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Essential Services Commission

2013-18 Review of Water Prices

Assessment of expenditure forecasts for regional urban businesses

Goulburn Valley Water

Final Report

18 February 2013

Deloitte.

Deloitte Touche Tohmatsu
ABN 74 490 121 060

550 Bourke Street
Melbourne VIC 3000
GPO Box 78
Melbourne VIC 3001 Australia

Tel: +61 3 9671 7000
www.deloitte.com.au

Mr Marcus Crudden
Acting Director - Water
Essential Services Commission
Level 2, 35 Spring St
Melbourne VIC 3000

18 February 2013

Dear Marcus

Re: Assessment of expenditure forecasts for regional urban businesses

We are pleased to provide our Final Report setting out our assessment of Goulburn Valley Water's operating and capital expenditure for the 2013-2018 regulatory period. This Final Report provides our findings and recommendations. It should be read in conjunction with our *Overview* document, which sets out our approach to a number of common expenditure issues across the businesses we have reviewed.

Please do not hesitate to contact me if you have any questions regarding the report.

Yours sincerely

Paul Liggins
Partner
Deloitte Touche Tohmatsu

Contents

Executive Summary

Background

The Essential Services Commission (ESC) is currently conducting a review of the proposed prices to be charged by Victoria's water businesses for the period 1 July 2013 to 30 June 2018, referred to in this document as 'the next regulatory period' or third water plan period (WP3).

The businesses have submitted Water Plans to the ESC for the WP3 period. The Water Plans include forecasts of operating expenditure, capital expenditure, proposed service standards and prices.

Deloitte has been engaged by the ESC to review the expenditure forecasts made by 10 regional urban water businesses.

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 expenditure meets certain criteria.

In relation to operating expenditure we have been asked to provide advice on whether changes in operating costs are consistent with the timing of major capital projects; that businesses are fulfilling their obligations and meeting customer service expectations as cost efficiently as possible; that forecast divergences can be readily explained; and one-off costs associated with the drought have been removed. The ESC has highlighted that energy, labour, IT and chemical costs should be a significant focus of the review.

Process for review

We took the following approach to undertaking this review:

- We reviewed the Water Plans and supporting documentation provided by Goulburn Valley Water to the ESC
- We submitted a request for further information and prepared a number of questions for Goulburn Valley Water
- We visited Goulburn Valley Water on 8 and 9 November 2012 to discuss the Water Plan and our questions
- We prepared a Draft Report which was provided to the ESC on 11 December 2012
- We held discussions with Goulburn Valley Water regarding the Draft Report and reviewed a written response from Goulburn Valley Water which was provided to us on 25 January 2013.

Approach to review

In our assessment of operating and capital expenditure proposed by each of the nominated water businesses, we have followed the direction of the *Water Industry Act (1994)* and the *Water Industry Regulatory Order* (WIRO). The WIRO requires, amongst other things that the ESC:

> *(a) be satisfied that the prices contained in the **Water Plan** which the **regulated entity** proposes it be permitted to charge for **prescribed services** over the term of the*

***Water Plan**, or the manner in which the **Water Plan** proposes that such prices are to be calculated or otherwise determined, are such as to:*

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

*(ii) allow the **regulated entity** to recover its operational, maintenance and administrative costs;*

*(iii) allow the **regulated entity** to recover its expenditure on renewing and rehabilitating*

existing assets;

*(iv) allow the **regulated entity** to recover:*

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

(B) a rate of return on investments made after 1 July 2004 to augment existing assets or construct new assets;

Recommendations - operating expenditure

We have recommended the changes set out below to Goulburn Valley Water's forecast operating expenditure. Note that throughout this report, unless indicated otherwise, references to Goulburn Valley's 'forecast' or 'proposal' refer to its original September Water Plan proposal and not any subsequent proposals or adjustments that have been received.

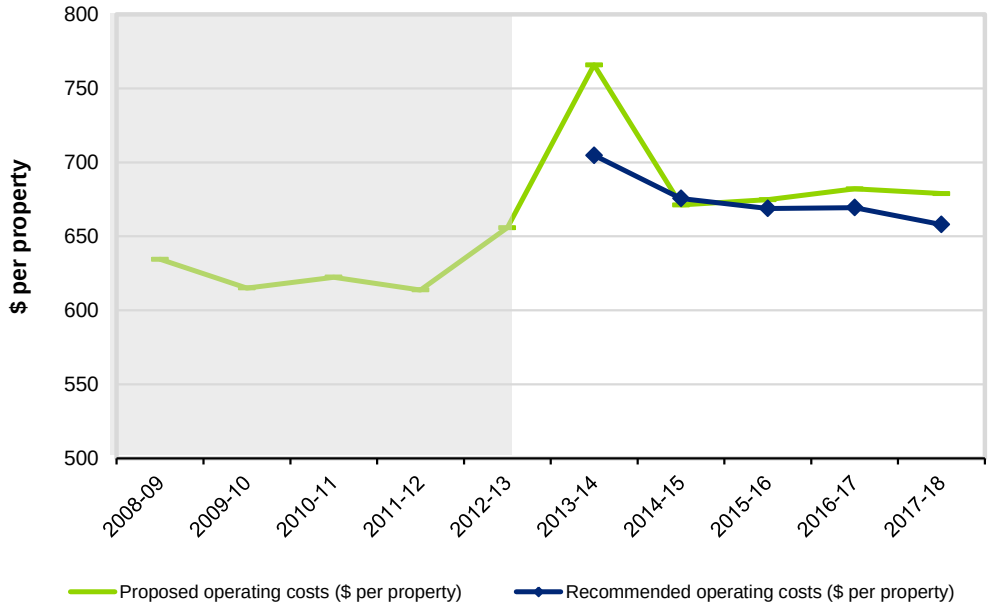
Table E1 Goulburn Valley Water forecast controllable operating expenditure and recommended adjustments ($m, 01/01/2013)

Operating expenditure item	Water Plan forecast					Total
	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Proposed controllable operating expenditure ($m)	43.048	38.256	38.999	39.975	40.346	**200.624**
Recommended adjustments						
Labour	-0.394	-0.612	-0.803	-1.180	-1.563	**-4.553**
Electricity	-0.145	-0.386	-0.393	-0.555	-0.710	**-2.189**
Intelligent Water Networks	-0.050	-0.050	-0.050	-0.050	-0.050	**-0.250**
Defined benefits superannuation	-2.841	0.302	0.294	0.286	0.279	**-1.679**
Fluoridation	-0.064	-0.095	-0.189	-0.236	-0.283	**-0.866**
Chemicals	-0.297	-0.297	-0.278	-0.248	-0.220	**-1.340**
Site restoration costs	-0.728	0.272	0.000	0.000	0.000	**-0.457**
Environmental stewardship framework	-0.005	-0.025	-0.025	-0.025	-0.025	**-0.105**
Operating expenditure from capital projects	0.000	0.000	-0.100	0.000	0.000	**-0.100**
Total recommended adjustments	-4.525	-0.891	-1.543	-2.007	-2.572	**-11.539**
Recommended operating expenditure	**38.523**	**37.365**	**37.456**	**37.968**	**37.774**	**189.085**

Notes: Controllable operating expenditure excludes licence fees, environmental contribution and bulk water costs

Figure E1 below compares our recommended operating expenditure for Goulburn Valley Water (on a per connection basis) with Goulburn Valley Water's proposal.

Figure E1 Proposed and recommended operating expenditure per property ($, 01/01/2013)



Performance against productivity hurdle

The ESC's Guidance Paper notes that the ESC will require all businesses to achieve a minimum of 1% per year productivity improvement on customer growth adjusted business as usual (BAU) operating expenditure for the WP3 period (the productivity hurdle).

We have interpreted BAU operating expenditure as being all operating expenditure other than expenditure that is the result of new or changed service outcomes, or new obligations imposed by Government or technical regulators.

In the case of Goulburn Valley Water, we have assessed the following increases in operating expenditure above the 2011-12 baseline as meeting this definition:

- Electricity
- Defined benefits superannuation contributions
- Intelligent Water Networks
- Fluoridation
- Operating expenditure that is required as a result of new capital expenditure projects.

The following table summarises the expenditure above the 2011-12 BAU for these items that we have assessed as meeting the ESC's requirements for prudency and efficiency.

Table E2 Prudent and efficient new initiatives and obligations expenditure above the 2011-12 baseline ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Electricity		0.840	0.893	1.011	1.034	1.113	4.891
Defined benefits		0.311	0.302	0.294	0.286	0.279	1.473
Intelligent Water Networks		0.050	0.050	0.050	0.050	0.050	0.250
Fluoridation		0.000	0.009	0.041	0.041	0.041	0.132
Site restoration		0.272	0.272	0.000	0.000	0.000	0.543
Tank rehabilitation		1.700	0.000	0.000	0.000	0.000	1.700

Operating expenditure item	Actual	Water Plan forecast					Total
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Filter rehabilitation		0.400	0.500	0.000	0.000	0.000	0.900
Opex from new capex		0.198	0.429	0.692	1.299	1.415	4.033
Total		**3.770**	**2.455**	**2.088**	**2.710**	**2.898**	**13.922**

Note: Electricity encompasses carbon price impacts.

Table E3 below calculates a "recommended BAU expenditure" using our total recommended operating expenditure less recommended expenditure on new or changed service outcomes, or new obligations imposed by Government or technical regulators above the BAU target. This amount is then compared with the growth and productivity adjusted BAU target to obtain a view on whether or not Goulburn Valley Water's operating expenditure, following our adjustments, meets the ESC's productivity hurdle.

Table E3 Productivity hurdle assessment ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Recommended operating expenditure		38.523	37.365	37.456	37.968	37.774	189.085
Less prudent and efficient new initiatives expenditure		3.770	2.455	2.088	2.710	2.898	13.922
Recommended BAU expenditure		**34.752**	**34.910**	**35.368**	**35.258**	**34.876**	**175.163**
Adjusted BAU target	33.791	34.158	34.343	34.528	34.715	34.903	172.647
Amount above BAU target		0.595	0.567	0.839	0.542	-0.027	2.517

As shown in the table, following our recommended adjustments, and accounting for expenditure above the BAU target that is the result of new or changed service outcomes, or new obligations imposed by Government or technical regulators, Goulburn Valley Water does not meet the ESC's productivity hurdle. This is mainly due to:

- Labour expenditure, which is increasing by $6.982m in total over the 2011-12 baseline, once labour costs from new capital projects are excluded
- Chemicals expenditure, which is increasing by $2.785m over the 2011-12 baseline.

For Goulburn Valley Water to meet the productivity hurdle, a further downward adjustment of $2.517m in total over WP3 would be required.

Capital expenditure

We have recommended a $21.8m reduction in Goulburn Valley Water's proposed capital expenditure. These reductions mainly relate to our removal of fluoridation plants and suggested reductions to sewer and water main replacement expenditure.

Table E4 Goulburn Valley Water forecast capital expenditure and recommended adjustments ($m, 01/01/2013)

Capital expenditure item		Water Plan forecast					
		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Water Main Replacement Program	Proposed	3.20	3.30	3.30	4.10	4.10	18.00
	Recommended	2.79	2.86	2.08	2.08	2.08	11.89
	Net change	-0.41	-0.44	-1.22	-2.02	-2.02	-6.11
Shepparton Water Treatment Plant Upgrade	Proposed	0.00	0.30	0.40	7.50	9.00	17.20
	Recommended	0.00	0.30	0.40	7.50	9.00	17.20
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Asset Acquisition - Corporate Assets	Proposed	3.20	3.20	3.20	3.20	3.20	16.00
	Recommended	3.20	3.20	3.20	3.20	3.20	16.00
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
New Fluoride Plants	Proposed	1.90	1.90	1.90	1.90	2.30	9.90
	Recommended	0.00	0.00	0.00	0.00	0.00	0.00
	Net change	-1.90	-1.90	-1.90	-1.90	-2.30	-9.90
Numurkah Water Treatment Plant Upgrade	Proposed	0.20	4.20	4.50	0.00	0.00	8.90
	Recommended	0.20	4.20	4.50	0.00	0.00	8.90
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Sewer Main Relining or Replacement Program	Proposed	1.50	1.50	1.50	1.50	1.50	7.50
	Recommended	0.60	0.60	0.60	0.60	0.60	3.00
	Net change	-0.90	-0.90	-0.90	-0.90	-0.90	-4.50
Above Ground Asset Replacements Program	Proposed	1.32	1.32	1.32	1.32	1.32	6.58
	Recommended	1.06	1.06	1.06	1.06	1.06	5.31
	Net change	-0.25	-0.25	-0.25	-0.25	-0.25	-1.27
Mansfield Wastewater Management Facility Additional Winter Storage	Proposed	2.50	1.00	2.20	0.00	0.00	5.70
	Recommended	2.50	1.00	2.20	0.00	0.00	5.70
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Marysville Water Treatment Plant	Proposed	2.60	2.60	0.00	0.00	0.00	5.20
	Recommended	1.30	1.95	1.95	0.00	0.00	5.20
	Net change	-1.30	-0.65	1.95	0.00	0.00	0.00
Kilmore Wastewater Management Facility Additional Winter Storage	Proposed	1.70	1.30	1.30	0.00	0.00	4.30
	Recommended	1.70	1.30	1.30	0.00	0.00	4.30
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Cobram – MGC Unfluoridated Water Pipeline	Proposed	2.22	0.20	0.00	0.00	0.00	2.42
	Recommended	2.22	0.20	0.00	0.00	0.00	2.42
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Total proposed		35.94	33.49	32.71	33.28	31.34	166.75
Recommended capital expenditure		**31.18**	**29.35**	**30.38**	**28.20**	**25.87**	**144.98**
Recommended adjustments from proposed		-4.76	-4.14	-2.32	-5.07	-5.47	-21.78

Notes: The proposed figures in the table above reflect Goulburn Valley Water's original forecasts.

1 Introduction

1.1 Background

The Essential Services Commission (ESC) is currently conducting a review of the proposed prices to be charged by Victoria's water businesses for the period 1 July 2013 to 30 June 2018, referred to in this document as 'the next regulatory period'.

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.

1.2 Scope of review

The ESC has engaged Deloitte to provide it with advice on whether the regional urban water businesses' proposed expenditure forecasts are consistent with the requirements of the legislative framework.

In undertaking this review, Deloitte's key responsibilities are to:

- Assess the appropriateness of the expenditure forecasts in relation to the key objectives of the review
- Provide independent advice to the ESC regarding the appropriateness of the forecasts
- Where Deloitte's advice indicates that a proposed expenditure level is not appropriate, propose to the ESC a revised expenditure level.

Capital expenditure

In relation to capital expenditure, we have focussed on the major projects that comprise a significant proportion of the total capital expenditure forecasts. In forming a view as to whether expenditure meets the requirements in the WIRO, and consistent with advice in the ESC's Guidance Paper, we have had regard to the following items:

- Does proposed capital expenditure reflect obligations imposed by Government (including technical regulators) or customers' service expectations?
- Are proposed new major capital works consistent with efficient long-term expenditure on infrastructure services?
- Does the business have appropriate asset planning procedures?
- Does the business have appropriate asset management systems in place?
- Does the business have appropriate project management procedures in place to enable effective delivery of capital works?
- Has a risk-based approach been adopted to develop the capital expenditure program? Is there clear evidence that projects are prioritised?
- Are major projects consistent with long-term strategies and planning?
- Is the timing for the proposed new capital expenditure reasonable?
- Are individual project cost forecasts reasonable and do not include undue contingencies or provisions, and reflect current efficient rates for undertaking capital expenditure in the Victorian water sector?
- Is capital expenditure deliverable in the timeframes proposed?

In relation to deliverability of individual projects as well as capital expenditure programs more broadly, the ESC has indicated that the following points need to be considered:

- The actual performance against previous capital expenditure programs and the business' demonstrated capacity to deliver against capital budgets
- The internal and external resources available to the water business to deliver the identified projects
- Timing of proposed capital programs in terms of deliverability, taking into account the proposed capital expenditure across the industry
- The opportunity to smooth the business's capital profiles or defer discretionary or non-essential projects from the start of the regulatory period to later in the period
- The business' risk sharing, and incentive and penalty payment arrangements with its contractors
- Whether businesses have appropriate project management systems and processes in place.

Operating expenditure

In relation to operating expenditure we have been asked to provide advice on, amongst other things, whether changes in operating costs are consistent with the timing of major capital projects; that businesses are fulfilling their obligations and meeting customer service expectations as cost efficiently as possible; that forecast divergences can be readily explained; and one-off costs associated with the drought have been removed.

The ESC has highlighted that energy, labour, IT and chemical costs should be a significant focus of the review. The Guidance Paper also outlines the ESC's intention to remove expenditure relating to drought mitigation and other related unnecessary water conservation, in light of the fact that Victoria is no longer experiencing a period of drought.

In addition, the Guidance Paper notes that ESC requires businesses to achieve at least a 1% productivity improvement on business as usual (BAU) expenditure.

Our approach to assessing operating expenditure for each business can be briefly summarised as follows:

1. **Assess 2011-12 BAU and adjust where necessary** – In general, we have removed one off expenditure, drought and other water conservation expenditure and other defined benefits, ultimately reaching an adjusted BAU expenditure for 2011-12.
2. **Assess business identified operating expenditure items increasing from 2011-12 levels and identify cuts consistent with prudent and efficient expenditure** – We have reviewed key areas of expenditure and where we are not satisfied that the expenditure is prudent or efficient we have removed it from the forecast to determine a revised operating expenditure forecast.

   In making our adjustments there are a number of areas or cost categories where issues are common across businesses – electricity cost increases being one example. We have applied a consistent approach to these areas across the businesses.

   We have not reviewed licence fee payments or environmental contribution levy payments as part of our analysis. We understand the ESC will review these items itself.
3. **Compare revised operating expenditure to target BAU (adjusted where necessary)** – Following our assessment of key areas of expenditure, we compare our total recommended operating expenditure (less recommended expenditure on new or changed service outcomes, or new obligations imposed by Government or technical regulators) with a growth and productivity adjusted BAU target to obtain a view on whether or not the business meets the ESC's 1% productivity hurdle. Where a business

does not meet the productivity hurdle, we identify the further downward adjustment to expenditure required to meet the hurdle.

1.3 Structure of this report

This report describes our approach and sets out our findings from the review of Goulburn Valley Water's Water Plan. It is structured as follows:

- Chapter 2 provides an overview of our methodology for conducting the review, the process followed and key timelines
- Chapter 3 briefly summarises Goulburn Valley Water's Water Plan with respect to expenditure forecasts and outlines key drivers of expenditure such as government obligations, service standards and demand forecasts
- Chapter 4 provides our analysis, conclusions and recommendations on key issues with respect to Goulburn Valley Water's operating expenditure forecast
- Chapter 5 provides our analysis, conclusions and recommendations on key issues with respect to Goulburn Valley Water's capital expenditure forecast.

2 Overview of approach

2.1 Process for review

Our approach to undertaking the review has involved the following key steps.

2.1.1 Initial planning and workshop with the ESC

The following steps were taken in the initial planning phase of the project:

- An initial review of Water Plans, financial model templates and associated documentation was undertaken to identify key issues
- A workshop was held with ESC staff to identify and discuss key issues for the focus of the review
- A detailed review of Water Plans and templates was undertaken, with an initial set of queries produced to guide our site visits with the businesses.

2.1.2 Questions to business and site visits

Following the planning phase, we prepared questions for the businesses and arranged site visits:

- We conducted our site visit with Goulburn Valley Water on 8 and 9 November 2012
- The site visits were used to hold discussions with Goulburn Valley Water and receive further information on key issues as required.

2.1.3 Preparation of Draft Report

A Draft Report was prepared and provided to the ESC on 11 December 2012. The ESC subsequently provided the Draft Report to Goulburn Valley Water.

2.1.4 Response from Goulburn Valley Water

We held discussions with Goulburn Valley Water personnel regarding the Draft Report. A formal response to the Draft Report was provided by Goulburn Valley Water on 25 January 2013. This response accepted some elements of our Draft Report, but disagreed with other elements.

We have closely examined Goulburn Valley Water's response and the information it provided to support its views. We subsequently held additional discussions with Goulburn Valley Water to clarify certain aspects of the forecasts and its response.

2.1.5 Final Report

This Final Report sets out our views of whether Goulburn Valley Water's operating and capital expenditure forecasts meet the requirements of the ESC/WIRO. Where we do not believe this is the case we have prepared alternative forecasts or recommended adjustments.

2.2 Approach to assessing forecasts

Our approach to reviewing many items of capital and operating expenditure is set out in our companion *Overview* document which should be read in conjunction with this report.

3 Summary of Goulburn Valley Water's forecasts

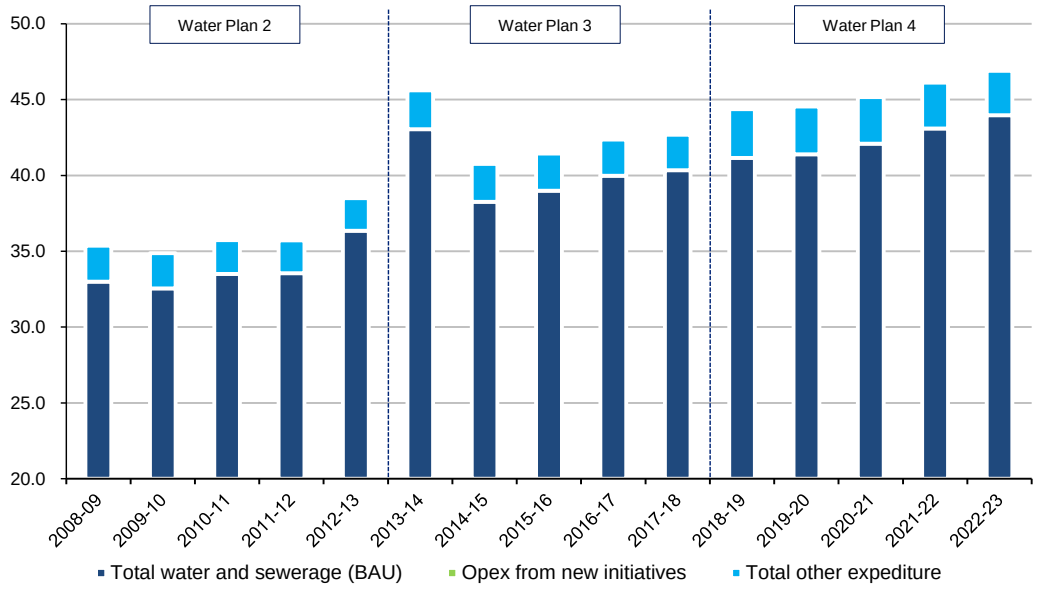
Goulburn Valley Water provides services to approximately 130,000 customers in northern Victoria, as well the Goulburn Valley food manufacturing industry, covering an area of more than 20,000km^2. Key towns served include Shepparton, Seymour, Cobram, and Alexandra.

Note that throughout this report, unless indicated otherwise, references to Goulburn Valley's 'forecast' or 'proposal' refer to its original September Water Plan proposal and not any subsequent proposal or adjustments that have been received.

3.1 Operating expenditure

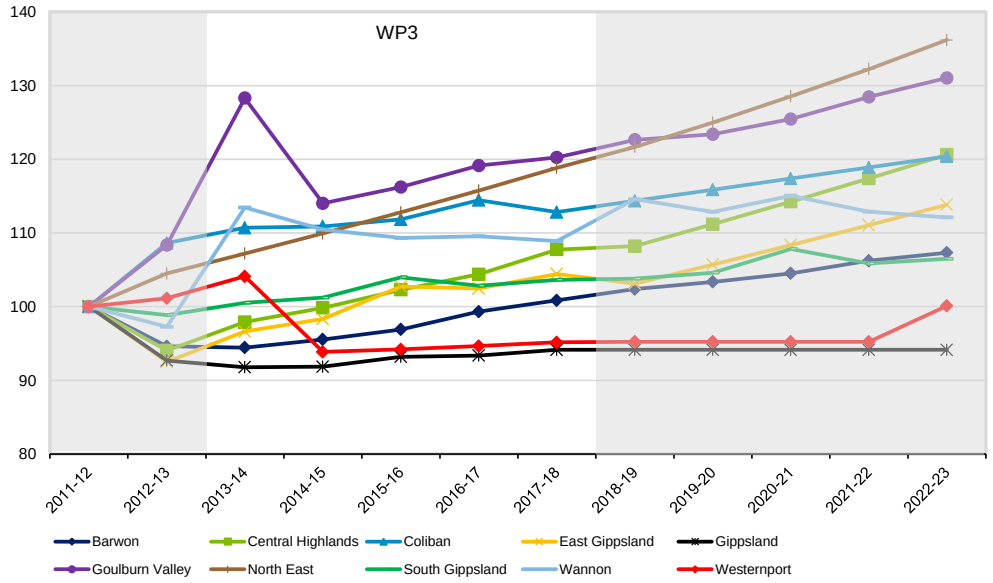
Figure 3-1 shows Goulburn Valley Water's operating expenditure over the WP2, WP3 and WP4 periods. Goulburn Valley Water's operating costs (excluding licence fees, bulk water charges and the environmental contribution) are forecast to be a total of $200.6m over WP3, which is an increase of 25.1% from WP2 (total of $160.3m).

Figure 3-1 Goulburn Valley Water actual and forecast operating expenditure ($m, 01/01/2013)



Goulburn Valley Water has forecast the largest increase in operating expenditure over WP3 of the businesses we have reviewed.

Figure 3-2 Operating expenditure (excluding bulk water charges, licence fees and environmental contribution) for 2011-12, 2012-13, WP3 and WP4 periods (Index 2011-12 = 100)



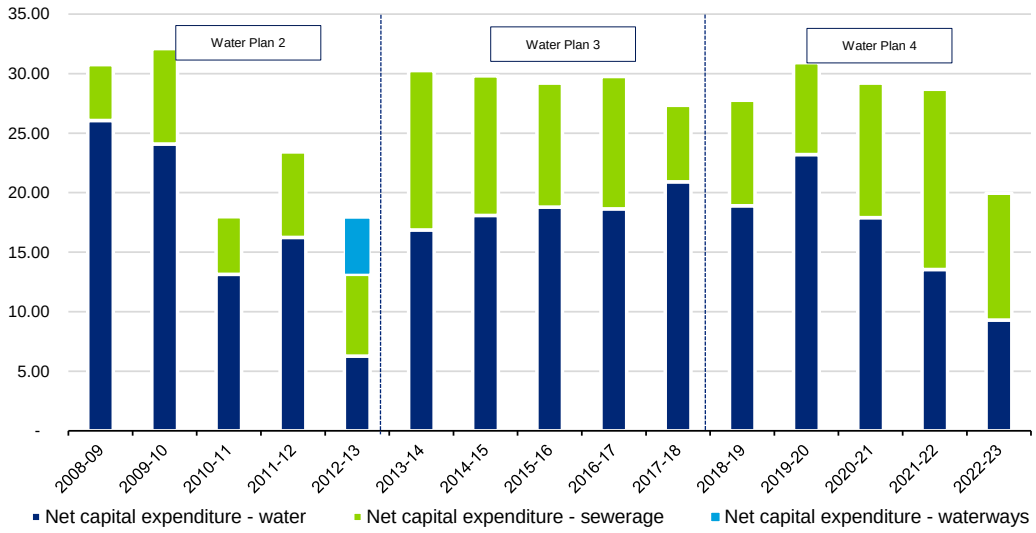
Goulburn Valley Water has identified the key drivers of increases in operating expenditure across WP3 as being:

- Increased labour (and related) costs driven by a range of factors including achieving compliance with the *Framework for water treatment plant operator best practice guidelines*, the increase in the superannuation guarantee contribution and payments for unfunded defined benefits superannuation
- Increased electricity costs due to price increases (network charges and the carbon tax) and additional energy usage from new facilities
- Additional operating expenditure requirements arising from capital works, including new fluoridation facilities.

3.2 Capital expenditure

The figure below shows Goulburn Valley Water's actual and forecast water and sewerage capital expenditure.

Figure 3-3 Goulburn Valley Water actual and forecast capital expenditure ($m, 01/01/2013)



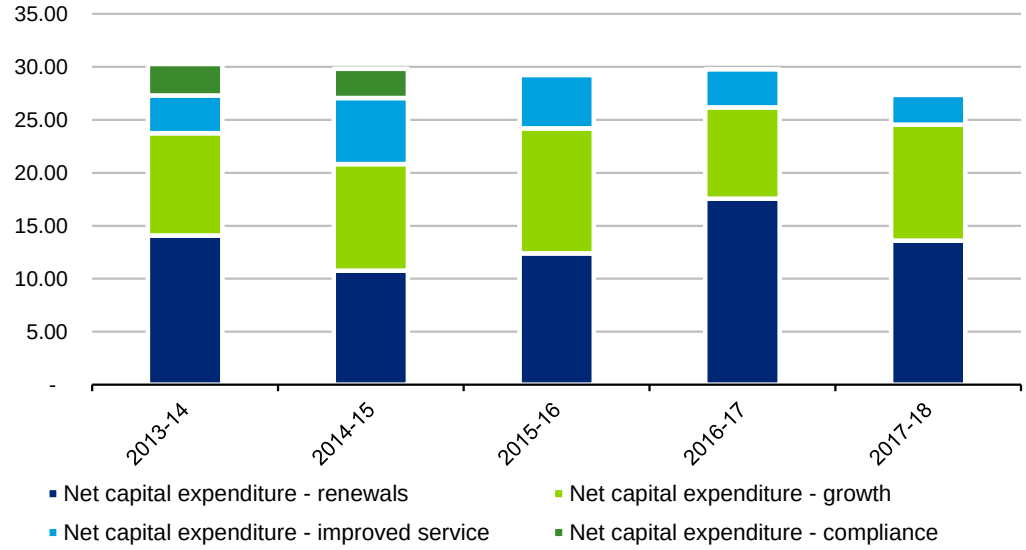
Total capital expenditure for WP3 is forecast to be $166.75m which represents a 24% increase on WP2 actual expenditure of $130.20m. Goulburn Valley Water is one of only two businesses to have proposed an increase in capital expenditure for the WP3 period. This includes:

- $26.1m for water treatment plant upgrades
- $32.1m for water and sewer asset replacements
- $16.1m on corporate assets
- $9.9m for the construction of fluoridation plants (expected to be funded by government).

The key drivers of capital expenditure for WP3 are shown in Figure 3-4 and include:

- Asset renewals ($68.4m or 41% of total capital expenditure)
- Growth ($51.0m or 31% of total capital expenditure), including major projects such as $17.2m for an upgrade to the Shepparton Water Treatment Plant and $8.9m for an upgrade to the Numurkah Water Treatment Plant.

Figure 3-4 Forecast capital expenditure by cost driver ($m, 01/01/2013)



3.3 Key drivers and obligations

3.3.1 Government obligations

Goulburn Valley Water's Water Plan identifies a range of Government obligations as driving additional operating and capital expenditure requirements for the WP3 period. These include:

- Fluoridation requirements under the *Health (Fluoridation) Act 1973*
- The introduction of the carbon tax on 1 July 2012
- The introduction of the *Framework for water treatment plant operator best practice guidelines* in 2010
- The increase in the superannuation guarantee contribution requirements
- Additional audit requirements under the Safe Drinking Water Act 2003.

3.3.2 Service standards

Goulburn Valley Water's proposed service standard targets for WP3 are largely consistent with the targets set for the WP2 period. However, we note that in general, where past performance been better than the target for a particular service standard, Goulburn Valley has elected to retain the target from WP2, while were past performance has been worse than the WP2 standard, Goulburn Valley Water has elected to relax its target.

3.3.3 Demand

Goulburn Valley Water's demand forecast is based on the following key assumptions:

- Residential demand per customer for existing customers will remain similar to the average of the last five years, while for new customers demand will be lower than this
- Wastewater demand will remain constant on a per connection basis
- Major customer and industrial demand is expected to remain constant.

Therefore, it appears that forecast changes Goulburn Valley Water's demand are largely driven by the assumptions concerning customer growth of 1.4% per annum.

4 Assessment of operating expenditure

This chapter sets out our assessment of operating expenditure including:

- An assessment of the 2011-12 baseline expenditure (which forms the basis of the growth adjusted BAU for WP3)
- Assessment of individual expenditure items. Our approach to assessing many of the expenditure items, including labour, electricity and superannuation guarantee costs, is set out in our *Overview* document
- Assessment of business specific expenditure items that are increasing and are above BAU (i.e. new initiatives or large increases in BAU items).

4.1 Business As Usual (BAU) expenditure

As outlined in the *Overview* document our approach to assessing BAU expenditure is to define efficient expenditure in the base year 2011-12. Therefore we have removed material once-off items that were incurred in 2011-12, as well as adding back any material items that are normally incurred but were not in 2011-12. In addition, we have specifically removed any once-off and cyclical costs related to the drought in 2011-12, consistent with the ESC Guidance paper.

With respect to the representativeness of the 2011-12 baseline, Goulburn Valley Water has advised that significantly lower chemical costs occurred in this year in comparison with other years. In particular:

- Significant savings were evident in 2011-12 in relation to Chemicals Wastewater Treatment & Tertiary Treatment as reported to the Board.
- Wastewater chemicals costs were under-budget $0.190m for the year (nominal), primarily attributable to a reduction in dosage rates due to a slower than usual cannery season at Mooroopna
- Tertiary chemicals costs were under-budget $0.218m for the year (nominal), due to tertiary plant throughput for the year being down 61.7% (or 1,234 ML).

We have assessed Goulburn Valley Water's 2011-12 baseline operating expenditure and have recommended that it be adjusted upwards by $0.237m, which reflects the difference between actual 2011-12 chemicals costs and the average for WP2 (up to and including 2011-12).

Table 4-1 below shows Goulburn Valley Water's proposed BAU for 2011-12 which is then growth and productivity adjusted for the WP3 years according to the methodology in the ESC's template.

Table 4-1 Goulburn Valley Water 2011-12 BAU and growth adjusted forecast ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed BAU	33.554					
Deloitte adjustments to BAU	0.237					
BAU target	33.791	34.158	34.343	34.528	34.715	34.903

The ESC's Guidance Paper notes that the ESC will require all businesses to achieve a minimum of 1% per year productivity improvement on customer growth adjusted business as usual (BAU) operating expenditure for the WP3 period.

In the remainder of this chapter we assess the individual items of expenditure that Goulburn Valley Water has identified as increasing over the WP3 period. Following our assessment of each individual item, we compare our total recommended operating expenditure (less recommended expenditure on new or changed service outcomes, or new obligations imposed by Government or technical regulators) with the growth and productivity adjusted BAU target set out in Table 4-1 to obtain a view on whether or not Goulburn Valley Water is meeting the ESC's productivity hurdle.

This approach ensures that our assessment of Goulburn Valley Water's performance against the productivity hurdle takes into account the extent to which expenditure above the BAU target is the result of new or changed service outcomes, or new obligations imposed by Government or technical regulators (i.e. is either driven by required service outcomes from customers or largely outside the control of the business).

4.2 Individual expenditure items

Individual expenditure items have been assessed for prudency and efficiency using the approach set out in the Overview document. We have reported these items on a 'by exception' basis, i.e. we have generally only provided commentary for those items where we have recommended adjustments.

In this section, and where the context requires, references to Goulburn Valley Water's 'original' forecasts reflect forecasts contained in its Water Plan of September 2012. References to Goulburn Valley Water's 'revised' forecasts reflect adjustments proposed by Goulburn Valley Water in response to our Draft Report.

4.2.1 Labour costs

Goulburn Valley Water's proposal

Goulburn Valley Water's existing EBA expires in December 2014. This EBA allows for a 3.75% increase in nominal terms for December 2011 and provides for 4% increases in nominal terms in 2012 and 2013.

In addition to the EBA, Goulburn Valley Water has advised that its proposed labour expenditure is based on:

- Assumed wage increases of 4% per annum in nominal terms for the remainder of the WP3 period
- An increase of 21 FTEs from 2011-12 levels (including seven budgeted, but currently vacant positions for WP2).

Goulburn Valley Water's labour forecasts are set out in the table below.

Table 4-2 Goulburn Valley Water proposed labour expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed labour expenditure	16.669	18.411	18.859	19.467	20.120	20.586
Number of FTEs	201.3	216.3	217.3	220.3	222.3	223.3
Cost per FTE ($'000)	82.8	85.1	86.8	88.4	90.5	92.2

The following table provides a breakdown of GVW's proposed increase in FTEs for the WP3 period.

Table 4-3 Goulburn Valley Water proposed additional FTEs for WP3 (cumulative)

Driver	Water Plan forecast				
	2013-14	2014-15	2015-16	2016-17	2017-18
Additional operating expenditure requirements from new capital projects	1.0	2.0	5.0	7.0	8.0
Framework for water treatment operators competencies best practice guidelines	6.0	6.0	6.0	6.0	6.0
IT trainee	1.0	1.0	1.0	1.0	1.0
Total	**8.0**	**9.0**	**12.0**	**14.0**	**15.0**

In response to our Draft Report, Goulburn Valley Water provided a revised forecast of labour costs, based upon:

- A reduced estimate of the proportion that labour makes up of operating expenditure from new capital projects (a reduction of $1.099m over the WP3 period from the original proposal)
- A revised approach to compliance with the Framework for water treatment operators competencies best practice guidelines, involving up-skilling of existing staff rather than introducing new staff.

The change in the increase in FTEs as a result of the above revisions is set out below

Table 4-4 Goulburn Valley Water proposed additional FTEs for WP3 (cumulative)

Driver	Water Plan forecast				
	2013-14	2014-15	2015-16	2016-17	2017-18
Additional operating expenditure requirements from new capital projects	1.0	2.0	3.0	5.0	6.0
Framework for water treatment operators competencies best practice guidelines	0.0	0.0	0.0	0.0	0.0
IT trainee	1.0	1.0	1.0	1.0	1.0
Total	**1.0**	**3.0**	**4.0**	**6.0**	**7.0**

Analysis and recommended adjustments

Our approach to reviewing labour forecasts is set out in the *Overview* document and involves:

- Applying wage increases set out in existing EBAs until the EBA expires
- Once a new EBA applies, applying a real growth in wages per FTE of 0%
- Reviewing FTE numbers on a case-by case basis.

In applying the approach above to Goulburn Valley Water's proposed labour expenditure, we have undertaken the following steps:

- Applied a 4% per annum nominal increase in wages from 2011-12 to December 2013, as described by Goulburn Valley Water for its proposed EBA.
- Applied a 2.75% per annum nominal increase (i.e. 0% real increase) in wages from December 2013 for the rest of the WP3 period

Accordingly, we have made adjustments with respect to the additional FTEs proposed by Goulburn Valley Water as follows:

- Removing the additional IT trainee – the justification for the additional FTE is to perform technical support related roles and assist service desk tasks. However, we note that Goulburn Valley Water has consistently managed service desk tasks at a level considered acceptable in internal surveys. While new initiatives such as increases in remote computing devices may increase pressure on existing IT staff, we consider that any additional staffing requirements should be able to be met via cost efficiencies from such initiatives
- Removing the additional FTEs for the water treatment operator competencies best practice guidelines in accordance with Goulbourn Valley Water's revised proposal – see section 4.2.6 below for further details

We have accepted the additional FTEs arising from new capital projects.

The following table sets out our recommended additional FTEs for the WP3 period.

Table 4-5 Recommended additional FTEs for WP3 (cumulative)

Driver	Water Plan forecast				
	2013-14	2014-15	2015-16	2016-17	2017-18
Additional operating expenditure requirements from new capital projects	1.0	2.0	3.0	5.0	6.0
Framework for water treatment operators competencies best practice guidelines	0.0	0.0	0.0	0.0	0.0
IT trainee	0.0	0.0	0.0	0.0	0.0
Total	**1.0**	**2.0**	**3.0**	**5.0**	**6.0**

The adjustments outlined above result in the revised labour expenditure and recommended adjustments set out in Table 4-6.

Table 4-6 Goulburn Valley Water labour expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed labour expenditure	16.669	18.366	18.765	19.215	19.764	20.234
Recommended adjustments		-0.394	-0.612	-0.803	-1.180	-1.563
Revised labour expenditure		17.972	18.153	18.412	18.584	18.671

4.2.2 Electricity costs

Goulburn Valley Water has 31 large sites and a large number of small sites. It has used Procurement Australia (PA) to tender for its electricity supply.

Goulburn Valley Water's forecasts are driven by an assumed 35% increase in costs in 2012-13. This is primarily due to an average 34% price increase per kWh in 2012-13, including a 43% increase at large sites. Increases in electricity use are low and in line with increases in water volumes supplied.

The WP3 forecast was based on information contained in the WSAA report.

Table 4-7 Goulburn Valley Water electricity forecasts ($m, 01/01/2013)

	Actual	Water Plan forecast					
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Large sites	1.896	2.743	2.794	3.021	3.123	3.269	3.452
Small sites	0.881	1.007	1.026	1.109	1.147	1.201	1.268
Total	**2.777**	**3.750**	**3.820**	**4.130**	**4.270**	**4.470**	**4.720**

	Actual	Water Plan forecast					
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
% Change	-0.4%	35.0%	1.9%	8.1%	3.4%	4.7%	5.6%

As noted in our *Overview* document Procurement Australia has recommended that AGL be selected to provide electricity services and a new three year quote has been provided to Goulburn Valley Water.

Goulburn Valley Water's forecast for 2012-13 is much higher than that implied in the quote provided by Procurement Australia. Using the quote provided by Procurement Australia, known changes in network tariffs, and making certain assumptions as set out in the *Overview* document, our Draft Report proposed to remove $5.7m in forecast costs across WP3.

In response to our Draft Report Goulburn Valley Water broadly accepted our approach, with the exception of network charges post the current regulatory period which Goulburn Valley Water considered should increase by more than CPI.

During discussions with Goulburn Valley Water in relation to the Draft Report, it became apparent that while Goulburn Valley Water had assumed electricity prices that were much higher than the Procurement Australia quote, its forward forecasts were based on treatment and pumping volumes in 2011-12 which, due to high rainfall in the summer period, were abnormally low.

We therefore recalculated our forecasts based on higher electricity volumes, the Procurement Australia quote, and the assumptions set out in our *Overview* document. Our final adjustments are set out in the table below. In total we have reduced Goulburn Valley's electricity forecasts by $2.2m over the WP3 period.

Table 4-8 Goulburn Valley Water electricity expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed electricity cost	2.777	3.820	4.130	4.270	4.470	4.720
Recommended adjustments		-0.145	-0.386	-0.393	-0.555	-0.710
Revised cost allocation		3.675	3.744	3.877	3.915	4.010

4.2.3 Intelligent Water Networks

Goulburn Valley Water has proposed operating expenditure of $0.10m per annum across WP3 for the Intelligent Water Networks (IWN) program. Expenditure in the WP2 period was minor, being around $0.07m for a smart metering project in Barmah.

As outlined in our *Overview* document, we understand that industry expenditure on IWNs across the WP3 period is still uncertain, including the nature, costs and timing of projects to be undertaken. At the same time, we note that the IWN has the support of government and key stakeholders and may lead to efficiency improvements and improved customer service in future.

We have generally accepted all IWN proposals from businesses forecasting $50,000 or less per annum. Therefore, as per Table 4-9, we recommend a reduction of $0.05m per annum to Goulburn Valley Water's operating expenditure associated with IWNs.

Table 4-9 Goulburn Valley Water IWN expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed IWN expenditure	0.005	0.100	0.100	0.100	0.100	0.100
Recommended adjustments		-0.050	-0.050	-0.050	-0.050	-0.050
Revised IWN expenditure		0.050	0.050	0.050	0.050	0.050

4.2.4 Defined benefits superannuation costs

Goulburn Valley Water's proposal

Goulburn Valley Water has identified a liability of $3.152m as a result of its requirement to make an additional defined benefit superannuation contribution (including contribution tax) to Vision Super. Goulburn Valley Water advised that this liability was accrued in 2011-12 and it has proposed to pay the full amount in 2013-14 as a once-off operating expenditure item. The amount of $3.152m is broken down as follows:

- $3.064m of unfunded liability, including contributions tax of $0.46m
- $0.088m in payroll tax (4.9% or $0.073m) and workers compensation (1.03% or $0.015m).

In addition, Goulburn Valley Water has proposed an additional $0.15m in annual operating expenditure for the WP3 period as an allowance for future unfunded calls.

Analysis and recommended adjustments

Background information regarding the requirement to make additional superannuation contributions is set out in our *Overview* document. As outlined in the *Overview* we have allowed businesses to include an annuity payment in their operating forecasts to meet this obligation, calculated as the principal and interest payment on a 15 year loan at 5.75%.

With respect to the amount of the contribution, we do not consider it prudent to set aside $0.45m over the WP3 period to provide for future unfunded calls that may or may not occur. As this additional $0.45m of expenditure was included in Goulburn Valley Water's overall labour cost assumptions, our recommended removal of this expenditure is reflected in the overall labour cost adjustment set out in section 4.2.1 above.

Therefore, we have based our recommendations on operating expenditure requirements on the $3.152m unfunded liability (plus tax).

Therefore, we recommend an adjustment to Goulburn Valley Water's expenditure forecasts for WP3 to reflect payments over 15 years at 5.75%, as set out in the table below.

Table 4-10 Goulburn Valley Water defined benefits superannuation expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed superannuation payment		3.152	0.000	0.000	0.000	0.000
Recommended adjustments		-2.841	0.302	0.294	0.286	0.279
Revised superannuation payment		0.311	0.302	0.294	0.286	0.279

4.2.5 Fluoridation

Goulburn Valley Water's proposal

Goulburn Valley Water has proposed additional operating expenditure requirements in WP3 associated with fluoridation plants that were constructed during WP2 and also plants currently under construction or expected to be constructed during WP3.

Goulburn Valley Water has identified eight water treatment plants that it considers are likely to require fluoridation systems on the basis of advice from the Department of Health.

The following table provides a summary of Goulburn Valley Water's proposed operating expenditure requirements above 2011-12 levels for WP3.

Table 4-11 Goulburn Valley Water proposed fluoridation operating expenditure ($m, 01/01/2013)

Project	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Operational plants - Kyabram and Seymour		0.064	0.064	0.064	0.064	0.064
Plants under construction - Cobram				0.032	0.032	0.032
Proposed plants - Alexandra, Mansfield, Numurkah, Broadford, Kilmore, Euroa, Nagambie and Tatura.			0.031	0.125	0.172	0.219
Upgrade to existing plant - Tongala			0.009	0.009	0.009	0.009
Total		**0.064**	**0.104**	**0.230**	**0.277**	**0.324**

Analysis and recommended adjustments

As set out in our *Overview* document, our approach to assessing the businesses' forecasts of operating expenditure in relation to fluoridation is as follows:

- To accept the inclusion of any additional expenditure above 2011-12 levels for projects that have already been constructed or had funding confirmed by the Department of Health, subject to a review of the efficiency of the proposed operational expenditure
- To recommend the removal of operating expenditure for projects that have not had funding confirmed.

Accordingly, our recommendations on Goulburn Valley Water's proposed additional operating expenditure requirements reflect the removal of expenditure for the eight proposed plants. We have also recommended that the additional expenditure requirements for Kyabram and Seymour be removed on the basis of advice Goulburn Valley Water that these plants were constructed in 2010, and therefore we expect that the associated operating expenditure would be reflected in Goulburn Valley Water's 2011-12 baseline.

The following table summarises our recommended adjustments for fluoridation operating expenditure.

Table 4-12 Goulburn Valley Water fluoridation expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed fluoridation expenditure	0.064	0.064	0.104	0.230	0.277	0.324
Recommended adjustments		-0.064	-0.095	-0.189	-0.236	-0.283
Revised fluoridation expenditure		0.000	0.009	0.041	0.041	0.041

4.2.6 Framework for water treatment operator competencies best practice guidelines

Goulburn Valley Water's proposal

Goulburn Valley Water has noted that it is not currently meeting the minimum requirements of the Victorian *Framework for water treatment operator competencies best practice guidelines*, and has proposed a number of actions (with associated operating expenditure) to address the minimum requirements in WP3.

The main expenditure item identified by Goulburn Valley Water is the requirement for an additional six trainees to aid in meeting the requirements. Goulburn Valley Water has also proposed additional expenditure for training and other staff-related costs, as set out in the table below.

Table 4-13 Goulburn Valley Water proposed water treatment operator expenditure ($m, 01/01/2013)

	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Additional staff trainees		0.190	0.190	0.190	0.190	0.190
Additional salaries for Cert IV staff at Shepparton WTP		0.010	0.010	0.010	0.010	0.010
Additional standby costs		0.017	0.017	0.017	0.017	0.017
Additional training		0.022	0.022	0.022	0.022	0.022
Refresher training		0.020	0.020	0.020	0.020	0.020
Certification costs		0.003	0.003	0.003	0.003	0.003
Total		**0.262**	**0.262**	**0.262**	**0.262**	**0.262**

In response to our Draft Report, Goulburn Valley Water revised its original proposal, advising that it had decided to approach compliance with the *Framework for water treatment operator competencies best practice guidelines* via up-skilling existing staff rather than introducing an additional six FTEs.

Goulburn Valley Water's revised proposal amounts to $0.069 p.a. over the WP3 period, and comprises additional costs for:

- Training staff to Certification II, Certification III and Certification IV standards
- Increased salaries for more qualified staff
- Certification costs.

Analysis and recommended adjustments

Our approach to reviewing forecasts of additional expenditure arising from the *Framework for water treatment operator competencies best practice guidelines* is set out in the *Overview* document.

With respect to the additional training and certification costs identified by Goulburn Valley Water, we note that Goulburn Valley Water's overall training budget has increased by $0.78m per annum from 2011-12 (excluding the increased training requirements for the *Framework for water treatment operator competencies best practice guidelines* and once-off audit training). Therefore, we are of the view that the training requirements for the *Framework for water treatment operator competencies best practice guidelines* should able to be accommodated within the overall training budget and recommend the removal of these costs.

As set out in our *Overview* document, and consistent with our overall approach to wages, we recommend the removal of additional expenditure identified by Goulburn Valley Water in relation to wage increases.

The additional costs identified by Goulburn Valley Water for compliance with the *Framework for water treatment operator competencies best practice guidelines* are included as part of their overall labour cost assumptions, therefore, the above recommendations are reflected in our recommended adjustments to labour costs set out in section 4.2.1 above.

4.2.7 Chemicals

Goulburn Valley Water's proposal

Goulburn Valley Water has forecast increases in chemical costs of between 0.6% and 2.3% per annum in real terms across the WP3 period, as shown in Table 4-14 below.

Table 4-14 Goulburn Valley Water proposed chemicals expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Forecast	Water Plan forecast				
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed chemicals expenditure	2.206	2.903	2.935	2.969	3.031	3.101	3.121
Increase on previous year	-24.6%	31.6%	1.1%	1.2%	2.1%	2.3%	0.6%

Goulburn Valley Water's chemical costs fluctuated over the WP2 period, with an increase of 22.5% in 2010-11 followed by a decrease of 24.6% in 2011-12. Forecast expenditure for 2012-13 suggests a 31.6% increase, bringing the level of expenditure back to a similar level experienced in 2010-11.

Goulburn Valley Water has advised that:

- 2011-12 chemicals costs were significantly under budget, primarily due to lower tertiary plant throughput and a slower than usual cannery season at Mooroopna
- The subsequent increase forecast for 2012-13 is due to increased wastewater and tertiary volumes, expected price increases in key chemicals, and increased tonnages for primary treatment chemicals. For example, at the Shepparton tertiary plant Goulburn Valley Water is anticipating a return to 'normal year' wastewater treatment (2,000ML), compared to 2011-12 tertiary treatment requirements of 750ML, plus a 37% increase in the price of ferric sulphate
- Forecast increases across the WP3 period reflect identified operating expenditure costs from completed capital projects, and as such volume and quality related.

Following our Draft Report, Goulburn Valley Water advised that it had revised its expectations of chemicals expenditure for 2012-13 downward by $0.100m to $2.803m on the basis that some of the expected price increases had not eventuated. Goulburn Valley Water also confirmed that the actual price increase for ferric sulphate was 35%.

Analysis and recommended adjustments

As set out in our *Overview* document, we do not consider that there is sufficient evidence to suggest that chemical costs should increase in real terms across the WP3 period (although a small increase in price in 2012-13 is assumed).

Furthermore, we note that Goulburn Valley Water has not provided any evidence to support expected increases in chemicals prices, with the exception of Ferric Sulphate (corresponding to an increase of slightly under $0.120m from 2011-12 to 2012-13).

Therefore, we have recommended adjustments to Goulbourn Valley Water's chemical cost forecast as follows:

- From 2011-12 to 2012-13, we have allowed for a volume related increase in chemical costs based on forecast growth in raw water volumes of 7.9% (arguably a generous assumption given that wastewater volumes are expected to grow by only 1.5%), and a further $0.086m increase in costs reflecting the price-based component of the proposed increase in costs at Shepparton tertiary plant due to the increase in the price of ferric sulphate. This results in a reduction in Goulbourn Valley Water's proposed increase in chemical costs from 2011-12 to 2012-13 from 36.1% to 17.2%. We note that even with this reduction the Goulbourn Valley Water increase remains one of the highest among the businesses
- Beyond 2012-13 we have allowed for a growth in costs of around 0.75% per annum, reflecting the forecasts of growth in raw water use as presented by Goulburn Valley Water in relation to electricity costs
- Chemical costs in relation to fluoride plants are addressed in section 4.2.5 above – therefore, we have added back these amounts ($0.590m over the WP3 period) to the chemical cost recommendation to avoid double counting the recommended adjustments.

Our adjustments are set out in the table below.

Table 4-15 Goulburn Valley Water chemicals expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed chemicals expenditure	2.206	2.935	2.969	3.031	3.101	3.121
Recommended adjustments		-0.297	-0.297	-0.278	-0.248	-0.220
Revised chemicals expenditure		2.638	2.672	2.753	2.853	2.901

4.2.8 Site restoration costs

Goulburn Valley Water's proposal

Goulburn Valley Water is currently undertaking clean-up works at the Shepparton Operations Centre in response to a clean-up notice from the EPA. The Shepparton Operations Centre clean-up operations are expected to amount to $1.0m. In addition, Goulburn Valley Water has noted that there are other sites that will also need clean-up works and in its Water Plan allocated $1.0m for potential further clean-ups, subject to developing a final position on the timing and extent of other clean-ups in discussions with the EPA.

Following our Draft Report, Goulburn Valley Water provided additional information about requirements for clean-ups at other sites, based on instructions from the EPA to inspect all other sites to determine the requirement for clean-ups, and an internal report on the hard waste management program. Goulburn Valley Water's internal report included:

- The results of an assessment of all Goulburn Valley Water sites by an EPA accredited environmental consultant
- A risk based rehabilitation strategy for each site from the environmental consultant
- A preliminary cost estimate developed by Goulburn Valley Water to undertake rectification of the sites in accordance with the approach recommended by the environmental consultant.

Key components of Goulburn Valley Water's revised proposal include:

- Multiple site remediation contract works – $1.280m
- Multiple site occupational hygienist – $0.200m
- Environmental consultant – $0.150m
- Legal fees – $0.150m

- Public relations consultant – $0.030m
- A 25% contingency on all future costs identified of $0.550m

Goulburn Valley Water's revised proposal is set out below.

Table 4-16 Goulburn Valley Water proposed site clean-up expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed site clean expenditure	0.000	1.000	1.300	0.000	0.000	0.000

Analysis and recommended adjustments

The environmental consultant's report identified 35 sites that were impacted by 'asbestos impacted material' (characterised by asbestos containing material) and/or 'inert fill' (suspected pipe replacement spoil with minor bitumen and concrete, but no obvious exposed asbestos containing material).

The consultant's risk assessment identified no high or very high risk sites that posed an immediate risk or required immediate action (aside from the Shepparton Operations Centre). In relation to the medium risk sites (13 sites), the consultant recommended that isolation of the site and planned clean-up was required. In relation to the low risk sites (21 sites), the consultant noted that the risks to human health were low, and recommended removing any exposed asbestos containing material, a management plan and annual inspections. The consultant further recommended that any clean-up works that may be undertaken should be undertaken on a prioritised basis, with consideration to the risk ratings.

In our view, it is not evident that the low risk sites require much, if any remedial action subject to further site investigations – nevertheless, Goulburn Valley Water has budgeted for clean-up of all 35 sites. Furthermore, we note that the contamination of the sites appears to be due to Goulburn Valley Water's own work practices, and as such it is not clear that customers should be required to bear any increased costs for Goulburn Valley Water to meet its existing obligations.

However, also we note that the EPA intends to undertake further inspections at other sites requiring clean-up, and also that the industrial wastes potentially pose a risk for Goulburn Valley Water staff, and therefore recommend an allowance of $0.543m for WP3 reflecting Goulburn Valley Water's estimate of the clean-up costs for medium risk sits.

While we note that some work may be required in relation to the low risk sites, we are of the view that this should be able to be accommodated within existing budgets.

In addition, we consider that the costs identified by Goulburn Valley Water in relation to consultants, legal fees and public relations should be able to be managed within existing budgets for these items, and that the application of a 25% contingency to all operating costs is inappropriate in this instance.

The following table sets out our recommended additional allowance for Goulburn Valley Water's site clean-up requirements, spread across two years.

Table 4-17 Goulburn Valley Water site clean-up expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed site clean-up expenditure	0.000	1.000	0.000	0.000	0.000	0.000
Recommended adjustments		-0.728	0.272	0.000	0.000	0.000
Revised site clean-up expenditure		0.272	0.272	0.000	0.000	0.000

4.2.9 Environmental Stewardship Framework

Business proposal

Goulburn Valley Water has forecast $0.105m for WP3 for the implementation of an Environmental Stewardship Framework. The framework is designed to assist Goulburn Valley Water in meeting the objectives of its Corporate Plan to be "a responsible steward of land, water and corporate resources to enhance environmental, social and economic outcomes for our communities".[1]

Goulburn Valley Water has advised that the need for the framework originates from the Statement of Obligations, and in particular relates to Goulburn Valley Water's obligations to meet its requirements under the Aboriginal Heritage Act and Victorian Heritage Act, in addition to the EPA Corporate Licence.

Analysis and recommended adjustments

In our view, the Environmental Stewardship Framework does not relate to a new regulatory obligation, compliance issue, or improved service outcomes for customers, and therefore should be able to be managed within existing operating expenditure budgets. Therefore, we have recommended the removal the proposed additional expenditure for WP3.

Table 4-18 Goulburn Valley Water Environmental Stewardship Framework expenditure ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed environmental stewardship expenditure	0.000	0.005	0.025	0.025	0.025	0.025
Recommended adjustments		-0.005	-0.025	-0.025	-0.025	-0.025
Revised environmental stewardship expenditure		0.000	0.000	0.000	0.000	0.000

4.2.10 Superannuation guarantee increases

Goulburn Valley Water's proposal

Goulburn Valley Water has advised that increased costs arising from the changes in Guaranteed Superannuation Contributions have not been accounted for in the EBA currently before DTF, and have identified additional costs of $0.832m arising from this regulatory change in WP3.

Analysis and recommended adjustments

The Victorian Government's wages policy is clear that increases in the superannuation guarantee amount should be funded from within the guideline increase in wages costs of 2.5%.Therefore, we have recommended that the additional operating expenditure identified by Goulburn Valley Water for this item be removed from its WP3 expenditure.

The additional costs identified by Goulburn Valley Water for the superannuation guarantee increase are included as part of their overall labour cost assumptions, therefore, the above recommendations are reflected in our recommended adjustments to labour costs set out in section 4.2.1 above.

[1] Goulburn Valley Water (2011), *Environmental Stewardship Framework*, August 2011, p.i

4.2.11 Old Dookie Road tank rehabilitation

Goulburn Valley Water's proposal

Goulburn Valley Water has forecast $1.7m in operating expenditure requirements for rehabilitation of the Old Dookie Road tank located in Shepparton for WP3.

Analysis and recommended adjustments

Goulburn Valley Water has advised that the tank floor of the tank has prematurely failed and is leaking. Goulburn Valley Water advised that the repairs to the floor will allow the tank to achieve its design life of 80 years, and in no way improve the asset or extend design life or useful life and therefore has been proposed as an operating cost rather than capital expenditure.

We have reviewed the engineering reports and note that the expenditure proposed by Goulburn Valley Water are consistent with estimates provided by the engineers. With respect to treatment of the expenditure as operating rather than capital, we note that the repairs will not extend the life of the assets beyond its expected useful life and therefore consider that the appropriate treatment is as operating expenditure.

Table 4-19 Goulburn Valley Water tank rehabilitation ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed tank rehabilitation expenditure	0.000	1.700	0.000	0.000	0.000	0.000
Recommended adjustments		0.000	0.000	0.000	0.000	0.000
Revised tank rehabilitation expenditure		1.700	0.000	0.000	0.000	0.000

4.2.12 Water treatment plant filters

Goulburn Valley Water has forecast $0.9m in operating expenditure requirements for rehabilitation of water treatment plant filters at Kyabram for WP3.

Following discussions with Goulburn Valley Water and we consider that this is prudent and efficient expenditure. With respect to treatment of the expenditure as operating rather than capital, we note that the repairs will not extend the life of the assets beyond their expected useful lives and therefore consider that the appropriate treatment is as operating expenditure.

Table 4-20 Goulburn Valley Water treatment plant filters ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed water treatment filter expenditure	0.000	0.400	0.500	0.000	0.000	0.000
Recommended adjustments		0.000	0.000	0.000	0.000	0.000
Revised water treatment filter expenditure		0.400	0.500	0.000	0.000	0.000

4.2.13 Operating expenditure from new capital projects

Goulburn Valley Water's proposal

Goulburn Valley Water has forecast additional operating expenditure requirements from a number of new capital projects for WP3.

Analysis and recommended adjustments

Where we have recommended adjustments to Goulburn Valley Water's proposed capital expenditure programs, we have also calculated the associated changes to Goulburn Valley Water's operating expenditure, based on the approach used by Goulburn Valley Water to identify the additional operating expenditure requirements.

With respect to the capital expenditure adjustments recommended in Chapter 5, the only project that requires some adjustment is the operating expenditure arising from the Marysville project. Consistent with our recommendation that capital expenditure for this project should be spread over three years of the WP3 period rather than two, we have pushed back the timing of the associated operating expenditure by one year.

The following table illustrates this amendment (see Chapter 5 for a detailed description of recommended changes to capital expenditure).

Table 4-21 Goulburn Valley Water operating expenditure from capital projects ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast				
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18
Proposed operating expenditure from capital projects	-	0.000	0.000	0.100	0.100	0.100
Recommended adjustments		0.000	0.000	-0.100	0.000	0.000
Revised operating expenditure from capital projects		0.000	0.000	0.000	0.100	0.100

4.3 Summary of recommended adjustments

Recommended operating expenditure

Table 4-22 provides a summary of our recommended adjustments to Goulburn Valley Water's operating expenditure proposal for WP3.

Table 4-22 Goulburn Valley Water forecast controllable operating expenditure and recommended adjustments ($m, 01/01/2013)

Operating expenditure item	Water Plan forecast					Total
	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Proposed controllable operating expenditure ($m)	43.048	38.256	38.999	39.975	40.346	**200.624**
Recommended adjustments						
Labour	-0.394	-0.612	-0.803	-1.180	-1.563	**-4.553**
Electricity	-0.145	-0.386	-0.393	-0.555	-0.710	**-2.189**
Intelligent Water Networks	-0.050	-0.050	-0.050	-0.050	-0.050	**-0.250**
Defined benefits	-2.841	0.302	0.294	0.286	0.279	**-1.679**
Fluoridation	-0.064	-0.095	-0.189	-0.236	-0.283	**-0.866**
Chemicals	-0.297	-0.297	-0.278	-0.248	-0.220	**-1.340**
Environmental stewardship framework	-0.728	0.272	0.000	0.000	0.000	**-0.457**
Superannuation guarantee increase	-0.005	-0.025	-0.025	-0.025	-0.025	**-0.105**
Operating expenditure from capital projects	0.000	0.000	-0.100	0.000	0.000	**-0.100**
Total recommended adjustments	-4.525	-0.891	-1.543	-2.007	-2.572	**-11.539**
Recommended operating expenditure	**38.523**	**37.365**	**37.456**	**37.968**	**37.774**	**189.085**

Notes: Controllable operating expenditure excludes licence fees, environmental contribution and bulk water costs

Figure 4-1 compares our recommended operating expenditure for Goulburn Valley Water (on a per connection basis) with Goulburn Valley Water's proposal.

Figure 4-1 Proposed and recommended operating expenditure per property ($, 01/01/2013)

Performance against productivity hurdle

As noted above, the ESC's Guidance Paper notes that the ESC will require all businesses to achieve a minimum of 1% per year productivity improvement on customer growth adjusted business as usual (BAU) operating expenditure for the WP3 period (the productivity hurdle).

We have interpreted BAU operating expenditure as being all operating expenditure other than expenditure that is the result of new or changed service outcomes, or new obligations imposed by Government or technical regulators.

In the case of Goulburn Valley Water, we have assessed the following increases in operating expenditure above the 2011-12 baseline as meeting this definition:

- Electricity
- Defined benefits superannuation contributions
- Intelligent Water Networks
- Fluoridation
- Operating expenditure that is required as a result of new capital expenditure projects.

The following table summarises the expenditure above the 2011-12 BAU for these items that we have assessed as meeting the ESC's requirements for prudency and efficiency.

Table 4-23 Prudent and efficient new initiatives and obligations expenditure above the 2011-12 baseline ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Electricity		0.840	0.893	1.011	1.034	1.113	4.891
Defined benefits		0.311	0.302	0.294	0.286	0.279	1.473
Intelligent Water Networks		0.050	0.050	0.050	0.050	0.050	0.250
Fluoridation		0.000	0.009	0.041	0.041	0.041	0.132
Site restoration		0.272	0.272	0.000	0.000	0.000	0.543
Tank rehabilitation		1.700	0.000	0.000	0.000	0.000	1.700
Filter rehabilitation		0.400	0.500	0.000	0.000	0.000	0.900
Operating expenditure from new capital projects		0.198	0.429	0.692	1.299	1.415	4.033
Total		**3.770**	**2.455**	**2.088**	**2.710**	**2.898**	**13.922**

Note: Electricity encompasses carbon price impacts.

Table 4-24 below calculates a "recommended BAU expenditure" using our total recommended operating expenditure less recommended expenditure on new or changed service outcomes, or new obligations imposed by Government or technical regulators above the BAU target. This amount is then compared with the growth and productivity adjusted BAU target (calculated in Table 4-1) to obtain a view on whether or not Goulburn Valley Water's operating expenditure, following our adjustments, meets the ESC's productivity hurdle.

Table 4-24 Productivity hurdle assessment ($m, 01/01/2013)

Operating expenditure item	Actual	Water Plan forecast					Total
	2011-12	2013-14	2014-15	2015-16	2016-17	2017-18	WP3
Recommended operating expenditure		38.523	37.365	37.456	37.968	37.774	189.085
Less prudent and efficient new initiatives expenditure		3.770	2.455	2.088	2.710	2.898	13.922
Recommended BAU expenditure		**34.752**	**34.910**	**35.368**	**35.258**	**34.876**	**175.163**
Adjusted BAU target	33.791	34.158	34.343	34.528	34.715	34.903	172.647
Amount above BAU target		0.595	0.567	0.839	0.542	-0.027	2.517

As shown in the table, following our recommended adjustments, and accounting for expenditure above the BAU target that is the is result of new or changed service outcomes, or new obligations imposed by Government or technical regulators, Goulburn Valley Water does not meet the ESC's productivity hurdle. This is mainly due to:

- Labour expenditure, which is increasing by $6.982m in total over the 2011-12 baseline, once labour costs from new capital projects are excluded
- Chemicals expenditure, which is increasing by $2.785m over the 2011-12 baseline.

For Goulburn Valley Water to meet the productivity hurdle, a further downward adjustment of $2.517m in total over WP3 would be required.

5 Capital expenditure

This chapter of the report sets out our assessment of Goulburn Valley Water's capital expenditure proposal for WP3 including:

- An assessment of generic issues relevant to the overall prudency, efficiency and deliverability of the proposed capital expenditure program
- A summary of major projects with a significant impact on the capital expenditure proposal (top ten by total expenditure) and assessment of each project
- A summary of our recommendations.

Our approach to assessing generic capital expenditure issues and project specific issues that are common to a number of businesses is set out in our *Overview* document.

5.1 Generic issues

In undertaking our review of Goulburn Valley Water's capital expenditure forecast, we have focussed on the major projects that comprise a significant proportion of the total capital expenditure forecast.

In doing so, we have also undertaken a high-level assessment of generic issues that may have an impact on the prudency, efficiency and deliverability of multiple projects or Goulburn Valley Water's capital expenditure program as whole.

5.1.1 Capital expenditure planning

Goulburn Valley Water's capital expenditure planning processes and documentation are well designed and based on detailed analysis of each project proposal. Using a 20 year infrastructure investment planning horizon, each project is scoped initially using a standard business case template and then rationalised using a risk assessment framework. The water plan program portfolio is then prioritised using a value-based index and alternative scenarios are tested using a sensitivity analysis.

The following capital planning systems/documents were reviewed and are up-to-date:

- GVW's Risk Management Framework, updated November 2010
- Asset Management Improvement Plan, updated April 2012
- Asset Priority Decision Manual, Third Edition, September 2005
- WP3 CAPEX – Major Projects, Current Project Summary Reports, October 2012
- Each separate system has its own water and sewerage planning documents which are updated every five years, the latest update being 2012.

The Regulatory Audit on Asset Management conducted in 2011 identified a number of improvement opportunities at Goulburn Valley Water, particularly in finalising the asset management policy and framework in preparation for WP3. Goulburn Valley Water has since finalised its asset management policy and framework and used it to develop the asset management plans for WP3.

Asset replacement programs and expenditure forecasts are now developed in advance of Water Plan periods and are reviewed annually to service priority replacements and escalated risks.

Goulburn Valley Water's Asset Management System is currently being upgraded. At the time of writing, the new Asset Management System was being tested and a staff training program was being implemented.

5.1.2 Cost estimation and escalation

We have reviewed the memo titled "Capital Budgeting Process – Demonstration of Cost Estimates Achieving P50" and the detailed cost estimates provided by Goulburn Valley Water in specific project documentation.

In the memo Goulburn Valley Water has reviewed its previous project performance against the P50 cost estimate requirements and outlines that its methodology for capital estimation is achieving results in line with the P50 definition at an aggregate level.

It appears that Goulburn Valley Water has completed P50 cost estimates for some projects in its capital program. These projects are the Shepparton Water Treatment Plant Upgrade project and the Numurkah Water Treatment Plant Upgrade project, where the software program @Risk has been used by an external engineering consultant correctly. For other projects, the approach used by Goulburn Valley Water has been to base cost estimates on construction rates tendered for recent projects of similar nature and apply a contingency allowance on the total estimate to cover any unforeseen works which may arise during the remaining phases of the project. This is a traditional industry approach to cost estimation.

Goulburn Valley Water has not applied any capital cost escalation factors to develop its capital expenditure program.

5.1.3 Deliverability of the capital expenditure program

Goulburn Valley Water has proposed to invest $166.75m during the next Water Plan, which equates to an average annual capital expenditure of $33.40m. This is higher than the actual average annual capital expenditure in WP2 of $26.00m. Goulburn Valley Water has attributed this increase in capital expenditure to new regulatory obligations, population growth and improving services for a number of towns. While the expenditure profile for WP3 is relatively smooth, the proposed size of the capital program as a whole is in excess of that which has been previously delivered.

Goulburn Valley Water's past performance in capital project delivery has been reviewed as part of the last three ESC performance reports in 2009-10, 2010-11 and 2011-12. Past project delivery is good with no major project delays reported in either of these years. The 2011-12 ESC performance report noted that Goulburn Valley Water had no major projects scheduled for completion in 2011-12, and no overdue projects carried over from previous years.

Past delivery performance has been taken into account when reviewing the staging of major projects in Goulburn Valley Water's capital portfolio. The staging of the WP3 capital program is generally aligned with the maturity of each project and the estimated timelines identified in the options analysis and design reports.

5.2 Major projects

Table 5-1 provides an overview of the top ten projects (by capital expenditure), showing the primary driver and forecast expenditure over WP3.

Table 5-1 Goulburn Valley Water top ten projects and forecast expenditure ($m, 01/01/2013)

		Water Plan forecast expenditure						
Capital expenditure item	**Primary Driver**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**Total**	**Proportion of total expenditure**
Water Main Replacement Program	Asset Renewal	3.20	3.30	3.30	4.10	4.10	18.00	10.8%
Shepparton Water Treatment Plant Upgrade	Growth	0.00	0.30	0.40	7.50	9.00	17.20	10.3%
Asset Acquisition - Corporate Assets	Asset Renewal	3.20	3.20	3.20	3.20	3.20	16.00	9.6%
New Fluoride Plants	Compliance	1.90	1.90	1.90	1.90	2.30	9.90	5.9%
Numurkah Water Treatment Plant Upgrade	Growth	0.20	4.20	4.50	0.00	0.00	8.90	5.3%
Sewer Main Relining or Replacement Program	Asset Renewal	1.50	1.50	1.50	1.50	1.50	7.50	4.5%
Above Ground Asset Replacements Program	Asset Renewal	1.32	1.32	1.32	1.32	1.32	6.58	3.9%
Mansfield Wastewater Management Facility Additional Winter Storage	Compliance	2.50	1.00	2.20	0.00	0.00	5.70	3.4%
Marysville New Water Treatment Plant	Compliance	2.60	2.60	0.00	0.00	0.00	5.20	3.1%
Kilmore Wastewater Management Facility Additional Winter Storage	Compliance	1.70	1.30	1.30	0.00	0.00	4.30	2.6%
Subtotal - Top 10 Projects		**18.10**	**20.60**	**19.60**	**19.50**	**21.40**	**99.28**	**59.5%**
Other projects		17.84	12.89	13.11	13.78	9.94	67.47	40.5%
Total		**35.94**	**33.49**	**32.71**	**33.28**	**31.34**	**166.75**	
Proportion of total expenditure		22%	20%	20%	20%	19%		

Notes: Proposed expenditure figures have been obtained from the 2013-2018 ESC Water Price Review Financial Model Template for Goulburn Valley Water

5.3 Water Main Replacement Program

5.3.1 Business proposal

Goulburn Valley Water has a rolling asset management program used to maintain and replace ageing or failed water mains. Goulburn Valley Water has proposed an average spend of $3.60m per annum for the WP3 period, compared with an historical average spend of $1.55m per annum in the WP2 period.

Key drivers

The key driver of the program is to maintain existing levels of service.

Goulburn Valley Water has advised that a large percentage of its water mains are approaching the end of their useful lives, asset conditions have deteriorated, and this risk may limit the ability to maintain service levels.

Expenditure has increased from WP2 to accommodate a more proactive water main replacement program. Traditionally this program has only included expenditure for reactive works.

Program description

The water main asset management strategy is based on the following principles:

- Replace any water main that has experienced three or more failures in a 12 month period
- Replace AC and concrete mains as they reach the end of their expected asset life (60 years for AC mains < 150mm, 80 years for concrete mains)
- Eventual replacement of all AC and concrete mains
- Pipe cohorts with the highest failure rates will be given priority for replacement
- Water mains and pipe cohorts that cause water quality (safety and aesthetic) problems and/or reduce pressure and flow due to internal corrosion will be targeted and prioritized for replacement.[2]

Proposed costs and timing

The program costs were developed using an estimated replacement cost for different types of water main diameters and materials. The replacement cost estimates were based on past experience and allowed for overhead costs and contingency. Contingency was included because Goulburn Valley Water has found that even with historical information the actual cost to replace a water main varies depending on the specific site constraints and market conditions. Expenditure is evenly spread over the WP3 period.

5.3.2 Analysis and recommended adjustments

Drivers

Goulburn Valley Water has designed its WP3 water main replacement program predominantly using theoretical asset lives. Asset conditions, performance and/or historical maintenance data have also been considered.

The key driver of the reactive portion of the water main replacement program is to replace any water main that has experienced three or more failures in a 12 month period.

[2] Goulburn Valley Water (2010), *Water Mains Replacement Program*, November 2010

The key driver of the proactive portion of the water main replacement program is to replace all AC and concrete mains when they reach an asset life of 60 years. High risk trunk mains with a theoretical condition grade 5 have also been identified using the asset criticality model and included in the program based on risk and probability of likely failure.

We note that despite an increase in expenditure on water mains replacements, Goulburn Valley Water has proposed to relax its service standard target for unplanned water supply interruptions (per 100km) from the current five year average of 17.5 to 18.7 for WP3.

Recommendation

With the exception of the high-risk assets identified by Goulburn Valley Water (high risk trunk mains, cast iron and galvanised iron pipes) we are of the view that Goulburn Valley Water's proposed increase in expenditure has not been adequately justified by current trends in performance or proposed service standards.

In response to our Draft Report, Goulburn Valley Water did not agree with our recommendation, noting that it is combining two separate water main replacement programs with an actual spend of $1.55m per annum. Hence the increase in expenditure is only 132% and not 422% noted in our Draft Report.

We have considered Goulburn Valley's response however, as outlined in our *Overview* document, we consider that a more rigorous analysis of asset performance and the expected improvement in service from investment in proactive replacements is required to justify the change in approach and increased expenditure– particularly where proactive, rather than reactive mains replacements are concerned. We also consider that the application of a contingency is generally not appropriate for this type of program, given that expenditure is based on repeat items for which historical costs exist.

Therefore, we recommend that Goulburn Valley Water's expenditure on the Water Main Replacement Program be reduced to the historical average, with an additional allowance to replace high risk trunk mains, cast iron and galvanised iron pipes. This adjustment is shown in Table 5-2 below.

Table 5-2 Proposed and recommended expenditure for Water Main Replacement Program ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Water Main Replacement Program	Proposed	3.20	3.30	3.30	4.10	4.10	18.00
	Recommended	2.79	2.86	2.08	2.08	2.08	11.89
	Net change	-0.41	-0.44	-1.22	-2.02	-2.02	-6.11

5.4 Shepparton Water Treatment Plant Upgrade

5.4.1 Business proposal

The Shepparton Water Treatment Plant (WTP) Upgrade ($17.2m) involves the construction of a 40ML/day clarifier, water quality improvement works and the installation of an additional generator.

The key driver of the project is growth. Existing plant capacity limitations have led to an increased risk of non-compliance with the existing Safe Drinking Water Regulations, particularly when a storm in the upper catchment has caused high turbidity in the Goulburn River and the plant is required to operate at a reduced capacity to process dirty water. This

operating scenario also means the plant cannot produce enough water to satisfy peak summer day demand.

A range of options were considered in the 2011 Shepparton WTP Master Plan, including a comparison of two alternative sites for the treatment plant.

The project is now ready to proceed to the design and planning approvals phase, which is reflected by the staging of expenditure proposed in the capital program. A contingency allowance of 25% has been made to cover any unforeseen works which may arise during the remaining phases of the project.

5.4.2 Analysis and recommended adjustments

We note that the primary driver of the project is growth. It is clear from the water quantity and water quality data provided by Goulburn Valley Water that there are a number of performance issues at the plant and the ability to meet peak day demands is being compromised by the capacity limitations. These conditions will continue to deteriorate with the projected increase in population for the Shepparton area.

We consider that Goulburn Valley Water's proposal to install a pre-treatment clarifier rather than construct an entire new treatment plant (which may not be required) reflects a prudent decision making process.

P50, P5 and P95 cost estimates were generated for this project using the cost estimation software @Risk. Given the maturity of this project, we consider the contingency adopted by Goulburn Valley Water appropriate.

We have not recommended any changes to the expenditure or timing proposed for this project.

Table 5-3 Proposed and recommended expenditure for Shepparton Water Treatment Plant Upgrade ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Shepparton Water Treatment Plant Upgrade	Proposed	0.00	0.30	0.40	7.50	9.00	17.20
	Recommended	0.00	0.30	0.40	7.50	9.00	17.20
	Net change	0.00	0.00	0.00	0.00	0.00	0.00

5.5 Asset Acquisition – Corporate Assets

5.5.1 Business proposal

Goulburn Valley Water has a rolling corporate expenditure program to allow for major and minor plant renewals. The key drivers of this program are to maintain existing service levels and to reduce corporate operating costs.

Goulburn Valley Water has proposed an average spend of $3.20m per annum for the WP3 period, compared with an historical average spend of $3.05m per annum in the WP2 period.

This expenditure generally consists of forecast vehicle and construction machinery, hardware/software and office furniture replacement costs.

5.5.2 Analysis and recommended adjustments

A detailed breakdown of this expenditure has been provided by Goulburn Valley Water. Cost estimates are based on historical costs.

Proposed expenditure for WP3 is generally consistent with actual expenditure in WP2.

Therefore, we have not recommended any changes to the expenditure or timing proposed for this project.

Table 5-4 Proposed and recommended expenditure for Asset Acquisition – Corporate Asset ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Asset Acquisition – Corporate Asset	Proposed	3.20	3.20	3.20	3.20	3.20	16.00
	Recommended	3.20	3.20	3.20	3.20	3.20	16.00
	Net change	0.00	0.00	0.00	0.00	0.00	0.00

5.6 New Fluoride Plants

5.6.1 Business proposal

This project relates to the proposed fluoride plants for Numurkah, Tatura, Broadford, Kilmore, Euroa, Mansfield, Alexandra and Nagambie.

Key drivers

Goulburn Valley Water has identified compliance as the primary driver for this project.

In 2011, the Department of Health issued guidance to water businesses noting that it expected that it would encourage water suppliers to fluoridate all drinking water supplies for towns that service populations of at least 2000 customers by the end of 2018.

Options analysis

Goulburn Valley Water has 8 water treatment plants which fit the criterion of serving more than 2000 people and has made allowance for fluoridation for all of these in WP3. A Project Justification Report was completed by Goulburn Valley Water which evaluated installation and timing options for each site.

Proposed costs

The cost estimates in the Project Justification Report were based on fluoridation units recently installed at Kyabram, Seymour and Cobram.

Proposed timing

The New Fluoridation Plants Project Summary states that this project is still at the concept stage and that functional design will commence following direction from the Department of Health that funding arrangements have been confirmed. A program of works was developed which is aligned to scheduled water treatment plant upgrades where applicable.

5.6.2 Analysis and recommended adjustments

The Department of Health has advised that there are currently no funds available to extend fluoridation, and there are no funding bids being put to the Government to get funding to extend fluoridation.

The cost estimates for the proposed works appear sound as they are based on similar works recently completed by Goulburn Valley Water. We also consider that a prudent approach has been taken to staging the program by considering the most appropriate way to align fluoridation works with proposed water treatment plant upgrades.

Recommendation

Given the uncertainty surrounding funding for these works, we recommend removing the proposed capital expenditure from WP3 until funding has been confirmed and a formal directive is provided from the Secretary of the Department of Health to Goulbourn Valley Water to construct and commission the fluoridation plants.

We also note that Goulburn Valley Water has included forecasts for contributions from the Government to fund the capital costs of the new fluoride treatment plants of $1.9m for each year of 2013-14 to 2016-17 and $2.24m in 2017-18. These amounts should also be removed by the ESC in determining Goulburn Valley Water's revenue requirement for the WP3 period.

Table 5-5 Proposed and recommended expenditure for New Fluoride Plants ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
New Fluoride Plants	Proposed	1.90	1.90	1.90	1.90	2.30	9.90
	Recommended	0.00	0.00	0.00	0.00	0.00	0.00
	Net change	-1.90	-1.90	-1.90	-1.90	-2.30	-9.90

5.7 Numurkah Water Treatment Plant Upgrade

5.7.1 Business proposal

The Numurkah Water Treatment Plant (WTP) Upgrade ($8.9m) involves the construction of a new DAFF water treatment plant to replace the clarifier and filters at the existing site. This project follows on from a 3ML clearwater storage and 270ML off-stream raw water storage constructed to eliminate security of supply issues in Numurkah during the WP2 period.

The key driver of the project is growth. Goulburn Valley Water has advised that the existing treatment plant has reached maximum capacity and the end of its useful life. Goulburn Valley Water has further advised that the existing treatment plant will not be able to meet the forecast demand for Numurkah and the upgrade is required to provide increased hydraulic capacity for growth and to improve water quality.

A range of options were considered by Goulburn Valley Water in the 2012 Numurkah WTP Upgrade Options Review, including a comparison between upgrading at the existing site or constructing a new plant at the new off-stream raw water storage on the outskirts of the township. Upgrading the existing site is currently considered to be the most functional solution, however space limitations may increase the cost of building works for this option.

Goulburn Valley Water is currently completing conceptual designs for both options and a preferred design will be selected before the project proceeds to the detailed design and planning approvals phase.

5.7.2 Analysis and recommended adjustments

We note that the primary driver of the project is growth. It is clear from the water quantity and water quality data provided by Goulburn Valley Water that there are a number of performance issues at the plant due to ageing infrastructure and the plant requires increased hydraulic capacity to meet current and future peak day demands. These conditions will continue to deteriorate with the projected increase in population for the Numurkah area.

Goulburn Valley Water has advised that it is concerned about the potential construction premium that might be placed on this project given the constrained space and number of below ground assets at the existing treatment plant. We consider that Goulburn Valley Water has taken a prudent approach to cost minimisation by developing conceptual designs for both sites in order to fully understand the costs and risks associated with each option.

We consider that the staging proposed in the capital program and the contingency of 25% are appropriate given the maturity of this project. P50, P5 and P95 cost estimates were generated for this project using the cost estimation software @Risk.

We have not recommended any changes to the expenditure or timing proposed for this project.

Table 5-6 Proposed and recommended expenditure for Numurkah Water Treatment Plant Upgrade ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Numurkah Water Treatment Plant Upgrade	Proposed	0.20	4.20	4.50	0.00	0.00	8.90
	Recommended	0.20	4.20	4.50	0.00	0.00	8.90
	Net change	0.00	0.00	0.00	0.00	0.00	0.00

5.8 Sewer Main Relining or Replacement Program

5.8.1 Business proposal

Goulburn Valley Water has a rolling asset management program used to monitor, maintain and replace ageing or failed sewer mains. Goulburn Valley Water has proposed an average spend of $1.50m per annum for the WP3 period, compared to an historical average spend of $0.53m per annum in the WP2 period.

Key drivers

The key driver of the program is asset renewal. Goulburn Valley Water has advised that a large percentage of its sewer mains are approaching the end of their useful lives, asset conditions have deteriorated, and this risk may limit the ability to maintain service levels.

Goulburn Valley Water has further advised that expenditure has increased from WP2 to accommodate a more proactive sewer main replacement program. Traditionally this program has only included expenditure for reactive works.

Program description

The sewer main asset management strategy is based on the following principles:

- CCTV inspection and reports are conducted annually for the purposes of cleaning, monitoring, assessing and evaluating the condition of pipes and manholes
- The annual CCTV inspection and condition assessment program is developed by the sewer network criticality model, which includes blockages as a criterion
- CCTV inspection is used to determine the required actions and rehabilitation method (relining or replacement). All pipes which have surpassed their assigned service life and have been assessed as ‘extremely high risk’ shall be rehabilitated or replaced if evidence is supported by actual condition data
- Rehabilitate or replace all pipes when the asset performance ‘failure threshold’ has been reached
- Prioritise the replacement order of sewer mains and manholes in accordance with the results produced by the sewer network criticality model.[3]

[3] Goulburn Valley Water (2010), *Gravity Sewer Management Plan*, November

Proposed costs and timing

The program costs are a combination of the ongoing CCTV inspection program and an estimated budget for the relining or replacement of sewer mains. Goulburn Valley Water has advised that 20% of the sewer length covered in the CCTV program is typically identified for relining or replacement.

The costs were developed using an estimated replacement cost for different types of sewer main diameters and materials. The replacement cost estimates were based on past experience and allowed for overhead costs and contingency. Contingency was included because Goulburn Valley Water has found that even with historical information the actual cost to replace a sewer main varies depending on the specific site constraints and market conditions. Expenditure is evenly spread over the WP3 period.

5.8.2 Analysis and recommended adjustments

Drivers

Goulburn Valley Water has proposed an increase to the area monitored under its annual CCTV program from 20km in 2011-12 to 35km per annum in WP3. This proposal has resulted in an increase in the estimated sewer relining or replacement budget, since the percentage of mains identified for relining or replacement is 20% of the length covered in the CCTV program.

We note that despite more than doubling expenditure on sewer mains replacements, Goulburn Valley Water has proposed to relax its service standard target for sewer blockages (per 100km) from the current five year average of 22.6 to 24.5 for WP3.

Recommendation

With the exception of the high-risk assets identified by Goulburn Valley Water, we are of the view that Goulburn Valley Water's proposed increase in expenditure has not been adequately justified by current performance trends or proposed service standards.

As outlined in our *Overview* document, we consider that a more rigorous analysis of asset performance and the expected improvement in service from investment in proactive replacements is required to justify the change in approach. We also consider that the application of a contingency is generally not appropriate for this type of program, given that expenditure is based on repeat items for which historical costs exist.

Therefore, in our Draft Report we recommended that Goulburn Valley Water's expenditure on the Sewer Main Relining or Replacement Program be reduced to the historical average, with an increased allowance to monitor an additional 5km of sewer main per annum (average of 25km per annum) in the CCTV program.

In response to our Draft Report, Goulburn Valley Water provided further details on the backlog of sewer mains that have been inspected and due to their condition are considered to be at risk of failure. Goulburn Valley Water noted that the increase in its sewer main relining or replacement expenditure for WP3 was primarily due to addressing the existing backlog. However, we note that all of the mains in the backlog are identified as either low or medium risk, and therefore we have retained our original recommendation for this Final Report.

Table 5-7 Proposed and recommended expenditure for Sewer Main Relining or Replacement Program ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Sewer Main Replacement Program	Proposed	1.50	1.50	1.50	1.50	1.50	7.50
	Recommended	0.60	0.60	0.60	0.60	0.60	3.00
	Net change	-0.90	-0.90	-0.90	-0.90	-0.90	-4.50

5.9 Above Ground Asset Replacements Program

5.9.1 Business proposal

Goulburn Valley Water has a rolling asset management program used to monitor, maintain and replace ageing or failed above ground assets. Goulburn Valley Water has proposed an annual spend of $1.32m per annum for the WP3 period.

The key driver of the program is asset renewal, which Goulburn Valley Water has noted is required to minimise adverse outcomes with respect to service, water quality, environmental performance and safety.

Costs for the program are based on an estimate made in 2006-07 of the total estimated cost of high criticality assets requiring replacement within the next 20 years. The total cost of this program was then smoothed (recognising that many assets will exceed their expected life and anticipated reductions in replacement and repair costs) to achieve a current program cost of $26.2m. This figure includes and engineering/administration allocation of 15% and a contingency for projects

5.9.2 Analysis and recommended adjustments

Information provided by Goulburn Valley Water indicates that the historical average annual spend on the Above Ground Asset Replacement Program in the WP2 period was $1.06m (including forecast for 2012-13), with the lowest spend in any one year being $0.83m in 2010-11.

We consider that the application of a contingency is generally not appropriate for this type of program, given that expenditure is based on repeat items for which historical costs exist. In particular, P50 cost estimates should ensure that any risks of cost over-runs or under-runs are symmetric.

As set out in our *Overview* document, the cost pressures that were evident across the first part of the WP2 period have now eased, with anecdotal evidence from water businesses and engineers that over the last 12 months there has been an increased level of competition for construction work, and that most contracts for recurrent capital expenditure are coming in at, or in some cases below, existing prices. Therefore, we also consider that a 3.5% increase in costs to account for materials and labour is not warranted.

In response to our Draft Report, Goulburn Valley Water noted that it considered that expenditure for WP2 did not provide an accurate baseline that reflects the current capability for delivery of pro9jects or the amount of projects identified each year that meet Goulburn Valley Water's replacement criteria.

However, in our view the proposed increase in expenditure has not been adequately justified by reference to changed asset conditions or improved performance, and therefore retain our recommendation that Goulburn Valley Water's expenditure on the Above Ground Asset Replacement Program be reduced to the historical average of $1.06m per annum. This adjustment is shown in Table 5-8 below.

Table 5-8 Proposed and recommended expenditure for Above Ground Asset Replacements Program ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Above Ground Asset Replacements Program	Proposed	1.32	1.32	1.32	1.32	1.32	6.58
	Recommended	1.06	1.06	1.06	1.06	1.06	5.31
	Net change	-0.25	-0.25	-0.25	-0.25	-0.25	-1.27

Note: numbers do not sum due to rounding

5.10 Mansfield Wastewater Management Facility Additional Winter Storage

5.10.1 Business proposal

The Mansfield Wastewater Management Facility Additional Winter Storage ($5.7m) involves the design and construction of a 250ML winter storage, transfer pump station and pipeline and associated works. This project also involves the acquisition of land (120 Ha) for the new storage.

The key driver of the program is compliance. Goulburn Valley Water has advised that due to ongoing population growth, the capacity of the existing irrigation system will need to be increased to ensure that inflows to the Wastewater Management Facility in a 90th percentile wet year can continue to be managed with no discharge from site.

Costs have been estimated based on previous projects completed for Goulburn Valley Water of a similar nature and a contingency allowance of 25% has been made to cover any unforeseen works which may arise during the remaining phases of the project.

The project is now ready to proceed to the design, land acquisition and planning approvals phase.

5.10.2 Analysis and recommended adjustments

The need for Goulburn Valley Water to upgrade its storage capacity at the Mansfield Wastewater Management Facility to avoid non-compliance with its EPA licence conditions is clear.

The water balance modelling results provided by Goulburn Valley Water suggest that 250ML of winter storage will be required to contain 90th percentile inflows for a minimum of the next 12 years under all climate scenarios considered, including the wettest historical period experienced at the facility.

We consider that the project is appropriately staged and that sufficient time has been allowed for to acquire the new land. Land acquisition is scheduled for 2013-14 and construction is scheduled for 2015-16. The contingency of 25% is also considered appropriate given the maturity of this project.

Base on the above, we have not recommended any changes to the expenditure or timing proposed for this project.

Table 5-9 Proposed and recommended expenditure for Mansfield Wastewater Management Facility Additional Winter Storage ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Mansfield Wastewater Management Facility Additional Winter Storage	Proposed	2.50	1.00	2.20	0.00	0.00	5.70
	Recommended	2.50	1.00	2.20	0.00	0.00	5.70
	Net change	0.00	0.00	0.00	0.00	0.00	0.00

5.11 Marysville New Water Treatment Plant

5.11.1 Business proposal

The Marysville Water Treatment Plant upgrade project ($5.2m) involves the construction of a new filtration plant, disinfection system and a balancing storage.

Goulburn Valley Water has advised that the key driver of this project is compliance. The existing plant contains a single barrier chlorine dioxide disinfection system that has operational shortfalls and unacceptable related water quality risks based on the existing Safe Drinking Water Regulations. The risk of non-compliance is high and a multiple barrier treatment approach is required to meet the existing regulations.

The Department of Health requested that Goulburn Valley Water review the existing plant prior to the 2009 bushfires. In 2011, GHD was engaged to develop a master plan for the replacement of the chlorine dioxide disinfection system and confirmed that a balancing storage is required, the chlorine dioxide generator utilises obsolete technology and that turbidity, organics, pathogens, algal blooms, taste and odour risks have been further exacerbated by the catchment impacts of the 2009 bushfires.

Goulburn Valley Water has recently engaged the Marysville community in the options assessment process. A number of options were investigated by GHD and there are two preferred options, which have similar capital costs, NPVs and sustainability assessment scores. The options under consideration are the installation of a DAFF system or a membrane filtration plant. Both options are to be sited at the existing Aub Cuzens Reservoir. Goulburn Valley Water has advised that it will make a final decision on the preferred option during the tender process.

The cost estimate for the project was derived in the GHD Options Assessment and was based on a single staged approach and construction rates for recent projects of similar nature. A contingency of 25% has been allowed for given the maturity of this project

Goulburn Valley Water has recently contracted an engineer to complete the functional design for this project. Construction is expected to commence in late 2014 and take approximately two years.

5.11.2 Analysis and recommended adjustments

The need for Goulburn Valley Water to mitigate the risk of non-compliance with the existing Safe Drinking Water Regulations is clear. The local community has historically preferred minimal water treatment at the Marysville Water Treatment Plant, however the risk of non-compliance has now become too high.

The forecast expenditure is proposed for the first two years of WP3 and we note that Goulburn Valley Water still needs to select the preferred treatment option, complete the detailed design and obtain the relevant planning approvals. There may also be some space limitations at the proposed site and uncertainty surrounding the geotechnical conditions.

We suggest that it is unlikely that the project will be completed in 2014-15, based on uncertainty surrounding the site conditions and a forecast construction period of approximately two years. This adjustment is reflected in Table 5-10 below.

Table 5-10 Proposed and recommended expenditure for Marysville Water Treatment Plant ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Marysville Water Treatment Plant	Proposed	2.60	2.60	0.00	0.00	0.00	5.20
	Recommended	1.30	1.95	1.95	0.00	0.00	5.20
	Net change	-1.30	-0.65	1.95	0.00	0.00	0.00

5.12 Kilmore Wastewater Management Facility Additional Winter Storage

5.12.1 Business proposal

The Kilmore Wastewater Management Facility Additional Winter Storage ($4.3m) involves the design and construction of a 325ML winter storage, transfer pump station and pipeline and associated works. This project also involves the acquisition of land (70 Ha) for the new storage.

The key driver of the program is compliance. Goulburn Valley Water has advised that due to ongoing population growth, the capacity of the existing irrigation system will need to be increased to ensure that inflows to the Wastewater Management Facility in a 90th percentile wet year can continue to be managed with no discharge from site.

Costs have been estimated based on previous projects completed for Goulburn Valley Water of a similar nature and a contingency allowance of 25% has been made to cover any unforeseen works which may arise during the remaining phases of the project.

The project is now ready to proceed to the design, land acquisition and planning approvals phase.

5.12.2 Analysis and recommended adjustments

The need for Goulburn Valley Water to upgrade its storage capacity at the Kilmore Wastewater Management Facility to avoid non-compliance with its EPA licence conditions is clear.

The water balance modelling results provided by Goulburn Valley Water suggests that the current irrigation storage capacity of 334 ML is on the limit of 90th percentile containment and the site needs more capacity as soon as possible to avoid non-compliance.

The approach to estimating costs and contingency is appropriate.

We consider that the proposed timing of the project is appropriate and allows for sufficient time to acquire the new land.

We have not recommended any changes to the expenditure or timing proposed for this project.

Table 5-11 Proposed and recommended expenditure for Kilmore Wastewater Management Facility Additional Winter Storage ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Kilmore Wastewater Management Facility Additional Winter Storage	Proposed	1.70	1.30	1.30	0.00	0.00	4.30
	Recommended	1.70	1.30	1.30	0.00	0.00	4.30
	Net change	0.00	0.00	0.00	0.00	0.00	0.00

5.13 Cobram – MGC Unfluoridated Water Pipeline

5.13.1 Business proposal

This project relates to a proposed pipeline to deliver a dedicated unfluoridated water supply from Cobram Water Treatment Plant to the Murray Goulburn Cooperative (MGC) factory sites in Cobram. At an estimated cost of $2.42m, this is not considered a Major Project, but has been included in our review because of the uncertainty surrounding the proposal.

Key drivers

Goulburn Valley Water has identified service improvement as the primary driver for this project.

Further to the Department of Health directive in 2008 to fluoridate the Cobram town water supply, MGC raised concerns regarding the possible supply of fluoridated water to their factory sites as it considered that fluoride would negatively impact products manufactured at two plants. A dedicated unfluoridated supply is now required to service MGC and the costs of this project will be shared by MGC, the State Government and Goulburn Valley Water.

Options analysis

A study was completed by SKM in March 2010 which confirmed the concerns raised by MGC and various options to provide unfluoridated water. Subsequent investigation considered both short-term and long-term supply options to supply MGC with unfluoridated water, including onsite treatment and also dedicated pipeline supply from the Cobram Water Treatment Plant.

The study found that short-term supply options were not feasible and that a long-term supply via a dedicated pipeline would make it easier for Goulburn Valley Water to manage supply to MGC and the remaining Cobram reticulation network during peak day demands. The extent of unfluoridated supply to MGC was also investigated and this highlighted that a supply to the total factory site was the most economical and operationally robust option.

Proposed costs

The cost estimates in the SKM Options Report were based on construction rates for recent tenders of similar nature.

At the time of writing a major outstanding issue is confirmation of project funding. Goulburn Valley Water has advised that it is most likely that its portion of the project will be shared with the Department of Health and the majority of funding is likely to come from Regional Development Victoria (RDV). Funding sources are to be confirmed before any further work is completed, with Goulburn Valley Water to submit a funding application to RDV when the project scope, costs and funding arrangements are finalised.

Proposed timing

The Cobram – MGC Unfluoridated Water Pipeline Project Summary states that this project is still at the concept stage. Functional design will commence following direction from the Department of Health and RDV that funding arrangements have been confirmed.

5.13.2 Analysis and recommended adjustments

We note that the primary driver of the project is service improvement. The Department of Health confirmed the need to fluoridate the water supply in Cobram in a meeting with Goulburn Valley Water on 25 October, 2012. Goulburn Valley Water is taking a prudent

approach to maintaining its existing service levels to MGC once the Cobram Water Treatment Plant receives fluoridation. The preferred option of a dedicated pipeline will allow Goulburn Valley Water to manage peak day supply to its largest non-residential customer in Cobram and will also remove a large industrial demand from the existing reticulation system, allowing greater capacity to accommodate future growth in town demand before the next system upgrade.

The cost estimates for the proposed works appear sound as they are based on similar works recently completed by Goulburn Valley Water. It is understood that funding agreements are yet to be finalised for these works and Goulburn Valley Water is awaiting further instruction from the Department of Health and RDV. It is understood that Goulburn Valley Water currently has no view of the expected portion of the works required to be funded internally.

Recommendation

Goulburn Valley Water has taken a prudent approach in selecting a preferred option to maintain existing service levels to MGC once fluoridation of the town water supply has been completed, however significant uncertainty still surrounds the funding for these works. We recommend allowing for the expenditure in WP3, subject to confirming that an equivalent government of customer contribution is included for the entire cost of the project. This adjustment is shown in Table 5-12 below.

Table 5-12 Proposed and recommended expenditure for Cobram – MGC Unfluoridated Water Pipeline ($m, 01/01/2013)

		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Cobram – MGC Unfluoridated Water Pipeline	Proposed	2.22	0.20	0.00	0.00	0.00	2.42
	Recommended	2.22	0.20	0.00	0.00	0.00	2.42
	Net change	0.00	0.00	0.00	0.00	0.00	0.00

5.14 Summary of our recommendations

Our recommendations on adjustments to Goulburn Valley Water's capital expenditure forecast over the next five year regulatory period are outlined below.

Table 5-8 Goulburn Valley Water's forecast capital expenditure and recommended adjustments ($m, 01/01/2013)

Capital expenditure item		Water Plan forecast					
		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Water Main Replacement Program	Proposed	3.20	3.30	3.30	4.10	4.10	18.00
	Recommended	2.79	2.86	2.08	2.08	2.08	11.89
	Net change	-0.41	-0.44	-1.22	-2.02	-2.02	-6.11
Shepparton Water Treatment Plant Upgrade	Proposed	0.00	0.30	0.40	7.50	9.00	17.20
	Recommended	0.00	0.30	0.40	7.50	9.00	17.20
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Asset Acquisition - Corporate Assets	Proposed	3.20	3.20	3.20	3.20	3.20	16.00
	Recommended	3.20	3.20	3.20	3.20	3.20	16.00
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
New Fluoride Plants	Proposed	1.90	1.90	1.90	1.90	2.30	9.90
	Recommended	0.00	0.00	0.00	0.00	0.00	0.00
	Net change	-1.90	-1.90	-1.90	-1.90	-2.30	-9.90
Numurkah	Proposed	0.20	4.20	4.50	0.00	0.00	8.90

Capital expenditure item		Water Plan forecast					
		2013-14	2014-15	2015-16	2016-17	2017-18	Total WP3
Water Treatment Plant Upgrade	Recommended	0.20	4.20	4.50	0.00	0.00	8.90
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Sewer Main Relining or Replacement Program	Proposed	1.50	1.50	1.50	1.50	1.50	7.50
	Recommended	0.60	0.60	0.60	0.60	0.60	3.00
	Net change	-0.90	-0.90	-0.90	-0.90	-0.90	-4.50
Above Ground Asset Replacements Program	Proposed	1.32	1.32	1.32	1.32	1.32	6.58
	Recommended	1.06	1.06	1.06	1.06	1.06	5.31
	Net change	-0.25	-0.25	-0.25	-0.25	-0.25	-1.27
Mansfield Wastewater Management Facility Additional Winter Storage	Proposed	2.50	1.00	2.20	0.00	0.00	5.70
	Recommended	2.50	1.00	2.20	0.00	0.00	5.70
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Marysville Water Treatment Plant	Proposed	2.60	2.60	0.00	0.00	0.00	5.20
	Recommended	1.30	1.95	1.95	0.00	0.00	5.20
	Net change	-1.30	-0.65	1.95	0.00	0.00	0.00
Kilmore Wastewater Management Facility Additional Winter Storage	Proposed	1.70	1.30	1.30	0.00	0.00	4.30
	Recommended	1.70	1.30	1.30	0.00	0.00	4.30
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Cobram – MGC Unfluoridated Water Pipeline	Proposed	2.22	0.20	0.00	0.00	0.00	2.42
	Recommended	2.22	0.20	0.00	0.00	0.00	2.42
	Net change	0.00	0.00	0.00	0.00	0.00	0.00
Total proposed		35.94	33.49	32.71	33.28	31.34	166.75
Recommended capital expenditure		**31.18**	**29.35**	**30.38**	**28.20**	**25.87**	**144.98**
Recommended adjustments from proposed		-4.76	-4.14	-2.32	-5.07	-5.47	-21.78

6 Limitation of our work

General use restriction

This Report is prepared solely for the internal use of the Essential Services Commission. This report is not intended to and should not be used or relied upon by anyone else and we accept no duty of care to any other person or entity. The report has been prepared for the purpose of the Essential Services Commission's review of Water Plans. You should not refer to or use our name or the advice for any other purpose.