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Yarra Valley Water: Review of expenditure forecasts

2023 Water Price Review
Fast Track Report

FINAL REPORT

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Glossary

Term	Definition
AUD	Australian dollar
ESC	Essential Services Commission
FTE	Full time equivalent
FTI Consulting	FTI Consulting (Australia) Pty Ltd
PREMO	Performance, Risk, Engagement, Management and Outcome
PS4	Price Submission for the fourth regulatory period (2017-18 to 2022-23)
PS5	Price Submission for the fifth regulatory period (2023-24 to 2027-28)
WIRO	Water Industry Regulatory Order
WSAA	Water Services Association of Australia

Executive Summary

FTI Consulting has been engaged by the Essential Services Commission (the Commission) to undertake an independent expert review of 14 Victorian water businesses' forecast (controllable) operating and capital expenditure for the 1 July 2023 to 30 June 2028 (PS5) regulatory period.

The Commission is required to assess the water businesses' proposals against a legal framework set out in the *Water Industry Regulatory Order 2014* and the Commission's PREMO pricing framework. We have assessed Yarra Valley Water's forecast operating and capital expenditure based on the guidelines contained in the Commission's *2023 Water Price Review: Guidance Paper*.

This report sets out our views as to whether Yarra Valley Water's forecasts of capital expenditure and controllable operating expenditure over the regulatory period can be reasonably assessed to be prudent and efficient.

Forecast operating expenditure

Yarra Valley Water has proposed an average net decrease in controllable operating expenditure (growth less efficiency factor) of 0.2 per cent per year for the regulatory period. When compared to other water businesses, this places Yarra Valley Water fifth out of 13 urban water businesses subject to this review.

Yarra Valley Water's forecast operating expenditure reflects:

- baseline 2021-22 expenditure of \$156.1 million, which is 4 per cent above the expenditure benchmark allowance approved by the Commission in the previous price review
- total step changes to the baseline of \$76.3 million across the regulatory period
- average growth in operating expenditure of 1.44 per cent per year (this rate is implied with Yarra Valley capturing growth-related costs as a step change rather than a general growth factor) and an efficiency factor of 1.7 per cent per year.

Based on Yarra Valley Water's PS5 proposal and the further information provided and discussions to date, we have formed the view that the forecast operating expenditure is consistent with a prudent business that operates efficiently. This reflects our view that:

- the key drivers of the increased baseline 2021-22 expenditure above the approved benchmark allowance appear reasonable, and it does not appear to include any items that are non-recurring
- proposed step changes are reasonable and supported by a sound rationale.

This is considered within the context of its proposed net baseline growth in operating expenditure of –0.2 per cent per year.

As a result, we have not proposed any adjustments to Yarra Valley Water's forecast controllable operating expenditure for the PS5 regulatory period.

Forecast capital expenditure

Yarra Valley Water has forecast capital expenditure of \$1,962 million for the PS5 regulatory period. This represents an increase on both the capital expenditure benchmark for the PS5 period included in the Commission's PS4 determination (43 per cent) and actual capital expenditure undertaken over the PS4 regulatory period (21 per cent).

Yarra Valley Water's pricing submission provides a detailed breakdown of its forecast capital expenditure for the PS5 regulatory period. The further information provided to us by Yarra Valley Water in relation to the key issues of further investigation provides a reasonable level of confidence that the proposed capital expenditure program is consistent with the actions of a prudent business operating efficiently. The forecast capital expenditure is justified, robust and is capable of being delivered by Yarra Valley Water in the PS5 period.

As a result, we do not recommend any adjustments to Yarra Valley Water's forecast capital expenditure for the PS5 regulatory period.

1 INTRODUCTION

1.1 Purpose of this report

The Essential Services Commission (the Commission) is reviewing submissions from 14 Victorian water businesses setting out their proposed prices, revenue requirement and key service outcomes to apply to water and sewerage services commencing in 1 July 2023 through to 30 June 2028 (referred to in this report as the PS5 regulatory period).¹ Each of the Victorian water businesses, including Yarra Valley Water, submitted their proposals to the Commission for assessment on 30 September 2022.

FTI Consulting has been engaged to undertake an independent expert review of the water businesses' forecast operating expenditure and capital expenditure for the PS5 regulatory period. The scope of our review of operating expenditure is limited to controllable operating expenditure.

This report sets out our independent expert view of the prudence and efficiency of Yarra Valley Water's capital expenditure and controllable operating expenditure forecasts for the PS5 regulatory period, in accordance with the requirements of the regulatory framework.

1.2 Context and challenges facing Victorian water businesses

The environment faced by most Victorian water business over the last few years has been significantly more challenging than envisaged in 2018 when the Commission approved the expenditure forecasts used to set water prices for the 1 July 2018 to 30 June 2023 (PS4) regulatory period.

The COVID-19 pandemic has been one of the unforeseen events that has impacted the Victorian water businesses' expenditure in several ways, including:

- requiring additional water and wastewater monitoring and treatment
- increasing customer hardship due to cost-of-living pressures
- disrupting business operations, including the ability to carry out maintenance activities and higher rates of staff absenteeism
- changing work practices, including social distancing and hygiene requirements as well as transitioning to enable staff to work from home
- disrupting supply chains, putting pressure on the availability and cost of inputs

¹ The 14 water businesses include Barwon Water, Central Highlands Water, Coliban Water, East Gippsland Water, Gippsland Water, Goulburn Valley Water, GWMWater, Lower Murray Water, South East Water, South Gippsland Water, Southern Rural Water, Wannon Water, Westernport Water and Yarra Valley Water.

- increasing migration from Melbourne to regional areas.²

These impacts have affected each water business's actual and forecast expenditure in different ways. Some water businesses have faced new costs or cost pressures, while others have enjoyed cost savings.

The effects of the COVID-19 pandemic continue to be felt nearly three years later. Some of these impacts are moderating as Victoria (and the rest of the country) adapts to a new phase of living with the pandemic. However, there is the potential for other more permanent changes, including changes to work practices and greater migration of people from major cities to regional areas. At the time of this review, the longer-term implications remain unclear.

There are other events and changes that were unforeseen (or at least unable to be fully anticipated) as part of the Commission's previous water price review. These include:

- the continued impacts of climate change on the frequency and severity of major weather events, including drought, bushfires and floods
- the continued evolution in climate change and environmental policy, including emission reduction strategies and targets, and associated compliance and reporting obligations
- a continued hardening of the insurance market, which also (at least partly) reflects the impacts of major climate-related events domestically and globally
- a ramping up of the need to do more to mitigate cyber security risks, including mandated obligations.

These issues and challenges *do not* imply or support a premise that:

- water businesses should continue to increase their operating and capital expenditure, and hence water and sewerage prices
- there should be lower expectations in terms of the need to drive efficiency savings in the longer term for the benefit of customers
- businesses should avoid responsibility for managing the risk of cost increases and/or passing more of those risks on to customers.

It further underlines the importance of scrutinising increases in expenditure, as well as proposed step changes, to ensure that they remain consistent with the actions of a prudent business operating efficiently, including in how it responds to the uncertainties and challenges in its operating environment. It also does not alter the standards that should be

² For example, refer: <https://population.gov.au/sites/population.gov.au/files/2021-09/the-impacts-of-covid-on-migration-between-cities-and-regions.pdf>, accessed 1 December 2022.

reasonably expected of businesses in supporting and justifying any increases in expenditure for the next regulatory period, including being able to provide adequate supporting documentation (such as Board-approved policies or strategies and business cases).

1.3 Water industry regulatory framework

The water businesses' proposals are being assessed against a legal framework set out in the *Water Industry Regulatory Order 2014 (WIRO)*³ and the Commission's PREMO framework for approving prices.⁴

The Commission's regulatory framework places an emphasis on efficient delivery of services. Assessing the prudence and efficiency of a water business's expenditure forecasts is fundamental to achieving this objective.

In 2018, the Commission introduced a new approach called PREMO to regulate the prices charged to Victorian water businesses. As Figure 1.1 shows, the PREMO approach contains both new and conventional elements related to price, risk, engagement, management and outcomes. PREMO provides water businesses with incentives to put forward their best offer to customers and deliver the outcomes its customers value most and to deliver these as efficiently as possible.

³ The Water Industry Regulatory Order 2014 (WIRO) sits within the broader context of the *Water Industry Act 1994 (Vic)* and the *Essential Services Commission Act 2001 (Vic)*.

⁴ Essential Services Commission 2016, *Water Pricing Framework and Approach: Implementing PREMO from 2018*, October.

Figure 1.1: The Commission’s PREMO framework



More conventional elements of PREMO include the building block approach, which provides reasonable certainty that prudent and efficient costs can be recovered. This includes an expenditure review to determine whether a water business’s proposed capital and operating expenditure forecasts are consistent with the requirements of the regulatory framework.

Under the PREMO framework, each submission is expected to reflect the water business’s best offer to its customer base. High quality submissions may be fast tracked through the assessment process based on several factors. Some water business proposals may require a more detailed review of their proposed expenditure while others may only require a review of some elements of their proposed expenditure (for example, specific items where expenditure is increasing).

The *2023 Water Price Review: Guidance Paper* (the Guidance Paper) explains the Commission’s methodology and approach to assessing water businesses’ price submissions and making a price determination and sets out the information each business is required to provide in its price submission.⁵ The Guidance Paper also identifies the governing criteria for each component of the building block methodology, including forecast operating and capital expenditure.

⁵ Essential Services Commission 2021, 2023 Water Price Review: Guidance paper, 26 October.

This review is the second review under PREMO for these businesses. The Commission also expects price submissions to demonstrate how water businesses are building on their previous proposals to deliver value to their customers.

1.4 Methodology and approach

The scope of our assessments is limited to examining water business's forecast (controllable) operating expenditure and capital expenditure over the PS5 regulatory period. It does not include examining decisions about whether to fast track a water business's PS5 submission, nor does it involve assessing other elements of the PREMO framework such as past performance or engagement.

Our methodology for assessing Yarra Valley Water's capital and operating expenditure forecasts for the next regulatory period is consistent with the Commission's Guidance Paper. In summary, the scope of our assessment includes:

- for forecast operating expenditure focusing on controllable expenditure only. We have assessed proposals using the base-step-trend approach as set out in the Commission's Guidance Paper which is consistent with the basis on which each water business has submitted information as part of their price review model templates
- for forecast capital expenditure, focusing on the Top 10 major projects and major capital expenditure programs that comprise a significant proportion of the water business's total capital expenditure forecast.

Further detail about our assessment framework is set out in Section 3 (Operating expenditure assessment) and Section 4 (Capital expenditure assessment).

Our process has involved several steps:

- an initial review of PS5 price submissions, financial model templates and associated documentation
- comparison of each of the water business's proposed capital and operating expenditure proposals, including assumptions adopted in relation to growth trends, efficiency factors, and comparison of actual and proposed expenditure
- a Stage 1 (preliminary) assessment workshop undertaken with Commission staff identifying the key issues to be explored in our more detailed review
- visits and/or online discussions with each of the water businesses on key issues related to their proposal
- further review and analysis of further information or explanations provided.

1.5 Structure of this report

The structure of this report is as follows:

- Chapter 2 provides a high-level summary of the Yarra Valley Water's expenditure proposal
- Chapter 3 sets out our assessment of Yarra Valley Water's operating expenditure proposals
- Chapter 4 sets out our assessment of Yarra Valley Water's capital expenditure proposals.

Consistent with the Commission's guidance paper and the price review model completed by businesses, all forecasts are expressed in dollars as 1 January 2023.

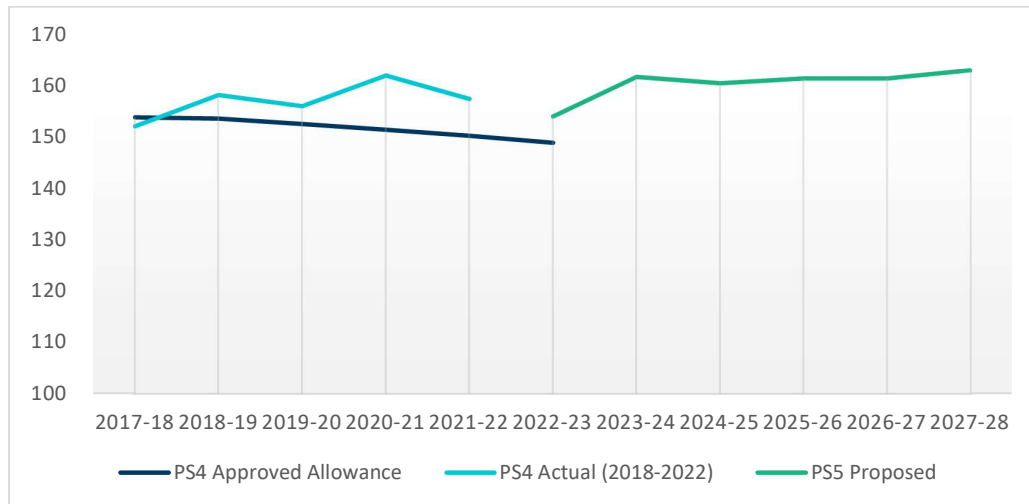
2 SUMMARY OF EXPENDITURE PROPOSAL

2.1 Forecast controllable operating expenditure

For the current PS4 regulatory period, the Commission approved a total controllable operating expenditure benchmark allowance for Yarra Valley Water of \$756 million (in \$ 1 January 2023).

For the first four years of the PS4 regulatory period, Yarra Valley Water’s actual controllable operating expenditure was \$25.8 million (4.2 per cent) above the benchmark allowance approved by the Commission for those four years.

Figure 2.1: Yarra Valley Water’s actual and forecast controllable operating expenditure by year (\$m, 1 January 2023)



Source: Yarra Valley Water, YVW_2023 Price Review Model - 20220929, 3 October 2022; Essential Services Commission 2018, Yarra Valley Water Determination Price Review Model: 1 July 2018 – 30 June 2023, 29 May.

Yarra Valley Water’s baseline 2021-22 controllable operating expenditure is \$6 million (or 4 per cent) above the benchmark allowance approved by the Commission in the last price review.

Yarra Valley Water has proposed step changes to the baseline of \$76.3 million across the PS5 regulatory period, comprising:

- \$31.9 million on expenditure related to growth⁶
- \$31.6 million for new regulatory obligations
- \$6.8 million for expenditure on increased biodiversity and regenerative land use and water conservation outcomes that are supported by customer
- \$6 million on cloud-based technology.

Yarra Valley Water has included the costs associated with growth in its step change. When applied to its baseline, this amount (\$31.9 million) reflects an average growth factor in operating expenditure of 1.44 per cent per annum over the PS5 regulatory period. Yarra Valley Water has also forecast an efficiency factor of 1.7 per cent.

2.2 Forecast capital expenditure

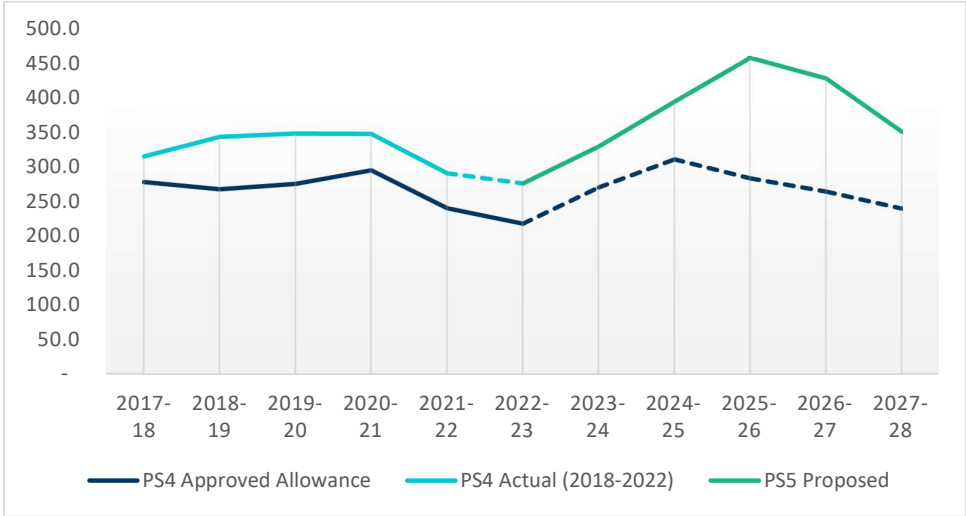
Yarra Valley Water has forecast capital expenditure of \$1,962 million for the PS5 regulatory period. This represents an increase on both the capital expenditure benchmark allowance for the PS5 period included in the Commission's PS4 determination (43 per cent) and the actual capital expenditure undertaken over the PS4 regulatory period (21 per cent), as shown in Figure 2.2.

The key drivers, projects and programs, which appear to be very well linked to and supported by relevant strategies, customer outcomes and engagement results, are:

- renewals (48 per cent of the program)
- growth (36 per cent of the program)
- 10 major projects, which appear extremely well defined and appropriately costed (\$454.2 million)
- 27 defined programs (\$233 million), including Digital Enablement (\$113.8 million), Biodiversity (\$7.8 million) and meter replacements and renewals (\$146.9 million).

⁶ Yarra Valley Water has included the costs associated with growth as a step change and therefore assumed a zero-growth forecast when adjusting the baseline over the forthcoming regulatory period.

Figure 2.2: Yarra Valley Water’s actual and forecast capital expenditure by year (in \$m, 1 January 2023)



'PS4 Approved Allowance' relates to the approved capital expenditure benchmark allowance for 2017-18 to 2022-23, and their 2018 forecast for 2023-24 to 2027-28.

Source: Yarra Valley Water, YVW_2023 Price Review Model - 20220929, 3 October 2022; Essential Services Commission 2018, Yarra Valley Water Determination Price Review Model: 1 July 2018 – 30 June 2023, 29 May.

Yarra Valley Water’s Top 10 capital expenditure projects, shown in Table 2.1, account for around 23 per cent of its proposed capital expenditure for the PS5 regulatory period.

Table 2.1: Yarra Valley Water's top 10 capital expenditure projects (in \$ 1 January 2023)

Major capital expenditure project	Proposed cost (\$ million)
Aurora Recycled Water Treatment Plant and Transfer System	134.3
Mt Fraser Drinking Water and Recycled Water Transfer System	75.1
Doncaster Hill Recycled Water Project	62.6
M4 Distribution Main Project	43.9
Park Orchards Community Sewerage Project	43.1
Healesville Sewage Treatment Plant Capacity Upgrade	28.5
Wallan East Branch Sewer Stage 1	20.4
Craigieburn Storage and Transfer Hub Stage 3	20.1
Love Branch Sewer - Stage 3	17.3
Eltham Main Sewer Rehabilitation	9.0

Source: Yarra Valley Water, 2023-28 Price Submission and associated Financial Model, 30 September 2022.

3 OPERATING EXPENDITURE ASSESSMENT

3.1 Overview of assessment approach

The Commission's Guidance Paper notes the requirement that forecast operating expenditure is:

... operating expenditure which would be incurred by a prudent service provider acting efficiently to achieve the lowest cost of delivering on service outcomes over the regulatory period, taking into account a long-term planning horizon (prudent and efficient forecast operating expenditure).⁷

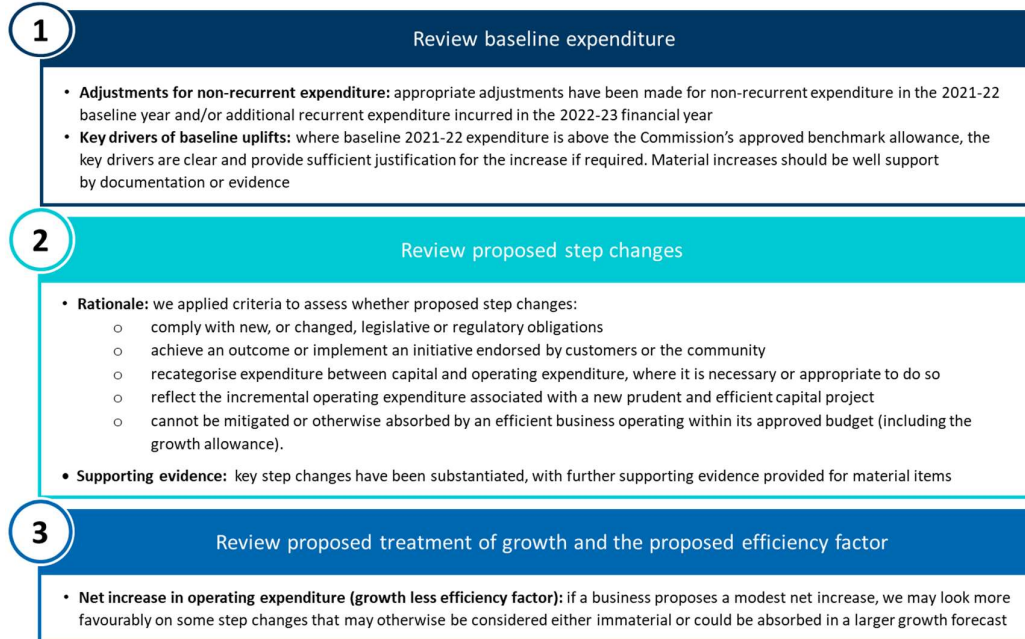
The Commission has asked us to provide an independent expert view on whether Yarra Valley Water's controllable operating expenditure is prudent and efficient having regard to the base-step-trend approach and assessment criteria set out in its Guidance Paper.

We have assessed whether forecast operating expenditure is consistent with the actions of a prudent business acting efficiently, including if:

- the established 2021-22 controllable operating expenditure baseline has been appropriately adjusted for any one-off expenditure items and efficiency commitments
- operating costs reflect reasonable cost efficiency/productivity assumptions applied to the 2021-22 baseline operating expenditure, having regard to industry trends
- changes in operating costs are consistent with the timing of major capital projects
- operating costs can fulfil the business's obligations and meet customer service expectations as efficiently as possible
- any forecast divergence from historical trends in operating expenditure can be readily explained, for example, by changes in obligations imposed by government, including technical, regulatory and customer service expectations.

⁷ Essential Services Commission 2022, 2023 Water Price Review: Guidance Paper, August Amendment, p. 28.

The key steps in our approach were as follows.



In assessing proposed increases in expenditure, including step changes, we have had regard to each business's approach to allowing for growth and efficiency, and the resulting net growth factor for the PS5 regulatory period. For example, some businesses have proposed more ambitious efficiency targets (resulting in negative net growth in expenditure over the PS5 regulatory period) and/or have sought to recognise economies of scale in allowing for growth.

This is relevant to considering the business's ability to absorb cost increases, including proposed step changes, which has required us to apply judgement in assessing the reasonableness of the business's proposals.

3.1.1 Key operating expenditure drivers across water businesses

We have identified several areas of operating expenditure that are common across water businesses.

We have not sought to directly benchmark these costs across the water businesses as the requirements of each business will vary, although these comparisons do further assist in identifying those businesses that might be looking at material increases in expenditure. Instead, we have sought to apply the same level of rigour in analysing this expenditure across businesses, particularly where increases are material (for example, are material

increases in IT expenditure supported by evidence, such as an IT strategy or business case). This includes four key areas summarised in Table 3.1.

Table 3.1 Common operating expenditure issues

Expenditure category	What we have examined
Electricity	<p>The application of the Schneider electricity price forecasts, which was commissioned by the businesses to enable reference to a consistent methodology and forecast estimates.</p> <p>The approach to meeting the Victorian water sector’s commitment to the State Government to source 100 per cent of their energy requirements from renewables by 2025, recognising that each business’s approach will reflect its own circumstances and operating environment (this can also include capital projects).</p>
Labour	<p>The rationale for any material growth in employee numbers.</p> <p>Remuneration increases, having regard to each organisation’s Enterprise Agreement (EA) as well as conditions in labour markets, with several regional businesses citing challenges in attracting and maintaining people with the right skills. Some businesses have also referred to the Victorian Government’s 2022 PEER review of executive remuneration.</p>
IT	<p>Software as a Service (SaaS), with all businesses either having transitioned, or are in the process of transitioning, to cloud-based services. This has also resulted in expenditure that would have been classified as capital expenditure now treated as operating expenditure.</p> <p>Cyber security, which is an important issue for all water businesses as well as utilities and other corporations more generally. This includes compliance with new obligations.</p>
Insurance	<p>All businesses facing material increases in insurance costs in the hardening market, which has also been impacted by major climate-related events domestically and globally.</p>

The following sections summarise our assessment of Yarra Valley Water’s forecast controllable operating expenditure for the PS5 regulatory period.

3.2 Assessment of the baseline

After adjustments for non-recurring items, Yarra Valley Water’s adjusted controllable operating expenditure in 2021-22 was \$156.1 million, compared to the \$150.1 million benchmark allowance approved by the Commission. This represents an increase in actual expenditure above the benchmark allowance of \$6 million or 4 per cent.

Our approach to assessing the reasonableness of the baseline expenditure involves considering whether:

- any overspend against the benchmark allowance is consistent with what is required by a prudent business operating efficiently and

- the expenditure includes any items that are non-recurring.

Yarra Valley Water's price submission attributed the majority of the overspend to the costs associated with transitioning to cloud-based technologies. These costs are now treated as operating expenditure compared to on-premises technology costs that are treated as capital expenditure.⁸ This component accounted for \$5.2 million of the \$6 million overspend (nearly 90 per cent).

We consider that Yarra Valley Water's explanation in its PS5 submission for the overspend in the baseline year is reasonable. Further, the evidence we have been provided indicates that the proposed baseline is consistent with a prudent business operating efficiently and does not appear to include any items that are non-recurring.

We therefore do not propose any adjustments to Yarra Valley Water's proposed baseline.

3.3 Assessment of the step changes

Yarra Valley Water has proposed step changes to the baseline of \$76.3 million across the PS5 regulatory period, comprising:

- \$31.9 million on expenditure related to growth
- \$31.6 million for new regulatory obligations
- \$1.6 million for expenditure on biodiversity and land restoration
- \$5.2 million for water conservation outcomes
- \$6.0 million on cloud-based technology.

We assessed the reasonableness of step changes in forecast operating expenditure by examining whether the proposed step changes meet one or more of the following criteria:

- comply with new, or changed, legislative or regulatory obligations
- achieve an outcome or implement an initiative that is endorsed by customers or broadly meets accepted changes in community expectations
- recategorisation of expenditure between capital and operating expenditure, where the business can demonstrate that it is necessary or appropriate to do so
- incremental operating expenditure associated with a new prudent and efficient capital project
- sufficiently material that the costs are not able to be met by an efficient business operating within its approved budget (including the growth allowance) or be otherwise mitigated.

⁸ Yarra Valley Water 2023-28 Price Submission, September 2022, p. 149.

Yarra Valley Water's PS5 submission provided the following explanation of the step changes in its forecast operating expenditure:

- **Cost of customer growth (\$31.9 million)** – calculated an incremental cost of servicing new customers that equates to an annual growth rate of 1.44 per cent. The incremental costs relate to the operation and maintenance of new assets, the provision of retail services and storage of additional customer data.
- **Biodiversity and land restoration (\$1.6 million)** – customer supported work to manage properties with high remnant biodiversity value; plant trees in community spaces; transition to a model of engagement with Wurundjeri Woi-wurrung's Narrap Rangers; and monitor waterway quality.
- **Water conservation (\$5.2 million)** – the provision of wide-scale household water audits that will result in water savings, which was strongly supported by customers.
- **New regulatory obligations (\$31.6 million)** – included a range of expenditure on the following:
 - Strengthening emergency management capability and capacity (\$4.2 million) – increased expenditure necessary to meet obligations from the Department of Health and compliance with the Victorian Critical Infrastructure Framework and *Emergency Management Act 2013*
 - Improvement in chlorine residual levels (\$10.4 million) – installation of secondary chlorinator facilities and cleaning additional water quality zones that currently have low levels of chlorine disinfectant residual. This is consistent with the Department of Health's guidance.
 - Installing online water quality network sensors (\$2 million) – improve the capability to monitor water quality in real time during to assist decision making during water quality incidents. This was a key recommendation from the Silvan Disinfection Failure incident reviews.
 - Microbial risk research (\$1.3 million) – a recommendation from the Silvan Disinfection Failure incident was that the Melbourne water sector should research, monitor and assess the microbial risk in the drinking water system to improve disinfection effectiveness.
 - Gender equity action plan (\$0.9 million) – required as part of the obligations under the Gender Equality Act 2020.
 - Increased superannuation guarantee levy (\$3.65 million) – the super levy will increase from 10.5 per cent to 12 per cent by 1 July 2025
 - IT disaster recovery preparation and testing (\$3.1 million) – designed to address gaps identified from audits that will ensure digital assets are set up,

- regularly tested and recoverable. This work has become more pressing due to the heightened global threat levels and introduction of the Security of Critical Infrastructure Act.
- Capital expenditure programs (\$6.1 million) – operating expenditure associated with a range of capital programs that have compliance drivers.
- **Cloud based technologies (\$6.0 million)** - continuation of the implementation of this platform-based technology that has replaced its on-premises IT infrastructure.

We sought additional information from Yarra Valley Water to further assess these step changes, including reports referred to in its PS5 submission and business cases.

Our assessment of the step changes is outlined below.

3.3.1 Cost of customer growth

As outlined above, Yarra Valley Water has included its growth-related costs as a step change to the baseline, rather than via the application of a growth factor. We have compared these forecast growth related operating cost increases for each year with the forecast growth related capital expenditure for each year. The proposed operating cost increases in each year match the forecast growth capital expenditure program, with the marginal annual operating expenditure changes aligning well with respect to the growth capital phasing in each year.

Given that our assessment of Yarra Valley Water's forecast capital expenditure program is that it is prudent and efficient (including the growth driver expenditure), we consider the growth-related operating expenditure forecast by Yarra Valley Water in its submission to be appropriate.

Our further observations regarding Yarra Valley Water's growth and efficiency of operating expenditure are set out below.

3.3.2 Biodiversity and land restoration and water conservation

Yarra Valley Water provided business cases supporting the step changes related to biodiversity and water conservation, as well as willingness to pay studies undertaken to support these programs. The information provided by Yarra Valley Water indicates that customers support this expenditure, and that Yarra Valley Water has a clear plan to achieve these outcomes.

3.3.3 New regulatory obligations

Yarra Valley Water provided business cases for all the step changes relating to new regulatory obligations, except for the increase in the superannuation guarantee levy. The

business cases provided outline the reasons for the expenditure and the planned activities that will be undertaken to achieve the desired outcomes. We are therefore of the view that these activities and their associated expenditure meets the criteria we have used to assess step changes (specifically *Comply with new, or changed, legislative or regulatory obligation*).

3.3.4 Cloud based technologies

Yarra Valley Water provided a business case on its digital enablement plan that outlined its approach to managing IT infrastructure going forward. This includes the transition to Cloud-based services (or Software as a Service). Several water businesses are proposing material step changes for IT expenditure in the PS5 regulatory period. As a result, we have reviewed relevant documentation related to their proposed IT expenditure to confirm whether it adequately supports the forecasts in their pricing submissions. Yarra Valley Water's business case provides sufficient rationale to be confident that the transition, and associated budget forecast, is appropriate for its business.

We have not sought to directly benchmark the water businesses IT expenditure but have had regard to cross-industry metrics in assessing material increases in expenditure, such as Yarra Valley Water's \$6 million step change for Cloud-based technologies. While noting that this is a material step change, we also note that Yarra Valley Water has the largest number of customer connections across the Victorian urban water sector. As a result, its forecast IT expenditure is the lowest per average number of water connections in the PS5 regulatory period (which also demonstrates economies of scale). Yarra Valley Water's total IT expenditure for the PS5 regulatory period as a percentage of total controllable operating expenditure is around the industry average of 10.3 per cent. This analysis provides further confidence that this expenditure is reasonable.

3.3.5 Summary of our assessment

Based on Yarra Valley Water's PS5 submission and the further information provided to us, and having regard to our step change criteria, we consider that its proposed step changes are reasonable.

We have also considered these within the context of Yarra Valley's proposed net annual growth in expenditure over the PS5 regulatory period. As outlined below, its net expenditure growth factor of -0.2 per cent per year is in the top third of the water businesses. This further supports the conclusion that the business should not otherwise be expected to absorb these costs.

We do not propose any adjustments to these step changes as the evidence supports a conclusion that they are consistent with a prudent business operating efficiently.

3.4 Forecast growth and efficiency factors

Yarra Valley Water has included growth-related costs as a step change in its price submission. Based on that step change, the implied average annual growth factor in operating expenditure can be calculated to be 1.44 per cent over the next regulatory period, with an efficiency factor of 1.7 per cent. This results in a net increase in operating expenditure over the forthcoming regulatory period that averages -0.2 per cent per year. When compared to other water businesses, this places Yarra Valley Water fifth out of the 13 urban water businesses subject to this review (see Table 3.2).

Table 3.2: Net average increase in operating expenditure per year by business

Water business	Net average annual increase
South East Water	-0.9%
GWMWater	-0.8%
Wannon Water	-0.3%
Gippsland Water	-0.2%
Yarra Valley Water	-0.2%
Lower Murray Water (Urban)	0.0%
Barwon Water	0.1%
South Gippsland Water	0.2%
Westernport Water	0.5%
Coliban Water	0.5%
East Gippsland Water	0.7%
Goulburn Valley Water	1.1%
Central Highlands Water	1.2%

Source: Calculated from pricing models submitted by water businesses.

3.5 Summary of operating expenditure assessment

Based on Yarra Valley Water's PS5 proposal, discussions with the business and the further information it provided, we are of the view that the adjusted 2021-22 operating expenditure is consistent with a prudent business that operates efficiently.

This reflects our view that:

- the key drivers of the increase in actual expenditure above the approved benchmark allowance in the baseline year of 2021-22 appear reasonable, and does not appear to include any items that are non-recurring
- proposed steps changes are reasonable and supported by a sound rationale.

This is considered within the context of its proposed net baseline growth in operating expenditure of -0.2 per cent per year.

As a result, we have not proposed any adjustments to Yarra Valley Water's forecast controllable operating expenditure for the PS5 regulatory period.

4 CAPITAL EXPENDITURE ASSESSMENT

4.1 Overview of assessment approach

The Commission’s Guidance Paper states that forecast capital expenditure is:

.... capital expenditure that would be incurred by a prudent service provider acting efficiently to achieve the lowest cost of delivering service outcomes, taking into account a long-term planning horizon (prudent and efficient forecast capital expenditure).⁹

We have assessed Yarra Valley Water’s proposed capital expenditure program against the criteria set out in Figure 4.1.

Figure 4.1: Capital expenditure assessment criteria



Having regard to these criteria, we have also considered whether any adjustments to the proposed expenditure forecast would be considered appropriate, material and justified.

We have assessed Yarra Valley Water’s forecast capital expenditure for the PS5 regulatory period focusing primarily on a review of asset management, capital planning and prioritisation processes and how they have been applied. We have also reviewed key supporting documentation for a sample of three of the top 10 capital expenditure projects and for four of the major programs. Our assessment is based on a review of the information contained in Yarra Valley Water’s PS5 submission and responses to additional information requests we raised based on the above criteria.

⁹ Essential Services Commission, 2023 Water Price Review: Guidance Paper, August 2022 Amendment, p. 33.

Although Yarra Valley Water's submission supporting its proposed capital expenditure program was strong overall, with good context and justification provided in relation to the forecast expenditure increase and associated drivers, we requested additional information to further test the justification for the substantial increase in capital expenditure forecasts for the PS5 regulatory period compared to PS4 regulatory period forecasts. The information requested related to the following issues:

- further justification of the expenditure above the Commission's determination for the PS4 regulatory period (particularly growth and renewals)
- further justification of the sustained increased expenditure trend for the PS5 regulatory period (renewals and growth generally and also recycled water growth)
- further background to the significant increase in the rate of customer meter replacements forecast over the PS5 regulatory period.

Yarra Valley Water responded promptly with all requested additional information and documentation, including detailed documentation setting out the capital planning processes used to develop the program, relevant Board and Committee papers and reports, asset renewal and management plans and strategies as well as major project and program business cases.

4.2 Assessment of overall capital program

Yarra Valley Water is currently on track to deliver a much higher level of capital expenditure for the PS4 regulatory period than that allowed for by the Commission as part of the last review. This is attributable to spending on growth and renewals. Yarra Valley Water has also forecast that this trend will continue into the PS5 regulatory period, particularly for renewals and growth drivers as well as for recycled water growth.

4.2.1 Link to customer outcomes and obligations

The key drivers, projects and programs, which appear to be very well linked to and supported by relevant strategies, obligations, customer outcomes and engagement results, are:

- renewals (48 per cent of the program)
- growth (36 per cent of the program)
- ten major projects, which appear extremely well defined and appropriately costed (\$454.2 million)
- 27 defined programs (\$233 million), including Digital Enablement (\$113.8 million), Biodiversity (\$7.8 million) and meter replacements and renewals (\$146.9 million).

The supporting strategy and business case documents reviewed provide strong justification for the projects and programs that underpin the overall capital expenditure program and forecast. They also provide insight into how each element of the program supports Yarra Valley Water's six key customer outcomes:

- safe and pleasant drinking water
- reliable water and sewerage services
- timely response and repair
- service that meets everyone's needs
- saving water for the future
- looking after our natural environment.

4.2.2 Comparison of forecast and actual capital expenditure – PS4

Yarra Valley Water's actual/forecast capital expenditure for the PS4 regulatory period is currently \$1,617 million. This is approximately \$320 million (25 per cent) higher than what the Commission approved in the last price review. The key drivers of this greater than forecast expenditure include greater than forecast growth in provision of new customer services, higher rates of water and sewer main renewals due to deficiencies in the assumptions and data used to forecast renewal rates (now corrected and supported by actual verified renewals data) and increased scope and rate of implementation of Yarra Valley Water's digital enablement strategy.

In summary, the major areas of increased expenditure relate to:

- Growth (\$143.2 million increase) – including carry-over of some projects from the PS3 regulatory period and brought forward network expansion expenditure to service higher than forecast growth
- Water and sewer main renewals (\$103.8 million increase) – higher rates/volumes of renewals and higher unit costs than assumed in the original forecasts
- Digital enablement strategy implementation (\$65.2 million increase).

In its PS4 submission, Yarra Valley Water identified \$257.1 million of potential capital expenditure that was subject to significant cost or timing uncertainty, and that was therefore excluded from its expenditure forecast. Yarra Valley Water advised that \$122.6 million of the forecast increased actual spend for the PS4 period relates specifically to factors and projects associated with that excluded expenditure.

Delivery performance for the \$256.4 million ten major PS4 projects program has been very good overall, with five complete, four on track for completion and one deferred to be combined with subsequent stages of the Craigieburn sewage flow storage and transfer hub

project program to realise delivery efficiencies. Overall, the nine projects to be completed are forecast to be delivered for \$247.8 million.

The documents and information provided by Yarra Valley Water provide good support and reasonable explanations for the increased spend in the PS4 regulatory period.

4.2.3 Forecast capital expenditure – PS5

Yarra Valley Water’s capital expenditure forecast for the PS5 regulatory period is \$1,962 million. This represents a 21 per cent increase compared to the actual forecast for the PS4 regulatory period and is 43 per cent higher than the benchmark forecast for the PS5 period included in the Commission’s PS4 decision.

The sustained increase in forecast capital expenditure is also projected to continue into the PS6 regulatory period, with renewals expenditure expected to stabilise consistent with PS5 levels and growth expenditures expected to further increase. Yarra Valley Water has identified \$347 million of potential capital expenditure for the PS5 regulatory period that is subject to significant cost or timing uncertainty, and that has therefore been excluded from its PS5 expenditure forecast and deferred into the PS6 period. This includes potential expenditure on sewer and recycled water growth projects and IT improvements, as well as \$75.4 million deferred expenditure on rolling out digital customer water meter replacements for existing mechanical meters currently scheduled for ‘like-for-like’ replacement as they approach end of life. The digital meter roll out expenditure has been deferred subject to finalising the outcomes of Yarra Valley Water’s current digital metering pilot trials and confirmation of a robust business case supporting the roll out.

Based on the information included in Yarra Valley Water’s pricing submission and on further information provided, there appears to be good support justifying the forecast increased expenditure in the PS5 regulatory period. The documents and information provided show that the reasons put forward are reasonable and supported by good documentation, processes and business cases and asset management plans.

The approach to the like for like mechanical meter replacement program (including the proposed increased rate of replacements from 2023-24) appears reasonable and sound. This also fits well within the context of a potential switch to replacement with digital meters subject to pilot trial outcomes (associated costs not included – at risk for Yarra Valley Water, despite a draft business case sighted that appears to build a strong case for digital meters).

4.2.4 Underlying processes for developing the program

Yarra Valley Water's underlying asset management and capital planning processes as outlined in its pricing submission (including risk assessment and prioritisation processes), and as further evidenced through additional documentation and papers provided in response to a request for further background and information, appear to be extremely robust and appropriate. Good evidence was provided showing that the associated frameworks and processes have been applied in a rigorous manner to developing the PS5 capital expenditure program, with significant executive team and Board oversight.

Asset management plan business cases and major project business cases provided for review are extremely detailed and well prepared, giving a high level of confidence that the associated capital expenditures proposed are justified, prudent and appropriate. The proposed programs, projects and associated expenditures are well linked to risk based assessments of needs. The prioritisation process used across the overall capital program is based on appropriately balancing risks (both in terms of risk sharing between Yarra Valley Water and its customers and in balancing risks between different expenditure drivers) and appears to have been applied in a rigorous manner to refine the final proposed program. As noted above, this process has led to identification of approximately \$347 million of potential expenditure that has been deferred into subsequent periods.

4.2.5 Reliability of cost estimation

The cost estimation approaches used by Yarra Valley Water to establish project and program budgets appear to be sound, with program expenditure forecasts based on analysis of observed historical costs and unit rates where appropriate. Major project cost estimates are based on statistical risk-based methodologies (including Monte Carlo simulation techniques) used to derive P50 cost estimates (including tailored contingencies) as the basis for developing project budget forecasts.

Yarra Valley Water has also assumed a 5 per cent efficiency in budget allowances across all growth projects, including major projects (incorporating a \$31.1 million saving into the capital expenditure forecast over the PS5 period). This reflects targeted savings Yarra Valley Water expects to achieve through project and program management improvement initiatives, with a greater emphasis on utilising packaging and partnerships.

These approaches to cost estimation used by Yarra Valley Water appear to provide a robust and appropriate basis for developing the budget estimates for its PS5 capex program.

4.2.6 Deliverability of capital program

As outlined in the submission, and supported by further information provided, Yarra Valley Water appears to be addressing its capacity to deliver the larger PS5 regulatory period program, including consideration of both organisational and market capacities. It is also noted that Yarra Valley Water is demonstrating capability for delivering a sustained larger capital program throughout the PS4 period. Enhanced delivery arrangements and good governance processes are also supported by a deliverability assessment undertaken by Yarra Valley Water as part of the process for developing and prioritising the overall capital program. The approach taken appears to have been well structured and systematic.

Further information for the review was also sought regarding the extent to which improved delivery capacity arrangements are in place and ready for the PS5 period. In response, Yarra Valley Water advised that:

- The expression of interest phase for the establishment of its three capital delivery contractor panels is now complete. These panels (which also include the Pipes and Facilities, Community Sewerage and Treatment Plant Improvements panels) are being renewed and streamlined.
- There was strong interest from the market, with 18 contractors applying to be on these panels. Five contractors have been shortlisted for the Pipes and Facilities panel, two for the Community Sewerage panel and three for the Treatment Plant Improvements panel. These shortlists include 80 per cent existing contractors.
- The tendering phase for these panels is expected to be completed by early 2023 to enable establishment and commencement prior to the PS5 regulatory period.
- Yarra Valley Water is also establishing a dedicated electrical works panel. Expressions of interest are expected to be assessed by February 2023 and tendering expected to be completed by June 2023.

In summary, there appears to be good progress on implementing the delivery program enhancement initiatives, with ongoing Board and executive focus. This provides a good level of confidence that robust arrangements will be ready and in place to support implementation of the proposed program (noting that several elements are already in place and supporting current capital delivery).

4.3 Assessment of major projects and major programs

4.3.1 Major projects

Yarra Valley Water's PS5 capital program includes ten major projects with a combined forecast cost over the period of \$454.2 million (approximately 23 per cent of the total

program). These projects are well set out in the pricing submission document and appear to be well defined and scoped, with clear justified drivers and linkage to strategies, customer outcomes and engagement.

Sample business case and related supporting and background documentation for the following three major projects were requested for review:

- Aurora Recycled Water Treatment Plant and Transfer System
- Wallan East Branch Sewer Stage 1
- Mt Fraser Drinking Water and Recycled Water Transfer System.

The sample business cases and supporting documentation sighted are very detailed, well focused and provide strong and robust justification for the major projects and associated expenditures (with a strong risk-based assessment approach to prioritise and appropriately target the expenditures proposed).

The review of these documents has helped confirm the appropriateness and robustness of the major projects component of the program and has also provided good insight into the strong underlying basis for the broader capital program. In particular, the review showed that the projects:

- are appropriate in relation to key drivers and obligations
- have strong linkage to customer service needs and demonstrated customer preferences
- are supported by robust analysis and assessment
- have appropriate cost estimates.

This, along with Yarra Valley Water's strong performance in delivering its ten major projects during the PS4 period, provides a high level of confidence that the major projects and the associated expenditure forecasts are appropriate.

4.3.2 Major programs

After the ten major projects, the remaining capital program comprises 27 defined allocation programs (\$1,507.8 million in total – 77 per cent of the overall program).

Sample asset management plans, strategies and business case and related supporting and background documentation were requested (and provided by Yarra Valley Water) for the following programs for review:

- high consequence water mains
- sewer mains hydraulic capacity (and summary of risk assessments – dry and wet weather)

- customer meter replacement program
- digital enablement program.

The sample program business cases and supporting documentation sighted are very detailed, well focused and provide strong and robust justification for the proposed program objectives and associated expenditures (with a strong risk-based assessment approach to prioritise and appropriately target the expenditures proposed). Following a review of these documents, it appears that these programs have been developed based on strong, detailed analysis and assessment of needs and benefits and that they:

- are appropriate in relation to key drivers and obligations
- have strong linkage to customer service needs and demonstrated customer preferences
- are supported by robust analysis and assessment, including the application of appropriate risk-based assessment and prioritization
- have appropriate cost estimates.

4.4 Summary of capital expenditure assessment

Overall, Yarra Valley Water's capital forecast submission is well developed and, together with the additional information reviewed, provides a high level of confidence that Yarra Valley Water's proposed capital expenditure program is appropriate, prudent and robust, and is deliverable. In this context, the potential for any further efficiencies or prioritisation to reduce the forecast program expenditure profiles is not expected to be material. As such, we do not recommend any adjustments to Yarra Valley Water's forecast capital expenditure for the PS5 regulatory period.



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