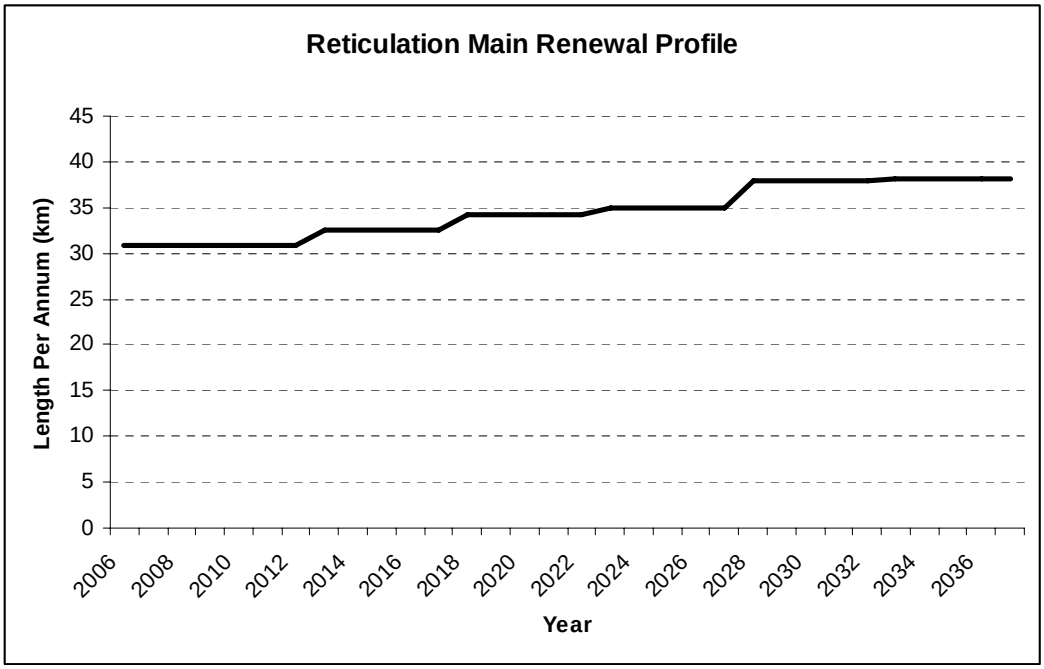
South East Water's benchmarking and customer surveys indicates that the business is delivering the expected level of service at a comparable level to that of the other retail businesses. As such, South East Water proposes to maintain the current level of service over the next regulatory period, with a priority objective of ensuring that the number of customer interruptions is kept at five or less in a 12 month period. South East Water also intends to ensure all KPI requirements in relation to the potable water supply are met. This means that the current intervention levels in terms of water main renewals as well as response times to water main bursts, and length of water interruptions are being maintained through the next regulatory period.

Water reticulation mains are replaced at the end of the effective life, which is defined by the current intervention level of three interruptions to customers. South East Water uses the PARMS (Pipeline Asset & Risk Management System) model, which assesses long term cost implications of a number of operational and customer preference scenarios. The model is owned and developed by CSIRO and has been populated with South East Water's pipeline condition data, as well as data relating to age, material, soil conditions and previous burst history. South East Water uses PARMS to examine the capital expenditure, operational expenditure and customer service levels, as well as to predict the number of failures and interruptions over 25 years, including the likelihood of an asset incurring three interruptions in a 12 month period.

As the model is probability based, it does not examine individual assets, but uses groups to predict the distribution of failure for that asset group over time. As such, South East Water also uses a prioritising tool, WRAP (Water Renewal Asset Prioritiser), which produces a list of reticulation pipelines based on the failure risk score for each pipeline.

For the next regulatory period, the PARMS model predicts that an average of 31 kilometres per annum of water mains will require renewal, as shown in Figure 7.3.

Figure 7.3 Predicted replacement rates for reticulation mains



Source: South East Water – Water Mains Renewal Strategy

Project Expenditure

Distribution Mains

Table 7.7 following outlines the proposed length of renewals to be undertaken in the next regulatory period and South East Water's forecast and revised expenditure.

Table 7.7 Proposed Distribution Mains Renewals

	Water Plan 2005 -08				Water Plan 2009 -13			
Period	05/06	06/07	07/08	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**
Length (km)	0	0.4	1.2	0	2.5	2.7	3.6	3.4
Actual/ Forecast ($m)	0.25	0.47	2.27	0	6.78	5.52	5.32	5.42
SEW Revised Forecast ($m)				0.1	6.54	5.31	5.09	2.50

South East Water indicated that the rates in Table 7.7 are based on recent St Kilda Road works. For typical works on distribution mains a unit rate of $2,000 per metre was used, however variations to the rate were also made by the business based on surrounding street types. South East Water's different street categories include Residential Streets, Major Roads and Shopping Centres. The unit rates adopted by South East Water are between two and five times that of other metropolitan retailers for their distribution mains renewals.

This unit rate is high when compared to other businesses, however restricted access, risk of damage to other services and other requirements from councils, transport authorities etc., may account for some of this price in St Kilda Road.

In addition to the St Kilda Road project, South East Water is proposing a major distribution main renewal in Chapel Street. South East Water has a separate rate of $2,600 per metre for the works in Chapel Street.

South East Water has also revised the estimates for Stage 2 of St Kilda Road Project, where the business' Water Plan for the next regulatory period indicated a total spend of $5.025 million (July 2008 dollars) for the project. This has since been revised by South East Water to $2.4 million (July 2008 dollars). The initial rate was listed as the entire St Kilda Road Project instead of Stage 2 only.

The unit rates for each project are calculated based on a report undertaken by a consultant in July 2006. These rates were increased by 33 per cent across the board, to convert them to July 2008 figures, which is in line with water reticulation main increases. South East Water state that this increase covers material and labour cost increases since 2006, as well as traffic management cost increases.

Reticulation Mains

For reticulation mains, the PARMS model has been used, as shown by the replacement rates in the current regulatory period (refer Table 7.8). Based on this consistent renewal rate, it would be expected that expenditure for the next regulatory period would be comparable to the pervious, especially since a long term reticulation main renewal contract commenced in July 2006. This contract is due to expire in July 2009, however it is likely to be extended by one year, to align with the renewal of the sewer reticulation main contract.

Table 7.8 Proposed Reticulation Mains Renewals ($m 2008/09)

	Water Plan 2005 -08				Water Plan 2009 -13			
Period	**05/06**	**06/07**	**07/08**	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**
Length (km)	31.6	31.7	30.56	31.0	31.0	31.0	31.0	31.0
Actual/ Forecast ($m)	6.88	7.61	9.00	9.17	9.49	9.49	9.49	9.49
Unit Rate ($m/km)	0.218	0.240	0.294	0.296	0.306	0.306	0.306	0.306

The average unit rate was $0.267 million per kilometre for the actual works completed in this contract (to July 2008). However, the unit rate proposed by South East Water over the next regulatory is $0.306 million per kilometre. This rate was chosen based on the 2007/08 unit rate, and escalated to current day figures. This rate represents a 14 per cent increase on the historical rates.

The current contract for water reticulation mains is a schedule of rates, and is subject to rise and fall, based on the Australian Government formula, which calculates the percentage increase and decrease of tendered rates. This calculation excludes materials, where contractors are able to apply to South East Water for increases to unit rates due to material cost rises.

Over the contract, between July 2006 and July 2008, South East Water have found that costs of materials and traffic management have increased significantly and led to a 33 per cent increase in the unit rates over this period.

Project Delivery

Distribution Mains

During the current regulatory period, two distribution mains were identified for replacement, Chapel Street in Prahran and Cecil Street in South Melbourne. However the prioritisation of these works was altered due to a section of water main in St Kilda Road, Melbourne failing a number of times and requiring immediate replacement. South East Water has already completed 1.2 kilometres of this St Kilda Road renewal in Stage 1 of the project in 2007/08.

South East Water undertook no works in 2008/09 to allow for the full planning and detailed design of Chapel Street water main, scheduled for construction in 2009/10. Other distribution main works were not scheduled prior to Chapel Street due to its high priority and to minimise delays in delivering the project. A detailed condition assessment on Cecil Street main indicated good condition data, and it has subsequently been put back on an inspection cycle. Stage Two of the St Kilda Road project has been prioritised for replacement.

The Board approval for the original St Kilda Road project was given in October 2006. However this Board submission was not representative of the entire project, as it does not appear that the Board has approved the entire amount or the expenditure for Stage 2 of the works. What is of major concern; is that the original NPV analysis undertaken as a part of the recommendation on the staged approach does not appear to include the additional costs proposed for the next regulatory period. If these additional costs were included in the original NPV analysis of the staged option, the NPV would have significantly increased and the Stage 1 option may no longer have been the preferred option.

South East Water's program targets the high and significant risk assets identified in the risk matrix. South East Water has proposed the program shown in Table 7.9 for the next regulatory period.

Table 7.9 - Proposed Distribution Mains Replacements

Location	Pipe Size	Construction Year	Length	Remaining Life	Risk Level
St Kilda Rd – Stage 2*					
Chapel St (Toorak Rd to	250	1868	1.6	-18	54- High
Alma Rd) Prahran	300/225	1863	2.5	-23	54 - High
Bluff Road, Sandringham	300	1911	2.5	3	42- Moderate
Jasper Road, Bentleigh	300	1899	1.2	-9	43- Significant
Yarra Street, South Yarra	300	1914	1.4	6	44 - High
Warrigul Road, Oakleigh	300	1911	0.5	3	43 - Significant
Centre Rd (Tucker Rd to East Boundary Rd) East Bentleigh	525	1911	1.5	3	51 - Moderate
City Rd (Kingsway to Clarke St) South Melbourne	300	1875	0.3	-11	54 - High

*- continuation of unplanned renewal from 2005/2008 water plan

Following a review of the program between the Draft Report and Final Report, South East Water has indicated (refer Table 7.10) that the St Kilda Road project to be completed in the final year of the regulatory period is only 1.6 kilometres instead of the initial 3.4 kilometres outlined in the Water Plan. A subsequent adjustment of the project expenditure has also been advised by South East Water.

Table 7.10 Revised Distribution Main Replacement Rates

		Water Plan 2009 -13			
Period	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**
Length (km)	0	2.5	2.7	3.6	1.6

Reticulation Mains

Given that there is an annual rate of 31 kilometres of reticulation mains proposed for the next regulatory period, and the South East Water's history of completing a similar amount of work in the current regulatory period, the proposed program appears achievable. Reticulation mains are completed as a part of a design and construct contract.

Findings

Distribution Mains

The distribution mains proposed for the next regulatory period have been identified by revised risk assessments as having a high or significant risk and are nearing their expected end of life. Given that South East Water is proposing to maintain their current levels of service the next regulatory period, it is recommended that the water distribution mains with a lower risk rating (i.e. moderate or lower) be deferred to future regulatory periods.

Based on this, a new proposed program for distribution mains in the next regulatory period is recommended in Table 7.11 below.

Table 7.11 Recommended Water Distribution Main Replacement Lengths

		Water Plan 2009 -13			
Period	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**
Length (km)	0	2.5	1.2	1.1	1.6

We note that the unit rate increase of 33 per cent between 2006 and 2008 seems high for water distribution mains. One of the other metropolitan water businesses is expecting a 10 per cent increase in rates from their 2005 contract, which was developed in consultation with their current supplier. Overall the unit rates for water distribution mains seem high, especially when compared to the other metropolitan retailers. However no recommendations have been made to reduce this percentage increase or the unit rates applied over the next regulatory period.

Table 7.12 following provides our recommendation on the expenditure profile for water distribution mains over the next regulatory period. Our recommendations include the revised expenditure for the St Kilda Road project, as indicated by South East Water, which was not incorporated in the Water Plan.

Table 7.12 Recommended Expenditure Profile for Water Distribution Mains

Recommended Expenditure Profile ($M 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	0	6.8	5.5	5.3	5.4	**23.0**
South East Water Updated forecast	0.1	6.5	5.3	5.1	2.5	**19.4**
Revised forecast	0.1	6.5	1.5	2.0	2.5	**12.5**
Net change	0.1	-0.3	-4.0	-3.3	-2.9	**-10.5**

Reticulation Mains

The average unit rate for water reticulation main renewals that were undertaken from July 2006 to July 2008 was $0.267 million per kilometre. For the next regulatory period and over the new contract, it is reasonable to expect that a similar rate will be able to be achieved. As such, South East Water has proposed a rate of $0.306 million per kilometre, for the next regulatory period. With this proposed rate based on the 2007/08 average unit rate, we recommend that this rate be adopted.

The recommended expenditure profile for water reticulation mains is shown in Table 7.13.

Table 7.13 Recommended Expenditure Profile for Water Reticulation Mains

Recommended Expenditure Profile ($M 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	9.17	9.49	9.49	9.49	9.49	**38.0**
Revised forecast	9.17	9.49	9.49	9.49	9.49	**38.0**
Net change	0.0	0.0	0.0	0.0	0.0	**0.0**

To increase flexibility in the terms of the contracts, South East Water may wish to consider including clauses relating to undertaking annual market benchmarking of unit rates for renewals to ensure that the contracted rates are providing value for money for South East Water.

The overall recommendation for the Water Main Replacement Program's expenditure profile is show in Table 7.14. This includes both distribution and reticulation water mains.

Table 7.14 Recommended Expenditure Profile for Overall Water Main Replacements Program

Recommended Expenditure Profile ($M 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	9.3	16.3	15.0	14.8	14.9	**61.0**
Revised forecast	9.3	16.0	11.0	11.5	12.0	**50.5**
Net change	0.0	-0.3	-4.0	-3.3	-2.9	**-10.5**

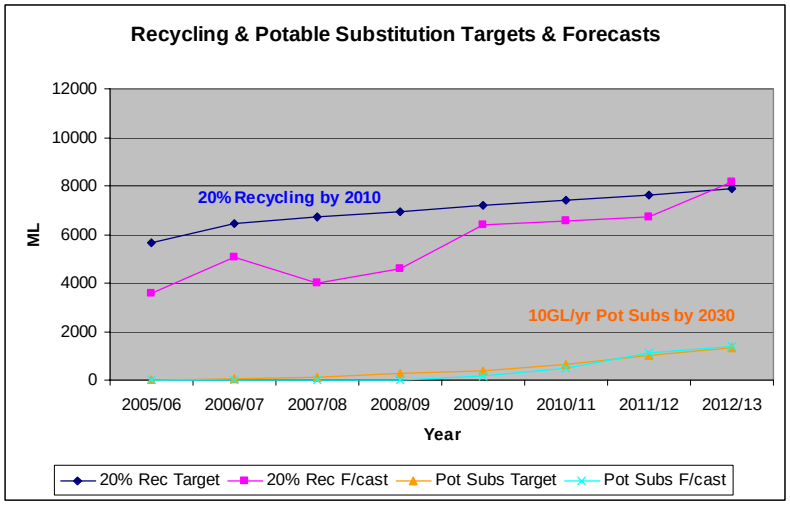
7.4.3 *Dual Pipe Recycled Water*

Project Overview

CRSWS sets a potable water substitution target of 10 gigalitres per annum by 2030 for all of the metropolitan water authorities. A range of local water recycling and reuse schemes were identified to achieve this target. These included rainwater tanks, advanced greywater systems, dual pipe systems for recycled water in new residential and commercial developments and treatment plants for stormwater use. The contribution from South East Water to meet the potable substitution target was initially agreed at 31 per cent. However, as detailed in the Victorian Government's Alternative Water Plan, South East Water's contribution will be 4,100 ML by 2030, which equates to approximately 40 per cent of the total target.

A comparison between South East Water's actual rate of recycled water consumption and potable substitution targets, for the current and next regulatory periods, compared to the targets, is displayed in Figure 7.4. The graph, based on the included projects in the next regulatory period, shows South East Water will meet the first target of its contribution to the metropolitan potable substitution target of 10 gigalitres by 2030.

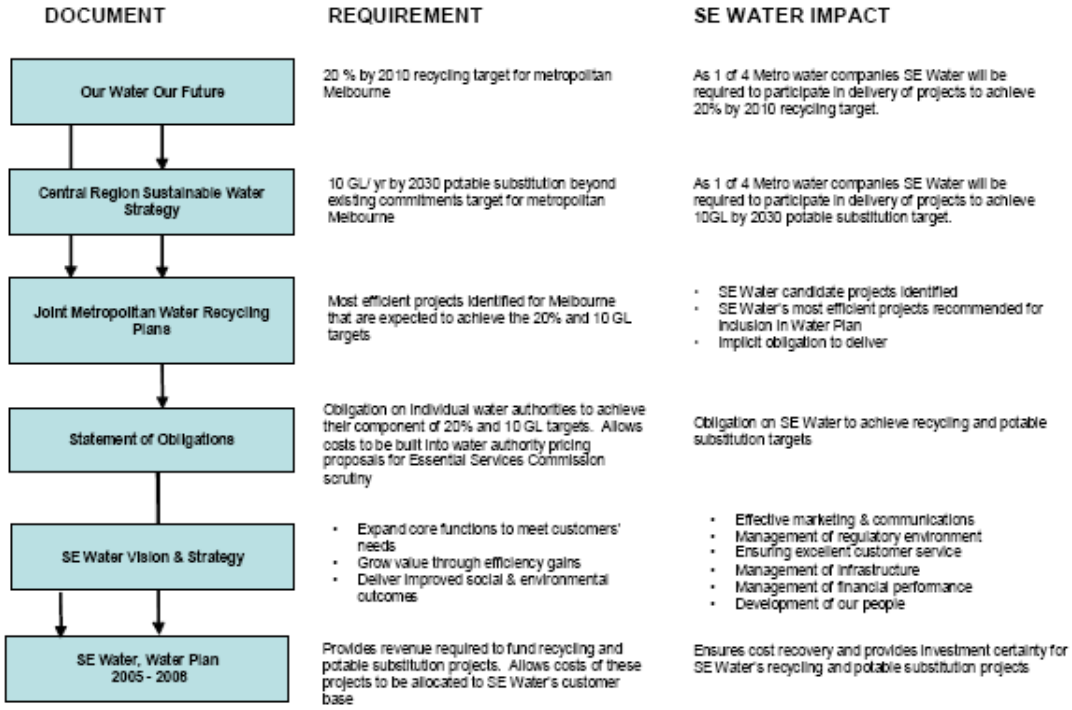
Figure 7.4 South East Water's Progress against Recycling Targets



Source: South East Water – Alternative Water Strategy

Figure 7.5 below shows the document hierarchy relating to the recycled water project and the requirements and impacts on South East Water, set by each document.

Figure 7.5 Document Hierarchy of Alternative (Recycled) Water Projects



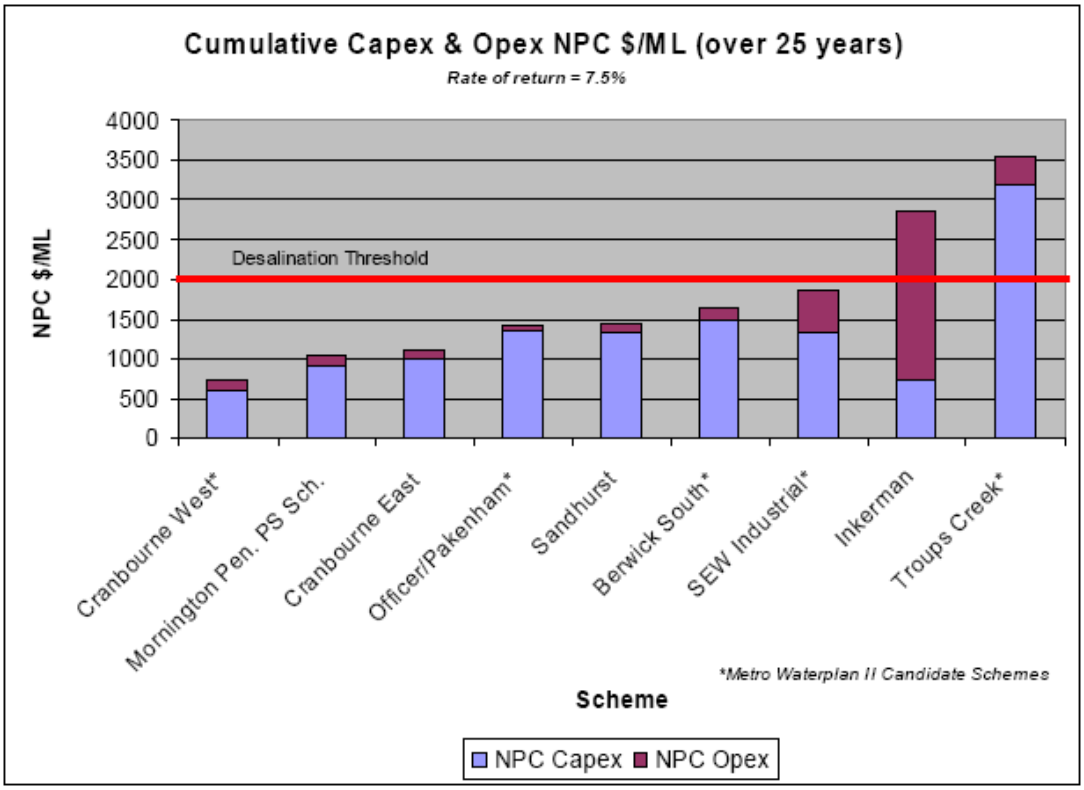
Source: South East Water – Alternative Water Strategy

One of the projects proposed by South East Water to meet the 10 gigalitre target is Dual Pipe Recycled Water for developing areas in Melbourne's south east. The Dual Pipe Recycled Water project comprises the storage tanks and distribution pipelines required to provide recycled water to new developments in Cranbourne East and West, Officer and Berwick. The project also includes a Class A treatment plant at Pakenham STP that will supply recycled water to Officer. Recycled water for Cranbourne and Berwick are proposed to be sourced from Melbourne Water's Eastern Treatment Plant.

Project Expenditure

Each recycled water project is evaluated on a case by case basis and compared against an indicative cost of desalinated water. As shown by Figure 7.6, the cost per megalitre of the Dual Pipe projects for Officer, Berwick and Pakenham are lower than the indicative price to supply water from desalination of $2,000 per megalitre.

Figure 7.6 Comparison Cost to Supply Recycled Water against Desalination



Source: South East Water – Alternative Water Strategy

The proposed expenditure over the next regulatory period is shown in Table 7.15. The highest expenditure over the regulatory period, is for the Officer Dual Pipe Project, however this expenditure also includes that proposed for the Pakenham STP Class A upgrade.

Further expenditure in future regulatory periods will occur for the Pakenham STP Class A upgrade, and further infrastructure to connect Officer to recycled water. There is also significant expenditure proposed for the Berwick project in future regulatory periods.

The proposed cost estimates are in line with those estimated in the Recycled Water Capacity Management Plan and have been developed from a functional design.

Table 7.15 Proposed Expenditure for Dual Pipe Projects

Proposed Expenditure Profile ($M 2008/09)	2009/10	2010/11	2011/12	2012/13	Total
Cranbourne West					**1.824**
2 ML Tank		1.042			
17ML/d @ 60m Pump Station		0.782			
Cranbourne East					**10.685**
7.5 ML Cranbourne Sth Tank		0.261	2.085	1.042	
Cranbourne Sth Tank 600mm Outlet Main			1.824		
1 ML Cranbourne Nth Tank No 1				1.303	
EIS Augmented Supply	1.042	3.127			
Officer					**20.640**
375mm Pakenham Officer Transfer P/L (8 km)	3.492	4.170			
18ML/d Pakenham WTP PS		0.208			
375mm Cardinia Rd Main (1.4 km)		1.095			
375mm Thewlis Rd & Princes Hwy Mains (1.8 km)			1.407		
5ML/d Officer East HL PS			0.365		
Officer treatment plant Class A	2.085	7.818			
Berwick					**8.339**
ETP to Berwick Transfer Pipeline & Pump Stations	1.564		0.521	6.254	
	8.183	**18.503**	**6.202**	**8.600**	**41.487**

Project Delivery

The main component of these works relates to the upgrade and associated infrastructure of the Pakenham STP which will supply Officer with the Class A water.

South East Water's Board has approved the servicing strategy for the provision of recycled water to Officer. A business case submission to confirm the recycled water supply strategy has been submitted to Government for final approval, which is expected by June 2009.

South East Water is currently tendering for an alliance, which will include the delivery of the Officer Class A treatment plant. This project is scheduled to be completed by December 2010. A functional design and requirements for all works has been completed.

Detailed design of the Pakenham to Officer Pipeline is nearing completion and South East Water indicates that this may commence earlier than expected. Overall the timing of this project will match the delivery of the Officer Class A treatment plant.

Given the increase of capital expenditure over the next regulatory period, especially when compared to the total of $0.74 million spent in the current regulatory period, the deliverability of the proposed program will represent a challenge to South East Water, especially in 2010/11 where a capital expenditure of $18.5 million is proposed.

Findings

We have reviewed South East Water's proposed expenditure and justification for the project, and are satisfied that the levels of expenditure proposed are sufficient to meet the required project outputs.

We have reviewed the delivery of the project and, while we note the challenge of significantly increased expenditure, we are satisfied that South East Water will be able to complete the project as planned.

Based on this review of the supplied information, we recommend that this Dual Pipe Recycled Water project remain in the capital expenditure for the next regulatory period. The recommended expenditure profile is shown in Table 7.16.

Table 7.16 Recommended Expenditure Profile for Dual Pipe Recycled Water Program

Recommended Expenditure Profile ($M 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	1.7	8.2	18.5	6.2	8.6	**41.5**
Revised forecast	1.7	8.2	18.5	6.2	8.6	**41.5**
Net change	0.0	0.0	0.0	0.0	0.0	**0.0**

7.4.4 *Sewer Renewals Program – Gravity Mains*

Project Overview

Branch and reticulation sewer strategies provide a rational framework for the reliability of the wastewater collection system and form part of the overall wastewater collection systems Reliability Management Plan.

The key driver for managing the reliability of the wastewater collection system is protection of the environment from raw sewage. South East Water measures reliability performance through a number of key performance indicators, such as the number of raw sewage spills to the environment; the number of raw sewage spills that are contained within 5 hours; and the interruptions to sewer service. South East Water's Customer Charter also requires there to be no more than three unplanned wastewater system interruptions in any 12 month period for any customer.

For the next regulatory period, South East Water proposes to maintain or decrease the current levels of service compared to historical levels. The service standards relating to this program are shown in Table 7.17.

Table 7.17 Service Standards for the Sewer Programs

Key Performance Indicator	05/06 Actual	06/07 Actual	07/08 Actual	08/09	09/10	10/11	11/12	12/13
Sewer Spills per 100km of sewer	4.7	6.9	5.5	**7.0**	**7.5**	**7.5**	**7.5**	**7.5**
Sewer spills fully contained within 5hrs (%)	100	100	100	**100**	**100**	**100**	**100**	**100**
Sewer blockages per 100km of sewer	16.4	21.4	20.7	**21.5**	**22.5**	**22.5**	**22.5**	**22.5**
Sewer odour complaints – total	37	53	36	**50**	**50**	**50**	**40**	**35**
No. properties with > 3 sewer blockages p.a.	0	2	6	**8**	**8**	**8**	**8**	**8**

South East Water uses an asset management system that has a risk ranking for each length of branch or reticulation sewer. The ranking is based on a likelihood versus consequence scale, which is developed from known pipe information including performance data which is available from the asset information system.

Renewal of these sewers can be undertaken by a number of techniques including pipe lining, pipe bursting, replacement and realignment. The actual method is determined by the hydraulic requirements and structural condition.

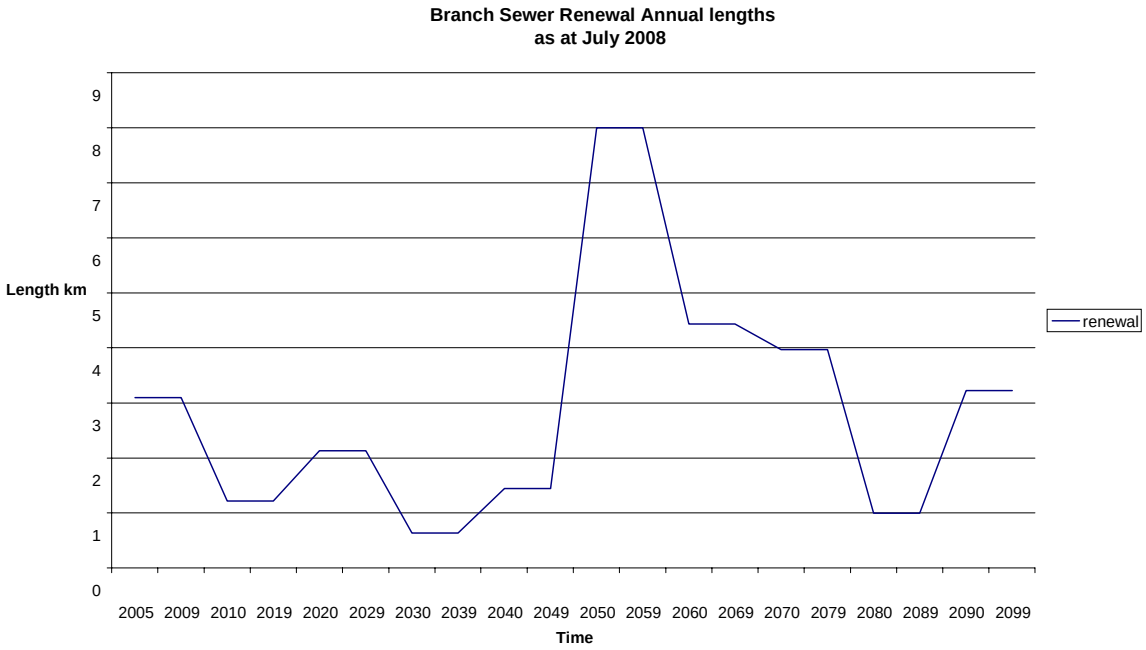
Branch Sewers

South East Water's wastewater system comprises 774 kilometres of branch sewer. Based on the risk ranking in the asset information system, an indicative sewer renewal profile for branch sewers was developed, based on expected asset lives, to estimate long term replacement requirements. The profile, as shown in Figure 7.7, indicates in the short term an average renewal rate of 2-3 kilometres per year would meet the expected end of service life of the branch sewers. The profile also shows that the renewal length decreases over the next regulatory period to approximately 1.2 kilometres per year.

This profile does not take into account existing CCTV structural assessments for branch sewers. Results from the individual structural assessments and also the consequence of failure are included in South East Water's risk management profile which is shown in Figure 7.8.

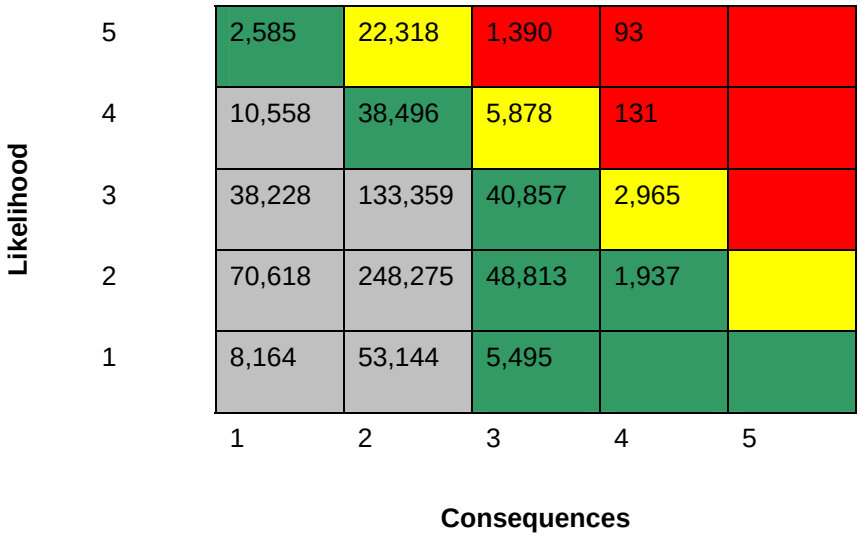
This risk based approach adopted by South East Water allows the business to manage its wastewater assets whilst minimising system failures, customer inconvenience, environmental damage and the cost of asset management.

Figure 7.7 Branch Sewer Annual Renewal Length



Source: South East Water – Sewer Main Renewal Strategy

Figure 7.8 Branch Sewer Risk Matrix



Source: South East Water – Sewer Main Renewal Strategy

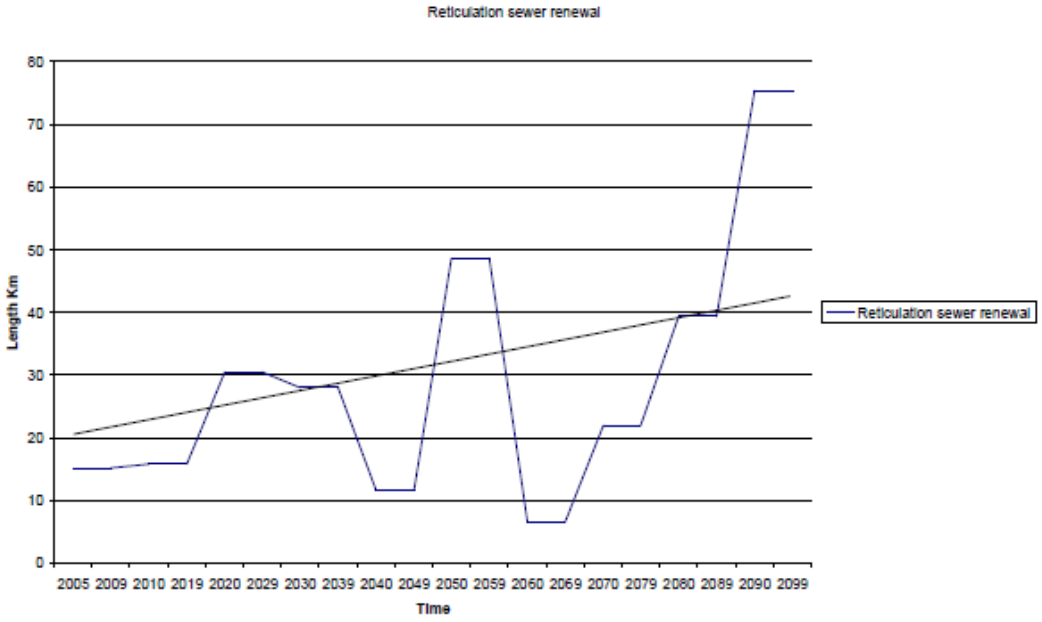
Both the CCTV condition assessments and the estimated asset life renewal graph indicates that concrete sewer pipes are known to be the most likely pipe material to cause failure within the current renewal program. As such these have been targeted for replacement over the next regulatory period.

Reticulation Sewers

South East Water's wastewater system comprises approximately 6,945 kilometres of reticulation sewer. The renewal profile (shown in Figure 7.9) for reticulated sewers has also been produced based on known asset information. The profile examines long term requirements, based on life expectancy of construction materials. A CCTV program indicates a structural risk ranking between 1 and 5, where a rating of 4 or 5 places the sewer in the programmed reticulation sewer works program. South East Water use SARP (Sewer Asset Renewal Prioritiser) to prioritise renewal and record CCTV undertaken.

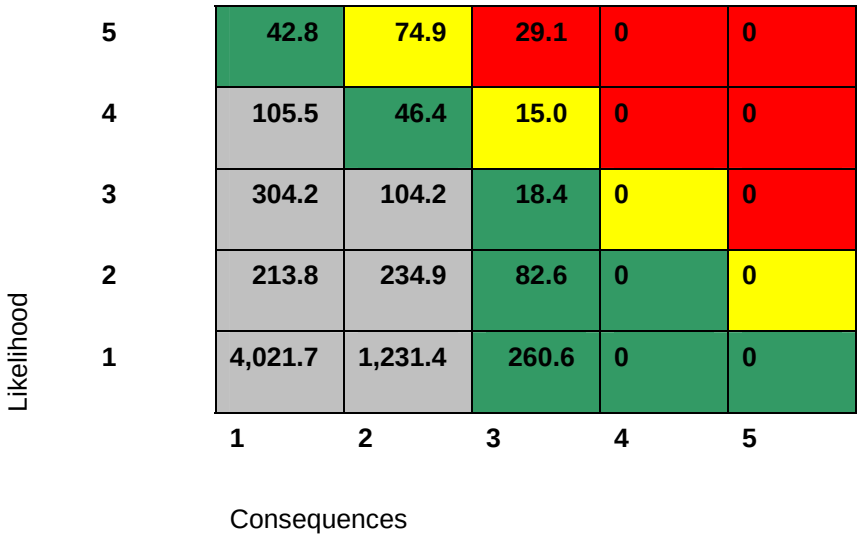
South East Water's risk matrix for reticulation sewers is shown in Figure 7.10. The profile shows that approximately 15 kilometres of reticulated sewer renewals are required each year over the next regulatory period.

Figure 7.9 Reticulation Sewer Annual Renewal Length



Source: South East Water – Sewer Main Renewal Strategy

Figure 7.10 Reticulation Sewer Risk Matrix



Project Expenditure

The forecast expenditure for the Sewer Renewals – Gravity program is shown in Table 7.18 below.

Table 7.18 Proposed Expenditure Profile

					2009-2013 Water Plan			
Asset Category	**05/06 Actual**	**06/07 Actual**	**07/08 Actual**	**08/09 Budget**	**09/10 Budget**	**10/11 Budget**	**11/12 Budget**	**12/13 Budget**
Branch Sewers ($m)	1.32	0.82	1.22	1.88	2.19	2.19	2.19	2.19
Branch Unit Rate ($m/km)	0.43	0.54	0.71	0.59	0.68	0.68	0.68	0.68
Reticulation Sewers ($m)	4.18	3.77	3.23	4.74	6.10	5.84	7.30	7.30
Reticulation Unit Rate ($m/km)	0.29	0.16	0.21	0.32	0.31	0.29	0.29	0.29

In the current regulatory period, South East Water achieved a unit rate of $0.55 million per kilometre of sewer branch renewals and $0.22 million per kilometre of reticulated sewer renewal.

For the next regulatory period, South East Water proposes to increase the unit rates for both branch and reticulated sewer renewals. Unit rates of $0.68 million per kilometre for branch sewers, and $0.29 million per kilometre for reticulated sewers have been adopted.

The branch sewer rates proposed by South East Water were based on the 2007/08 rates of $710 per metre. This was scaled back as these were considered as above average works.

Project Delivery

The annual lengths of renewal proposed by South East Water, for both Branch and Reticulated Sewers are shown in Table 7.19.

Table 7.19 Proposed Renewal Length

	Water Plan 2005 -08				Water Plan 2009 -13			
Period	05/06 Actual	06/07 Actual	07/08 Actual	08/09 Forecast	09/10 Forecast	10/11 Forecast	11/12 Forecast	12/13 Forecast
Branch (km)	3.1	1.53	1.72	3.2	3.2	3.2	3.2	3.2
Reticulated (km)	14.5	22.9	15.19	15	20	20	25	25

For branch sewers, over the next regulatory period the renewals graph based on the asset data (refer Figure 7.7) indicates a renewal rate of between two to three kilometres per year for the short term with the rate decreasing slightly over the period to 2050.

For reticulated sewers, the predictive model based on asset lives indicates a renewal rate of 15 kilometres per annum over the next regulatory period. However, South East Water is proposing a greater level of reticulated sewer works over the next regulatory period. As well as the indicated 15 kilometres, the business is also proposing an extra 5 kilometres per year, which South East Water states will account for any unexpected renewals that result as a part of the CCTV assessment program. South East Water provided explanations for this increase above the renewal rate graph by demonstrating a trendline on Figure 7.9 which indicates an average renewal rate requirement starting at 20 kilometres per year and increasing over the next regulatory period. However, this trendline has not been identified in any supporting documentation sighted or supplied.

South East Water is also proposing a further increase for the final two years of the next regulatory period, by an extra 5 kilometres per year, which allows for a gradual step up to the expected 2020 renewal rate.

Findings

South East Water is not proposing to increase any of the customer service levels. However the proposed rate of renewals for both branch and reticulation sewers are greater than those predicted in the annual renewal length graphs.

Given that the renewal lengths for branch sewers are determined on a more detailed condition assessment, based on the CCTV surveys, we recommend the rate of renewal for branch sewers remain at 3.2 kilometres per annum.

Reticulated sewers require 15 kilometres of renewal per annum to maintain the current service levels, although it is acknowledged that this rate will double by 2020. As such, it is recommended that South East Water's rate of 20 kilometres per annum be adopted for the whole of the next regulatory period. This rate was agreed to by South East Water in their response to the draft report.

The CCTV program identifies the structural condition of sewer, and allows prioritisation for replacement based on the risk matrix. If South East Water's CCTV program identifies additional sewers that are not currently in the prioritised program, the obtained sewer data should be entered into the asset database and the prioritisation software, and replaced before lower priority reticulated sewers. The lower priority reticulated sewers would therefore be deferred to future regulatory period.

We recommend the renewal rates for branch and reticulated sewers shown in Table 7.20 be adopted for the next regulatory period.

Table 7.20 Recommended Renewal Profile

	Water Plan 2005 -08				Water Plan 2009 -13			
Period	05/06 Actual	06/07 Actual	07/08 Actual	08/09 Forecast	09/10 Forecast	10/11 Forecast	11/12 Forecast	12/13 Forecast
Branch (km)	3.1	1.53	1.72	3.2	3.2	3.2	3.2	3.2
Reticulated (km)	14.5	22.9	15.19	15	20	20	20	20

Unit rates over the current regulatory period are lower per kilometre than proposed by South East Water for the next regulatory period. However one would expect that these rates would rise over time. South East Water have adopted a unit rate for branch sewers which is lower than that undertaken in 2007/08, as it was agreed that works undertaken in this year were above average. We recommend that the adopted unit rate by South East Water be maintained for the next regulatory period.

In the Water Plan, South East Water adopted a rate of $0.29 million per kilometre for reticulation sewer renewals. In the draft report it was recommended that this rate be reduced, as it represented a 32 per cent increase over the average rate from the previous regulatory period. The draft report recommended a unit rate $0.25 million per kilometre. This rate represents a small increase over the historical unit rates for sewer reticulation renewals.

In their response to the draft report, South East Water agreed to a unit rate of $0.25 million per kilometre. South East Water undertook a review of the 2007/08 reticulation sewer renewal projects, and concluded that the difficulty involved in these projects was higher than average projects. As such, agreed that the rate proposed in the Water Plan was based on higher expenditure that would have otherwise occurred in an average year. As such, we recommend that the unit rate for sewer reticulation main renewals be reduced to the agreed rate of $0.25 million per kilometre.

Table 7.21 shows the recommended changes to expenditure for the next regulatory period.

Table 7.21 Recommended Expenditure Profile for Sewer Main Renewals - Gravity

Recommended Expenditure Profile ($m 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	6.6	8.3	8.0	9.5	9.5	**35.3**
Revised forecast	6.4	8.1	7.8	7.8	7.8	**31.5**
Net change	-0.2	-0.2	-0.2	-1.7	-1.7	**-3.8**

Note: the above table also includes the proposed expenditure for Emergency Reticulation Sewers.

To increase flexibility in the terms of the renewals contracts, South East Water may wish to consider including clauses relating to undertaking annual market benchmarking of unit rates for renewals to ensure that the contracted rates are providing value for money for South East Water.

7.4.5 Sewer Renewals Program – Pressure Mains

Project Overview

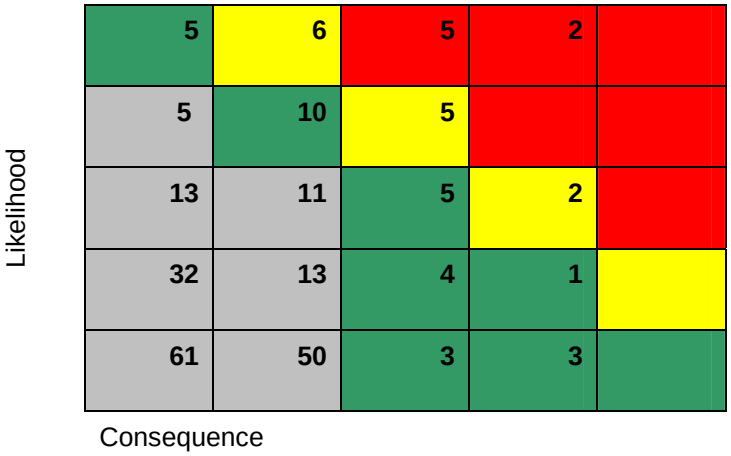
This program is similar to the Sewer Renewals Program for Gravity Mains, discussed in the previous section, and shares the same key drivers (reliability and protecting the environment from raw wastewater). The Sewer Renewals Program is also driven by managing the impact of water conservation with an increased risk management focus and a target of zero failures.

We have reviewed South East Water's Sewer Pressure Main Strategy and believe that it provides a rational framework for the documentation of their approach to sewage collection reliability management.

South East Water consists of 216 kilometres of sewer pressure mains. Sewer pressure mains are major pipes which transfer wastewater from one catchment to another, and onto treatment plants for processing. These mains are included in the asset information system which is used to ensure assets function as intended and do not fail.

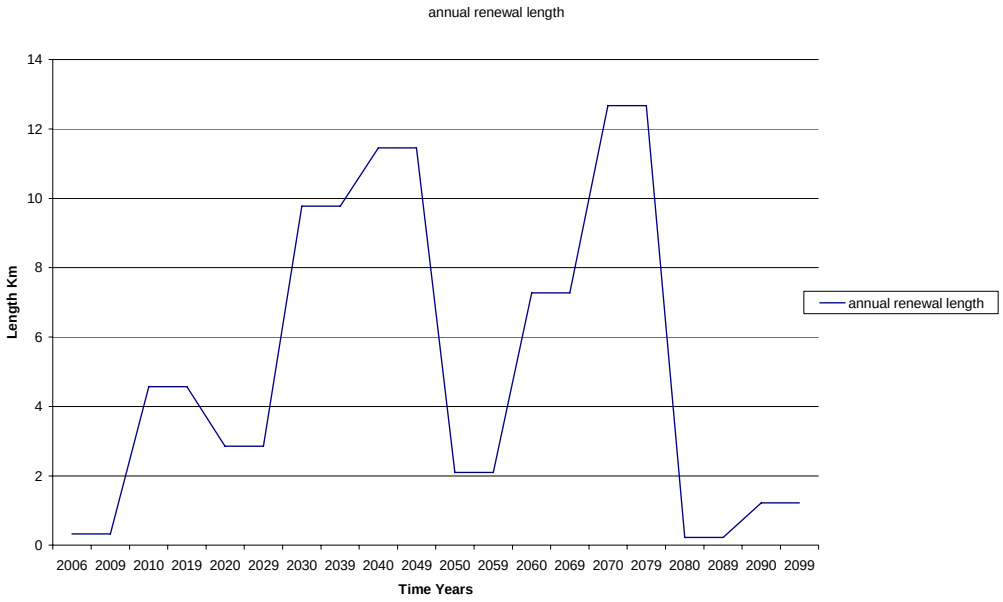
In the asset management database, a risk ranking for each sewer pressure main has been developed. This ranking is based on known pipe information, performance data and operation conditions. The likelihood of failure occurring is dependent upon the known pipe characteristics, which is based on condition assessments. Obtaining actual condition of a buried sewer pressure main along the full length of the main would be ideal. However limitations on technology and cost requires a sample of pipe material to be taken, and from this a determination on the probable condition of the full pipe length is made. Consequence rating encompasses the environment, customer, regulatory and financial impacts. South East Water risk matrix for sewer pressure mains is shown in Figure 7.11. The matrix is based on a five year outlook up to 2013 assuming no renewals are undertaken over that time.

Figure 7.11 Pressure Sewer Main Risk Matrix showing lengths of mains in each risk category



From the known life expectancy of pipe materials and the condition assessments, estimations on the renewal dates can be made. Figure 7.12 shows the estimated annual renewals for South East Water's network. It shows that on average the renewal rate for the next regulatory period starts at approximately one kilometre per year and increases to 4.5 kilometres per year by the end of the period.

Figure 7.12 Pressure Sewer Main Annual Renewal Length



Source: South East Water – Sewer Main Renewal Strategy

Project Expenditure

A total of $16.5 million is proposed to be spent over the next regulatory period, distributed over the period as shown in Table 7.22.

Table 7.22 Proposed Expenditure Profile

($m 2008/09)	Water Plan 2005-08				Water Plan 2009-2013			
Program	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13
Renewal	1.10	2.69	2.00	1.93	3.33	4.62	4.56	4.69

South East Water has forecast an average unit rate of $1.69 million per kilometre. This is well under the unit rate for the current regulatory period of $2.05 million per kilometre.

In the same manner as the Water Distribution Mains, standard rates have been adopted based on a consultants report in July 2006, with variations to the rate based on surrounding street types (such as Residential Streets, Major Roads and Shopping Centres).

These rates were also increased by 33 per cent across the board, like the Water Distribution Main rates, to convert them to July 2008 figures. South East Water state that this increase covers material, traffic management and labour cost increases since 2006.

We note that the yearly capital expenditure provided in the Sewer Pressure Mains Strategy varies from those provided in the 2009 Water Plan.

Project Delivery

The proposed program identified in the Water Plan for completion in the next regulatory period is shown in Table 7.23. All of these projects are completed as a part of a design and construct contract with South East Water's United Services alliance. The various stages of each project, as design (D) or construct (C) are shown in the table.

The proposed program set out in the Sewer Pressure Mains Strategy is shown in Table 7.24 below, however as indicated above, this differs from the program identified in the Water Plan. In response to our draft report, South East Water has provided an updated program for completion, however this is a further variation on the previous two programs.

Table 7.23 Proposed Sewer Renewals Program for next regulatory period

				Water Plan 2009 - 2013				
Pressure Main	No	Length (m)	08/09	09/10	10/11	11/12	12/13	Diameter (mm)
Sixth Ave	449	250	D	C				600
Grant Rd	421	1200	D	C				375
Reid Pde (Sec 1)	433	1100	C					375
McKenzie St	366	700	D/C					
Fortesque Ave	356	40		D/C				200
Mirang Ave	402	720		D	C			250
Mason Ave	452	2270		D/C	C			375
Scotch Pde	29	210		D/C				100
Fourth Ave	147	30		D/C				150
Moody St	394	250		D/C				150
Nellie St	547	50		D/C				150
Levanswell Rd	42	210			D/C			150
Sherwood Ave	30	180			D/C			150
Kunyung Ave	412	1250			D/C			300
Sunnyside Beach	415	900			D/C			300
Seaford Oval	368	130			D/C			100
Uralla rd	410	170				D/C		250
Pentecost Rd	408	1820			D	C		600
Mount Eliza Way	383	50					D/C	100
Reid Pde (Sec 2)	433	4470				D	C	300

South East Water lists the highest priority sewer pressure mains replacements as Sixth Avenue, Reid Parade, Kunyung Road, McKenzie Street, Grant Road, Uralla Road and Sunnyside Beach.

Table 7.24 Comparison of Water Plan and Sewer Pressure Main Strategy Renewal Profiles and South East Water's updated profile

	Water Plan 2005-2008				Water Plan 2009-2013			
	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13
Renewal length - Strategy (km)	0.8	1.1	0.92	3.0	4.5	1.8	2.0	2.2
Renewal Length – D & C (km)				1.8	3.1	4.5	2.0	4.5
Updated Program (km)				1.4	3.0	4.7	2.4	4.5

South East Water's proposed program for the next regulatory period is greater than that shown in Figure 7.12. South East Water state that this reflects the recent occurrence of a number of significant bursts, particularly in ductile iron pipes, where the assets have experienced accelerated corrosion. The proposed program addresses both the recently failed assets and proactive renewals, which are based on identifying similar characteristics to already failed assets and subsequent verification through condition assessment.

Given that this program far exceeds South East Water's historical renewal rates, we have concerns over the deliverability of this program, and would therefore recommend that the program be revised to defer the lower priority sewer pressure main renewals to future regulatory periods.

Findings

Deferring some of the projects which are not on the highest priority list would allow South East Water's proposed program to align more closely to the predicted renewal rate. However, we recognise that the recommended renewals program for sewer pressure mains is based on the risk analysis and we recognise that increased renewals are required due to the early failure of the ductile iron assets.

We note that unit rate increase of 33 per cent between 2006 and 2008 seems high for sewer pressure mains. One of the other metropolitan water businesses is expecting a 10 per cent increase in rates from their 2005 contract, which was developed in consultation with their current supplier.

Overall the proposed renewals unit rates seem high, especially when compared to the other metropolitan retailers. These rates are based on projects completed in 2007/08 and are adjusted in regards to the road category and complexity of the project. We note however that South East Water has undertaken a reasonably robust process of adjusting unit rates to reflect individual project conditions and as such, we recommend that these unit rates be adopted for the next regulatory period.

To increase flexibility in the terms of the contracts, South East Water may wish to consider including clauses relating to undertaking annual market benchmarking of unit rates for renewals to ensure that the contracted rates are providing value for money for South East Water.

The expenditure profile for this renewals program over the next regulatory period is shown in Table 7.25.

Table 7.25 Recommended Expenditure Profile for Sewer Pressure Main Renewals

Recommended Expenditure Profile ($m 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	1.9	3.3	4.6	4.6	4.7	**17.2**
Revised forecast	1.9	3.3	4.6	4.6	4.7	**17.2**
Net change	0.0	0.0	0.0	0.0	0.0	**0.0**

7.4.6 Pakenham – Narre Warren Sewer Strategy

Project Overview

South East Water's Corporate Plan identifies this as a key project to meet customer demand generated by rapid housing development in the growth corridor. This project was initially approved by the Board in September 2003 and then by the State Government in 2004.

However in November 2005, the Victorian Government released "A Plan for Melbourne's Growth Areas" which increased the urban growth boundary and therefore increased the area required to be serviced by Pakenham to Narre Warren Sewerage Strategy. The resulting change increased the ultimate development for Officer and Pakenham area from 26,000 to 86,000 lots.

The current project involves an upgrade of Pakenham STP, which will be sized to cater for growth in the Pakenham area (7.6 ML/day), and completion of wastewater transfer links to Eastern Treatment Plant via the Hallam Valley Main Sewer.

South East Water evaluated multiple options, including the construction of a transfer main from Pakenham West, instead of the Sewerage Treatment Plant, to Hallam Valley Main Sewer. However the upgrade of Pakenham STP and a transfer system from the STP to Hallam Valley Main Sewer was determined to be the preferred option due to its low cost.

Project Expenditure

The proposed capital expenditure for the entire Pakenham – Narre Warren Sewer Strategy is shown in the Table 7.26 following. The works included in the Water Plan for the next regulatory period are those listed under Transfer System Works.

Table 7.26 Proposed Expenditure Profile – Pakenham - Narre Warren Sewer Strategy

		($m 2008/09)	Strategy			Water Plan Forecasts					
Strategy		**Water Plan Project**	**Estimate**	***Total***	**Pre**	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**	**Post**
Hallam Valley Main Sewer			40.03	40.24							
		Hallam Valley Main Sewer		40.24	40.24						
Transfer System Works											
	Pump Stations (2 No)		**15.32**	**16.61**							
		Officer South PS		**11.82**	**1.20**	**2.90**	**6.25**	**1.47**			
		Pakenham STP PS		**4.78**	**0.09**	**1.04**	**3.13**	**0.52**			
	Pakenham West Transfer System (Stage 1)		**3.34**	**3.18**							
		Mary St RM and PS		**3.18**	**3.18**						
	Duplication Transfer System (Stage 2) and PS Upgrades		**22.62**	**22.62**							
		Future works		**22.62**							**22.62**
	Transfer Rising Mains		**18.55**	**34.59**							
		Officer South RM		**19.49**	**3.75**	**9.49**	**6.25**				
		Pakenham STP PS RM		**15.10**	**3.50**	**0.73**	**8.95**	**1.92**			
	Odour Control Works		4.17								
		Works									
	Transfer Works Design		2.08	0.37							
		Project management		0.37	0.37						
	Hallam Main Relief Sewer		10.42	10.42							
		Future Works		10.42							10.42
	Transfer Pump Station Upgrades		1.36	1.36							
		Future Works		1.36							1.36
Collection System Works											
	2005/2008 Water Plan		0.83	TBC							
		Developer Reimbursements (part)		TBC	TBC						
	2008/2013 Water Plan		21.16	TBC							
		Developer Reimbursements (part)		TBC		TBC	TBC	TBC	TBC	TBC	
		Peet St Duplication Sewer (various)		8.87			0.69	8.18			
	2013/2018		25.75	TBC							
		Future Works and Developer Reimbursements (part)		TBC							25.75
	2018/2023		12.20	TBC							
		Future Works and Developer Reimbursements (part)		TBC							12.20
	2023 Onwards		13.66	TBC							
		Future Works and Developer Reimbursements (part)		13.66							13.66
Pakenham STP Works			5.21	5.73							
		Pakenham STP (part)		5.73		3.65	0.73	1.36			

South East Water indicates that the costs included in Table 7.26 are all based on functional and detailed designs as at July 2008; which we have increased to 2009 dollars.

South East Water notes that increases in the proposed expenditure are due to the realignment of rising mains away from the freeway and the incorporation of odour control works.

Significant expenditure is forecast over the next regulatory period for both the pump station and rising mains for Officer South and Pakenham STP. Developer reimbursements are a major expenditure for this project.

South East Water has also indicated that $2.8 million will be deferred from the 2008/09 program to the 2009/10. South East Water noted that one component of this project, a proposed pipeline, is to be located within a future road reserve. Council has now finalised the road plans and the project is proceeding. Planned expenditure for 2010/11 is not affected. The project remains on schedule for completion in 2010/11 to meet commitments with the EPA. Further information on this defer capital expenditure is outlined in Section 7.1.3.

Project Delivery

The entire sewerage strategy project is anticipated to be completed in stages over the next 25 years. However the current stage of works proposed for the next regulatory period is scheduled to be completed by July 2011 to enable wastewater to be diverted to the Eastern Treatment Plant. This date is a commitment that South East Water has given to the EPA. South East Water indicates that the project is on schedule, however it is noted that no significant float is available for any delays.

The project comprises of two major pumping stations and their associated rising main pipelines. The detailed design of the two pipelines is complete, with the first currently under construction and the second pipeline about to be tendered. The supply of pumps has a long lead time and as such contracts have been awarded. The detailed design of the pump stations is currently approximately 70 per cent complete and tenders are scheduled be called in July 2009.

However, with both of these stages of the project to be completed by 2010 and include a contingency of six months factored into their respective timings, we believe the projects identified for the next regulatory period should be delivered on time. However, South East Water must ensure that the contingency must not delay any other capital works in the next regulatory period.

Findings

We have reviewed the expenditure proposed for the Pakenham – Narre Warren Sewer project, and are satisfied that the increases in the proposed expenditure are due to the realignment of rising mains away from the freeway and the incorporation of odour control works. As such, we recommend no changes to South East Water's proposed expenditure for the next regulatory period.

We have reviewed the delivery of the project, and find that despite the delays realised in 2008/09, South East Water are currently on target with their approvals and designs, and see no reason why the July 2011 target will not be achieved. As identified though, we note that there is no significant float in the program to allow for any major delays.

We recommend that the Pakenham – Narre Warren Sewer works proposed for the next regulatory period remain in the capital expenditure. The expenditure profile for the Pakenham – Narre Warren Sewer is shown in Table 7.27.

Table 7.27 Recommended Expenditure Profile for Pakenham-Narre Warren Sewer

Recommended Expenditure Profile ($m 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	15.5	24.7	4.0	-	-	**28.7**
Revised forecast	15.5	24.7	4.0	-	-	**31.5**
Net change	0.0	0.0	0.0	0.0	0.0	**0.0**

7.4.7 Mt Martha Sewerage Treatment Plant – Class A

Project Overview

The State Government's OWOF strategy set a target to recycle 20 per cent of Melbourne's effluent by 2010. South East Water's contribution toward this target is approximately 7.2 gigalitres by 2009/10 of inflows into Sewerage Treatment Plants in the businesses region. South East Water's contribution represents approximately 10 per cent of the recycling target. However based on Figure 7.4 in Section 7.4.3, South East Water aim to meet their target by 2012.

South East Water has proposed to install a Class A treatment facility on the existing treatment plant at Mt Martha. The plant is capable of meeting the future ammonia standards but the upgrade is required to ensure the plant can achieve Class A by 2012. Also within the regulatory period, Class A recycled water is required at the Boneo and Somers STP's, in order to supply recycled water to customers and ensure that South East Water complies with the EPA requirement for Class A effluent at the South Eastern Outfall.

Project Expenditure

The proposed expenditure over the next regulatory period is shown in Table 7.28. No previous expenditure has occurred in relation to this project. This upgrade will also require ongoing capital expenditure in future regulatory periods for membrane replacements.

Table 7.28 Proposed Capital Expenditure

		Water Plan 2009-2013			
Project	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**
Mt Martha – Class A ($m)	0	0.52	2.09	10.95	7.40

The operational expenditure for this project begins with half a year of expenditure in the last year of the next regulatory period. This is consistent with the timing of the project and the commissioning dates.

Mt Martha STP also has a variety of other expenditure during the next regulatory period and this is discussed in section 7.4.10.

Project Delivery

This project is due to be completed in 2012. Planning, documentation and approvals at the start of the next regulatory period should allow sufficient time to construct the plant upgrade. The Mt Martha plant also needs to undergo an upgrade for growth, that will precede the Class A upgrade. However, should the approval stages be delayed it may compromise the completion date of 2012.

A comparison between South East Water's actual rate of recycled water and targets, for the current and next regulatory periods, was shown in Figure 7.4. Based on this project being delivered by its scheduled completion date, South East Water estimates that they will meet their recycled water target in 2012.

Findings

We have reviewed the capital and operating expenditure for this project and are satisfied that the level of expenditure proposed by South East Water is adequate to achieve the Class A upgrade by 2012. We also note that the operational expenditure for this project is consistent with the timing of the project and commissioning dates.

We have reviewed the delivery of the project and are satisfied that this is currently on track to be completed the proposed date of 2012. However careful planning on all stages of the project is recommended to ensure that no delays in either the approvals stage or the required growth upgrades are incurred.

As such, it is recommended that the Mt Martha STP Class A upgrade remain in the capital expenditure for the next regulatory period, allowing South East Water to meet its contribution towards the 20 per cent recycling target by 2012. Our recommended expenditure profile is shown in Table 7.29.

Table 7.29 Recommended Expenditure Profile for Mt Martha STP Class A Upgrade

Recommended Expenditure Profile ($m 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	0	0.5	2.1	11	7.4	**21.0**
Revised forecast	0	0.5	2.1	11	7.4	**21.0**
Net change	0.0	0.0	0.0	0.0	0.0	**0.0**

7.4.8 Hastings Industrial Project

Project Overview

The State Government's CRSWS has a potable water substitution target of 10 gigalitres per annum by 2030 for all of the metropolitan water authorities. This project contributes to this target by involving the supply of Class A recycled water from South East Water's upgraded Somers STP to an industrial area to supplement potable water use. Potable water of approximately 660 ML per year will be substituted, which equates to approximately 14 per cent of South East Water's contribution to the CRSWS target. The upgrade also includes other works the transfer and treatment of trade waste flows from the industrial plant.

South East Water examined a base case and potable water substitution options for possible projects, with the potable substitution project having a favourable weighting. This project is one of thirteen recommended projects that South East Water proposes to undertake to meet the government's recycling and substitution targets.

Project Expenditure

South East Water's proposed capital expenditure for the Hastings Industrial Project for the next regulatory period is shown in Table 7.30 below.

Table 7.30 Proposed Expenditure

Hastings Industrial Project	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Recycled water pipeline	0.20	1.04	2.09	3.13	-	-
Recycled water treatment plant	0	1.04	4.07	3.13	-	-
Hastings pressurisation	0.10	0	0.26	-	-	-

In addition to South East Water's capital expenditure, this project is also reliant on a contribution by the Victorian government of $4.1 million and a contribution of $9.6 million from the industrial partner. Of this the industrial partner will fund $8.2 million of works on its site, to cater for recycled water, and contribute $1.4 million toward South East Water's pipeline.

South East Water has allowed approximately a quarter of a year's operational expenditure in the 2010/11 financial year, with full operating costs for the remainder of the next regulatory period.

South East Water has also provided an update that $1.6 million will be deferred from 2008/09 to 2009/10. Despite this, South East Water has noted that project financing arrangements have now been finalised and the project is proceeding. South East Water also notes that the customer commitment of project completion in 2009/10 will still be met. Further discussion on this deferred capital expenditure is presented in Section 7.1.3.

Project Delivery

This project was submitted for State Government approval in August 2008 and approval was given in January 2009. We note that this project received South East Water Board approval in July 2008.

South East Water has an agreement with the industrial partner for delivery of recycled water by 2010/11. The delivery of this project will be undertaken in three packages:

- pipeline and wastewater system – 13 kilometres of recycled water pipeline from Somers STP to the industrial partner's site
- augmentation of the industrial partner's site for recycled water
- upgrade of Activated Sludge Plant at Somers STP.

South East Water has agreed to supply recycled water to the industrial partner by 2010/11. The functional design stage has been completed, and the detailed design of the associated pipelines has commenced.

South East Water is currently in the process of tendering for a program alliance which includes the delivery of the Hastings Industrial Project by August 2010. This alliance will also be responsible for delivering the Dual Pipe Recycled Water Project discussed in Section 7.4.3.

Findings

We have reviewed the business case and supporting documentation for the expenditure proposed for the Hastings Industrial Project, and we are satisfied that the level of expenditure is appropriate and is well supported by the contributions from Government and the industrial partner. As the financing agreements have now been finalised, we recommend that no changes to the proposed expenditure for Hastings Industrial Project are made.

We have also reviewed the operational expenditure proposed for this project, and confirm that the proposed expenditure matches the commissioning dates.

We have reviewed the delivery of the project, and are satisfied that despite the delay in the project in 2008/09, the project should still be delivered by the alliance which is currently being tendered, by August 2010.

We recommended that the Hastings Industrial Project remain in the capital expenditure for the next regulatory period. The recommended expenditure profile is shown in Table 7.31.

Table 7.31 Recommended Expenditure Profile for Hastings Industrial Project

Recommended Expenditure Profile ($m 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	2.1	6.4	6.3	-	-	**12.7**
Revised forecast	2.1	6.4	6.3	-	-	**14.3**
Net change	0.0	0.0	0.0	0.0	0.0	**0.0**

7.4.9 Customer Meters Replacement

Project Overview

South East Water's meter replacement program is based on ensuring meters operate at the level of accuracy required by national and Victorian standards. To do this South East Water tests a sample of meters at a range of total registration levels. From this sampling, an age profile has been developed which identifies the age at which meters become subject to inaccuracies. South East Water then targets meters for replacement based on the outcomes of this profile.

As the replacement strategy is based on maintaining compliance with accuracy requirements, South East Water does not expect to recover additional water volumes or impact revenue forecasts through the meter replacement program.

Project Expenditure

South East Water provided specific details on the breakdown of the proposed capital expenditure in their response to our draft report, which we have reviewed and are satisfied with.

The proposed program for meters in the next water plan is shown Table 7.32 below.

Table 7.32 Proposed Capital Expenditure for Customer Meter Replacement Program

Proposed Meter Replacement Expenditure ($m 2008/09)	2009/10	2010/11	2011/12	2012/13	Total
Regulatory Compliance	0.333	0.158	0.159	0.160	0.810
Scheduled Exchange Program 20/25	2.123	2.139	2.156	2.170	8.588
Scheduled 20mm Remote meter exchange	0.560	0.560	0.560	0.560	2.240
Scheduled Exchange Program 32/40	0.078	0.081	0.084	0.088	0.331
Scheduled Exchange Program 50 & Greater	0.192	0.208	0.224	0.237	0.861
Unscheduled Exchange	0.507	0.517	0.527	0.535	2.086
Total	3.793	3.663	3.710	3.750	14.916

South East Water has provided details of their customer water meter replacement contract. The contract includes a detailed schedule of rates under which all meter replacements are performed.

We have undertaken a comparative analysis of customer water meter replacement programs across all three businesses to identify any major differences. In addition, the comparative analysis provides some indication of whether these works may benefit from inclusion under shared services arrangements. Our analysis has indicated that the replacement costs do not vary significantly across the businesses, with the largest variation being around 8 per cent from the benchmark rate. Across the three water businesses, however, the total potential savings from a shared services arrangement would be more significant.

Project Delivery

Our review of South East Water's proposed meter replacement program identified that there appears to be a relatively robust model for identifying when meter replacement should occur.

South East Water has a separate meter supply and installation contracts. The meter supply contract is a three year contract due to expire in 30 June 2009. The installation contract has already being extended by one year to 30 September 2009.

New contracts will have to be formed for both supply and installation of the meters for the next regulatory period. South East Water should aim to achieve a similar rate in the new contracts to continue to deliver their customers value for money.

Findings

We have reviewed the expenditure proposed for South East Water's Customer Meters Replacement program and are satisfied with the documentation, proposed number of meter replacements and capital expenditure for the next regulatory period. We note that the South East Water's contracted rates are comparable to those achieved by the other metropolitan water businesses.

We have reviewed the delivery of the project and are satisfied with the ability of the model to identify failing assets and determine delivery methods for this program. It is noted that both of the supply and installation contracts are nearly expired and new contracts will have to be formed to complete the required program in the next regulatory period.

It is recommended that the Customer Meters Replacement Program remain in the capital expenditure for the next regulatory period. Table 7.33 sets out our recommendation for this program over the next regulatory.

Table 7.33 Recommended Expenditure Profile for Customer Meter Replacement Program

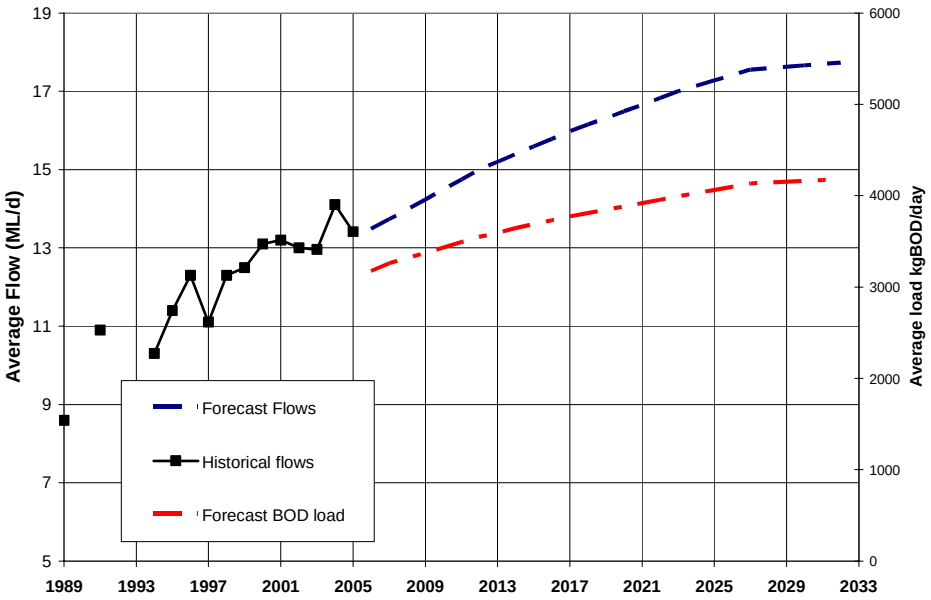
Recommended Expenditure Profile ($m 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	3.8	3.8	3.7	3.7	3.8	**14.9**
Revised forecast	3.8	3.8	3.7	3.7	3.8	**14.9**
Net change	0.0	0.0	0.0	0.0	0.0	**0.0**

7.4.10 Mt Martha Sewerage Treatment Plant – Growth Driver

Project Overview

Mt Martha STP has experienced significant flow growth, and will continue to experience growth in the next regulatory period due to new development in the catchment. The capacity of sludge handling components of the existing STP will need to be upgraded to cater for this growth. The load projections are displayed in Figure 7.13.

Figure 7.13 Growth Rate of Mt Martha STP Requirement



Source: South East Water – Mt Martha STP Development Plan

An odour plume extends beyond the boundary of the STP and complaints regarding the odour have been received in recent years. Upgrade works for capacity will therefore also include improvements to odour control and covering the primary sedimentation tank.

Other projects to be undertaken at the Mt Martha plant during the regulatory period include a Class A treatment upgrade (refer section 7.4.7), general civil upgrades and mechanical and electrical reliability works.

Project Expenditure

The proposed expenditure for the STP growth upgrade is shown in Table 7.34 below, as well as other expenditure for the programs relating to Mt Martha STP. For the next regulatory period, it is proposed to spend $14.2 million on Mt Martha STP growth. These figures are in line with those estimated in the Mt Martha STP Development Plan.

Table 7.34 Proposed Total Expenditure over the Next Regulatory Period at the Mt Martha STP

	Proposed Expenditure by category ($m 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13
STP Process/ Civil Upgrades	Sludge Lagoon No 1 Cleanup		0.05	0.42	0.36	0.36
	Minor Works (excluding mech & elec replacements)		0.05	0.05	0.05	0.05
	Chlorinator Replacement			0.10		
	Groundwater Monitoring & Performance Review				0.04	0.02
	Landscaped Mounds		0.02	0.02	0.02	0.02
	Digested Sludge Pumps					0.06
	Pan Relining				0.02	0.02
	Epoxy Coating of Primary Sed Tank Walls Under Cover			0.05		
STP Growth	**Sludge Digestion Upgrade (assume TPAD)**	**0.4**	**0.42**	**5.21**	**7.16**	**0.63**
	Primary Sludge Thickening	**0.4**	**1.25**			
	Ethanol Dosing				**0.36**	
	Effluent Pump Station Upgrade (extra pump)			**0.05**	**0.47**	
Class A	Class A Plant (refer section 7.4.7)		0.52	2.08	10.95	7.40
M&E	M&E Reliability Budget		0.38	0.29	0.28	0.40
	Total	**0.8**	**2.7**	**8.3**	**19.7**	**9.0**

The expenditure relating to the Mt Martha STP Upgrade due to the growth driver is highlighted in bold.

For the Sludge Digestion Upgrade, the costs in the Table 7.34 are based on concept design. This was prepared by an independent engineering consultant in 2007 and modified to reflect the findings of the pilot plant studies.

The costs for the Primary Sludge Thickening stage are based on a detailed cost estimate prepared with the functional design. These costs were also prepared by an engineering consultant.

The Ethanol Dosing project is not required until future regulatory periods and at this stage only a concept design for costing purposes has been carried out.

Project Delivery

Sludge digestion upgrade comprises of improvements to existing digesters and the services building, as well as construction of a new digester. The existing digester works do not require EPA approval and a detailed design has commenced. The digesters have a long lead time and South East Water has programmed this upgrade for construction in 2010/11.

The concept design of the new digester has been completed, along with pilot studies which will define the required size. South East Water is currently commencing the approvals phase, including for the EPA, neighbouring residents and other key stakeholders. This consultation is expected to be completed by the end of 2009. Detailed design and tendering will be undertaken early in 2010, so construction work can commence in 2010/11. This part of the project is scheduled to be completed by the end of 2012.

For the Primary Sludge Thickener a functional design has been completed. South East Water already has EPA approval for this project. No other approvals are required.

South East Water has engaged consultants to undertake the detail design of the primary sludge thickener, however the project is currently on hold whilst South East Water reviews the outcomes from pilot work relating to sludge digestion and also consider other potentially more effective alternatives. South East Water expects that this review may delay the project by a few months, but is unlikely to significantly change the expenditure profile. South East Water indicated that alternatives are likely to have similar capital costs, with any advantages they offer being in reduced costs of future upgrade work beyond the next regulatory period. South East Water is envisaging that the installation will be completed using the existing Utility Services alliance.

The Effluent Pump Station stage of this project is the provision of an additional pump in the existing effluent pump station. The existing design has provision for the additional pump.

No other major civil works are expected to be required within the next regulatory period, as the plant is less than 25 years old. It should be noted that the sludge drying pans will require replacement of the clay lining every five years. It is also proposed to undertake site rehabilitation works in two of the storages over the following two regulatory periods to minimise the risk of environmental contamination.

Other STP upgrades are also scheduled within the next regulatory period. The Pakenham and Boneo plant upgrades are scheduled to be completed early in the regulatory period. The Mt Martha upgrade occurs later in the next regulatory period. The upgrade of the Mt Martha STP due to growth will be undertaken at the start of the next regulatory period and will precede the Class A upgrade.

Findings

We have reviewed the expenditure proposed by South East Water for the growth related upgrade of the Mt Martha Sewerage Treatment Plant, and despite the proposed expenditure for the Sludge Digestion Upgrade only being based on concept plans, we are satisfied that the overall project has appropriate levels of expenditure to deliver the growth upgrade to Mt Martha STP.

We have reviewed the delivery of the project and we recommend that due to the delay in the Primary Sludge Thickener to investigate other alternatives, a delay is expected in the capital expenditure for this stage of the Mt Martha Sewerage Treatment Plant growth upgrade to the following financial year (2009/10). This would subsequently delay the expenditure of the $1.25 million proposed for 2009/10 to 2010/11. Delaying this expenditure would not result in the delays to the other stages of the project.

As such, we recommend the expenditure profile shown in Table 7.35 for the next regulatory period for Mt Martha Sewerage Treatment Plant Upgrade – Growth driver.

Table 7.35 Recommended Expenditure Profile for Mt Martha STP Growth Upgrade

Recommended Expenditure Profile ($m 2008/09)	2008/09	2009/10	2010/11	2011/12	2012/13	Total
Water Plan	0.8	1.6	5.05	7.67	0.6	**15.7**
Revised forecast	0.4	0.8	6.25	7.67	0.6	**15.7**
Net change	-0.4	-0.8	1.2	0.0	0.0	**0.0**

It is also noted that South East Water has listed a deferral of $1.3 million from 2008/09 to 2009/10. We note that this deferral does not match the proposed expenditure for this program for the next regulatory period. However we do not expect that this will change the expenditure profile in subsequent years during the next regulatory period, or lead to further delays in the growth upgrade for Mt Martha STP, than those already mentioned. Further information on this defer capital expenditure is outlined in Section 7.1.3.

7.5 Other comments on capital expenditure

In addition to the analysis of the top 10 projects, we have reviewed a number of other major capital expenditure programs and projects. Our discussions on these areas are presented in the following sections.

7.5.1 *Renewals program*

The main elements of the renewals program in the capital expenditure is covered within the Top 10 projects. Other renewal projects for the business' water and wastewater services do not have a significant expenditure associated with them.

Over the next regulatory period, South East Water does not propose to increase any of its KPI targets. However all of the businesses renewals programs have increased significantly over the regulatory period.

The water renewals program has increased as a result of an increase of unit costs. These unit rates have increase by 33 per cent between July 2006 and July 2008. The unit cost increase was explained by South East Water to be related to increases in material costs, as well as costs to meet required regulations and legislation, such as traffic management. For distribution mains, South East Water has used categories of unit rates based on the unit rates achieved in 2007/08 for Residential Streets, Main Roads and Shopping Centres. South East Water also has a separate rate for Chapel Street project. These rates are scaled on the perceived complexity of the project as well. We note that these rates are greater than those proposed by the other metropolitan retailers.

Similar for wastewater renewals, South East Water is not expecting the renewal rate to change during the regulatory period and the replacement program is focussed on older concrete mains. For the next regulatory period, South East Water has significant renewal rates for the pipelines, as well as increased allowances have also been made for pump station civil works and creek crossings.

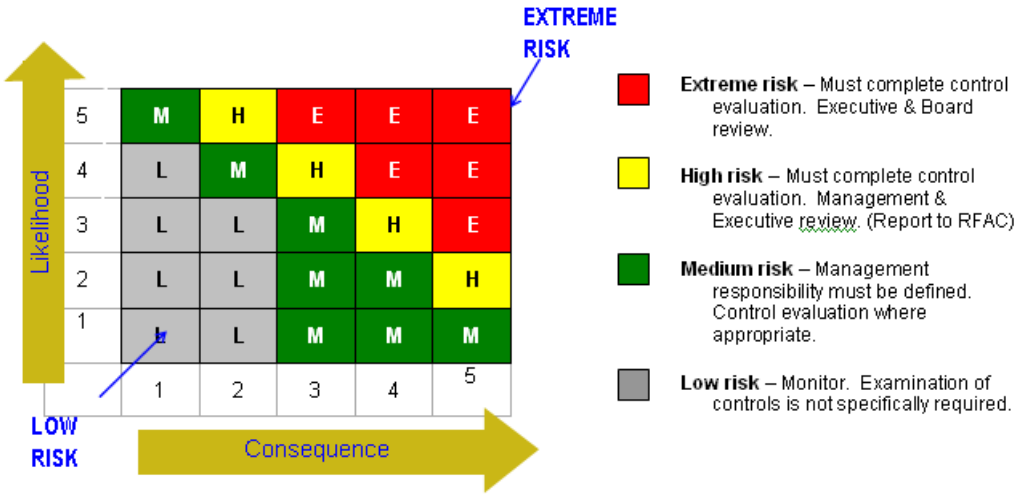
Recommendations for the majority of the renewals programs are provided in the Top 10 projects. The remainder of the renewal program, not covered in the Top 10 project, are subject to the reduction caused by removing the capital escalation factor from the entire capital works program.

The renewals program for both water and wastewater assets are determined through risk management criteria, based on asset information. The process for managing the assets risk rating is based on South East Water's Business Management Risk Framework which is based on AS/NZS 4360.

All individual water, wastewater and recycled water assets are ranked in terms of their impact if they fail and their current condition (likelihood of failure) and the consequence of the asset failing. Some assets such as sewage treatment plants, sewer pressure mains, water tanks, water supply chlorinators, pump stations, and large pipelines, have a higher consequence of failure as they can adversely effect many people, result in large economic, public health or environmental impacts.

The likelihood versus consequence risk matrix is shown in Figure 7.14.

Figure 7.14 South East Water's Risk Matrix



As mentioned in Section 7.4, South East Water uses the PARMS (Pipeline Asset & Risk Management System) model to predict renewal rates water reticulation mains for each year. The PARMS model assesses long term cost implications of a number of operational and customer preference scenarios. South East Water also uses prioritisation software, which prioritises the outputs of the PARMS model.

We note that South East Water uses long term contract arrangements to deliver renewals projects and in some circumstances, the ability of South East Water to revise the contract rates to reflect lower rates resulting from the current economic conditions and increased competition in the construction market, may be limited. To increase flexibility in the terms of the contracts, South East Water may wish to consider including clauses relating to undertaking annual market benchmarking of unit rates for renewals to ensure that the contracted rates are providing value for money for South East Water.

7.5.2 *Commissioning dates*

We have reviewed the correlation between commissioning dates and the commencement of operating expenditure for the top 10 projects only. We have not been supplied with sufficient information to assess this for the remaining capital projects. Refer to Section 7.4 for further details. Where information has been made available to us, we are generally satisfied that the commissioning dates and operating expenditure commencement dates match.

7.5.3 *Depreciation rates*

We note that the ESC uses a weighted average asset life to model the depreciation of assets from capital projects. A weighted average asset life is based on asset lives for each category of assets weighted by the level of expenditure proposed for the category of assets.

We have also reviewed the correlation between commissioning dates and the commencement of depreciation for the top 10 projects only (refer to Section 7.4 for further details). We have not been supplied with sufficient information to assess this for the remaining capital projects however where information has been made available to us, we are generally satisfied that the commissioning dates and depreciation commencement dates match.

7.5.4 *Not prescribed capital expenditure*

South East Water has not provided any details on not prescribed capital expenditure in their Water Plan template.

7.6 Conclusions and recommendations

On the basis of our review of South East Water's Water Plan for the 2009/10 to 2012/13 regulatory period and relevant supporting documentation, we recommend a number of adjustments to the forecast capital expenditure. These adjustments are based on our review of South East Water's nominated top ten major capital projects. Our review of major projects accounts for 56 per cent of South East Water's forecast capital expenditure.

For the reasons set out above, we recommend that the following changes be made to South East Water's capital expenditure forecasts:

- Water Main Replacement Program – $10.5m
- Sewer Renewals Program, Gravity Mains – $3.8m

The following project has also been recommended to be deferred:

- Mt Martha Sewerage Treatment Plant (Growth Driver) – no change

South East Water has indicated that for both of the Pakenham – Narre Warren Sewer and Hastings Industrial Project some expenditure will be deferred from 2008/09 to 2009/10. This also occurs with a number of other projects that are not covered in the top 10. However, South East Water has brought forward projects from 2009/10 to 2008/09, so the expenditure forecast in the Water Plan for the first year of the next regulatory period will not change as a result of these deferrals. Further information on these projects is outlined in Section 7.1.3. As such, these projects are not shown in the Table 7.36 below, which outlines our recommended changes to capital expenditure.

Table 7.36 – Overview of recommended changes to capital expenditure ($m, 2008/09)

Expenditure item		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Water Main Replacements	Water Plan	11.3	9.2	16.3	15.0	14.8	14.9
	Revised forecast		9.3	16.0	11.0	11.5	12.0
	Net change		**0.1**	**-0.3**	**-4.0**	**-3.3**	**-2.9**
Sewer Renewals - Gravity	Water Plan	6.0	6.6	8.3	8.0	9.5	9.5
	Revised forecast		6.4	8.1	7.8	7.8	7.8
	Net change		**-0.2**	**-0.2**	**-0.2**	**-1.7**	**-1.7**
Mt Martha STP – Growth Upgrade	Water Plan	0.6	0.8	1.6	5.05	7.67	0.6
	Revised forecast		0.4	0.8	6.25	7.67	0.6
	Net change		**-0.4**	**-0.8**	**1.2**	**0.0**	**0.0**
Capital Cost Escalation	**Net Change**		**0.00**	**-2.36**	**-5.18**	**-6.46**	**-8.48**
Total Water Plan forecast			**123.48**	**157.24**	**156.22**	**147.70**	**141.50**
Net changes			**-0.50**	**-3.66**	**-8.18**	**-11.46**	**-12.08**
Total revised forecast			**122.98**	**153.58**	**148.04**	**136.24**	**129.42**

8 Glossary

8.1 Key terms and acronyms used

ACRM	Asset Criticality Risk Model
CWW	City West Water
Current regulatory period	Period from 1 July 2005 to 30 June 2009
ESC	Essential Services Commission
GL	Gigalitre or one billion litres
KPI	Key performance indicator
OWOF	Our Water Our Future
ML	Megalitre or one million litres
MW	Melbourne Water
Next regulatory period	Period from 1 July 2009 to 30 June 2013
Not prescribed services	See prescribed services
Potable water	Water that is suitable for drinking
Prescribed services	Services as set out in section 6(a) of the WIRO, broadly relating to core water, wastewater and recycled water services which the ESC has responsibility for regulating. Differentiated from other areas of operation which are defined as 'not prescribed services' and are not regulated by the ESC
Recycled water	Water derived from wastewater systems or industry processes which is treated to a standard that is appropriate for its intended use
Reticulation	A network of pipelines used to deliver water to end users
SEW	South East Water
SoO	Statement of Obligations
Wastewater	includes Sewerage and Trade Waste services
Water retailer	Any one of, or a combination of, metropolitan Melbourne's three water retail businesses – City West Water, South East Water and Yarra Valley Water
WIRO	Water Industry Regulatory Order
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant
YVW	Yarra Valley Water

Appendix A – Mapping of conservation measures

	Our Water Our Future	Central Region Sustainable Water Strategy	Water Supply-Demand Strategy	Joint Water Conservation Plan Metropolitan Reuse & Recycling Plan 2008-2013
Demand management	5.4 The Government will require all urban water authorities to introduce permanent water savings measures. These measures will be developed at the local level and will be suitable for local conditions. 5.5 The Government and water authorities will undertake community education and information programs to encourage water saving. 5.8 The Government and water authorities will develop, prior to 1 December 2004, uniform water restriction guidelines for drought response which will set out a recommended four-stage restriction policy for the whole of Victoria.	4.31 Metropolitan water authorities to maintain existing water savings (350,000 water-efficient gardens and work with 140,000 householders) Water authorities to work with the community to reduce total per capita water usage by at least 25 per cent by 2015, increasing to 30 per cent by 2020 (from 1990's average water use). Additional conservation measures will be implemented in Melbourne with a view to bringing forward the 30 per cent target to 2015. (3.1) DSE and the water authorities to extend the metropolitan Our Water Our Future behavioural change program until 2015 (3.3) DSE and the metropolitan water authorities to introduce on-the-spot fines for breaching water restrictions or permanent water saving rules (3.4)	Objective 1: Maintaining current water use at 331 litres per day through water conservation measures ($12m a year) and behaviour change ($9m a year), with an ongoing timeframe.	1.1 Continue existing water savings by maintaining existing programs e.g. water efficiency labelling, local government efficiency program, Savewater!, OWOF behavioural change, 5 star homes water efficiency, rebates for water conservation goods, Smart water Fund (save 42 GL p.a. by 2015) 1.2 New program that focuses on garden watering (save 4.3 GL p.a. by 2015) 1.3 Individualised behaviour change programs (maintain current saving of 3.9 GL p.a. by 2015) 1.4 PWSR and restrictions

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		Continue to support the Smart Water Fund until 2008, at which time there would be a review (3.8)		
Household efficiency	5.9 The Government, in partnership with the Commonwealth and other State and Territory Governments, is developing national mandatory water efficiency labelling for appliances, fixtures and fittings. Victoria proposes to introduce legislation to implement the national scheme by Autumn 2005. 5.11 The Government will encourage use of water efficient washing machines and dishwashers through the water efficiency labelling scheme but does not propose to make them mandatory at this stage. 5.10 The Government will introduce mandatory water efficient plumbing measures such as water conserving shower roses and taps (AAA equivalent) for all new houses and other buildings and for new fittings within existing buildings from 1 July 2004.	4.3.2 Metropolitan water authorities to implement conservation and efficiency programs (water-efficient showerhead program; water-efficient washing machine program; water-efficient evaporative air conditioners) Water authorities and Victorian Water Trust to extend the Water Smart Homes and Gardens Rebates until June 2011 (3.9) Ongoing until June 2009, the urban water authorities are to distribute around 160,000 water efficient showerheads (3.10)	Objective 3: Save more water at home: undertake new water conservation actions to achieve 21.9 billion water savings by 2015, 34.6 billion water savings by 2030 and 38.6 billion water savings by 2055, at a cost of up to $25 million a year to 2015. Actions would include water-efficient showerheads, washing machines, evaporative air conditioners and Melbourne friendly gardens.	Program 2: Showerhead replacement: install 1,054,153 water efficient showerheads (save 12.6 GL p.a. by 2015) Program 3: Clothes-washer incentives - rebates for and installation over 400,000 4 and 5 star washers (save 8.5 GL p.a. by 2015) Program 4: Evaporative air conditioner compliance standards by 2015 (save 0.8 GL p.a. by 2015)

	Our Water Our Future	Central Region Sustainable Water Strategy	Water Supply-Demand Strategy	Joint Water Conservation Plan Metropolitan Reuse & Recycling Plan 2008-2013
	5.12 The Water Smart Gardens and Homes Rebates Scheme will continue to support households to use water more wisely, over the next two years until 30 June 2006.			
Development efficiency	5.13 The Government will set an aspirational target for new development to achieve at least 25 per cent savings in water use. 5.14 The Government will prepare Water Sensitive Urban Development guidelines to assist developers, industry and local government in achieving the target, further developing existing work by Councils, water authorities, developers and others. 5.15 The Government will provide funding to support smart urban water use initiatives which encourage innovative approaches to demand management, recycling and stormwater management. 5.16 The Government will require the urban water authorities to plan for new growth areas in the development of their Water Supply- Demand Strategies.	4.3.4 Melbourne water authorities to expand the Pathways to Sustainability program to all water users within Melbourne that use 10 ML per year or more (and implement additional actions to achieve the non–residential target and implement other programs to achieve the non-residential conservation target	Objective 4: Helping businesses achieve 13.0 billion water savings by 2015, 15.7 billion water savings by 2030 and 17.0 billion water savings by 2055, at a cost of up to $4 million a year to 2015.	Program 6: Businesses and industry water efficiency (save 8 GL p.a. plus 5GL for Altona Precinct by 2015)

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	5.17 The Government will require improved water efficiency in new Government buildings. 5.21 Funding will be provided to support the extension of local government water conservation plans across regional Victoria. 5.22 The urban water authorities will be required to work with local government in the preparation of these plans. 5.23 Local government will be eligible for funding support for water conservation and recycling demonstration projects including use of recycled water on sporting grounds and in parks. 5.18 The Government will require all urban water authorities to work with industry towards improved water management outcomes, including opportunities for water conservation, recycling and waste minimisation.			

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	5.19 The Government will require all urban water authorities to report annually on their water conservation programs with industry and details of water saved. 5.20 The Pathways to Sustainability program within metropolitan Melbourne will be extended by the water authorities to other industrial water users within the metropolitan area as soon as the initial program has been completed for the top 200 industrial water users.			
Leakage		4.33 Metropolitan water authorities to continue to manage the water distribution system efficiently and reduce leakage	Objective 5: Saving 2.5 billion litres of water n a year through reduction in water leaks and wastage at a cost of $1.2 million a year.	Program 7: Water infrastructure losses and waste – double the active leak control program to 6,000 km a year, and maintaining monitoring and pressure reduction programs. (save 2.5 GL p.a. by 2015)
Recycling	5.25 The Government will require all urban water authorities to assess opportunities for the use of recycled water and other alternative supplies in the development of Water Supply-Demand Strategies. (Note OWOF states that the Government has previously announced a water recycling target of 20	Action 4.36 Melbourne water authorities will invest in the voluntary uptake of a range of local water recycling and reuse schemes, including rainwater tanks, advanced greywater systems, dual pipe systems for recycled water in new residential and commercial		13 priority projects identified under the MMRP. Three of these projects are YVW's: Beveridge, Craigieburn West and Epping North total 0.5GL saved (p.18 Corporate Plan $2.4m in 2008/09).

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	per cent by 2010). 5.26 The Government will not place recycled water directly into the drinking water supply system. However, technical development and implementation elsewhere will be monitored. 5.27 Over the next four years, the Government will consider investment in strategic water recovery and recycling programs that: o are of State or regional significance; o deliver multiple benefits – social, economic and environmental; o involve a cooperative approach; and o are larger scale projects or initiatives.	developments and treatment plants for stormwater reuse. Action 4.37 The Government will work with the metropolitan water authorities and stakeholders to investigate opportunities to reuse and recycle 30,000 ML of local water sources for non–drinking purposes within greater Melbourne by 2055.		

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