



SA Water Regulatory Determination 2020

Final Determination: Statement of reasons

June 2020

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Glossary of terms

ADP	Adelaide Desalination Plant
ADWG	Australian Drinking Water Guidelines
AER	Australian Energy Regulator
ANCOLD	Australian National Committee on Large Dams
ASD	Adelaide Service Delivery
CAPM	Capital Asset Pricing Model
CEP	Consumer Experts Panel
CGS	Commonwealth Government Securities
CNC	Customer Negotiation Committee
Code	Water Retail Code – Major Retailers WRC-MR/02
Commission	Essential Services Commission, established under the <i>Essential Services Commission Act 2002</i>
COVID-19	COVID-19 pandemic event
CPI	Consumer Price Index
CRM	Customer Records Management system
CSO	Community Service Obligation
DEW	Department for Environment and Water
Draft Determination	SA Water Draft Regulatory Determination 2020
EPA	Environment Protection Authority
ERA (WA)	Economic Regulation Authority Western Australia
ESC Act	<i>Essential Services Commission Act 2002</i>
ESCV	Essential Services Commission of Victoria
EWOSA	Energy and Water Ombudsman SA
FFO	Funds from operations
Final Determination	SA Water Final Regulatory Determination 2020
FTE	Full time equivalent positions

GAP expansion	Glenelg to Adelaide Parklands recycled water network expansion
GSL	Guaranteed Service Level
IAM	Institute of Asset Management
ICRC	Independent Competition and Regulatory Commission
IMF	International Monetary Fund
IPART	Independent Pricing and Regulatory Tribunal
IT	Information technology
MFP	Multi-factor productivity
Minister	Minister for Environment and Water
NAIS	Northern Adelaide Irrigation Scheme
NPV	Net Present Value
NWI	National Water Initiative
Ofwat	The economic regulator of the water sector in England and Wales
OTTER	Office of the Tasmanian Economic Regulator
QCA	Queensland Competition Authority
RAB	Regulated Asset Base
RBA	Reserve Bank of Australia
RBP	SA Water's Regulatory Business Proposal titled 'Our Plan 2020'
RECs	Renewable Energy Certificates
SA Water	South Australian Water Corporation
SACES	South Australian Centre for Economic Studies
SACOSS	South Australian Council of Social Service
SAFRRA	South Australian Federation of Residents and Ratepayers Association Incorporated
SAW RD13	SA Water Regulatory Determination 2013
SAW RD16	SA Water Regulatory Determination 2016
SAW RD20	SA Water Regulatory Determination 2020
SMP	Statement on Monetary Policy
SOP	Standard Operating Procedure

Treasurer	Treasurer for the South Australian Government
UDIA	Urban Development Institute of Australia
WACC	Weighted average cost of capital
WI Act	Water Industry Act 2012
WPI	Wages Price Index
WWTP	Waste Water Treatment Plan
ZCEF	Zero Cost Energy Future

1 Overview

This SA Water Final Regulatory Determination 2020 (**Final Determination**) establishes reductions to the total revenue that SA Water may recover during the four-year period commencing 1 July 2020, of 16 percent (\$494 million) and 4 percent (\$54 million) for drinking water and sewerage retail services respectively, as compared to the amounts determined for the current four-year period (2016-2020).

On the Commission's analysis, the revenue outcomes will provide SA Water with sufficient revenue to fund efficient operations, finance prudent investments on a long-term basis and meet the health, safety, environmental and customer service standards that will apply to SA Water over the coming four years.

The Final Determination is consistent with the expectation that SA Water should deliver drinking water and sewerage retail services at the quality and reliability levels that customers value for the lowest sustainable long-term cost to them. It passes through to customers the benefits of the lower financing costs that SA Water currently faces, while allowing for a 28 percent increase in capital expenditure and two percent increase in operating expenditure, compared to those incorporated into the current regulatory determination.

Final drinking water and sewerage retail service revenues, compared to 2016-2020 revenues and SA Water's proposal for 2020-2024 (Present value, \$Dec18 in millions)

	2016-2020 Regulatory Determination	SA Water 2020-2024 Regulatory Business Proposal	2020-2024 Final Determination
Drinking water	3,035	3,047	2,541
Sewerage	1,269	1,323	1,215

The determination process has included:

- ▶ reviewing, amending and enhancing consumer protections contained in industry codes and rules
- ▶ reviewing and resetting the customer service and network reliability service standards with associated performance targets
- ▶ making three separate price determinations for drinking water retail services, sewerage retail services and other ('excluded') retail services, and
- ▶ reviewing the performance monitoring and reporting framework, noting that further consultation will occur on those matters during 2020.

A key driver of the revenue reductions is the significant falls in the market-based debt and equity financing costs over the past four years. Based on the most recent financial market information, the regulatory rate of return (post-tax, real) is expected to be 2.96 percent in 2020-21 as compared to 4.53 percent in 2016-17. Estimating the real rate of return requires an estimate of long-term inflation expectations. Given current uncertainty about the path of recovery in inflation, and noting potential impacts in that regard arising from the COVID-19 pandemic event (**COVID-19**), the Commission has adopted a glide path to the mid-point of the Reserve Bank of Australia's two to three percent inflation target band by 2026-27 (rather than the one-year transition used in prior regulatory determinations).

The Commission has reviewed the levels of capital and operating expenditure required for SA Water to run its operations efficiently over the next four years, allowing an increase in real terms (accounting for the effects of inflation) of \$362 million in capital expenditure and an increase of

\$33 million in operating expenditure, as compared to the current determination. Both stakeholders' submissions and the Commission's own review have highlighted that some of SA Water's expenditure proposals - noting that in total SA Water sought an additional \$471 million in capital expenditure and \$121 million in operating expenditure over the amounts included in the current determination - have not been justified by SA Water and are not consistent with customers' main priority that SA Water's prices are kept as low as possible while at least maintaining current levels of service.

The Final Determination meets the requirements of the May 2020 Pricing Order under the *Water Industry Act 2012*, which reduced the regulatory value of SA Water's drinking water assets from \$7.77 billion to \$7.25 billion (as at 1 July 2013, in December 2012 dollars).

It also allows for specified increases in SA Water's forecast capital and operating expenditure (net of Government contributions) to reflect directions issued to SA Water by the Minister for Environment and Water under the *Public Corporations Act 1993*.

The Final Determination incorporates expectations of efficiency gains that should be made by SA Water where it is not at the frontier of efficiency compared to other peer water utilities (catch-up efficiencies) and ongoing efficiency improvements that are achievable as the frontier of efficiency continues to improve (continuous efficiencies). The capital expenditure amounts incorporated into this Final Determination include an expectation that SA Water can achieve compounding catch-up efficiency of 1.5 percent per annum across the four-year period commencing 1 July 2020 and an additional compounding continuing efficiency target of 0.5 percent per annum. Operating expenditure included in the Final Determination incorporates a compounding continuing efficiency target of 0.5 percent per annum.

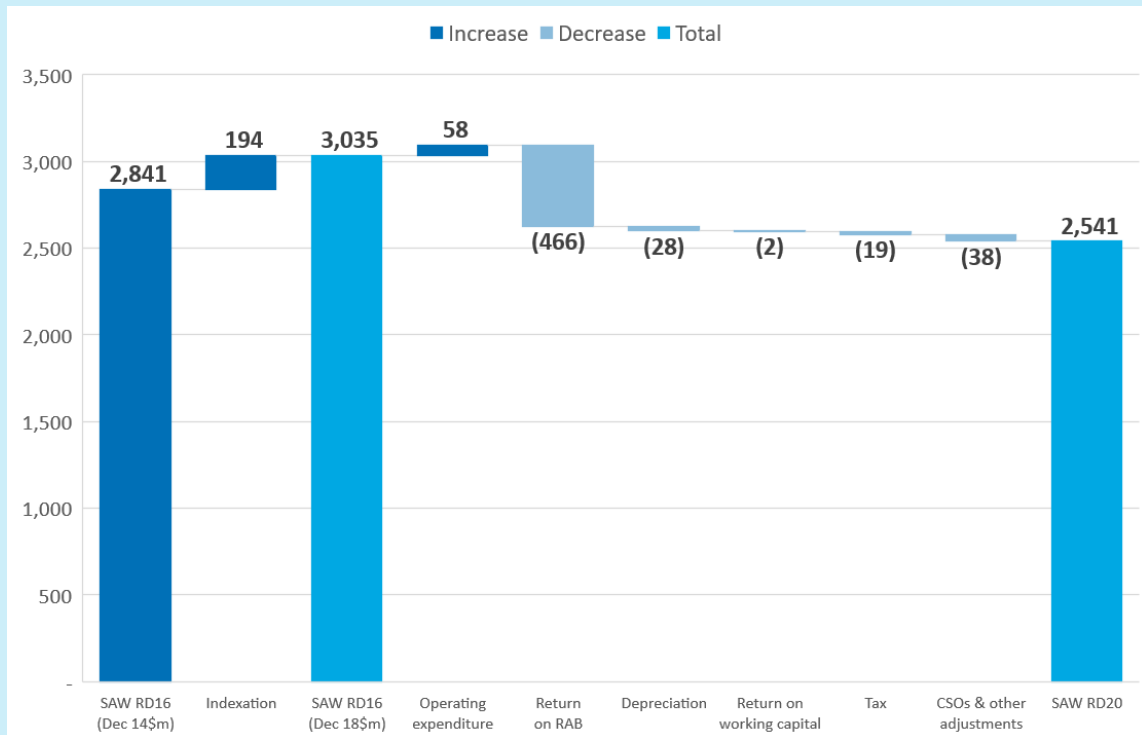
To avoid any double counting of efficiencies, the efficiency target has not been applied to the sample of projects and programs that were reviewed by the Commission, which already incorporate efficiency expectations. They have also not been applied to labour costs, which already have a productivity expectation incorporated in them, nor to the expenditure that SA Water must incur pursuant to directions from the Minister for Environment and Water under section 6 of the *Public Corporations Act 1993*.

Importantly, the expenditure benchmarks set by the Commission do not dictate the actual amount of expenditure that SA Water must incur or how SA Water should direct its expenditure - noting that SA Water cannot recover from customers any revenue in excess of the caps established by this determination. Rather, SA Water is responsible for managing its daily network operations and maintaining supply reliability and services to customers: it must decide appropriate expenditures to meet its obligations and to maintain the long-term integrity of the network. The incentive regulatory regime is intended to encourage SA Water to adopt innovative practices which allow it to spend below the benchmark levels whilst maintaining service levels.

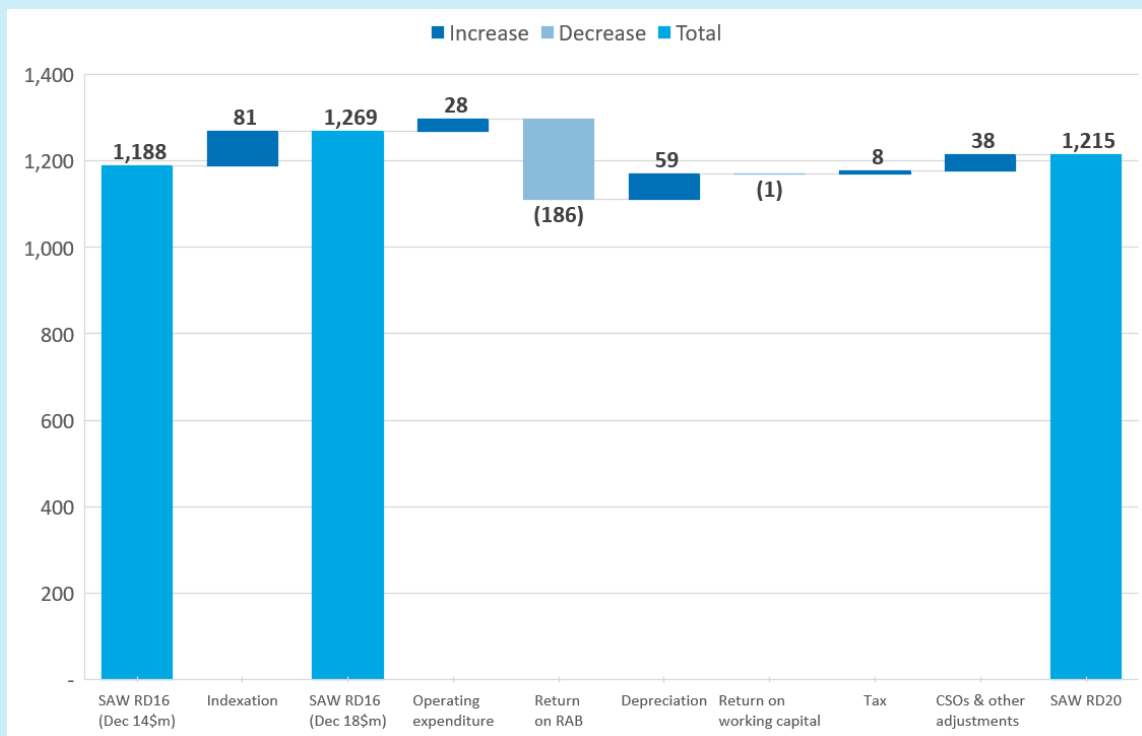
This Final Determination has been made during the period of COVID-19, at a time when there is uncertainty about the extent to which COVID-19 and the related containment measures will impact SA Water's expenditure requirements during the SAW RD20 period. Should SA Water's expenditure materially increase due to COVID-19, the Final Determination provides a cost pass-through mechanism, which may allow revenue caps in the 2024-2028 period to increase to accommodate that change.

The drinking water revenue reductions are greater than the sewerage revenue reductions due to the reduction in the value of drinking water assets through the Pricing Order, impacts of the directions under section 6 of the *Public Corporations Act 1993* and revenue reductions that arise from the current determination (such as the demand variation adjustment mechanism, which impacts drinking water revenues). The reductions in the drinking water and sewerage revenue caps are illustrated in the following figures.

Change in drinking water retail service revenues compared to 2016-2020 Determination
(Present value, \$Dec18 in millions)



Change in sewerage retail service revenues compared to 2016-2020 Determination
(Present value, \$Dec18 in millions)



SA Water Regulatory Determination 2020 (**SAW RD20**) has involved extensive customer and stakeholder engagement. Feedback has highlighted that SA Water is generally performing well in service delivery (albeit there are areas for focus and improvement) and has improved its customer engagement practices.

The Commission acknowledges SA Water’s work in those areas over the past four years but has also indicated opportunities for future improvement by SA Water. This is particularly in relation to more transparent reporting on the outcomes of SA Water’s capital project expenditures and its longer-term asset management planning. In each case, stakeholders and the Commission have identified through the review process that SA Water can and should be delivering stronger performance and accountability. Further consultation will occur in the second half of 2020 to finalise a robust and cost-effective monitoring and reporting regime for those matters, noting that the relevant information should be based on the type of information that should already be collected by SA Water’s management.

The Commission has fulfilled its statutory role established under the *Water Industry Act 2012* and the *Essential Services Commission Act 2002*, in which it is required to have regard to all relevant statutory factors and objectives (including the terms of Ministerial Pricing Orders and directions), to consider all relevant evidence available to it and, thereafter, make a regulatory determination which it considers best meets those statutory factors and objectives in light of the evidence.

That decision-making process involves issues of discretion, judgement and degree (to the extent permitted under the statutory framework). This Final Determination therefore sets out the Commission’s considered position as to the most reasonable form and quantum of regulation and revenue control to be applied during the 2020-2024 regulatory period that best protects South Australian consumers’ long-term interests with respect to the price, quality and reliability of the water and sewerage retail services provided by SA Water.

1.1 Outcomes of SA Water Regulatory Determination 2020

Pursuant to the provisions of the *Water Industry Act 2012* (**WI Act**) and the *Essential Services Commission Act 2002* (**ESC Act**), the Essential Services Commission (**Commission**) has made a Regulatory Determination in relation to the maximum revenue that the South Australian Water Corporation (**SA Water**) can recover from the provision of drinking water and sewerage retail services from 1 July 2020 to 30 June 2024.

In present value terms, this Final Determination will lead to a reduction in SA Water’s drinking water and sewerage retail service revenues of approximately 16 percent (\$494 million) and four percent (\$54 million) respectively over the next four years, compared to the previous four years. Those revenues are approximately 17 percent and eight percent below those proposed by SA Water in its Regulatory Business Proposal (**RBP**) for the four-year period from 1 July 2020. Table 1.1 summarises the revenue caps, relative to those proposed in SA Water’s RBP and SA Water Regulatory Determination 2016 (**SAW RD16**).

Table 1.1: Final drinking water and sewerage retail service revenues, compared to 2016-2020 revenues and SA Water’s proposal for 2020-2024 (Present value, \$Dec18 in millions)

	2016-2020 Regulatory Determination	SA Water 2020-2024 Proposal	2020-2024 Final Determination
Drinking water	3,035	3,047	2,541
Sewerage	1,269	1,323	1,215

1.2 The Commission sets maximum revenues, SA Water sets prices

Consistent with the legislative framework, the Commission has determined revenue caps for drinking water and sewerage retail services, not prices; SA Water's prices will continue to be set by SA Water in accordance with the South Australian Government pricing policies.

The Final Determination will fix those revenue caps for the four-year period from 1 July 2020.

The SA Water Draft Regulatory Determination 2020 (**Draft Determination**) had proposed revenue caps that could vary each year, based on annual updates to the regulated rate of return and to recover the costs of any approved new 'contingent' capital projects. The Treasurer for the South Australian Government (**Treasurer**) issued a Pricing Order under the WI Act in May 2020, which does not permit revenues to vary during the regulatory period and, as a result, the Final Determination does not include the annual updates mechanism and the contingent projects mechanism has been amended to become an intra-period project review mechanism, with any revenues referable to projects under that mechanism recovered in the subsequent regulatory period.

1.3 Drivers of the revenue reduction

The revenue reduction from this Final Determination is driven primarily by lower market-based debt and equity financing costs (through the regulated rate of return). SA Water's regulated rate of return on assets was 4.53 percent (post-tax, real) in 2016-17 and has fallen to 2.96 percent (post-tax, real) in 2020-21.

SA Water proposed changes to the rate of return methodology outlined by the Commission in the Guidance Papers prepared as a part of this determination process. Those papers explained the methodology utilised previously by the Commission and noted various methodology changes proposed for this determination to address matters raised by stakeholders and changes in market conditions.

The Commission has not accepted SA Water's proposed methodology, as it is subject to conceptual and measurement errors, including a focus on short-term measures.

Estimating the real rate of return requires an estimate of long-term inflation expectations (10 years, to align with the assumed 10-year bond term). The Commission has adopted a 10-year average inflation expectation, calculated using the Reserve Bank of Australia's (**RBA**) trimmed mean Consumer Price Index (**CPI**) inflation forecasts for two years and a linear glide path to the mid-point of the RBA's inflation targeting band by 2026-27, remaining at 2.5 percent thereafter. This medium-term glide path approach is a departure from the approach used in SAW RD16, which used RBA's one-year inflation forecast and the mid-point of the RBA's inflation target band from years two to 10. The change reflects the current uncertainty about the speed in which inflation might return sustainably within the RBA's two to three percent target inflation range. The impact of the change is that it results in a higher real rate of return than that which would have resulted from the SAW RD16 approach.

In keeping with customers' and stakeholders' clear messages throughout the determination process about the need for prices to be kept as low as possible, the Commission has carefully reviewed SA Water's proposed capital and operating expenditure, to ensure that those are kept at prudent and efficient levels.

Having considered SA Water's regulatory obligations over the next four years (including health, safety, environmental and customer service standards), the Commission has, on an overall basis (that is, considering drinking water and sewerage revenues on a combined basis), provided for an increase of \$362 million in capital expenditure (28 percent) and an increase of \$33 million in operating expenditure (1.7 percent), as compared to expenditure in the current regulatory period.

Looking at the two separately, there is a slightly higher increase in operating expenditure for sewerage services (2.7 percent) than for drinking water services (1.4 percent). This is driven in part by the forecast reduction in electricity costs, which has a proportionately larger impact on drinking water retail service costs as electricity usage is more intensive for this service. In addition, the Final Determination includes an increase in operating expenditure to support initiatives to improve the performance of the sewerage network, which further contributes to the different operating expenditure amounts for drinking water and sewerage services.

Those outcomes are, however, materially below the capital and operating expenditure amounts sought by SA Water in its RBP, by six percent and four percent respectively. Based on the evidence available, presented by SA Water, in stakeholder submissions and through the Commission's own review, the Commission is not satisfied that SA Water's proposed cost increases are justified. Stakeholders highlighted several projects that they thought required further scrutiny:

- ▶ They were not convinced that the extensive water quality improvement programs (proposing to move above current regulatory requirements) were necessary.
- ▶ They were concerned that they had not been given the chance to understand and consider the ambitious Zero Cost Energy Future (ZCEF) initiative and wanted the Commission to ensure that customers would be adequately shielded from any risks of the benefits of this program not being realised.
- ▶ They also asked the Commission to consider whether or not SA Water had set itself a sufficiently challenging operating expenditure efficiency target, noting that SA Water did not identify any major areas for improvement other than the efficiencies expected through the ZCEF initiative and smaller efficiencies from information technology (IT) initiatives.

The capital and operating expenditure outcomes reflect the Commission's assessment of prudent and efficient expenditure levels having regard to the evidence available to it through the review process. In doing so, the Commission has established revenues which are commensurate with the levels of service, reliability and quality that SA Water is expected to provide.

The most material differences between the Final Determination and the expenditures proposed by SA Water in its RBP include:

- ▶ removing certain capital projects to meet projected increased customer demand, where that increased demand is highly uncertain (\$33 million capital expenditure reduction proposed)
- ▶ removing the proposed regional water quality improvement programs (proposing to move above current regulatory requirements) until further analysis, including further community consultation, has occurred to better define the needs, scope, location and efficient costs of meeting the proposed outcomes (\$25 million capital expenditure reduction proposed)
- ▶ an expectation that operating expenditure efficiencies can be achieved, particularly in network operations and IT-led savings (\$34 million operating expenditure reduction proposed)
- ▶ a better understanding of the 'normal' efficient base year operating expenditure to remove one-off or irregular cost pressures (\$53 million operating expenditure reduction), and
- ▶ an expectation that SA Water should manage anticipated new operating cost pressures by reprioritising existing budgets to absorb such costs (\$51 million operating expenditure reduction).

The Final Determination does not include a revenue allowance for SA Water's investments in solar and battery storage under its ZCEF initiative. SA Water announced the initiative as a means of delivering low and stable prices to its customers. However, information provided by SA Water demonstrates that the primary benefit of this initiative is to earn revenue by producing and selling electricity into the National Electricity Market, rather than offsetting SA Water's electricity purchases as a retail operating cost.

SA Water is free to pursue the initiative as a commercial venture, but its costs would not be recoverable from the revenue caps for drinking water and sewerage services. By treating it as an unregulated activity, the Commission has removed all costs of the program and all expected future savings that SA Water expects to receive from it. The electricity expenditure incorporated into the revenue caps are market-based costs and all risks of the program, relative to those market-based costs, will accrue to SA Water and its owner, the South Australian Government.

1.3.1 Changes between the Draft Determination and Final Determination

The drinking revenue caps under this Final Determination are approximately \$53 million above those proposed in the Draft Determination. The sewerage revenue caps are approximately \$110 million more than those proposed in the Draft Determination. The major drivers of those changes are:

- ▶ The real regulatory rate of return has increased between the Draft Determination and Final Determination, mainly due to an increase in the cost of debt and lower long-term inflation expectations.
- ▶ The Minister for Environment and Water has issued new directions under the *Public Corporations Act 1993*, requiring SA Water to undertake certain activities over the coming four years. The directions increase SA Water's forecast capital and operating expenditure (net of Government contributions).
- ▶ The Commission's final decision provides for increased operating expenditure (excluding the impacts of the new directions from the Minister for Environment and Water), compared to the Draft Determination, as a result of incorporating better evidence of SA Water's base level operating expenditure requirements and forecast variations, including electricity purchase costs.
- ▶ Depreciation costs have increased to reflect changes in the weighted average lives of regulated assets, updated to reflect capital expenditure during the current regulatory period. The increase mainly reflects the addition of corporate (short-life) drinking water and sewerage assets and the addition of non-pipe (long-life) drinking water assets.

The Commission has also incorporated the following changes, which have created downward pressure on SA Water's revenues compared to the Draft Determination:

- ▶ In May 2020, the Treasurer issued a Pricing Order under the WI Act, reducing the regulatory value of SA Water's drinking water assets from \$7.77 billion to \$7.25 billion (as at 1 July 2013, in December 2012 dollars).
- ▶ A downward adjustment to drinking water revenues was made to reflect the increased revenue that resulted from actual drinking water demand exceeding forecast demand in the current regulatory period, leading to drinking water revenue exceeding the revenue cap. This adjustment was made in accordance with the demand variation adjustment mechanism under the current determination.
- ▶ There have been changes in revenue from other sources, namely non-tariff revenue (i.e. Community Service Obligations (CSOs)) and other adjustments included in revenue modelling.

1.4 Driving greater public accountability around SA Water's expenditure and service commitments

A clear message that emerged through the review was a desire for increased public transparency and accountability by SA Water in relation to its expenditure and the extent to which that expenditure delivers the outcomes promised. While SA Water currently reports on its achievement (or otherwise) of service standards over time, there is currently not a process through which stakeholders can see and understand the extent to which major expenditure and investments by SA Water over time are successful, in terms of both efficiency and effectiveness. Stakeholders commented on the need for a more transparent long-term capital plan to provide the context for SA Water's proposed projects and initiatives for the next regulatory period.

In addition, and acknowledging that the Final Determination is forward-looking, stakeholders are also seeking assurance that, where significant projects do not proceed as originally proposed in the RBP (for example, through re-prioritisation), there is a public and transparent process surrounding those events. Such a process should provide for an explanation (by SA Water) of the reasons for the change, what new work is being done for the money paid by consumers and clearly established indicators of success for the intended (and actual) outcomes of that new work. It should also include provision for stakeholders and the Commission to review and comment on relevant issues - both prior to any work being done and in the planning stages.

The Final Determination therefore anticipates new requirements in this regard, in order to hold SA Water accountable for its expenditure and outcomes over time, which will also be a way of increasing transparency around projects and expenditure when those matters come to be reviewed in future determinations. That transparency will apply to projects and services specified in this Final Determination and any new projects and services delivered by SA Water during the regulatory period. As the particular mechanisms that will be used do not need to form part of the formal revenue controls for SA Water, and noting the wider stakeholder interest in this issue, the Commission will consult further on the specifics of those mechanisms during the second half of calendar year 2020.

The Final Determination also sets 22 service standards that SA Water will be required to meet over the coming four years. The current separate reliability standards for metropolitan Adelaide and regional areas will be maintained, so that SA Water maintains an appropriate focus on each and service performance remains transparent for customers around the State. New service standards are also proposed to address identified gaps in customer service that are important to customers.

The performance targets proposed for the standards will maintain SA Water's focus on service delivery in each area, with no diminution in service levels (as compared to current average levels of performance) and increases in service levels only where SA Water has demonstrated customer support and willingness to pay for particular improvements.

The service standards include new standards that set targets for:

- ▶ customer satisfaction
- ▶ resolution of customer complaints on first contact
- ▶ timeliness of complaint resolution, and
- ▶ escalation of customer complaints to the Energy and Water Ombudsman SA (EWOSA).

The Commission will monitor and publicly report on underlying drinking water and sewerage network performance, working with other regulators (described below) to ensure that the networks are being operated and maintained in a way that promotes safe and reliable services in the long term.

The Final Determination also enhances consumer protections set out in the Water Retail Code - Major Retailers, including facilitating greater choice of communication channels between SA Water and customers and clearer information on customers' bills.

1.5 Extensive stakeholder engagement has informed the Final Determination

This Final Determination has benefited from far greater levels of community and stakeholder engagement than has been the case in the past, including stronger engagement with other regulators of SA Water (the Environment Protection Authority (EPA), SA Health, Office of the Technical Regulator, the Department for Environment and Water (DEW) and the Department of Human Services).

SA Water developed its RBP through multiple phases of stakeholder engagement. Its initial proposals were subject to a new process of customer challenge, through a Negotiation Forum involving SA Water, a Customer Negotiation Committee (CNC) and an Independent Probity Advisor. The Commission acknowledges the robustness of the work undertaken by the CNC and Independent Probity Advisor and is grateful for their contributions to this process. It will look to embed and build on that work in future regulatory periods.

The Commission thanks those parties, and all other stakeholders, that have provided valuable input into the determination process. All submissions and views have been considered in making this Final Determination.

The Commission acknowledges that SA Water's engagement practices in developing the RBP represent an important and material improvement on past practices in this area. As explained below, the Commission will also explore ways to assist in both embedding and improving those practices over time, noting that there is always the capacity for improvement in both business and regulatory systems.

In that context, stakeholders have generally expressed a degree of concern in relation to the level of transparency and detail provided by SA Water at times throughout the process, including the content of its RBP. In the Commission's view, the process to date demonstrates that there is significant scope for SA Water to be more open and transparent with stakeholders on regulatory matters, and to genuinely take on board customer views and preferences at multiple stages of its business planning and delivery processes.

Stakeholders have generally supported the new determination process to date, although areas for improvement have already been identified, including that:

- ▶ the customer challenge process should occur over a longer period of time
- ▶ SA Water could consult earlier and more extensively with the community on the development of its new initiatives
- ▶ there may be opportunities to better integrate SA Water's plans with the plans of other industry participants, and
- ▶ greater transparency about SA Water's plans, including its long-term plans, would allow for more effective community engagement.

The Commission will commence a full review of the new process later in 2020 and will consider issues raised to date and any other issues that are raised by stakeholders, in considering the process for the next SA Water Regulatory Determination in 2024. It will also monitor and publicly report on the outcomes of this regulatory determination to ensure that SA Water is held to account in the delivery of its commitments to customers, as well as monitoring and seeking public transparency on SA Water's longer-term operational, capital and business planning.

Part A – Background and context

This part provides background and contextual information relevant to SAW RD20. It summarises:

- ▶ the Commission's role as economic regulator of SA Water
- ▶ the process for making SAW RD20
- ▶ the major outcomes achieved under independent economic regulation since 2013
- ▶ the policy framework within which SAW RD20 operates, and
- ▶ the legal requirements that apply to SAW RD20.

2 Introduction

To protect the long-term interests of consumers with respect to price, quality and reliability of SA Water's retail services, the intended outcomes from this regulatory determination are that SA Water:

- ▶ provides water and sewerage services at the lowest sustainable price for the quality and reliability levels valued by customers, and
- ▶ will have in place sound long-term asset management, operating and financing strategies, which support the provision of those services for current and future customers.

SA Water is a vertically integrated water and sewerage business, wholly owned by the South Australian Government.¹ SA Water provides drinking water and sewerage services to approximately 1.7 million South Australians.

The retail services² provided by SA Water are subject to economic regulation by the Commission under the ESC Act and the WI Act. The economic regulatory regime has two main elements:

- ▶ SA Water is licensed by the Commission under the WI Act to provide retail services, subject to conditions.³ While some matters are addressed through licence conditions alone, the Commission is able to make industry codes or rules that prescribe the rules of conduct and procedures that SA Water must follow in providing retail services.⁴ This relates in particular to the setting of service standards and the nature and scope of consumer protections that must be adhered to by SA Water.
- ▶ The Commission also has the discretion to make determinations relating to pricing for SA Water's retail services.⁵ Under the legislative settings of the regime, the Commission sets the maximum revenues that can be earned by SA Water for the provision of retail services (having regard to the service standard, consumer protection and other regulatory requirements), with SA Water being responsible for setting the specific prices that recover the relevant revenues.

The Commission's overall purpose and approach in regulating SA Water aims to encourage economically efficient behaviour that is in consumers' long-term interests.⁶ Of note, and as explained further below, SA Water also is regulated by other bodies in relation to matters such as health, quality safety and environmental obligations: the Commission works closely with those bodies but is not responsible for those other regulatory requirements or outcomes.

¹ The South Australian Water Corporation is established under the South Australian Water Corporation Act 1994. It is a public corporation subject to the Public Corporations Act 1993. Not all of the functions undertaken by SA Water are subject to regulation by the Commission. Further information about SA Water is provided at Appendix 1.

² Retail services are defined in section 4 of the WI Act. A retail service is:(a) the sale and supply of water to a person for use (and not for resale other than in prescribed circumstances (if any)) where the water is to be conveyed by a reticulated system; or (b) the sale and supply of sewerage services for the removal of sewage (even if the service is not actually used), but does not include any service, or any service of a class, excluded via regulations.

³ Refer section 25(1) of the WI Act. SA Water's licence is available at <http://www.escosa.sa.gov.au/library/130102-WaterRetailLicence-SAWater.pdf>

⁴ Section 28 of the ESC Act.

⁵ Section 25 of the ESC Act and section 35 of the WI Act.

⁶ Section 6 of the ESC Act.

Under the economic regulatory regime, the Commission brings the making of codes, rules and a pricing determination into a single regulatory determination process. The Commission has made this regulatory determination which will apply for the period 1 July 2020 to 30 June 2024 (SA Water Regulatory Determination 2020 or **SAW RD20**). The determination process has included:

- ▶ reviewing and amending the consumer protections contained in industry codes and rules
- ▶ reviewing and resetting the customer service and network reliability service standards with associated performance targets
- ▶ making three separate price determinations for drinking water retail services, sewerage retail services and other ('excluded') retail services, and
- ▶ reviewing and amending the compliance and performance monitoring and reporting framework.

The release of this Final Determination concludes the SAW RD20 process, which will be the third SA Water regulatory determination made by the Commission.⁷ In making this regulatory determination, the Commission's primary objective is to protect the long-term interests of consumers with respect to the price, quality and reliability of essential services.

2.1 Why regulation of SA Water's retail services is required

As part of its regulatory functions under the WI Act and ESC Act, and to protect the long-term interests of SA Water's consumers, the Commission has decided to make pricing determinations and to amend the consumer protection regime that applies to the retail services provided by SA Water.⁸ These consumer protections will continue to apply as:

- ▶ SA Water is a monopoly service provider of water and sewerage retail services to the majority of South Australians, and
- ▶ as a result, SA Water does not have the benefit of competition to drive economically efficient behaviour, such as providing service levels that are valued by customers and seeking cost efficiency in the provision of retail services.

Economic regulation can act to substitute for that lack of competition by providing drivers for efficiency, thereby ameliorating potential economic detriment to customers (the costs of which may be materially greater than the costs of regulation) and protecting their long-term interests.

The specific manner in which the Commission will regulate SA Water is set out in Part B of this Final Determination.

2.2 Process for making SA Water Regulatory Determination 2020

The SAW RD20 process has had a very strong focus on providing simple and frequent opportunities for stakeholders to raise issues and comment on proposals, well in advance of the Commission making this Final Determination. The stages of the process are summarised in Table 2.1 and discussed further below.

⁷ Information relating to the previous determinations, made in 2013 and 2016, is available on the Commission's website at <https://www.escosa.sa.gov.au/industry/water/retail-pricing/sa-water-regulatory-determinations>.

⁸ The Commission's powers to make codes, rules and price determinations to apply to SA Water is discussed in Chapter 3 of this Final Determination.

Table 2.1: Stages in the SAW RD20 review process

Date	SAW RD20 Milestone
Nov 2017	Release of draft framework and approach
Nov 2017-Jan 2018	Consultation on draft framework and approach
July 2018	Release of final Framework and Approach
Sep 2018	Commission appointed Customer Negotiation Committee, Independent Probity Advisor and established Consumer Experts Panel
Sep-Oct 2018	Meetings of the Consumer Experts Panel to discuss priorities
End-Oct 2018	Release of Guidance Papers 1 to 5 for comment ⁹
Dec 2018	Consumer Experts Panel produces Priorities Report
Jun 2019	Release of Guidance Papers 6 and 7 for comment
Feb 2019	SA Water prepared draft regulatory business plan for discussion with Customer Negotiating Committee
Feb-Jun 2019	Negotiation Forum held (Customer Negotiating Committee and SA Water, overseen by an independent Probity Advisor)
July 2019	Release of Guidance Paper 8 for comment
Oct 2019	Independent Chair of the Customer Negotiation Committee submitted report on negotiation process and outcomes
Oct 2019	Independent Probity Advisor submitted report on integrity of negotiation
Nov 2019	SA Water submitted Regulatory Business Proposal for 2020-2024
Nov-Dec 2019	Consultation on SA Water's proposed business plan and reports of the Independent Chair and Independent Probity Advisor
Dec 2019	Release of Guidance Paper 9 for comment
Feb 2020	Issue of Draft Regulatory Determination
Feb-Apr 2020	Consultation on Draft Regulatory Determination
June 2020	Making of Final Regulatory Determination
July 2020	Approved SA Water business plan takes effect

⁹ Further information about the Guidance Papers is provided in section 2.2.2.

2.2.1 Framework and approach

Following a public consultation process, the Commission finalised a framework and approach for SAW RD20 in July 2018.¹⁰ The framework and approach established a new process that provided various forums for customers, customer representatives, regulators and other stakeholders to debate, discuss and understand the needs, preferences and priorities of SA Water's diverse customer base.

It established:

- ▶ A Negotiation Forum, which provided a process for testing SA Water's initial regulatory business plans prior to them being submitted to the Commission for review (discussed in more detail in section 2.2.3 below). The Negotiation Forum comprised:
 - a CNC, which was asked to elicit and represent the perspectives, preferences and priorities of SA Water's diverse customer base during that challenge process
 - senior representatives of SA Water, and
 - an Independent Probity Advisor, appointed to oversee the fairness of the challenge process.
- ▶ A Consumer Experts Panel (**CEP**), given effect as joint sittings of the Commission's and SA Water's consumer advisory groups. The Panel provided feedback and advice to the Commission during the review process and prepared a Priorities Report,¹¹ which set out the key issues that the CEP expected SA Water to consider and respond to as it developed its RBP. It also provided guidance to the CNC on matters to be considered in the Negotiation Forum process. SA Water met with the CEP in July 2019 to discuss the issues raised in the Priorities Report, which it summarised in a public response.¹²
- ▶ A Regulators Working Group, established to provide a forum for the various regulators of SA Water to coordinate their efforts for achieving positive outcomes for the South Australian community through their combined regulation of SA Water.¹³ Those regulators include the Commission, the EPA, SA Health, the Technical Regulator, the DEW and Consumer and Business Services.

The governance arrangements outlining the roles for the various groups providing input into the Commission's decision-making process are illustrated in Figure 2.1. Further details about the arrangements are set out in the Framework and Approach paper.¹⁴

¹⁰ Commission, SA Water Regulatory Determination 2020 – Framework and Approach, July 2018, available at <https://www.escosa.sa.gov.au/projects-and-publications/projects/water/sa-water-regulatory-determination-2020-framework-and-approach>

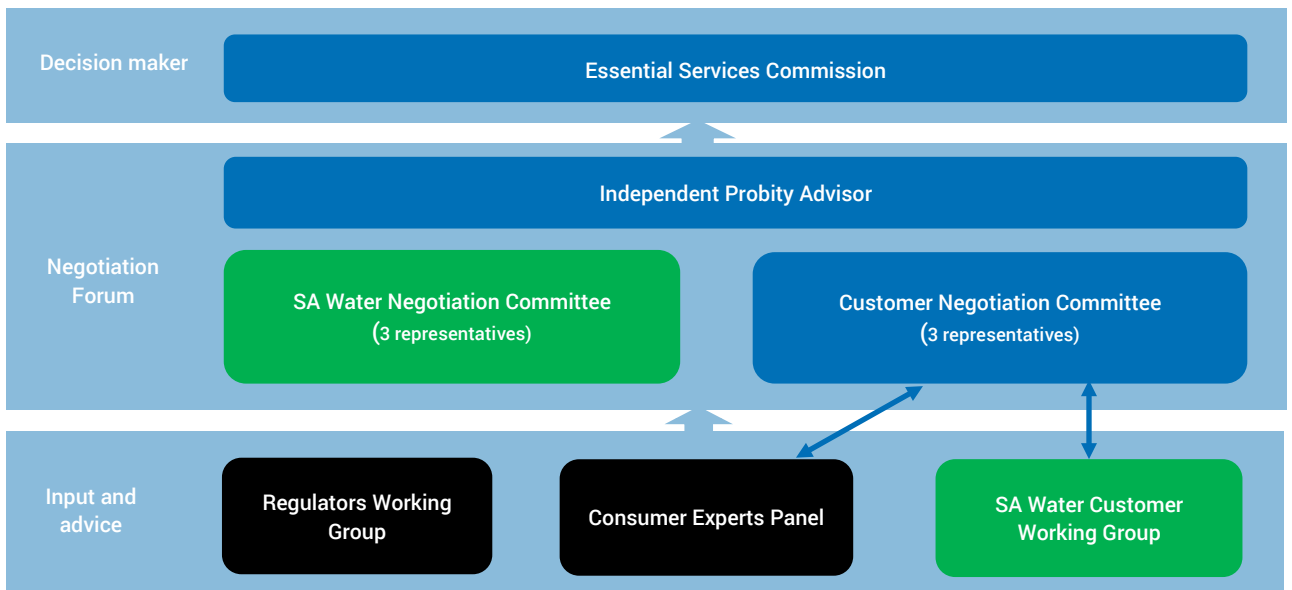
¹¹ The Priorities Report is available at <https://www.escosa.sa.gov.au/ArticleDocuments/11294/20190107%20-Water-SAWRD20-ConsumersExpertsPanel-PrioritiesReport.pdf.aspx?Embed=Y>.

¹² SA Water's response to the Priorities Report is available at <https://www.escosa.sa.gov.au/ArticleDocuments/11294/20190805-Water-SAWRD20-ResponseToFeedback-PrioritiesReport.pdf.aspx?Embed=Y>.

¹³ The Regulators Working Group charter is available at <https://www.escosa.sa.gov.au/ArticleDocuments/1200/20190225-Water-SAWaterRD20-RWGGGroupCharterSigned.pdf.aspx?Embed=Y>.

¹⁴ Commission, SA Water RD20 – Framework and Approach.

Figure 2.1: SAW RD20 governance structure



2.2.2 Guidance Papers

Since November 2018, the Commission has released various Guidance Papers, intended to inform all stakeholders of the Commission’s initial positions, principles, requirements, methodology or guidance on matters relevant to the determination. The Commission required SA Water to take into account the matters set out in the Guidance Papers when preparing its RBP.

Table 2.2: lists the Guidance Papers that have been released as part of SAW RD20.¹⁵

Table 2.2: SAW RD20 Guidance Papers

Guidance paper	Purpose
1. Overview of economic regulation of SA Water	This paper confirmed the process for SAW RD20 and informed stakeholders of opportunities to provide input into the determination.
2. Revenue regulation and pricing principles	This paper explained how SA Water’s drinking water and sewerage revenues will be determined, using a cost-based, building blocks approach and informed by a negotiation process. It also explained how the Commission will regulate the prices of SA Water’s excluded services.
3. Service standards	This paper explained the Commission’s process for reviewing its principal consumer protection industry code: the Water Retail Code - Major Retailers, which includes customer service standards.

¹⁵ The Guidance Papers are available on the Commission’s website at <https://www.escosa.sa.gov.au/industry/water/retail-pricing/sa-water-regulatory-determination-2020/guidance-papers>.

Guidance paper	Purpose
4. Prudent and efficient expenditure	<p>This paper explained the Commission's approach to reviewing SA Water's proposed expenditure to assess whether or not it is prudent and efficient, to feed into the calculation of the maximum drinking water and sewerage revenues. It provided context on the 'negotiable' and 'non-negotiable' elements of SA Water's costs, and provided an indication of some of the potential future cost drivers.</p> <p>It also provided guidance to SA Water on the minimum information that it should provide to the Negotiation Forum to allow it to assess whether proposed initiatives, programs and projects are prudent and efficient.</p>
5. The cost of funding and using assets	This paper explained the Commission's methodology for determining the efficient cost of funding and using assets to provide drinking water and sewerage services, in particular the return on, and of, regulated assets.
6. Treatment of inflation in the regulatory rate of return	This paper provided further technical guidance related to Guidance Paper 5 – the cost of funding and using assets. In particular, it outlined approaches that could be used to estimate inflation, for the purpose of calculating the regulatory rate of return using a real, post-tax weighted average cost of capital.
7. The averaging period of the risk-free rate	This paper presented research that examines different averaging periods that may be used for determining the risk-free rate as part of the regulatory rate of return for SAW RD20.
8. Treatment of capital expenditure - addressing uncertainty	This paper discussed the Commission's proposed treatment of uncertain costs or benefits in SA Water's capital expenditure plan for the 1 July 2020 to 30 June 2024 period.
9. Annual updates of the rate of return	This paper outlined a proposed methodology for updating the regulatory rate of return on an annual basis. In particular, it outlined the advantages and limitations of the proposal, provided guidance on how the proposed methodology intends to operate, and highlighted key questions for stakeholder consideration. ¹⁶

The Commission received four submissions from SA Water to Guidance Papers 1 to 9, including reports prepared by Frontier Economics and the South Australian Centre for Economic Studies (SACES), and has taken those submissions into account in making this Final Determination.¹⁷ Those matters are discussed, where relevant, in Parts B and Part C of this Final Determination.

2.2.3 Negotiation Forum

The Negotiation Forum held 20 meetings from February 2019 to June 2019, which allowed the CNC to consider and test the robustness of SA Water's draft plans for the next regulatory period and how those might provide water and sewerage services at the lowest sustainable price for the quality and reliability levels valued by customers.

¹⁶ The proposal did not proceed due to the requirement of the May 2020 Pricing Order that revenue caps remain fixed during the regulatory period (discussed in section 2.2.9)

¹⁷ SA Water's submissions to the Guidance Papers are available on the Commission's website at <https://www.escosa.sa.gov.au/industry/water/retail-pricing/sa-water-regulatory-determination-2020/guidance-papers>

A key output from the Negotiation Forum was a report from the Independent Chair of the CNC, Mr John Hill.¹⁸ The report discusses the views of the Chair and CNC on SA Water's proposed major activities and expenditure, including areas where agreement between SA Water and the Committee was reached. The Commission has given significant weight in this Final Determination to those areas of agreement.

The Chair's report also contains observations and recommendations for customer engagement processes that may be used to inform future SA Water regulatory determinations.

The CNC's work and the resulting report is a new and critical input into the regulatory process and the Commission thanks Mr Hill and other committee members, Mr Mark Henley and Ms Meg Clarke, for their important contributions.¹⁹

The Commission would also like to thank the Independent Probity Advisor, Mr. Gaby Jaksa, for performing his important role in the Negotiation Forum and for his report, which confirmed the integrity and fairness of the customer challenge process.²⁰

Finally, the Commission recognises and thanks SA Water for leading the Negotiation Forum and devoting considerable resources to the process.

2.2.4 SA Water's Regulatory Business Proposal

In November 2019, SA Water finalised and submitted its RBP, titled 'Our Plan 2020'.²¹ The RBP set out SA Water's proposed customer service standards, revenues and indicative prices for drinking water and sewerage services for the four-year regulatory period. In summary, the RBP proposed:

- ▶ drinking water revenues that are 2.2 percent lower than those in the current regulatory period, in real terms (excluding the impact of inflation)²²
- ▶ sewerage revenues that are 0.5 percent lower than those in the current regulatory period, in real terms
- ▶ capital expenditure forecasts that are 44 percent above those incorporated into SAW RD16 and 9 percent above the capital expenditure that SA Water expects to incur during the SAW RD16 regulatory period²³
- ▶ operating expenditure forecasts that are 3 percent below those incorporated into SAW RD16²⁴, and

¹⁸ Mr John Hill is a former Commissioner of the Essential Services Commission (SA) and former Deputy Chief Executive of the South Australian Department of Treasury and Finance. The report of the Independent Chair of the CNC is available at <https://www.escosa.sa.gov.au/ArticleDocuments/11296/20191112-Water-SAWRD20-CustomerNegotiationCommittee-IndependentChairReport.pdf.aspx?Embed=Y>.

¹⁹ Mr Mark Henley has worked in community services for 40 years and is currently employed (part time) by Uniting Communities (SA) as Manager of Advocacy and Communication. Ms Meg Clarke was appointed from SA Water's Customer Working Group and has retired from a career in the South Australian Government health and community services sector.

²⁰ The report of the Independent Probity Advisor is available at <https://www.escosa.sa.gov.au/ArticleDocuments/11296/20191112-Water-SAWRD20-NegotiationForum-ProbityReport-GabyJaksa.pdf.aspx?Embed=Y>.

²¹ SA Water, 'Our Plan 2020' (Regulatory Business Plan) is available on SA Water's website (www.sawater.com.au).

²² The proposed changes in drinking water and sewerage revenues are impacted by SA Water's proposal to treat CSO subsidies for concession payments outside the calculation of the revenue caps, whereas previous determinations included them within the calculation of the revenue caps. This change in approach leads to a slight reduction in the revenue caps, all else being equal, but does not impact prices paid by customers.

²³ Further information about SA Water's capital expenditure forecasts is set out in Chapter 6 of this report.

²⁴ Further information about SA Water's operating expenditure forecasts is set out in Chapter 6 of this report.

- ▶ nine new customer service standards, including standards relating to customer satisfaction and issue resolution.

The major initiatives proposed by SA Water in its RBP included:

- ▶ completing a \$379 million investment in solar generation and battery storage to provide an opportunity to reduce its electricity purchase costs at various sites
- ▶ investing \$186 million in water quality management programs, including water treatment plant improvements, providing drinking water to 340 customers in regional areas that receive non-drinking water and improving water aesthetics in certain regional towns
- ▶ investing \$175 million on major water pipelines, including upgrading the Morgan to Whyalla pipeline, and
- ▶ investing \$127 million on reticulated water mains, including expansions of its smart networks and pressure management initiatives.

2.2.5 Submissions to SA Water's Regulatory Business Proposal

The Commission requested submissions from stakeholders on SA Water's RBP. Nine submissions were received, from the following parties:²⁵

- ▶ Business SA
- ▶ Conservation Council of SA
- ▶ Consumers SA
- ▶ EPA
- ▶ EWOSA
- ▶ The Technical Regulator
- ▶ Mr Richard Clark
- ▶ South Australian Council of Social Service (SACOSS), and
- ▶ South Australian Federation of Residents and Ratepayers Associations Incorporated (SAFRRA).

The report from the Chair of the CNC, while not a submission to SA Water's published RBP, also commented extensively on SA Water's proposals.²⁶

2.2.6 Major issues raised in submissions to SA Water's Regulatory Business Proposal

Some of the key themes arising from submissions to SA Water's RBP and the report of the Chair of the CNC included:

- ▶ A lack of detail in SA Water's RBP, which made it difficult for those stakeholders to understand and respond to SA Water's specific proposals. Those submissions suggested that the RBP could be more transparent about the specific initiatives being proposed by SA Water and their justification.

²⁵ Submissions to SA Water's RBP are available at <https://www.escosa.sa.gov.au/projects-and-publications/projects/water/sa-water-regulatory-determination-2020>

²⁶ Report of the Independent Chair of the CNC.

- ▶ Notwithstanding that general concern, many submissions indicated support for some of SA Water’s key initiatives, including its proposal for expanding renewable generation, expanding smart networks and dam safety upgrades.
- ▶ There was support for the enhanced customer engagement conducted prior to SA Water developing its RBP and for the Negotiation Forum process. However, some submissions stated that the Negotiation Forum process should have started earlier, to provide more time for the challenge process to occur, and that the Commission needs to consider the uneven bargaining power between SA Water and any consumer representative group.
- ▶ Some stakeholders commented that the results of SA Water’s customer survey about willingness to pay for initiatives needs to be interpreted carefully.
- ▶ Stakeholders identified that there may be benefit in the South Australian Government providing greater clarity about SA Water’s role in influencing and delivering water policy. For example, the Conservation Council of SA and SACOSS commented on environmental policy and areas where SA Water’s role could be made clearer. The report of the Chair of the CNC also commented on SA Water’s proposed initiatives that may be better guided or achieved through government policy, such as those targeting economic development in regional South Australia.

2.2.7 Consultation on the Draft Determination

The Commission released a Draft Determination on 4 March 2020, for public consultation. The Draft Determination proposed:

- ▶ Revenue reductions of 18 percent (\$547 million) and 13 percent (\$164 million) for drinking water and sewerage retail services respectively, as compared to the amounts determined for the current four-year period (2016-2020)
- ▶ A regulatory rate of return (post-tax, real) of 2.71 percent in 2020-21, to be updated annually for changes in market-based parameters. The proposed rate of return was significantly lower than the 4.53 percent return that applied in 2016-17 under the current regulatory determination, reflecting observed reductions in the cost of debt and equity. Given the prevailing uncertainty about the transition from the current low inflation environment, the Commission proposed to adopt a glide path to the long-term inflation target band (rather than the current one-year transition). It also proposed to update the rate of return prior to each year of the regulatory period, to reflect prevailing market conditions.
- ▶ An increase of \$190 million in capital expenditure and a decrease of \$115 million in operating expenditure, as compared to the current regulatory determination. SA Water had sought an additional \$456 million in capital expenditure and \$121 million in operating expenditure over current levels. The Draft Determination did not accept some of those increases as prudent or efficient.

The Commission consulted directly with stakeholders following the release of the Draft Determination and requested written submissions by 15 April 2020, with 69 public submissions received, from the following parties:

- | | |
|---|---------------------|
| ▶ Aboriginal Lands Trust | ▶ Jennifer Grantham |
| ▶ Anne Paynter | ▶ John Simpson |
| ▶ Business SA | ▶ Julian Hipwell |
| ▶ Central Local Government Region - Legatus Group | ▶ Katrina Bohr |
| ▶ Cindi Drennan | ▶ Livestock SA |

- ▶ Claire Moran
- ▶ Consumers SA
- ▶ Cr Patsy Reynolds
- ▶ Darryl Hannigan
- ▶ David Hughes Enterprises
- ▶ David Rathman
- ▶ Dawn Paynter
- ▶ District Council of Mount Remarkable - Cr Davies
- ▶ District Council of Mount Remarkable - Cr Norton
- ▶ District Council of Mount Remarkable - Cr Nottle
- ▶ District Council of Mount Remarkable - Mayor Heaslip
- ▶ Dr Tony Lian-Lloyd
- ▶ Dunjiba Community Council Oodnadatta
- ▶ Elizabeth Britza
- ▶ Emily Doran
- ▶ EPA
- ▶ EWOSA
- ▶ Federal Member for Grey - Rowan Ramsey MP
- ▶ Flinders Ranges Council
- ▶ Flinders Ranges Council - M Dixon
- ▶ Frank Wright
- ▶ Grant Lever
- ▶ Great Northern Lodge
- ▶ Gregory Bannon
- ▶ Independent Pricing and Regulatory Tribunal (IPART)
- ▶ James Hackett
- ▶ Janet Thomas
- ▶ Janine Hittmann
- ▶ Jennifer Bradley
- ▶ Lothar Kowalewski
- ▶ Madeleine Finlay
- ▶ Maree Hotel
- ▶ Marion Hannigan
- ▶ Member for Giles - Eddie Hughes
- ▶ Michelle Baker
- ▶ Naomi Maloney
- ▶ Nick Kamin
- ▶ Office of the Technical Regulator
- ▶ Outback Communities Authority
- ▶ Patricia Gilbert
- ▶ Pichi Richi Railway Preservation Society
- ▶ Quorn Bowling Club
- ▶ Quorn Caravan Park
- ▶ Quorn Carling Fuel Distributors
- ▶ Regional Development Australia - Far North
- ▶ Richard Dyson
- ▶ SAFRRA
- ▶ SA Water
- ▶ SACOSS
- ▶ Sonja Tillbrook
- ▶ Stephen Chaffe
- ▶ The Outback Shack, Quorn and Regional Tourism Consultant
- ▶ The Quorn-er House
- ▶ Tim Connell
- ▶ Tom Finlay
- ▶ Uniting Communities
- ▶ Urban Development Institute of Australia (UDIA)
- ▶ Yunta District Hall

The Commission thanks all parties for their submissions to the Draft Determination. All submissions were carefully considered in making this Final Determination.

2.2.8 Major issues raised in submissions to the Draft Determination

There were several major themes arising from submissions to the Draft Determination. Those included:

- ▶ General support for the proposal to update the regulatory rate of return annually.
- ▶ SA Water did not support the methodology for calculating the rate of return, particularly the long-term inflation expectation, whereas consumer representatives (for example, Business SA, Uniting Communities and SACOSS) considered the methodology to be reasonable.
- ▶ General support for the proposed consumer protections and service standards under the Water Retail Code - Major Retailers.
- ▶ Recognition in many submissions of the uncertain impacts of the outbreak of COVID-19 and the related containment measures on SA Water, consumers and the South Australian economy.
- ▶ Contrasting views on how much weight the determination should place on the various evidence on customer preferences, including the customer willingness to pay research conducted by SA Water.
- ▶ Support for SA Water's proposed regional water aesthetics program, from those customers that would directly benefit from the proposed investments. In contrast, some customer representative groups did not consider the proposal to be efficient.
- ▶ Contrasting views on the proposed capital and operating expenditure allowances, with SA Water and the UDIA putting the view that they were too low and should be increased, while other stakeholders, including Business SA and SACOSS were generally supportive of the proposals.

The Commission's consideration of those themes and other relevant matters raised in submissions are discussed in subsequent chapters.

2.2.9 Further Pricing Order under the *Water Industry Act 2012* and directions under section 6 of the *Public Corporations Act 1993*

The Treasurer has issued a further Pricing Order under the WI Act, which forms part of the legislative framework that governs the making of this Final Determination. At the same time, the Minister for the Environment and Water has issued further directions to SA Water under the *Public Corporations Act 1993*, with those directions specifying on-going and new requirements that SA Water must deliver during the regulatory period. Of note, the Pricing Order requires the costs of the directions to be included within the revenue controls under this Final Determination (which the Commission has done).

In terms of the new Pricing Order:

- ▶ The value of SA Water's drinking water assets is reduced from \$7.77 billion to \$7.25 billion (as at 1 July 2013, in December 2012 dollars). All else being equal, this reduces SA Water's drinking water revenues by approximately \$30 million per annum.
- ▶ The Final Determination must fix a single revenue value for the four-year period (one for sewerage and one for drinking water), subject to the following permitted mechanisms (noting that, as a matter of practice the Commission adjusts revenue in the subsequent regulatory period in relation to any demand variation or cost pass-through events):
 - a demand variation adjustment mechanism (section 5.5 of the October 2018 Pricing Order)
 - a cost pass-through mechanism (section 5.6 of the October 2018 Pricing Order), or
 - a new or further direction issued by the Minister for Environment and Water, under section 6 of the *Public Corporations Act 1993*.

These provisions of the new Pricing Order preclude annual updates to the regulatory rate of return and the potential for revenues for contingent projects to be included within the current regulatory period, which were both proposed in the Draft Determination. In relation to the latter, an amended mechanism (the intra-period project review mechanism) remains in place for this period, but any associated revenues will only be permitted to be recovered in the subsequent regulatory period (with a time-value-of-money allowance, as is currently the case for ordinary pass-through events).

In terms of the further directions to SA Water under the *Public Corporations Act 1993*, those are of two types: the first continues existing requirements on SA Water; the second introduces new requirements for this regulatory period.

In terms of continuing directions, SA Water is required to undertake the following activities (with associated costs and subsidies expressed in nominal terms).

- ▶ Emergency Management Services: Approximately \$650,000 operating expenditure per annum; fully funded through a Government subsidy.
- ▶ Government Radio Network Services: Approximately \$650,000 operating expenditure per annum; fully funded through a Government subsidy.
- ▶ Fluoridation Services: Costs not specified and no subsidy; costs have been reviewed by the Commission and incorporated within drinking water revenues.
- ▶ Purchase of renewable energy or carbon offsets for the Adelaide Desalination Plant (ADP): Costs not specified and no subsidy; costs have been reviewed by the Commission and incorporated within drinking water revenues.
- ▶ State-wide Pricing Facility: Costs not specified but Government contribution towards costs of approximately \$67 million per annum for drinking water and \$40 million per annum for sewerage.
- ▶ Water Planning and Management Charges Contribution: Approximately \$33 million operating expenditure per annum and no subsidy, an increase of approximately \$15 million per annum on the existing costs previously incorporated into drinking water revenues.
- ▶ Annual reimbursement of fees paid to Valuer-General for valuation roll: Approximately \$5.7 million operating expenditure per annum and no subsidy; costs have been reviewed by the Commission and incorporated within sewerage revenues.

In terms of the new elements, the Minister has set new directions for SA Water in relation to the following requirements:

- ▶ Continue to meet community and owner expectations on water reticulation main performance: SA Water will fund up to \$155.5 million of capital expenditure (nominal) to meet community and owner expectations on water main performance.
- ▶ Upgrading the water supply to potable water for SA Water customers in regional areas: SA Water is required to fund capital expenditure of up to \$40.5 million and operating expenditure not exceeding \$5.3 million over the period (in nominal terms). (Note that this is a separate requirement to the proposal to improve water aesthetics, which was raised in many submissions to the Draft Determination (for example, those from Quorn), and the requirements and allowed costs do not cover SA Water's proposals regarding aesthetics.)

- ▶ Flushing of Torrens Lake: subject to the availability of water from prescribed water resources, SA Water must provide water as necessary to meet annual dilution flow requirements for Torrens Lake (up to a total of 2.5 gigalitres per annum and must also make the following contributions to associated operating costs (in nominal terms):

2020-21	2021-22	2022-23	2023-24
\$600 000	\$615 000	\$630 000	\$646 000

- ▶ Environmental Watering Volume: SA Water must provide the full environmental watering volume required under the Implementation Plan for Augmentation of the ADP (100 gigalitres per annum), National Partnership Agreement on Water for the Future (up to 12 gigalitres), prior to trading to third parties any unused allocations obtained on account of water access entitlements on its South Australian River Murray licences. This direction does not impact SA Water's forecast expenditure, but may impact on future revenues from the sale of water allocations.
- ▶ Improving the security and water supply on Kangaroo Island: SA Water must construct a 2 megalitres per day desalination plant and associated delivery infrastructure (including energy supply) on Kangaroo Island to improve the security and supply of water on Kangaroo Island.

In relation to capital expenditure (up to \$28 million):

2020-21	2021-22	2022-23	2023-24
\$28 000 000	\$0	\$0	\$0

In relation to operating expenditure:

2020-21	2021-22	2022-23	2023-24
\$0	\$372 000	\$1 144 000	\$1 173 000

Note that this obligation is conditional on securing a Commonwealth Government contribution of \$14.9 million.

- ▶ Aboriginal communities serviced by SA Water through a CSO funded by Government: SA Water must provide the services required for the provision of potable water and wastewater supplies to specified communities up to the following operating cost in each financial year (in nominal terms):

2020-21	2021-22	2022-23	2023-24
\$10 899 000	\$10 809 000	\$10 435 000	\$10 618 000

The South Australian Government will make the following contributions to SA Water in relation to those costs:

2020-21	2021-22	2022-23	2023-24
\$8 383 000	\$8 594 000	\$8 809 000	\$9 029 000

- ▶ Tea Tree Gully community wastewater management scheme: With the agreement of the City of Tea Tree Gully (and on terms and conditions acceptable to SA Water), SA Water must:
 - provide sewerage services to properties serviced by the Tea Tree Gully Community Wastewater Scheme (the Properties), in a staged manner over the third regulatory period; and
 - acquire assets currently owned and operated by the City of Tea Tree Gully Council for the provision of sewerage services to Properties where they meet SA Water standards or can be upgraded to meet standards, and where the assets currently owned and operated by the City of Tea Tree Gully cannot provide the services, SA Water must make prudent and efficient investments to provide the services to the Properties.

During the third regulatory period, SA Water will fund up to \$64.1 million of capital expenditure progressively as it acquires, upgrades or constructs assets together with associated operating costs not exceeding \$1.0 million (as per the tables below):

In relation to SA Water’s capital expenditure:

2020-21	2021-22	2022-23	2023-24
\$3 834 000	\$23 376 000	\$27 385 000	\$9 471 000

In relation to SA Water’s operating expenditure:

2020-21	2021-22	2022-23	2023-24
\$82 000	\$160 000	\$328 000	\$393 000

The Commission has considered and complied with the requirements emerging from the new Pricing Order and the directions, with discussion of those matters contained in relevant sections of this Final Determination.

2.2.10 Consideration of submissions, evidence and legal requirements

This Final Determination represents the independent review and determinations of the Commission, consistent with the underpinning statutory requirements and informed by its consideration and review of SA Water’s RBP and stakeholder submissions and reports.

The RBP comprises a series of documents and information, much of which is public but some of which is classified by SA Water as confidential due to commercial sensitivity. Much of the detailed analysis conducted by the Commission relies on that commercially sensitive information. While the Commission’s information gathering powers are broad, and do not limit its ability to collect and consider confidential information, it has preserved the confidentiality of commercially sensitive information in outlining its reasons for this Final Determination. It has sought to strike an appropriate balance between providing sufficient information to enable stakeholders to understand the basis of its positions, while ensuring that confidential information that could adversely affect SA Water’s commercial or competitive position is not disclosed.

As noted above, this Final Determination sets out the Commission’s decisions, and the reasons for those decisions, on the following regulatory issues:

- ▶ the consumer protections contained in industry codes and rules
- ▶ the customer service and network reliability service standards with associated performance targets

- ▶ three separate price determinations: for drinking water retail services; sewerage retail services and other ('excluded') retail services, and
- ▶ the compliance and performance monitoring and reporting framework.

In reaching those decisions and reasons, the Commission has had regard to all relevant legislative factors and objectives framework (including the Pricing Order and the directions issued to SA Water, discussed above), all of the materials provided to it by SA Water and the submissions, evidence and information provided by stakeholders throughout the review process (as described above).

In doing so, it has given consideration to and acknowledges all of the evidence, arguments and submissions relevant to the issues under consideration in this regulatory determination, and has given appropriate weight to those matters in the context of the principles and requirements set out in the ESC and WI Acts. While the Commission has not adopted all of the positions or arguments put or raised in that material, and has not directly referenced in this Final Determination all of the material before it, the material has assisted it in considering each of the relevant issues under consideration and in understanding the competing viewpoints held.

Where appropriate, the Commission has, either by direct quotation or by reference to themes or arguments, mentioned certain evidence, arguments and submissions to explain the draft decisions that it has reached. However, the fact that certain evidence, argument or submission has not been referenced in this report does not mean that the Commission has not taken that argument or submission into account in its deliberations.

However, while this Final Determination is informed by all representations received, it is not a judgment on those representations. Rather, it is the Commission's considered position on the economic regulation to be applied to SA Water over the next four-year regulatory period to achieve a robust outcome for South Australian consumers, having regard to the requirements of the legal framework.²⁷

2.2.11 Next steps

Following the release of this Final Determination, SA Water will set drinking water and sewerage prices in accordance with the final revenue caps. Those prices will apply from 1 July 2020.

As identified in the Draft Determination and confirmed in this Final Determination, as a part of that process, SA Water will be required to:

- ▶ Publish a summary of its pricing, service and expenditure commitments to customers, consistent with the Final Determination. This will provide all stakeholders with a reference point for SA Water to report to its customers on its performance against those commitments during the next regulatory period.
- ▶ Publish longer-term project outcomes and asset management-related information that will assist the public in understanding the success of its current investment program and its likely future expenditure profile, and provide transparency as to possible or indicative pricing trends over time. This will provide a sound basis for the assessment of any proposed operating and capital expenditure plans in future regulatory determinations, allowing stakeholders to better understand a 'base case' and to test variances that might arise as compared to that base case. It also will provide SA Water with the opportunity to engage with stakeholders on those matters, which may provide greater insights on future customer demand and investment needs.

²⁷ This model is different to the propose-respond methodology required under national energy regulation. Under that approach, a regulated entity is required to provide the Australian Energy Regulator (AER) with a proposal, which it must either accept if it is considered reasonable, or substitute with its own proposal if it is considered unreasonable.

2.2.12 Determining the effectiveness of SAW RD20

Following completion of SAW RD20, the Commission will review the effectiveness of the determination. There are two aspects of SAW RD20 that the Commission will evaluate.

First, the Commission will review the process for the determination in the second half of 2020. It will seek stakeholder feedback on key process matters, such as the effectiveness of SA Water's consultation processes, the Commission's consultation processes and the negotiation process. The Commission will use stakeholder feedback to inform its thinking about possible process improvements that could be made for the SA Water Regulatory Determination 2024 (**SAW RD24**).

Second, the Commission will evaluate whether or not SAW RD20 has delivered the intended outcomes for customers, on an ongoing basis during the 2020-2024 regulatory period. Quarterly reporting by SA Water of its performance in providing regulated services will be a critical input into that evaluation. The Commission intends to monitor major SA Water projects and programs, their costs and the outputs and outcomes received by customers. This will require a longer-term program of monitoring and regular reporting of outcomes by SA Water and its regulators, and the information coming out of those processes will be publicly and transparently reported.

Further information about the overall monitoring and reporting approach is discussed in Chapter 10.

3 Policy framework and legal requirements

The Commission has made this regulatory determination in accordance with its primary objective, which is to protect the long-term interests of South Australian consumers with respect to the price, quality and reliability of essential services.

It has also complied with the specific requirements under the ESC Act and WI Act that relate to the making of a price determination and Codes and Rules that are to apply to SA Water. This chapter explains the statutory framework that applies to the making of this regulatory determination, and includes a general description of the elements of the statutory regime governing SA Water's operations that are relevant in the regulatory determination context.

3.1 How does this Regulatory Determination meet the legal requirements?

The Commission has considered all relevant legislative objectives and factors in making this Final Determination. This chapter summarises the legal and policy framework for SAW RD20, and sets out the key legal requirements and how the Commission has addressed them (detailed in Appendix 2).

Setting maximum revenues to recover the lowest sustainable cost of supplying drinking water and sewerage services allows SA Water sufficient revenue to efficiently deliver the services valued by customers, in the long term. The Commission is not seeking to deliver low prices in the short term at the expense of long-term service delivery. That would be inconsistent with the Commission's requirement to protect customers' long-term interests.²⁸ Nor is the Commission seeking to set revenues above the efficient cost of service delivery, as that would deliver excessive profits to SA Water and would be inconsistent with the long-term interests of consumers.

Overall, the Final Determination is consistent with the Commission's primary objective of protecting the long-term interests of South Australian consumers with respect to the price, quality and reliability of essential services as it:

- ▶ sets revised service standards that are based on consumers' preferences, reflecting the service levels that customers are willing to pay for, and
- ▶ fixes drinking water and sewerage revenues to reflect the lowest sustainable cost of providing those services at the determined standards and in accordance with the obligations set by other regulators of SA Water.

It is important to set service standards that are in line with consumer preferences about the balance between price and service levels, noting that preferences will vary between customers. A key element of this Final Determination is setting the right balance between service levels and costs, having regard to all available evidence, including the diverse views expressed by consumers and other stakeholders. This has required the Commission to exercise careful judgement.

However, as noted in section 3.2 below, many aspects of SA Water's services are regulated by others and the Commission's role does not extend to determining the balance between those regulatory requirements and costs. This Final Determination accepts the environmental, health, technical and social obligations that are imposed on SA Water by other regulators and seeks only to determine the efficient cost of meeting those requirements.

²⁸ See section 6(1) of the ESC Act.

The Commission has fulfilled its statutory role established under the WI Act and the ESC Act, in which it is required to:

- ▶ have regard to all relevant statutory factors and objectives (including the terms of Pricing Orders issued by the Treasurer and directions issued to SA Water by the Minister for Environment and Water)
- ▶ consider all relevant evidence available to it (including all submissions, data, information and representations provided and available to the Commission) and, thereafter
- ▶ make a regulatory determination which it considers best meets those statutory factors and objectives in light of the evidence.

In considering these matters, the Commission notes that there is no single correct decision which arises from them, and that the decision-making process involves issues of discretion, judgement and degree (to the extent permitted under the statutory framework). In such cases, given the range of possible choices, the Commission recognises that different minds, acting reasonably, can be expected to make different choices on the same subject matter.²⁹

This Final Determination therefore sets out the Commission’s considered position as to the most reasonable (in the context of the nature and scope of the governing statutory regime and all the available evidence) form and quantum of regulation and revenue control to be applied during the 2020-2024 regulatory period that best protects South Australian consumers’ long-term interests with respect to the price, quality and reliability of the water and sewerage retail services provided by SA Water.

3.2 SAW RD20 will operate within a broader policy framework

SA Water is a government-owned provider of water and sewerage services. Its primary role is to source, treat, distribute and sell drinking water and non-drinking water, and to remove, treat and dispose sewage from homes and businesses.³⁰ Those essential services are highly regulated, including service level and revenue regulation by the Commission (referred to generally as ‘economic regulation’, as compared to health, technical or environmental regulation as outlined below).

The Commission undertakes its role as economic regulator within a broader legislative and policy framework. A summary of the key entities involved in the regulation of SA Water is provided in Table 3.1.

Table 3.1: Entities involved in the regulation of the water industry

Entity	Overview of role within the water industry	Relevant legislation
Minister for Environment and Water	Administers the <i>Water Industry Act</i> , and is responsible for non-regulatory instruments (eg schemes) and appointing water industry entities.	<i>Water Industry Act 2012</i>
Treasurer	Sets licence fees for water industry entities, issues Ministerial directions and Pricing Orders ³¹ .	<i>Water Industry Act 2012</i>

²⁹ Refer *Re GasNet Australia (Operations) Pty Ltd* [2003] ACompT 6 (23 December 2003) at paragraph 29

³⁰ Appendix 1 contains further information about SA Water and its functions.

³¹ All Pricing Orders that have been issued under the WI Act are available at <https://www.treasury.sa.gov.au/economy-taxes-and-rebates/economic-regulation>.

Entity	Overview of role within the water industry	Relevant legislation
The Commission	<p>Regulates customer service standards for the sale and supply of water and sewerage retail services.</p> <p>Establishes average customer service and reliability service standards for water and sewerage retail services and assesses the prudent and efficient costs for delivery of water and sewerage retail services.</p> <p>Regulator for the third party access regime.</p>	<p><i>Essential Services Commission Act 2002</i></p> <p><i>Water Industry Act 2012</i></p>
Environment Protection Authority	Regulates the environmental impact of water businesses.	<i>Environmental Protection Act 1993</i>
Department for Environment and Water	Regulates State water resources, and other natural resource management matters.	<i>Natural Resources Management Act 2003</i>
SA Health	Regulates public health requirements for providing drinking water supplies.	<i>Safe Drinking Water Act 2011</i>
Technical Regulator	Regulates safety and technical matters.	<i>Water Industry Act 2012</i>
Consumer and Business Services	<p>Responsible for administration of the Australian Consumer Law, covering consumer protection and fair trading, in South Australia.</p> <p>Regulates the relationship between landlords and tenants for the payment of rates and charges for water and sewerage services.</p> <p>Regulates the professional conduct of plumbing contractors.</p>	<p><i>Competition and Consumer Act 2012</i></p> <p><i>Residential Tenancies Act 1995</i></p> <p><i>Plumbers, Gasfitters and Electricians Act 1995</i></p>
Department of Human Services	Develops customer hardship and concession policies.	<i>Water Industry Act 2012</i>
EWOSA	Handles complaints from customers of water retailers that have joined the scheme.	<p><i>Water Industry Act 2012</i></p> <p><i>Corporations Act 2001</i></p>

The South Australian Government develops and implements, through legislation, public policy in relation to public health, the environment, water supply and demand planning, technical standards, safety and social welfare, all of which have an impact on SA Water. The Commission and other regulators decide on matters assigned to them by the South Australian Government under that policy and legislative framework.

In that context, through its regulatory determinations the Commission determines the efficient expenditure required by SA Water to meet its regulatory obligations. It does not decide whether South Australian Government policies that impact on water and sewerage prices are appropriate or correct. Nor does the Commission make decisions about the governance of SA Water: that is a matter for SA Water and its owner, the South Australian Government.

Further, the Commission's role is limited to assessing the efficient costs of providing essential services; it does not extend to assessing an individual customer's capacity to pay for essential services. The South Australian Government makes decisions about social policy, including policies designed to assist customers to meet the costs of accessing essential services.

SA Water makes the day-to-day commercial decisions about the operations and investments required to deliver water and sewerage services that meet its regulatory obligations. SA Water is also responsible for setting the prices that apply to customers, although those prices must be set to recover revenues within the Commission's revenue determinations and/or comply with relevant pricing principles.³²

Consumer and industry advocates also have an important role to play in the economic regulation of SA Water, through understanding and representing or reflecting the views of their constituents in consultation and engagement processes. They may also advocate for changes where their constituents' interests are not being met (for example, in relation to the price/service offerings being provided by SA Water).

The Commission has established a Consumer Advisory Committee, comprising consumer representatives, which advises the Commission on its regulatory functions, including economic regulation of SA Water. As discussed in Chapter 2, the Commission also established a CEP, comprising members of the Consumer Advisory Committee and SA Water's Customer Advisory Groups, to provide input and advice to this SAW RD20 process. Those consumer advocacy groups helped the Commission to understand consumer experiences and expectations, and provide evidence to inform the Commission's regulatory decision-making process.

3.3 Functions and powers of the Commission

The regulatory functions of the Commission are set out in section 5 of the ESC Act. Functions relevant to the economic regulation of SA Water include:

5 – Functions

The Commission has the following functions:

- (a) to regulate prices and perform licensing and other functions under relevant industry regulation Acts;*
- (b) to monitor and enforce compliance with and promote improvement in standards and conditions of service and supply under relevant industry regulation Acts;*
- (c) to make, monitor the operation of, and review from time to time, codes and rules relating to the conduct or operations of a regulated industry or regulated entities.*

In performing these functions, the following objectives (including the Commission's primary objective when undertaking any function) inform and guide the Commission. They are set out in section 6 of the ESC Act.

³² Discussion of the maximum revenues and pricing principles is set out in Chapter 4 of this report.

6 – Objectives

In performing the Commission's functions, the Commission must –

- (a) have as its primary objective protection of the long term interests of South Australian consumers with respect to the price, quality and reliability of essential services; and*
- (b) at the same time, have regard to the need to –*
 - (i) promote competitive and fair market conduct; and*
 - (ii) prevent misuse of monopoly or market power; and*
 - (iii) facilitate entry into relevant markets; and*
 - (iv) promote economic efficiency; and*
 - (v) ensure consumers benefit from competition and efficiency; and*
 - (vi) facilitate maintenance of the financial viability of regulated industries and the incentive for long term investment; and*
 - (vii) promote consistency in regulation with other jurisdictions.*

With regard to the Commission's principal statutory objective, three elements of service delivery are captured – price, quality and reliability – and these are to be interpreted in a context of economic efficiency. That is particularly so in light of the fact that sections 6(b)(iv) and (v) of the ESC Act expressly refer to efficiency considerations.

3.3.1 The Commission's price determination powers

3.3.1.1 Under the ESC Act

Part 3 of the ESC Act sets out a legislative scheme governing the exercise of the Commission's price determination powers and functions.

Sections 25(1) and 25(2) have the combined effect of empowering the Commission to make price determinations where authorised to do so by a relevant industry regulation Act, which, in this case, is the WI Act.

Section 25(3) provides that a price determination may regulate prices, conditions relating to prices, or price fixing factors in any manner the Commission considers appropriate. Examples include:

- (a) fixing a price or the rate of increase, or decrease, in a price
- (b) fixing a maximum price, or maximum rate of increase, or minimum rate of decrease, in a maximum price
- (c) fixing an average price for specified goods or services, or an average rate of increase or decrease in an average price
- (d) specifying pricing policies or principles
- (e) specifying an amount determined by reference to a general price index, the cost of production, a rate of return on assets employed, or any other specified factor
- (f) specifying an amount determined by reference to quantity, location, period or other specified factor relevant to the supply of goods or services

- (g) fixing a maximum average revenue, or maximum rate of increase, or minimum rate of decrease in maximum average revenue, in relation to specified goods or services, or
- (h) monitoring the price levels of specified goods and services.

These examples are not exhaustive and the Commission may make a price determination to operate in a manner it considers appropriate, subject to any specific requirements of an industry regulation Act. In the case of the WI Act, certain requirements do exist, as discussed below.

As well as the general factors set out in section 6 of the ESC Act, section 25(4) specifies additional factors to which the Commission must have regard when exercising its price determination function. They include:

- (a) the particular circumstances of the regulated industry and the goods and services for which the determination is being made
- (b) the costs of making, producing or supplying the goods or services
- (c) the costs of complying with the laws or regulatory requirements
- (d) the return on assets in the regulated industry
- (e) any relevant interstate and international benchmarks for prices, costs and return on assets on comparable industries
- (f) the financial implications of the determination
- (g) any factors specified by a relevant industry regulation Act, or by regulation under the Act, and
- (h) any other factors that the Commission considers relevant.

Two further statutory imperatives arise under section 25(5) of the ESC Act in relation to price determinations. They are:

- (i) wherever possible, the costs of regulation do not exceed the benefits, and
- (j) the decision takes into account and clearly articulates any trade-off between costs and service standards.

Finally, section 25(6) provides that subsections 25(3), 25(4) and 25(5) have effect in relation to a regulated industry, subject to the provisions of the relevant industry regulation Act for that industry (in this case, the WI Act).

3.3.1.2 Under the WI Act

Section 17 of the WI Act declares that the water industry is a regulated industry for the purposes of the ESC Act. Accordingly, the Commission has a general power to regulate prices in the water and sewerage industries.

Specifically, in terms of the price regulation function, the WI Act provides that:

7 – Functions and powers of Commission

- (1) *The Commission has (in addition to the Commission's functions and powers under the Essential Services Commission Act 2002) –*
 - (a) *the licensing, price regulation and other functions and powers conferred by this Act...*

The provisions of the WI Act that confer pricing powers on the Commission are set out in section 35. Consistent with the general discretionary powers under Part 3 of the ESC Act, the price determination power set out in section 35 of the WI Act is discretionary:

35 – Price regulation

- (1) *Subject to this section, the Commission may make a determination under the Essential Services Commission Act 2002 regulating prices, conditions relating to prices, and price fixing factors for retail services.*

A 'retail service' is defined in section 4 of the WI Act to include a service constituted by:

- (a) *the sale and supply of water to a person for use (and not for resale other than in prescribed circumstances (if any)) where the water is to be conveyed by a reticulated system; or*
- (b) *the sale and supply of sewerage services for the removal of sewage,*
- (even if the service is not actually used) but does not include any service, or any service of a class, excluded from the ambit of this definition by the regulations.*

Accordingly, any operations or services falling outside the scope of the above definition are not subject to price regulation by the Commission. For example, SA Water's water testing service provided through the Australian Water Quality Centre, is not a retail service and is not subject to price regulation under the WI Act. As is discussed in Chapter 4 of this Final Determination, SA Water's merchant electricity generation service, provided under the ZCEF initiative, is also not a retail service. In addition, section 5(2) of the WI Act states that services provided, or infrastructure held, by irrigation trusts (as defined in the *Irrigation Act 2009*), the Renmark Irrigation Trust or persons providing irrigation services designated by the Minister, are not subject to the provisions of the WI Act.

3.3.1.3 Pricing Orders

The price regulation provisions of the WI Act also include a framework for the Treasurer to issue Pricing Orders. Section 35(4) provides that the Treasurer may issue a Pricing Order that:

- (a) sets out any policies or other matters that the Commission must have regard to when making a determination
- (b) specifies various parameters, principles or factors that the Commission must adopt or apply in making a determination, and
- (c) relates to any other matter that the Treasurer considers to be appropriate in the circumstances.

Pursuant to section 35(3) of the WI Act, the Commission must comply with the requirements of any Pricing Order when making a determination.

Since the economic regulation of SA Water under the WI Act commenced in 2012, the Treasurer has issued seven Pricing Orders pursuant to section 35 of that Act. Pursuant to section 35(5) of the WI Act, a Pricing Order cannot be revoked, and is, therefore, generally of cumulative effect, unless it expressly states that it has a finite application or it is varied by the Treasurer in order to cease its legal effect.

With the issue of the Pricing Order on 28 October 2018, all previously issued Pricing Orders ceased to have effect (through a variation), noting that the requirements of this Pricing Order are very similar to those issued in previous years to apply to previous regulatory determinations made by the Commission. The October 2018 Pricing Order was supplemented by a further Pricing Order issued in May 2020.

The current Pricing Order for SAW RD20 (the combined 2018 and 2020 orders), which applies to the regulatory period 1 July 2020 to 30 June 2024,³³ requires the Commission to:

- (a) adopt or apply the National Water Initiative (NWI) Pricing Principles (other than those for recovering the costs of water planning and management activities) to the extent they are relevant to the making of SAW RD20
- (b) adopt a four-year regulatory period (commencing 1 July 2020) using a revenue cap form of control
- (c) adopt separate total revenue cap controls for drinking water and sewerage services, but not apply revenue caps based on customer class or location
- (d) include a mechanism to adjust the total revenue cap if there is any over or under recovery of revenue due to variations between actual and forecast water consumption or sewerage connections (such mechanism to operate on the basis of efficient costs associated with variations in demand, and so as to promote a stable price path)
- (e) include an appropriate mechanism that allows for the adjustment of the total revenue cap where there is an event beyond the control of SA Water which has, or will, have a material impact of the cost of provision of a retail service (such mechanism to operate on the basis of efficient costs associated with the event, and so as to promote a stable price path)
- (f) allow SA Water to recover the efficient costs of assets acquired (or to be acquired) after 1 July 2016 which are required to support activities that SA Water is required to provide in accordance with a direction under section 6 of the *Public Corporations Act 1993*
- (g) adopt specified NWI Pricing Principles
- (h) in relation to costs relating to externalities (including water planning and management), allow SA Water to recover such costs as are attributable to and payable by SA Water in accordance with the law, including a direction under section 6 of the *Public Corporations Act 1993*
- (i) allow SA Water to recover such costs (less any relevant contributions to such costs that it receives) that are attributable to activities that SA Water is required to provide in accordance with a direction under section 6 of the *Public Corporations Act 1993*, and either specified in that direction, or, if not specified, determined by the Commission to be efficient, and
- (j) adopt \$7.25 billion (as at 1 July 2013, in December 2012 dollars) as the value of SA Water's drinking water assets.

The Pricing Order also sets out the following procedural matters:

- (a) the determination must be based on a 'building blocks' approach and must set out all assumptions, methods and values assigned to the various building block components
- (b) the determination must identify the assumptions on which it is based, including each of the following parameters:
 - (i) the Regulated Asset Base (RAB) is to be rolled forward consistently with Principle 5 of the NWI Pricing Principles for the Recovery of Capital Expenditure

³³ The Pricing Order for SAW RD20 is available at https://www.treasury.sa.gov.au/_data/assets/pdf_file/0011/41123/Pricing-Order-for-the-Regulatory-Period-1-July-2020-to-30-June-2024.pdf.

- (ii) the rate of return of the RAB (which should be consistent with Principle 1 of the NWI Pricing Principles for the Recovery of Capital Expenditure)
 - (iii) any allowance for working capital (depreciated), including its method of calculation, and any adopted classifications of, or remaining life attributable to, the regulatory assets of which it is based
 - (iv) operating expenditure (which should include efficient operational, maintenance and administrative costs)
 - (v) the costs of externalities
 - (vi) any allowance for tax paid (which should be identified separately from the rate of return on the RAB where the weighted average cost of capital (**WACC**) is calculated on a post-tax basis)
- (c) the draft determination must identify any areas where the method of calculation of, or monetary value assigned to, any of the parameters set out in (b) above, is likely to change materially between the draft and final determination, including the cause and likely magnitude and direction of the variation, and
- (d) the Final Determination must fix a single revenue value for the four-year period (one for sewerage and one for drinking water), subject to the following permitted mechanisms (noting that, as a matter of practice the Commission adjusts revenue in the subsequent regulatory period in relation to any demand variation or cost pass-through events):
- (i) a demand variation adjustment mechanism (section 5.5 of the October 2018 Pricing Order),
 - (ii) a cost pass-through mechanism (section 5.6 of the October 2018 Pricing Order), or
 - (iii) a new or further direction issued by the Minister for Environment and Water, under section 6 of the Public Corporations Act 1993.

3.3.2 Industry licences, codes and rules

The Commission has additional powers to issue licences to entities providing water and sewerage retail services and make industry codes or rules that apply to the conduct or operations of such entities, once licensed.

3.3.2.1 Under the ESC Act

Part 4 of the ESC Act provides the Commission with broad powers to make, vary and amend industry codes or rules. Industry codes prescribe the rules of conduct and procedures that must be followed by regulated entities providing essential services. The use of industry codes allows for a high degree of regulatory flexibility while maintaining appropriate scrutiny, accountability and transparency in the process of their development. Industry codes can cover any number of areas within a regulated industry, from consumer protection to technical matters.

Section 28(3) requires the Commission to consult with the relevant industry Minister, representative bodies and participants in the regulated industry prior to making, varying or revoking a code or rule. Further, section 28(8) requires that any codes or rules be periodically reviewed by the Commission to ensure they continue to be relevant and effective.

3.3.2.2 Under the WI Act

The WI Act requires the Commission to issue SA Water with a non-transferable perpetual licence, which it did on 1 January 2013.³⁴ Section 25(1) requires it to make a licence subject to various conditions. While some conditions must be imposed as stand-alone licence conditions, others must be prescribed in industry codes and rules made by the Commission under the ESC Act.³⁵

In issuing licences under section 25(1) of the WI Act, section 25(2) requires the Commission to have regard to the scale and nature of the operations of the water industry entity – determining the scale and nature after consultation with the entity or a person or body nominated by the entity.

In addition, and of relevance to the current review of the Water Retail Code – Major Retailers WRC-MR/02 (**Code**) as discussed in Chapter 5, section 25(5) of the WI Act requires the Commission, in making an industry code under section 25(1), to include provisions to assist customers who may be suffering specified types of hardship relevant to the supply of any services (such provisions to comply with any direction of the Minister). This provision operates in conjunction with section 37(1) of the WI Act, which requires the Minister to develop and publish a customer hardship policy in respect of residential customers of water industry entities. In summary, the Minister's hardship policy must set out:

- ▶ the processes that water industry entities must have in place to identify residential customers experiencing payment difficulties due to hardship, and
- ▶ the range of processes or programs that a water industry entity should use to assist hardship customers.

The Minister published the applicable hardship policy in February 2013. Section 37(3) of the WI Act requires a water industry entity to adopt the Minister's hardship policy and section 37(4) makes compliance with the policy a condition of a licence issued to a water industry entity by the Commission.

³⁴ SA Water's retail licence <http://www.escosa.sa.gov.au/library/130102-WaterRetailLicence-SAWater.pdf>.

³⁵ The Code has been made by the Commission pursuant to the requirements of section 25(1) of the WI Act.

Part B – Regulatory and consumer protection framework

This part set out the Commission’s decisions on the regulatory and consumer protection framework that it applies to SA Water. It covers the proposed forms of price regulation to apply to SA Water’s retail services, including the forms of revenue control to apply to drinking water and sewerage services, and the consumer protection framework, established by the Code (as amended).^{36, 37}

The Commission reviewed that consumer protection framework having regard to its primary objective, as set out in section 6 of the ESC Act: *‘the protection of the long-term interests of South Australian consumers with respect to price, quality and reliability of essential services’*.³⁸

In that context, the Commission considered whether or not the various consumer protections in the Code remained appropriate and should continue, be varied or revoked, and whether or not SA Water is providing retail services at the quality and reliability levels valued by customers.

As set out and explained in Chapter 5, the Commission has made a series of final decisions that it considers will enhance consumers’ long-term interests and which result in amendments to the consumer protection framework set out in the Code.

³⁶ The Code is an industry code made by the Commission under Part 4 of the ESC Act. SA Water is required to comply with the Code as a condition of its licence under the WI Act.

³⁷ The Code applies to all major retailers, which are those with more than 50,000 connections. SA Water is currently the only major retailer operating in South Australia. However, the Code is also intended to apply to any future retailers that enter the market to compete for mass market customers.

³⁸ It has a further requirement under section 28(8) of the ESC Act to keep the contents and operation of codes under review to ensure their continued operation and effectiveness.

4 Forms of price regulation

Final decision

The Commission's final decision is that:

- ▶ SA Water's drinking water and sewerage retail services will be subject to separate four-year revenue caps, based on the forecast efficient costs of providing those services, that will be fixed subject to:
 - a mechanism that will enable the revenue caps to be adjusted in the subsequent regulatory period where an event beyond the control of SA Water has, or will have, a material impact on SA Water's costs of providing drinking water or sewerage retail services (a 'cost pass-through mechanism')
 - a mechanism that will adjust the revenue caps in the subsequent regulatory period to account for any material differences between forecast and actual drinking water and sewerage revenue earned, due to differences between forecast and actual drinking water sales and sewerage connections (a 'demand variation adjustment mechanism')
 - a mechanism that will reduce the revenue caps to reflect 10 percent of revenue earned by SA Water for the provision of non-regulated services that utilise drinking water or sewerage infrastructure (a 'shared infrastructure revenue adjustment mechanism')
 - an adjustment mechanism allowing for the recovery of efficient costs associated with a new major capital project/program, which has not been incorporated into the revenue caps under this Determination because of a specified contingency (or trigger) or adverse event which means it is not currently a project/program SA Water should reasonably commit expenditure to now, but could reasonably be considered for inclusion in a subsequent price determination (an 'intra-period review mechanism')
- ▶ The sale and supply of recycled water and 'excluded' retail services, which include the provision of connection services and trade waste services, will continue to be regulated under a pricing principles approach, applying relevant NWI Pricing Principles, and
- ▶ The Commission will continue to monitor SA Water's compliance with the pricing principles for recycled water and excluded services, as part of the Commission's general compliance framework. Since 2013, there has been only one formal customer dispute about the price of excluded services and there does not appear to be a need to continue to apply a separate Industry Rule (Water Industry Rule No. 1) prescribing the process for the resolution of any such disputes.

4.1 Introduction

As discussed in Chapter 3, the ESC Act and WI Act authorise the Commission to make price determinations in respect of SA Water's retail services.

Currently, the Commission regulates SA Water's retail services through two separate price determinations:

- ▶ Drinking water and sewerage retail services ('direct control' services) are regulated through a price determination that establishes separate revenue caps for each service. The revenue caps fix SA Water's revenues for four years subject to mechanisms that allow for the pass-through of certain unforeseen costs and revenue changes due to variations in demand. This approach is consistent with the requirements of the Pricing Orders that apply to the current regulatory determination.³⁹
- ▶ Retail services that are not drinking water and sewerage retail services, such as the supply of recycled water, the provision of new connections and trade waste services, are regulated under a price determination that establishes principles that SA Water must take into account when setting prices for those services. Those principles are based on the NWI Pricing Principles, consistent with the requirements of the current Pricing Orders.

4.1.1 The different forms of price regulation reflect the nature of the retail services and their demand

Drinking water and sewerage services involve the provision of infrastructure that is shared between customers, such as reservoirs, treatment plants and pipelines. All customers pay the same price for those services, irrespective of location, under the South Australian Government's state-wide pricing policy.⁴⁰ The revenue caps for drinking water and sewerage services also apply on a state-wide basis.

Recycled water and excluded services are provided to specific customers who request those services. The costs of those services can be more easily attributed to the customers who benefit from them compared to drinking water and sewerage services, which are provided to customers at large. The pricing principles approach provides SA Water with the flexibility to set prices for recycled water and excluded services based on the efficient cost of each service, based on a beneficiary-pays approach. In setting those prices, it is required to demonstrate that the prices comply with the relevant pricing principles.

Revenue from recycled water and excluded services is small relative to revenue from drinking water and sewerage services, comprising only approximately three percent of SA Water's total retail services revenue (around \$40 million per year).

While the price of recycled water is regulated under a pricing principles approach, the cost for the relevant infrastructure to provide recycled water schemes is recovered through direct control revenues, where SA Water can demonstrate that the particular scheme:

- ▶ is a prudent and efficient means of addressing environmental (sewage discharge) obligations and forms part of a least cost mix of diversified water sources needed to achieve required security of supply, or
- ▶ is driven by the need to trial new technologies, with the aim of achieving more efficient ways to deliver a secure supply of water.

³⁹ The Pricing Orders for SAW RD16 are available at <https://www.treasury.sa.gov.au/economy-taxes-and-rebates/economic-regulation>

⁴⁰ SA Water must apply state-wide pricing under a direction pursuant to section 6 of the *Public Corporations Act 1993*. The direction is available at https://governmentgazette.sa.gov.au/sites/default/files/public/documents/gazette/2015/July/2015_042.pdf (refer page 3365).

SA Water’s existing recycled water schemes primarily exist as the least-cost method of sewage disposal and their costs are therefore recovered through sewerage charges. However, to ensure that SA Water does not over-recover the costs of recycled water schemes, any revenues derived directly from the provision of recycled water must be offset against the costs of providing those schemes and recovered through sewerage revenues.

Table 4.1 lists the retail services that are provided by SA Water and provides examples of SA Water’s services that are not retail services and are therefore not regulated by the Commission.

Table 4.1: SA Water’s regulated and unregulated services

Regulated retail services		Unregulated services
Direct control	Recycled Water and other Excluded services	
<ul style="list-style-type: none"> ▶ Sale and supply of drinking water services ▶ Sale and supply of sewerage services 	<ul style="list-style-type: none"> ▶ Sale and supply of recycled water ▶ Standard and non-standard connection services (including developer services) ▶ Trade waste services ▶ Non-domestic hauled waste services ▶ Easement extinguishment and encumbrance services ▶ Hydrant and fire plug services ▶ Meter services ▶ Network analysis and audit services 	<ul style="list-style-type: none"> ▶ Laboratory services that are not retail services ▶ Project management services and consultancy services that are not retail services ▶ Water transportation services provided to third parties ▶ Operation and maintenance of the River Murray lock system and Salt Interception Schemes ▶ Soil and sand testing services ▶ Emergency functional services ▶ Metropolitan floodwaters drainage administration

4.1.2 Existing process and requirements for the revenue caps for drinking water and sewerage services (under SA Water Regulatory Determination 2016-2020)

The current determination (SAW RD16) applies separate four-year revenue caps for drinking water and sewerage services. Those revenue caps apply in aggregate for the four-year period, rather than separate annual revenue caps.

That approach was adopted in SAW RD16 on the basis that it would:

- ▶ avoid the administrative costs of annual pricing compliance assessments, for which SA Water must submit prices to the Commission for checking against the annual revenue caps
- ▶ create greater opportunities for tariff reform, by allowing more flexibility for SA Water to rebalance its tariffs over the four-year period, and
- ▶ ensure that SA Water does not earn excessive revenues over the regulatory period, because revenues in the subsequent regulatory period would be adjusted for any over or under recovery of revenue during the SAW RD16 period.

The SAW RD16 revenue caps for drinking water and sewerage services were based on the forecast efficient costs of providing those services: operating expenditure, regulatory depreciation, return on working capital, return on assets and tax expense. This is the 'cost building blocks' approach to setting revenues.

4.1.2.1 Cost pass-through mechanism

As required under the Pricing Order for SAW RD16, the current price determination includes a pass-through mechanism that allows maximum revenues to change if there is a change in legal obligation or an extraordinary event, which is exogenous, unavoidable, and materially impacts SA Water's costs of providing drinking water and sewerage services. The determination does not fix a materiality threshold for a pass-through event. Rather, SA Water can propose if an event is material, having regard to the specific circumstances of the event and its financial impact. Any approved pass-through amount (which could be positive or negative) would be passed through to revenues in the following regulatory period.

SA Water did not submit any cost pass-through applications in the current regulatory period.

4.1.2.2 Demand variation adjustment mechanism

The current determination includes a mechanism that allows for the drinking water and sewerage revenue caps to be adjusted to reflect any material difference between forecast and actual drinking water demand and sewerage connections during the SAW RD16 period. Consistent with the requirements of the Pricing Order, it operates on the basis of efficient costs associated with a variance in demand. If a material difference in revenue is calculated, 50 percent of that difference is incorporated in the revenue caps to apply in the subsequent regulatory period (as a negative revenue adjustment if there has been over-recovery or positive revenue adjustment if there has been under-recovery). This effectively leads to an equal sharing of demand risk between SA Water and its customers.

The 50 percent sharing ratio provides a balance between the Pricing Order requirement to apply revenue caps (which would allocate demand risk to customers as revenues would be fixed, irrespective of changes in demand) and the Pricing Order requirement to include a mechanism that allows the total revenue cap to vary if there is any over or under recovery of revenue due to variations between actual and forecast water consumption or sewerage connections.

A minimum threshold of one percent of revenue applies under the current mechanism. Where there is a difference of less than one percent between actual and forecast revenue, the mechanism will not operate. Where there is a difference of more than one percent, the calculation of the revenue adjustment utilises the full 50 percent sharing ratio and does not deduct the one percent threshold.

SA Water's RBP stated that the one percent threshold is unlikely to be breached, which would not trigger a revenue adjustment under this mechanism.⁴¹ However, the Commission received a final demand variation adjustment statement from SA Water in April 2020, providing updated demand information. That information shows that SA Water has recovered drinking water revenue that exceeds the drinking water revenue cap by more than one percent, with actual sewerage revenue within the sewerage revenue cap one percent threshold. The resulting drinking water demand variation adjustment of approximately \$19 million (which reduces the drinking water revenue caps for the next regulatory period) is discussed further in Chapter 8.

⁴¹ SA Water, RBP, Appendix D, p. 9.

4.1.2.3 Shared infrastructure revenue adjustment mechanism

The current determination includes a mechanism that allows drinking water and sewerage revenues to be adjusted to reflect forecast revenue earned by SA Water for the provision of non-regulated services that utilise drinking water or sewerage regulated assets.

While drinking water and sewerage assets are funded through drinking water and sewerage revenues, SA Water is able to earn additional revenue where those assets can be utilised for other, unregulated, purposes. For example, SA Water uses regulated assets to provide wholesale water to customers in the Barossa Valley.

The mechanism allows SA Water's drinking water and sewerage customers to share the benefits of those commercial opportunities with SA Water. It deducts 10 percent of any such forecast non-regulated revenues from the relevant drinking water or sewerage revenue caps. Ten percent of revenue was determined as a reasonable estimate of the profit earned by SA Water from those services. SA Water has forecast non-regulated revenue under this adjustment mechanism of approximately \$10 million per year in the SAW RD20 period, which results in a forecast deduction of approximately \$1 million per year. The adjustment impacts drinking water revenues only, as the relevant assets are for drinking water services.

4.1.3 Regulation of recycled water and excluded retail services (under SA Water Regulatory Determination 2016-2020)

There are two elements to the Commission's current approach of regulating the price of SA Water's recycled water and excluded retail services:

- ▶ setting pricing principles that SA Water must apply when it sets prices for recycled water and excluded services, which is subject to compliance monitoring and reporting, and
- ▶ establishing a dispute resolution process in the event that a customer disputes a charge for recycled water or an excluded service.

4.1.3.1 Pricing requirements for recycled water

SA Water is currently required to publish a pricing schedule and an accompanying 'pricing policy statement', to demonstrate how it has applied the NWI Pricing Principles in determining its prices for recycled water. Further, it is required to provide, at the request of a customer, a copy of these documents. The Commission monitors those prices and can publish information on price changes and SA Water's compliance with the relevant NWI Pricing Principles.

The Commission's current approach to regulation of recycled water services recognises that:

- ▶ SA Water holds market power in the provision of recycled water services and ongoing price regulation is therefore appropriate.
- ▶ Recycled water is generally a substitute for drinking water, its price is constrained by drinking water prices, and this reduces the need for a heavier-handed form of price regulation (such as direct price controls).
- ▶ The approach is consistent with the Pricing Orders, including the NWI Pricing Principles, which state that a light-handed form of regulation (included pricing principles) is preferable unless economic efficiency can be enhanced through a heavier-handed approach (see Information Box 4.1).
- ▶ SA Water has been required to publish its recycled water prices and demonstrate that those prices comply with the relevant NWI Pricing Principles. It has complied with those requirements since 2013 and the Commission has received no customer complaints about recycled water prices since that time.

Information Box 4.1: NWI Pricing Principles for Recycled Water and Stormwater Use⁴²

Principle 1: Flexible regulation

Light handed and flexible regulation (including use of pricing principles) is preferable, as it is generally more cost efficient than formal regulation. However, formal regulation (for example, establishing maximum prices and revenue caps to address problems arising from market power) should be employed where it will improve economic efficiency.

Principle 2: Cost allocation

When allocating costs, a beneficiary-pays approach – typically including direct user pay contributions – should be the starting point, with specific costs shared across beneficiaries based on the scheme’s drivers (and other characteristics of the recycled water/stormwater reuse scheme).

Principle 3: Water usage charge

Prices to contain a water usage (that is, volumetric) charge.

Principle 4: Substitutes

Regard to the price of substitutes (potable water and raw water) may be necessary when setting the upper bound of a price band.

Principle 5: Differential pricing

Pricing structures should be able to reflect differentiation in the quality or reliability of water supply.

Principle 6: Integrated water resource planning

Where appropriate, pricing should reflect the role of recycled water as part of an integrated water resource planning system.

Principle 7: Cost recovery

Prices should recover efficient, full direct costs – with system wide incremental costs (adjusted for avoided costs and externalities) as the lower limit, and the lesser of stand-alone costs and willingness to pay as the upper limit. Any full cost recovery gap should be recovered with reference to all beneficiaries of the avoided costs and externalities. Subsidies and CSO payments should be reviewed periodically and, where appropriate, reduced over time.

Note: Direct costs include any joint/common costs that a scheme imposes, as well as separable capital, operating and administrative costs. This definition of direct costs does not include externalities and avoided costs.

Principle 8: Transparency

Prices should be transparent, understandable to users and published to assist efficient choices.

Principle 9: Gradual approach

Prices should be appropriate for adopting a strategy of ‘gradualism’ to allow for consumer education and time for the community to adapt.

⁴² NWI Pricing Principles, April 2010, p. 16, available at <http://www.environment.gov.au/water/publications/action/pubs/nwi-pricing-principles.pdf>.

Pricing requirements for excluded retail services

As noted above, SA Water provides certain retail services to individual customers, or a distinct class of customers, where they are the direct beneficiaries of those services. These 'excluded services' consist of:

- ▶ standard and non-standard connection services (including developer services⁴³)
- ▶ trade waste services
- ▶ non-domestic hauled waste services
- ▶ easement extinguishment and encumbrance services
- ▶ hydrant and fire plug services
- ▶ meter services, and
- ▶ network analysis and audit services.

The pricing principles that currently apply to excluded services are based on the relevant NWI Pricing Principles, as well as additional principles developed by the Commission (as set out in Information Box 4.2).

The Commission applied that approach for excluded services because:

- ▶ The approach is consistent with the Pricing Orders for SAW RD16, which require the application of the NWI Pricing Principles.
- ▶ SA Water had engaged closely with its customers of excluded services, particularly developers, about its proposed charges. Customers did not raise any concerns with the Commission following that review.
- ▶ The Commission received few queries from SA Water's customers over its charges for excluded services during the previous regulatory period. Where the Commission reviewed SA Water's compliance with the relevant pricing principles for excluded services, it concluded that SA Water had complied with the principles in each case.
- ▶ Despite there being no evidence of SA Water misusing market power, promoting transparency of excluded services charges was still important. The existing pricing principles require price transparency and facilitate customers' understanding of how the charges are calculated and applied.

Information Box 4.2: Pricing principles relevant to SA Water's excluded services

NWI Pricing Principles

Setting developer charges (Principles for Urban Water Tariffs: Principle 8)

Developer charges should reflect the investment in both new and existing assets required to serve a new development and have regard to the manner in which ongoing water usage and service availability charges are set.

Note: Where there are benefits beyond the boundary of the development, the developer charge should have regard to the share of capacity required to serve the development.

⁴³ Developer services are connection and related services provided by SA Water to property developers.

Capping developer charges (Principles for Urban Water Tariffs: Principle 9)

Developer charges should not exceed the costs of serving new developments, which includes investment in both new and existing assets required to serve a new development.

Revenue from developer charges (Principles for Urban Water Tariffs: Principle 10)

To avoid over recovery, revenue from developer charges should be offset against the total revenue requirement, either by excluding or deducting the contributed assets from the RAB, or by offsetting the revenue recovered using other mechanisms.

Cost recovery for new capital expenditure (Principles for Recovery of Capital Expenditure: Principle 1)

For new or replacement assets, charges will be set to achieve full cost recovery of capital expenditures (net of transparent deductions/offsets for contributed assets and developer charges and transparent CSOs) through either:

- ▶ a return of capital (depreciation of the RAB) and return on capital (generally calculated as rate of return on the depreciated RAB), or
- ▶ renewals annuity and a return on capital (calculated as a rate of return on an undepreciated asset base (Optimised Replacement Cost)).

Differential water charges (Principles for Urban Water Tariffs: Principle 7)

Water charges should be differentiated by the cost of servicing different customers (for example, on the basis of location and service standards) where there are benefits in doing so and where it can be shown that these benefits outweigh the costs of identifying differences and the equity advantages of alternatives.

Note: Differential pricing may be achieved by upfront contributions, including developer charges.

Commission's additional Pricing Principles

Principle 1: Where a service is provided for the sole benefit of the recipient, the beneficiary should pay the full efficient cost of the service, and other consumers should not be required to contribute to the cost of the service.

Principle 2: Where a service is provided to a distinct group of customers (for example, trade waste audits are provided to trade waste customers only), prices to a customer should reflect the incremental cost of supplying the service to that customer, and a reasonable allocation of the fixed costs of providing the service, where relevant.

Principle 3: Prices should reflect the efficient cost of the particular service provided, although in circumstances where the cost of implementing differentiated prices to different customers is likely to outweigh the benefits, non-differentiated prices can be implemented.

Principle 4: SA Water must be able to provide transparent information to customers on how the costs for these services have been calculated, or are to be applied, and must be able to support its position in the event of a dispute.

Industry Rule for resolution of disputes about recycled water and excluded service charges

As the Commission does not directly set prices of recycled water and excluded retail services, there is the potential for disputes over fees and charges across the full range of services (including developer charges) to occur from time to time. The Commission is the dispute resolution body in those cases.

In 2013, the Commission issued Water Industry Rule No. 1 - excluded retail services, pursuant to Part 4 of the ESC Act. This rule provides guidance to assist customers and SA Water on the process for resolving any such disputes, dealing with the following matters:

- ▶ what constitutes a dispute?
- ▶ the Commission's role if a dispute arises, which is to assess whether or not the relevant price accords with the pricing principles
- ▶ information that may be required from SA Water and complainants, and
- ▶ procedures for determination

4.2 What has SA Water proposed for SA Water Regulatory Determination 2020-2024?

SA Water has proposed minor changes to the forms of price regulation to apply to direct control services, recycled water services and excluded retail services under SAW RD20.

SA Water has proposed a form of revenue control for drinking water and sewerage services that would fix maximum revenues for each service over four years, using the cost building blocks approach, subject to the following changes:

- ▶ There would be two separate drinking water revenue controls: one that applies to sales (usage) revenue, applying on a dollar per kL basis and another applying to the fixed revenues (from supply charges), applying on a dollar-per-customer basis. This approach would allow drinking water revenue to increase or decrease from that forecast, if growth in usage or customer numbers is different to that forecast. SA Water has acknowledged that this approach may not meet the requirements of the Pricing Order.⁴⁴
- ▶ A modified demand variation adjustment mechanism, that would allow demand variances and materiality assessments to be calculated with reference to water sales (usage) revenue only, rather than total revenue. Allowable revenues would be adjusted in the 2024-2028 regulatory period by applying a 50 percent sharing ratio to the sales revenue exceeding the one percent materiality threshold (net of costs). Any adjustment would be spread over the 2024-2028 regulatory period.

SA Water has also proposed the continuation of the shared infrastructure revenue adjustment mechanism, the cost pass-through mechanism, and a new 'contingent projects' pass-through mechanism. The proposed contingent projects pass-through mechanism would allow SA Water to adjust its revenue caps to accommodate the cost of projects that currently may or may not be required for the 2020-2024 period and/or their costs and benefits cannot be quantified at this point in time with confidence. If the requirement for, and efficient costs of, those projects became known during the regulatory period, SA Water may submit project proposals to the Commission for review, rather than wait for them to be assessed as part of the ex-post capital expenditure review, at the end of the 2020-2024 period.

⁴⁴ SA Water, RBP, Appendix D, p. 10

SA Water's proposal responds to the Commission's guidance that it may be appropriate to include a contingent projects pass-through mechanism in SAW RD20, given uncertainties about certain projects.⁴⁵

SA Water has not proposed any changes to the pricing principles for recycled water and excluded retail services, nor to the process for resolving excluded services disputes.

4.3 Discussion

The Commission's final decision is to:

- ▶ continue setting separate four-year revenue caps for drinking water and sewerage services
- ▶ continue to provide a demand variation adjustment mechanism, shared infrastructure revenue adjustment mechanism and cost pass-through mechanism
- ▶ introduce an intra-period project review mechanism, and
- ▶ continue to regulate the sale and supply of recycled water and excluded retail services under a pricing principles approach with any compliance monitoring and enforcement to be addressed through the Commission's general compliance framework, rather than a separate Water Industry Rule.

Those proposals are explained in the following sections.

4.3.1 Continuation of revenue caps for direct control services

The continuation of four-year revenue caps, to apply separately to drinking water and sewerage services is required under clause 5 of the Pricing Order, as discussed in Chapter 3.

The Pricing Order requires the revenue caps to be applied to total drinking water revenue and total sewerage revenue and the revenue caps for each service are not permitted to vary during the regulatory period. SA Water's proposal to introduce two separate drinking water revenue caps applying to sales revenue and fixed revenue does not meet the requirements of the Pricing Order.

SA Water's proposal to apply the revenue caps on a per kilolitre or per customer basis to allow revenues to change in line with growth in usage or customers is also inconsistent with the requirements of the Pricing Order. That approach would constitute an average revenue control rather than a total revenue control. The Pricing Order requires the determination of total revenues, subject to the operation of a demand variation adjustment mechanism, which explicitly addresses how any changes in demand and customer growth should be reflected in the total revenue caps. The Commission has therefore not adopted SA Water's proposal to accommodate customer growth impacts through an average revenue control.

While submissions did not comment directly on the form of revenue control, the Commission has decided to continue to apply total revenue controls with a demand variation adjustment mechanism, which meets the requirements of the Pricing Order. The revenue caps will apply over the four-year regulatory period, rather than as annual revenue caps for each year of the period. This approach will continue to provide SA Water with greater flexibility to manage prices during the regulatory period, than would annual revenue caps.

⁴⁵ Commission, Guidance Paper 8, available at <https://www.escosa.sa.gov.au/ArticleDocuments/11293/20190715-SAWRD20-GuidancePaper8-TreatmentCapitalExpenditure.pdf.aspx?Embed=Y>

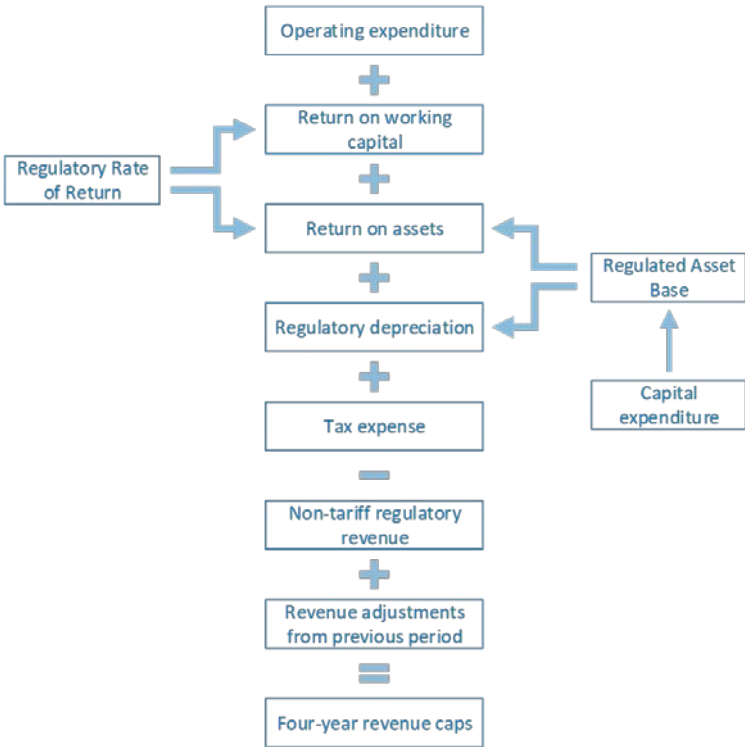
4.3.1.1 Continuation of the cost building blocks approach

The Pricing Order for SAW RD20 requires revenue caps for drinking water and sewerage services to continue to be determined using the cost building blocks approach.⁴⁶

This approach will add the forecast efficient operating expenditure, return on working capital, return on assets, regulatory depreciation and tax expense to determine the total efficient costs of providing each service. It will deduct revenue that SA Water receives from other sources that contribute towards those costs, such as CSO payments, to ensure that SA Water does not over recover those efficient costs. Adjustments will also be made to reflect outcomes from the current regulatory period that flow through to the next regulatory period, such as those under the demand variation adjustment mechanism for SAW RD16. Those adjustments are discussed in Chapter 8.

Figure 4.1 shows the cost building blocks that are reflected in the revenue caps.

Figure 4.1: cost building blocks of drinking water and sewerage services revenue



In determining the forecast efficient costs, the Commission excludes any costs associated with services that are not drinking water and sewerage services. In some cases, infrastructure may be used to provide regulated and unregulated services, and those infrastructure costs are apportioned between the services based on relevant cost drivers. SA Water’s cost allocation methodology is consistent with that applied in previous regulatory periods and its application was subject to an independent audit to ensure that cost allocations were correct in preparing its RBP for SAW RD20.

4.3.1.2 Zero Cost Energy Future (ZCEF) initiative

This Final Determination has made one major adjustment to the cost allocations proposed by SA Water. It has removed all costs associated with the ZCEF program, which is a program for installing solar generation and battery storage at various SA Water sites.

⁴⁶ The Pricing Order for SAW RD20.

Confidential information provided by SA Water shows that the primary benefit of that program is to earn revenue in the wholesale electricity market through exporting renewable energy, rather than generating electricity in order provide water and sewerage retail services (expected by SA Water to be only a secondary benefit).

SA Water's submission to the Draft Determination argued that the ZCEF program should be treated as a retail service, on the basis that the intent of the program was to deliver net benefits to SA Water's drinking water and sewerage customers. SA Water submitted that:

The objective of the Zero Cost Energy Future program has not changed. The program's objective remains to neutralise electricity costs – by generating energy for SA Water consumption and selling energy back to the market to offset the cost of the electricity SA Water must purchase – to reduce one of its single largest operational expenses and produce a sustainable saving that can be passed on to customers.⁴⁷

The Commission does not dispute the intent of the program, nor does it suggest that SA Water's objective has changed. It appreciates that the program is designed to reduce SA Water's overall electricity purchase costs, which is a major component of its overall operating expenditure.

The Commission's primary concern remains that the majority of the benefits from the program come from exporting energy to the national electricity market, rather than avoiding electricity purchase costs. If it were the case that the avoided purchase costs outweighed the benefits from exporting, the Commission could accept SA Water's argument that it is primarily part of its water retail services.

However, based on the evidence provided by SA Water, that is not the case. That evidence shows that the majority of the benefits are subject to SA Water's ability to act commercially as an electricity generator in South Australia, managing the risks that are associated with it.

The Commission has no objection to SA Water pursuing that activity, acknowledging that there were various submissions that were supportive of the ZCEF initiative.⁴⁸ SA Water is free to pursue the ZCEF program as a commercial venture. By treating it as an unregulated activity, the Commission has removed all costs of the program and all expected future savings that SA Water expects to receive from it. All risks of the project will accrue to SA Water and its owner, the South Australian Government. The Commission's proposed expenditure adjustments to remove the ZCEF program, including forecast electricity costs, are discussed further in Chapter 6.

4.3.1.3 How the revenue cap approach incentivises efficiency

The Commission's proposed revenue cap approach is designed to incentivise efficient behaviour, by encouraging SA Water to incur lower expenditure than that reflected in the maximum revenue caps,⁴⁹ while still achieving its statutory obligations. It aims to achieve that goal in three ways:

1. It sets maximum revenues with regard to the forecast costs that would be incurred by a prudent and efficient entity with the obligations of SA Water, not necessarily SA Water's actual expected costs.

⁴⁷ SA Water, submission to Draft Determination, page 33 (available at <https://www.escosa.sa.gov.au/ArticleDocuments/21479/20200430-Water-SAWRD20-DraftDecisionSubmission-SAWater.pdf.aspx?Embed=Y>)

⁴⁸ For example, the submission from Consumers SA supported the intent of the ZCEF program and commended SA Water for its initiative.

⁴⁹ A revenue cap sets the maximum amount of revenue a regulated firm is allowed to earn over an agreed period.

2. It does not adjust those maximum revenues during the course of the regulatory period (subject to the cost pass-through mechanism and the intra-period project review mechanism). In general, changes to SA Water's costs relative to the efficient costs underpinning the maximum revenues are not passed through to revenues or prices during that period. This means that SA Water incurs the cost of any overspend and retains the benefit of any underspend relative to the expenditure benchmarks. If it incurs costs during a regulatory period below the forecast costs used to determine revenues, those lower costs will be reflected in revenues in the subsequent regulatory period. This allows customers to benefit from any underspend relative to the efficient expenditure benchmarks. Any costs incurred that are above the efficient amounts used to set revenues are only taken into account if the expenditure is prudent and efficient. Expenditure on an activity is considered by the Commission to be prudent where there is a clear need for that activity. The efficient cost is the lowest possible lifecycle cost of delivering a prudent activity.
3. The Commission monitors, reports and enforces compliance against service obligations to ensure that customer service levels are maintained at the required standards.

The incentive to incur only efficient costs is critical to the regulatory framework and is used by other economic regulators in regulating providers of monopoly services. It is designed to give regulated businesses the incentive to reveal their efficient costs – an incentive that does not exist in the absence of competition.

4.3.2 Demand variation adjustment mechanism

The Commission's final decision is to continue the operation of the current demand variation adjustment mechanism, consistent with the requirements of the Pricing Order. Submissions did not comment directly on this mechanism.

SA Water's proposal for the mechanism to apply to drinking water sales (usage) revenue, rather than fixed revenue, is acceptable as it is consistent with the requirements of the Pricing Order, which requires the mechanism to address any '*material variation between forecast and actual rates of consumption*' (emphasis added).

This approach will require SA Water to develop a forecast of drinking water revenue that is based on its proposed prices to apply during the next regulatory period. The Price Determination requires SA Water to submit those forecasts to the Commission by 31 August 2020. Actual drinking water sales revenue will be compared to that forecast at the end of the next regulatory period to determine if the demand variation adjustment mechanism has been triggered. If, during the period, SA Water changes the balance between fixed and variable drinking water prices, which leads to a variation in sales revenue compared to that forecast, the Commission would exclude that price-driven change from the demand variation adjustment as it was not caused by a variation in demand.

The sharing ratio of 50 percent under the current mechanism, subject to the operation of a one percent threshold, is also considered appropriate for SAW RD20, as it balances the requirement for a total revenue cap form of control with the requirement for demand variations to be reflected in revenues.

4.3.3 Shared infrastructure revenue adjustment mechanism

The Commission's final decision is to accept SA Water's proposal to continue the shared infrastructure revenue adjustment mechanism, with the adjustment factor being calculated as 10 percent of non-regulated revenue. The mechanism provides an administratively simple way of ensuring that SA Water's drinking water and sewerage customers share in the benefits of any non-regulated revenues earned by SA Water from the utilisation of regulated assets.

The current approach involves calculating the adjustment factor at the commencement of the regulatory period, based on forecast non-regulated revenue. The Commission has changed that

approach, whereby any difference between actual non-regulated revenue earned from regulated assets and the forecast of that revenue will be determined at the end of the next regulatory period and reflected in the revenue caps to apply in the following regulatory period. This will ensure that the revenue adjustment ultimately reflects actual revenue, not forecast revenue.

The mechanism will not apply to the land or other regulated assets used as part of SA Water's ZCEF initiative. It would be impractical to measure the profit derived from those assets and the costs of administration would likely outweigh the benefits of including those profits.

4.3.4 Cost pass-through mechanism

The Commission will continue to implement a cost pass-through mechanism in its current form, as:

- ▶ it meets the requirements of the Pricing Order
- ▶ it is supported by SA Water in its RBP, and
- ▶ stakeholders have not raised any concerns about it in submissions.

SA Water had stated that it is seeking clarification of the precise value of the materiality threshold that would trigger a cost pass-through.⁵⁰ As noted earlier, the current determination does not define materiality in that way.

The Commission is concerned that a fixed materiality threshold may be inflexible and lead to inappropriate incentives for cost pass-through applications to be driven by the materiality threshold, rather than efficient costs. The current approach allows SA Water to consider materiality in the context of the relevant event.

This approach may, however, create uncertainty for SA Water as the decision on materiality would be taken on a case-by-case basis by the Commission, having regard to SA Water's, and other stakeholders', submissions.

To provide a balance between the desire for flexibility and certainty, the Commission has set an indicative, non-binding, materiality threshold for cost pass-through events. It expects that a cost pass-through event should have an annual cost (revenue requirement impact) of more than \$10 million. While this amount is based on judgement, it represents approximately one percent of SA Water's annual direct control revenue. The Commission notes that a materiality threshold of one percent of annual revenue is also applied under the National Electricity Rules.

SA Water could apply for a cost pass-through event that has an annual revenue impact of less than one percent, if it considered the event to be material in other aspects. In such cases, SA Water would bear the onus of establishing that the event is sufficiently significant to warrant exceptional treatment in addition to the ordinary pass-through event evidentiary requirements.

4.3.5 Intra-period project review mechanism

The Commission's final decision is to include an intra-period project review mechanism, which would allow drinking water and sewerage revenue caps in the next regulatory period (that is, 2024 to 2028) to include prudent and efficient expenditure on predetermined projects that were not incorporated into the revenue caps for this Final Determination due to a contingency (that is, timing or cost uncertainties) or adverse event, but that contingency or adverse event is subsequently resolved during the current regulatory period. The mechanism will ensure that there is a process of consultation and regulatory review, once the probability of the project and its expected costs become known, but before investment is committed.

⁵⁰ SA Water, RBP, Appendix D, p. 10.

Importantly, such projects or programs will be limited in number and already known by SA Water. On that basis, the mechanism will also require SA Water to identify to the Commission by the end of December 2020 the existing projects or programs which it proposes could be dealt with under the mechanism. If any new proposed projects/programs arise during the regulatory period that are not specified under the intra-period review mechanism, SA Water may propose a cost pass-through for those projects/programs, if they meet the required cost-pass through criteria, discussed in section 4.3.4. If they do not meet those criteria, SA Water may choose to propose the projects/programs in its regulatory proposal for SAW RD24. It may also choose to proceed with the projects/programs in the SAW RD20 period and the Commission will assess if they were prudent and efficient in its ex-post review of capital expenditure at the end of the regulatory period.

This highlights a key difference between the intra-period review mechanism and the 'standard' pass-through event mechanism. For the intra-period project review mechanism, the projects are known but also have a known uncertainty (or contingency) such that it would be neither prudent nor efficient to include the associated costs within current revenue caps. In this regard, the Commission does not want consumers to pay for projects where there is genuine uncertainty at this stage as to whether or not the project will proceed. In contrast, the pass-through event mechanism is intended to deal with cases where a new legal requirement, or unforeseen event not within SA Water's control, comes to pass at some stage during the regulatory period.

SA Water's RBP supported the introduction of such a mechanism and it provided to the Commission an initial list of projects that may be subject to the mechanism, noting their current uncertainty in terms of timing or other contingency events.

The report of the Chair of the CNC also supported the mechanism, insofar as it might apply to the ZCEF program.⁵¹ The submission from SACOSS also supported certain projects being considered within a mechanism of this form.⁵²

The Commission proposed such a mechanism in Guidance Paper 8, although it raised it as a concept only, without any detail as to how the mechanism, if implemented, might operate.⁵³

SA Water provided a submission to that Guidance Paper, stating that *'the proposed approach, if effectively implemented, can provide benefit for customers in terms of incentivising efficient investment'*.⁵⁴

However, it sought clarification of various practical issues, such as:

- ▶ the role of stakeholder engagement in any application
- ▶ if it would incorporate operating expenditure
- ▶ how any revenue impacts could be smoothed for customers
- ▶ the criteria relevant to a contingency (or trigger event), and
- ▶ how any new projects, not known at the commencement of the regulatory period, could be brought within the scope of the mechanism.

⁵¹ Report of the Independent Chair of the CNC, p. 47.

⁵² SACOSS, submission to SA Water's RBP, p. 21 and p. 34, available at <https://www.escosa.sa.gov.au/ArticleDocuments/21453/20200116-Water-SAWRD20-SAWaterBusinessProposal2020-Submission-SACOSS.pdf.aspx?Embed=Y>.

⁵³ Commission, Guidance Paper 8.

⁵⁴ SA Water, submission to Guidance Paper 8, November 2019, p.1 available at <https://www.escosa.sa.gov.au/ArticleDocuments/11293/20191119-Water-SAWRD20-GuidancePaper8-Submission-SAWater.pdf.aspx?Embed=Y>.

The intra-period project review mechanism addresses the matters raised by SA Water and other procedural requirements, as follows:

- ▶ By no later than 5:00 pm on 31 December 2020, SA Water may submit to the Commission for approval, a written statement in respect of a new, robustly scoped and non-discretionary major capital project/program that it has not incorporated into its forecast capital expenditure for the regulatory period because of a contingency (or trigger) or adverse event (eg unconfirmed customer demand) which means it is not currently a project/program SA Water can reasonably commit expenditure to
- ▶ SA Water must provide the following supporting information for any purported new, robustly scoped and non-discretionary major capital project/program specified in a written statement and submit it to the Commission:
 - a description of the project/program, the project's/program's anticipated goals/objectives and the proposed benefit to consumers, including reasons as to why it is necessary
 - an explanation of the contingency (or contingencies) or adverse event that has prevented the project/program from being included in SA Water's forecast capital expenditure for the regulatory period and which has a bearing on the viability and objectives of the project/program
 - particulars and outcomes of any public consultation SA Water has undertaken in respect of the project/program
 - the estimated efficient costs/expenses associated with the project/program and any underlying assumptions associated with those costs
 - the estimated efficient costs that SA Water seeks to recover from consumers for the project/program
 - a description of the expenditure associated with the project/program in the context of SA Water's overall forward investment program for the current and subsequent regulatory periods
 - any external funding provided for the project/program (for example, from government or other corporations)
 - the estimated time frame for the completion of the project/program
 - any identified risks associated with the project/program
 - an explanation of why the project/program is urgently required and cannot be deferred to the subsequent regulatory period(s), and
 - any further information that SA Water considers appropriate or important for the Commission to consider.

The Commission may require SA Water to provide any further information or documents in relation to any proposed new major capital projects/programs or require it to undertake further public consultation, as appropriate.

The Commission will determine whether each new major capital project/program specified on the written statement submitted by SA Water for inclusion on the project/program list is pre-approved, and the reasons for that decision, within twelve weeks of a receiving a completed and finalised written statement. The finalised and pre-approved new major capital projects/programs list will be published by the Commission on its website.

While the Commission may be satisfied that a particular new major capital project or program should be placed on its pre-approved new major capital projects/programs list, this does not necessarily mean that SA Water will be allowed to recover any costs associated with that project or program in a subsequent regulatory period. There is a second threshold (or stage) to the intra-period review mechanism that SA Water must also satisfy for that to occur.

If, during the regulatory period, the following requirements are met, SA Water may make a written application to the Commission seeking the future recovery of the efficient costs of a new major capital project/program on the Commission's pre-approved new major capital projects/programs list:

- ▶ the identified contingency or adverse event associated with the pre-approved project/program no longer exists
- ▶ the pre-approved project/program is urgently required to be undertaken within the regulatory period, and
- ▶ there is a reasonable prospect of the anticipated goals/objectives of the pre-approved project/program being realised during the current and subsequent regulatory period, and
- ▶ there is sufficient evidence and information that can be provided to the Commission to allow it to appropriately assess:
 - the efficiency of the up-to-date costs of the pre-approved project/program
 - its purported benefits to consumers
 - why the pre-approved project/program is urgently required, and
 - any risks associated with the pre-approved project/program.

A written application must include the following information (and the Commission has the discretion to ask for additional information):

- ▶ confirmation of the benefits to be (or being) provided to consumers as a result of the completed pre-approved project/program, which includes up to date information and evidence about the views expressed by consumers on the merits and/or any consumer-reported problems or detriments regarding the pre-approved project/program
- ▶ the total efficient costs that will be (or, to some extent, have been) incurred by SA Water in undertaking the pre-approved project/program
- ▶ any external funding provided for the pre-approved project/program (for example from government or other corporations)
- ▶ the efficient costs that SA Water seeks to recover from consumers for the pre-approved project/program
- ▶ an explanation of the outcome or resolution regarding the contingency, contingencies or adverse event identified by SA Water
- ▶ an explanation why the pre-approved project/program cannot be appropriately funded by the maximum revenues allowable under the price determination, and
- ▶ an explanation of why the pre-approved project/program is urgently required.

It is the Commission’s view that there are only limited circumstances in which the intra-period review mechanism may be utilised. The Commission has determined that the mechanism should apply only to those projects/programs that are non-discretionary (for example, where water supply must be augmented to meet demand). Discretionary projects (projects that are not necessary but may deliver net benefits to customers) can only be properly evaluated together with all other discretionary projects, to ensure that consumers’ budget constraints are taken into account. Discretionary projects with low net benefits relative to other discretionary projects may not be prudent and efficient subject to consumers’ overall budget constraint. For that reason, discretionary projects can only be properly considered as part of the four-year regulatory determination process, rather than through an intra-period review.

Allowing for future revenue caps to reflect the efficient costs of a major project or program under this mechanism mitigates the risk of SA Water either delaying appropriate investment, where such investment has not been incorporated in the expenditure forecast underlying the revenue caps, or, where it does invest, ensuring it has been subject to a robust consultation and regulatory review process prior to that investment.

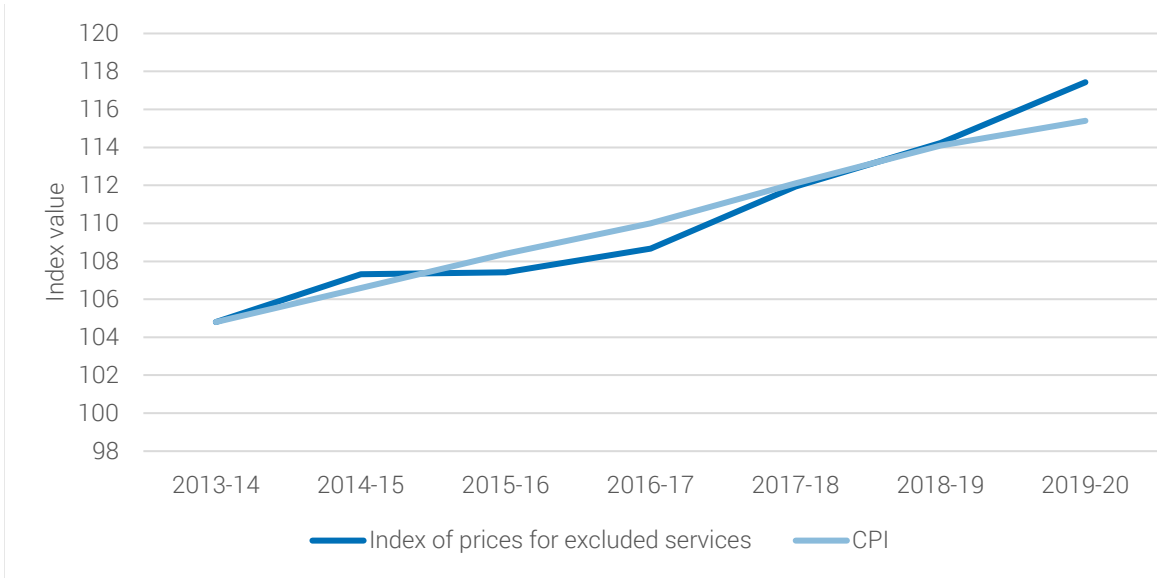
4.3.6 Pricing principles for recycled water and excluded retail services

The Commission will continue to require SA Water to comply with the existing pricing principles for recycled water and excluded retail services. That approach meets the requirements of the Pricing Order for SAW RD20. The principles focus on ensuring that prices reflect efficient costs, which remains an appropriate objective and consistent with the protection of the long-term interests of customers of those services.

While the Commission has discretion to adopt a more prescriptive form of price regulation (for example, revenue caps), which could apply in addition to the pricing principles approach, there is no evidence to suggest that a more prescriptive approach is necessary.

The Commission has examined the trend in excluded service prices since the commencement of its first SA Water regulatory determination in 2013-14. As shown in Figure 4.2, those prices have, on average, moved in line with CPI.

Figure 4.2: Index of fees and charges for excluded services compared with CPI.



Historically, some excluded service prices were set by SA Water above their efficient costs and some were set below their efficient costs. During the SAW RD16 period, SA Water has continued to transition each price towards full efficient costs, consistent with the requirements of the current regulatory determination and the NWI Pricing Principles. The most significant increase in excluded service prices was the 30 percent increase in trade waste volume and load-based prices over a three-year period from 2017 (discussed in section 4.3.6.1 below).

There is no evidence to suggest that SA Water is misusing market power in setting its excluded service prices and that a more direct price control is required. Since 2013, there has been only one formal dispute about an excluded service price and submissions have not argued for a different form of regulation. However, the Commission remains open to new evidence and submissions on this matter.

The Commission will cease the operation of Water Industry Rule No. 1 – Excluded Retail Services, which sets out the procedures and information requirements for resolving any formal disputes about excluded service prices. As that process would involve the Commission establishing whether or not SA Water has complied with the relevant pricing principles, the Commission’s general process for compliance monitoring and enforcement, under Water Industry Guideline 1 – Compliance Systems and Reporting, is sufficient for the making of such decisions. This would remove the potential for inconsistency or confusion between the Industry Rule and the Commission’s general compliance framework.

Recycled water pricing should follow the NWI Pricing Principles for recycled water and stormwater use, which include provisions that beneficiaries of recycled water typically pay the costs but that, where appropriate, pricing should reflect the role of recycled water as part of an integrated water resource planning system.

4.3.6.1 Trade Waste Charges

During the SAW RD16 period, SA Water has continued to transition its excluded service prices towards full efficient costs, consistent with the requirements of the current regulatory determination and the NWI Pricing Principles. That process has involved reducing certain excluded service prices that were set above efficient costs and increasing those that were below efficient costs.

Business SA’s submission to SA Water’s RBP commented on the 30 percent increase in trade waste volume and load-based prices over a three year period and noted that:

...Business SA has been verbally advised by SA Water that trade-waste customers should expect no more than inflation related increases to the charges associated with treating trade waste. We recognise that trade-waste charges are only determined through adherence to pricing principles, but this assurance should be made explicit by SA Water and incorporated into ESCOSA’s 2020-2024 revenue determination.⁵⁵

The Commission will require SA Water to continue to publish its excluded service prices and demonstrate its compliance with the pricing principles. It will review SA Water’s proposed trade waste charges, having regard to the matter raised by Business SA.

⁵⁵ Business SA, submission to SA Water’s RBP, January 2020, p. 8, available at <https://www.escosa.sa.gov.au/ArticleDocuments/21453/20200116-Water-SAWRD20-SAWaterBusinessProposal2020-Submission-BusinessSA.pdf.aspx?Embed=Y>

5 Water Retail Code – Major Retailers

Final Decision – Water Retail Code – Major Retailers

The Commission has made a final decision that the existing consumer protections contained in the Code remain appropriate for SAW RD20, subject to the following variations:

- ▶ Replace references to ‘tenants’ with references to ‘consumers’, in order to improve consistency with the WI Act and the regulations under that Act.
- ▶ Allow bills, notices and other documents to be issued using each customer’s preferred form of communication, with the default remaining hard copy documents sent to the supply address with no specific charge for that service.
- ▶ Allow information about planned interruptions to be provided using a wider range of communication modes (such as SMS, websites, internet apps, and social media), with no changes made to Code requirements about providing information about unplanned interruptions.
- ▶ Require bills, notices and other documents to be in a format that can be easily read and understood by customers, and to be provided in alternative formats for customers with specific needs (for example, needs related to disability).
- ▶ Remove the obligation for SA Water to include a comparison of water usage with other similar customers on residential bills (noting that SA Water may still choose to provide appropriate comparative information).
- ▶ Allow meter readings taken by customers to be accepted as actual meter readings where SA Water considers they are accurate, further reducing uncertainty about potential future bill adjustments.
- ▶ Consistent with national energy market rules, reduce the time limitation on SA Water recovering any amount it undercharges (unless the customer is at fault) from 12 months to nine months.

While the Commission has decided not to add specific provisions for customers experiencing family violence to the Code at this time, it strongly urges SA Water to consider how it responds to the needs of these customers, and to coordinate its response by adopting a family violence policy with a scope similar to that required of Victorian water businesses.

Final Decision – Service standards with performance targets

The Commission has made a final decision that 22 service standards will apply in SAW RD20. The service standards cover aspects of customer service, responsiveness to service issues, service restoration timeliness and the timeliness of connections. Separate service standards for the Adelaide metropolitan area and regional areas are retained. Performance targets are set such that, in most cases, there will be no reduction in service levels (as compared to current levels), but increases in service levels have been effected where SA Water has demonstrated customer support.

5.1 Introduction

5.1.1 Overview of the Code

The Code sets out the behavioural standards and minimum requirements that apply to SA Water for the sale and supply of retail services (water and sewerage) to customers and, in some instances, other consumers. It includes requirements for SA Water to:

- ▶ have a customer charter that sets out the respective rights and obligations of SA Water and its customers⁵⁶
- ▶ have a standard form customer sale contract, and have any amendments approved by the Commission⁵⁷
- ▶ connect customers to its network in accordance with the terms of its connection and augmentation policies, as approved by the Commission
- ▶ minimise supply interruptions, provide information to customers on interruptions and use its best endeavours to meet customer service and network reliability service standards⁵⁸
- ▶ have enquiry, complaint and dispute resolution procedures that provide for escalation to an independent dispute resolution body⁵⁹
- ▶ meet minimum billing requirements to ensure that customers receive accurate billing information in a timely manner, and make provision to resolve billing errors, undercharging and overcharging
- ▶ meet minimum requirements around payment terms, methods and managing payment difficulties experienced by customers⁶⁰, and
- ▶ limit disconnections and restrictions for non-payment to specific circumstances, and fulfil certain obligations prior to restricting a customer.

SA Water is required to demonstrate to the Commission that it has adequate systems and processes in place to comply with the Code's requirements, and to report any material breaches of its obligations as soon as practicable (and non-material breaches within designated timeframes).⁶¹

The Commission's compliance framework focuses on ensuring that SA Water provides rectification or restitution to customers as a first priority, then identifies the root cause of any material breach of

⁵⁶ SA Water, Customer Charter, February 2019, available at https://www.sawater.com.au/_data/assets/pdf_file/0005/6773/Customer-Charter.pdf.

⁵⁷ SA Water, Standard Customer Contract, June 2018, available at https://www.sawater.com.au/_data/assets/pdf_file/0008/6776/Standard-Customer-Contract.pdf.

⁵⁸ Service and reliability standards are set out in Schedule 1 of the Code, available at <https://www.escosa.sa.gov.au/ArticleDocuments/334/20160606-Water-Retail%20Code-MajorRetailersWRC-MR02.pdf.aspx?Embed=Y>.

⁵⁹ The EWOSA is SA Water's approved independent dispute resolution body.

⁶⁰ SA Water, Hardship Policy for Residential Customers, August 2018, available at https://www.sawater.com.au/_data/assets/pdf_file/0005/288977/hardshippolicy_0818.pdf.

⁶¹ Commission, Water Industry Guideline No 1 – Compliance System and Reporting, July 2016, available at <https://www.escosa.sa.gov.au/ArticleDocuments/952/20160706-Water-GuidelineNo1-ComplianceSystemsReporting-WG1-04.pdf.aspx?Embed=Y>.

obligations and puts in place systems and processes to minimise future non-compliances. Enforcement action is taken where there is ongoing, wilful and/or material non-compliance.⁶²

5.1.2 Review process

The consumer protections contained in the body of the Code have been reviewed by the Commission as part of the SAW RD20 process, noting that SA Water's RBP did not propose any changes to those consumer protections

The review process has involved wide-ranging stakeholder engagement and research by the Commission, including:

- ▶ a series of workshops with SA Water that focused on obligations regarding communications, billing and complaints, and payment difficulty and hardship
- ▶ consultation with members of the CEP, which was informed by a background briefing paper published by the Commission,⁶³ to which one formal submission was made (by SACOSS)⁶⁴
- ▶ a review of developments in this area in other jurisdictions
- ▶ analysis of complaints data held by the Commission and case data held by the EWOSA, and
- ▶ consideration of the findings and recommendations of various regulatory, compliance and audit reports.⁶⁵

In terms of service standards, SA Water's RBP proposed 19 standards. These included new customer service standards (to monitor customer satisfaction, first contact resolution and complaint escalation to EWOSA), a new service standard for responsiveness to low priority water network events, and the consolidation of service standards that currently apply separately to the Adelaide metropolitan area and regional areas.

5.2 Changes to consumer protections

The Final Determination makes Code amendments that relate to seven main consumer protection matters; this section discusses each in turn.

Submissions to the Draft Determination from EWOSA, SACOSS and SA Water were supportive of changes to the consumer protections in the Code and the final decisions on those matters are, in the main, the same as those in the Draft Determination. For example, SA Water noted that the: *'[p]roposed changes to the Water Retail Code will deliver positive outcomes for customers and SA Water supports this.'*⁶⁶

⁶² Commission, Enforcement Policy, September 2013, available at https://www.escosa.sa.gov.au/ArticleDocuments/580/130905-EnforcementPolicy_V2-5.pdf.aspx?Embed=Y.

⁶³ Commission, CEP – background briefing, June 2019, available at <https://www.escosa.sa.gov.au/ArticleDocuments/11294/20190805-Water-SAWRD20-BackgroundBriefing-ReviewWaterRetailCode-MajorRetailers-CEP.pdf.aspx?Embed=Y>.

⁶⁴ SACOSS, submission on the CEP Background Briefing, August 2019, available at <https://www.escosa.sa.gov.au/ArticleDocuments/1200/20190902-Water-SAWRD20-WaterRetailCodeReviewSubmission-SACOSS.pdf.aspx?Embed=Y>.

⁶⁵ The Commission's routine regulatory reports, as well as audits including: Cardno, Audit of SA Water performance indicator data – report prepared for the Essential Services Commission of South Australia, April 2019 and SA Water, Internal audit report – connections management – performed by KPMG, June 2017.

⁶⁶ SA Water submission to Draft Decision, p. 54.

However, several specific matters were raised in submissions and through consultation have led to some further revisions, as follows (and as discussed in more detail later in this Chapter):

- ▶ that timeframes for bill pay-by dates and reminder notice periods will be set to reflect SA Water's current billing practices (this affects clauses 18.9.1, 18.10.2(c) and 20.3.1(b)(iii))
- ▶ that timeframes for minimum restriction warning notice periods do not need to be revised to reflect changes in Australia Post delivery times (this affects clauses 26.1.2(d) and 26.4.1(f)), and
- ▶ that, in addition to advising a customer if it has decided not to accept a meter read taken by a customer, SA Water must send a field officer to attempt to inspect the meter within 10 business days (clause 18.4.2(e)).

5.2.1 Replace references to 'tenants' with 'consumers'

The Commission has replaced references to 'tenants' in the Code with references to 'consumers', to improve consistency with the WI Act and regulations under that Act. This affects clause 2.3 (obligation to provide customer charter), clause 8.1 (concessions, rebates or grants), clause 18.11 (historical billing data), and clause 26 (prohibitions on water service flow restrictions).

There are some provisions in the Code that currently apply to 'tenants' in specified circumstances. This reflects the position in the WI Act, where the definition of 'customer' includes consumers in prescribed circumstances (as specified in Regulation 4 of the Water Industry Regulations 2012). The prescribed circumstances include dispute resolution, disconnections, and inclusion in the industry ombudsman scheme.

Clarifying that Code provisions are for 'consumers' rather than 'tenants' should also reduce ambiguity. For example, the term 'tenants' may exclude long-term house sitters and other unique arrangements where people are living at residential premises.

Through consultation, several stakeholders expressed the view that the current WI Act definition of 'customer', adopted by the Code, could usefully be extended to include other consumers, particularly tenants.⁶⁷ The Commission has documented these issues and, where relevant, referred them to the DEW, which is currently undertaking a legislative review of the WI Act.⁶⁸

In the event that, as a result of the WI Act review, the definition of 'customer' is extended to include some or all other consumers, the removal of references to 'tenants' in the Code will improve consistency with the WI Act.

5.2.1.1 Matters raised in consultation

EWOSA and SACOSS' submissions to the Draft Determination were supportive of this change.⁶⁹ In its submission, Uniting Communities queried the impact of replacing the term 'tenant' with 'consumer'.

⁶⁷ Including SACOSS, as noted in its Submission on the CEP Background Briefing, as well as Uniting Communities and the Energy and Water Ombudsman of SA, as noted in SA CEP, SA Water Regulatory Determination 2020: Priorities Report, July 2019, available at <https://www.escosa.sa.gov.au/ArticleDocuments/11294/20190107%20-Water-SAWRD20-ConsumersExpertsPanel-PrioritiesReport.pdf.aspx?Embed=Y>.

⁶⁸ Department for Environment and Water, Review of the WI Act – discussion paper, April 2019, available at <https://s3-ap-southeast-2.amazonaws.com/assets.yoursay.sa.gov.au/production/2019/04/19/20/45/24/f452bd5a-b547-4987-b3a6-cc9e4ad15321/2018%20Review%20of%20the%20Water%20Industry%20Act%20-%20Discussion%20Paper.pdf>.

⁶⁹ EWOSA submission to Draft Decision, p. 2, SACOSS submission to Draft Decision, p. 28.

Uniting Communities noted that:

*'... private-sector renters [are] at a disadvantage with regard to their relationship with SA Water as very few have access to hardship programs, in reality, and have to wrangle the often difficult three way relationship with SA Water regarding the landlord as their customer while the tenant actually is responsible for paying the bill.'*⁷⁰

It was of the view that: *'renters need to be regarded as the end consumer of SA Water services and have access to the services and supports that are available to home owning customers'*⁷¹, and queried whether that is the intent of replacing references to 'tenants' with 'consumers'.

The Commission's decision to replace the term 'tenant' with 'consumer' will improve consistency with the WI Act and regulations under that Act. The change means that 'consumer' will become a defined term, with the definition being the same as that in the WI Act: *'a person supplied with retail services as a consumer or user of those services'*. Tenants are consumers, but a 'consumer' may also include long-term house sitters and other people who have entered into unique arrangements whereby they are living at residential premises.⁷²

In making this change, the Commission is not altering the protections that currently apply to tenants. It is simply clarifying that the existing protections apply to a slightly broader group of people. These changes do not, however, give tenants the *'access to the services and supports that are available to home owning customers'*⁷³ sought by Uniting Communities.

The Commission recognises the issues raised by Uniting Communities, EWOSA and SACOSS in respect of how Code provisions, particularly payment difficulty and hardship provisions, relate to residential tenants.⁷⁴ As discussed above in section 5.2.7, the South Australian Government is currently reviewing the WI Act, including requirements relating to hardship and consumer protections, and their application to residential tenants. The Code cannot extend the circumstances in which protections apply to tenants in a way that is inconsistent with (or additional to) the circumstances prescribed under the WI Act. Accordingly, the Commission must await the completion of the WI Act review before determining whether or not any further substantive Code amendments can be made.⁷⁵

5.2.2 Increase flexibility of communication

The way that SA Water communicates with its customers is changing. Its use of newer communication channels (such as SMS, mobile applications, websites, email and social media) has expanded since the previous regulatory determination in 2016. SA Water now uses new channels alongside more traditional channels (such as telephone), and uses some channels less than it did in the past (such as letter, radio, newspaper and fax).

⁷⁰ Uniting Communities submission to Draft Decision, p. 8.

⁷¹ Uniting Communities submission to Draft Decision, p. 8.

⁷² Owner-occupiers, who are also SA Water customers, are included in the term 'consumers'. The protections in the relevant clauses are worded so as to apply to, for example, 'customer or consumers' or 'a residential customer or a consumer'.

⁷³ Uniting Communities submission to Draft Decision, p. 8.

⁷⁴ EWOSA submission to Draft Decision, p. 2, SACOSS submission to Draft Decision, pp. 29 - 31.

⁷⁵ Consumer protections dealing with payment difficulty and customer hardship are provided through the Commission's hardship provisions under the Code, which are required under section 25(5) of the WI Act. Section 37 of the WI Act further requires SA Water to have a hardship policy in place which, if different to the Minister's Hardship Policy, is approved by the Commission. In approving SA Water's hardship policy, the Commission seeks advice from the Department of Human Services, which has social policy expertise and responsibility for development of the Minister's Hardship Policy.

For this reason, as explained in more detail below, the Commission has through the Code:

- ▶ increased flexibility in how bills, notices and other documents are sent, and
- ▶ increased flexibility in how information is provided about planned interruptions.

The final decision on these matters is the same as the draft decision. Submissions to the Draft Determination from EWOSA and SACOSS were supportive of the Commission's positions.⁷⁶

Flexibility in how bills, notices and other documents are sent

The Commission has amended the Code so that bills, notices and other documents may be issued using each customer's preferred form of communication, provided that form is reasonable. This affects clause 4.1 (direct written communications) and clause 18.3 (billing address).

The Code requires SA Water to issue bills, notices and other documents to customers.⁷⁷ The means by which customers receive these communications have expanded beyond paper bills, notices handed to customers and email (which are provided for in the current Code) to include messages sent by SMS and mobile applications. Technology change is likely to present further options for telecommunication.

The Code amendment allows customers to choose how they receive bills, notices and other documents. It includes a 'safety net' for those who cannot receive communications by email or SMS, for example, as they do not have internet access or may have low levels of digital literacy, or simply choose not to receive communications by these means.

That 'safety net' is the provision that customers will continue to receive hard copies of bills, notices and other documents if they do not nominate an alternative and that those hard copies are to be provided at no charge (unless the Code otherwise provides for a reasonable cost to be charged).

The amendment provides that the customer's preferred form of communication must be used, so long as it is reasonable. This means, for example, that SA Water need not accept a request to use a mode of communication that is prohibitively expensive.

Further, the amendment allows customers to nominate different methods of communication for different supply addresses. For example, to receive bills for their home via email, but to have bills for a rental property sent to a property manager.

The amended clauses require that billing information provided must be readily accessible so as to be useable for subsequent reference (for example, as a PDF document or reusable link). This is a requirement of the *Electronic Communications Act 2000* (South Australia).

Flexibility in providing information about planned interruptions

The Commission has amended the Code to allow SA Water greater flexibility in how it provides information about planned interruptions. This affects clause 16.3.2 (information about interruptions). Provisions for providing unplanned interruption information will not change.

Clause 16.3.2 currently requires SA Water to provide four business days' notice of planned interruptions, both in writing and '*by radio or newspaper where it is not practicable to send a notice in writing due to the number of customers affected*'.

⁷⁶ EWOSA submission to Draft Decision, p. 2, SACOSS submission to Draft Decision, p. 28.

⁷⁷ In relation to tenanted properties, the customer is the land owner. Direct written communications required by the Code are with the customer as the land owner unless otherwise specified.

The amendments to clause 4.1 (direct written communications) discussed above mean that, when SA Water is required to provide customers written notice of planned interruptions, it will be able to do so using each customer's preferred form of communication (where one has been advised).

The requirement that SA Water provides notice of planned interruptions '*by radio or newspaper where it is not practicable to send a notice in writing due to the number of customers affected*' (contained in part (b) of clause 16.3.2) will be replaced with '*in a manner that is likely to come to the attention of members of public who may be affected by the interruption where it is not reasonably practicable to send a notice in writing to each customer due to the number of customers affected*'. This will allow for use of a range of communication forms, including but not limited to radio, newspaper, web, social media and broadcast SMS (where messages are sent to all customers in an area).

No changes have been made to provisions for providing information about unplanned interruptions. The Code (clause 16.3.1) currently requires SA Water to provide a 24-hour emergency telephone service to enable a customer to ascertain details and the expected duration of any interruption to supply and for the notification of emergencies and faults.

Stakeholders expect SA Water to make full use of all channels available to communicate with its customers when there is an unplanned interruption. There is evidence that SA Water is proactive in this regard: it is trialling use of broadcast SMS to advise customers affected by faults and already uses SMS to update customers who have reported a fault. Further, SA Water posts information about planned and unplanned interruptions online on its searchable map and uses social media to relay information.

Minimum notice period ahead of planned interruptions

The Commission considered requiring SA Water to provide a longer minimum notice period ahead of planned water interruptions for customers with particular water needs due to disability. This was a recommendation of recent research conducted by disability advocacy group JFA Purple Orange and funded by the South Australian Government's Consumer Advocacy and Research Fund.⁷⁸

Discussions with SA Water and JFA Purple Orange have identified that further analysis of both the costs and practicalities of providing a longer notice period, and the type of notice required, is needed to develop this recommendation into a proposal. Based on those discussions, the method of notification and support offered to those customers during planned and unplanned interruptions seem to be as important as the length of the notice period.

In 2018, SA Water established its Wider World Initiative, to understand the needs of this group, and it has developed 16 project proposals as a result. As part of the Wider World Initiative, SA Water proposes to provide tailored notification and support to customers with particular water needs due to disability.

SA Water sees the first step in doing so as identifying customers with critical needs in its Customer Relationship Management system (CRM). Upgrades to the CRM are needed for this purpose, to enable the particular needs of customers to be recorded. At the same time, work is planned on scoping the costs and practicalities of delivering extra support. The Commission notes SA Water's intention, as indicated in the Wider World Initiative documentation, for the critical needs of customers with disability to be able to be registered in the CRM by 2022.

⁷⁸ JFA Purple Orange, Water Consumers Research Project, June 2017, available at https://www.purpleorange.org.au/application/files/6215/2809/3035/JFA_Purple_Orange_Water_Consumer_s_Research_Report_Final_Version.pdf, JFA Purple Orange, Water Consumers Research Project 2 – High water needs of people living with disability and their families in South Australia, August 2019, available at https://www.purpleorange.org.au/application/files/6215/6706/5119/Water-Consumers-Report_accessible.pdf.

On that basis, the Commission has made the final decision that, at this point in time, it will not change the Code to require either a longer minimum notice period ahead of planned water interruptions for this group or that SA Water establish a critical care register. The Commission expects SA Water to report on progress on this matter over the course of the SAW RD20 period and, if it proposes to seek revenue recovery for it in the next regulatory period, to submit a fully scoped, detailed and evidence-based proposal that builds on that progress.

5.2.2.1 Matters raised in consultation

In relation to the critical needs register, the Draft Determination noted that SA Water should make it simple and easy for customers to nominate their needs. That is, for customers to be able to self-identify that they have critical water needs as the result of a disability, and that medical documentation should not be required.

In consultation, SA Water put the view that medical documentation should be required to access some types of support, particularly support of a financial nature (such as concessions or discounts), which SA Water may include in its future tailored support for customers with particular needs related to disability.

The Commission expects SA Water to engage with customers and the Commission, as it designs its critical needs register and further discuss what documentation should be required. SA Water must ensure fair access to support for customers with particular needs due to disability.

5.2.3 Improve accessibility of communication

The changes described in section 5.2.2 relate to the communication channels used to send and receive bills, notices and other documents. The Commission has made a related amendment to the Code to introduce a general requirement that SA Water present bills, notices and other documents in a format that can easily be read and understood by customers.

This is a requirement that SA Water provides bills, notices and other documents in alternative formats (for example, Easy English,⁷⁹ talking bills or Braille) for customers with specific needs, such as needs related to disability or low levels of literacy. This affects clause 4.2.2 (accessible communication) and clause 18.7.3 (contents of bills) of the Code.

The final decision on this matter is the same as the draft decision. Submissions to the Draft Determination from EWOSA and SACOSS were supportive of this change.⁸⁰ SACOSS noted that it *'particularly welcomes the new accessible communication provisions and commends the Commission on consulting with JFA Purple Orange in the drafting of those provisions.'*⁸¹

This final decision responds to concerns raised by SACOSS in earlier stages of consultation about the need for accessible communication with SA Water for all customers, including those with specific needs, particularly relating to disability.^{82,83}

⁷⁹ Easy English is a style of writing that uses simple language, focuses on key information and is supported by images. It helps readers understand information.

⁸⁰ EWOSA submission to Draft Decision, p. 2, SACOSS submission to Draft Decision, p. 28.

⁸¹ SACOSS submission to Draft Decision, p. 28.

⁸² As noted in by the SACOSS in the SA CEP, SA Water Regulatory Determination 2020: Priorities Report, and in its Submission on the CEP Background Briefing.

⁸³ JFA Purple Orange, Water Consumers Research Project, June 2017, available at https://www.purpleorange.org.au/application/files/6215/2809/3035/JFA_Purple_Orange_Water_Consumers_Research_Report_Final_Version.pdf, JFA Purple Orange, Water Consumers Research Project 2 – High water needs of people living with disability and their families in South Australia, August 2019, available at

Generally, where the Commission has evidence that SA Water is responding to the needs of its customers in a timely manner, it will not introduce further Code obligations. In this instance, however, broadening the Code requirements for how SA Water provides bills, notices and other documents will support the work that SA Water has indicated is already underway.

5.2.3.1 Matters raised in consultation

SA Water queried the proposed Code amendment at clause 18.7.3 (contents of bills) to require that it provide bills, notices and other documents in alternative formats. It asked specifically if it would need to provide large print copies of bills, if requested.

The new requirement at clause 18.7.3 (content of bills), and the similar requirement at clause 4.2.2(b) regarding other notices and documents, do not require specific formats. The examples provided are non-binding.

This creates an obligation for SA Water to understand the formats that would be useful for customers with specific needs, through engagement, and meet those where reasonably practicable. To demonstrate its compliance with this clause, SA Water's decision about which format to provide must be supported by evidence of engagement with customers that have specific needs due to disability and with disability advocacy groups.

5.2.4 Remove comparison with other similar residential customers from bills

The Commission has removed the requirement for SA Water to include, on residential bills, a comparison of water usage with other similar customers. This affects clause 18.8.1(b) (average daily usage) of the Code. The final decision on this matter is the same as the draft decision. Submissions to the Draft Determination from EWOSA and SACOSS were supportive of this change.⁸⁴

SA Water redesigned its residential bills during 2019. A series of focus groups and a survey of 400 customers were used to inform the redesign. That research found that customers engage only briefly with bills, that many customers find the comparison data either too detailed and confusing or not sufficiently tailored and what customers find most useful is the comparison with their own historical usage.

Based on that research, in October 2019 the Commission provided SA Water with approval to remove this comparison from redesigned residential bills that will be introduced during 2020, and to instead provide the comparison on its website to provide information for those customers that are interested in comparing their usage with the usage of similar customers (for example, to understand a large bill, or think about water efficiency).⁸⁵

SA Water has expressed interest in understanding whether its customers would use an interactive comparison tool. This could enable comparisons of customers in specific groups, such as customers with particular water use needs due to disability (the demand for this is supported by recent Consumer Advocacy and Research Fund research), and allow additional information to be provided. The Commission supports SA Water investigating whether or not this is of value to customers.

https://www.purpleorange.org.au/application/files/6215/6706/5119/Water-Consumers-Report_accessible.pdf.

⁸⁴ EWOSA submission to Draft Decision, p. 2, SACOSS submission to Draft Decision, p. 28.

⁸⁵ Clause 18.8.3 allows that SA Water may issue a bill without comparisons if approval is provided in writing by the Commission.

5.2.5 Allow meter reads by customers to be accepted as actual meter reads

The Commission has amended the Code to allow meter reads taken by customers to be accepted as actual meter reads, where SA Water considers them to be accurate. This affects Code clauses 18.4 (basis for bills) and 18.5 (actual meter reads). Submissions to the Draft Determination from EWOSA and SACOSS were supportive of this change.⁸⁶

The final decision on this matter is the same as that in the Draft Determination, with one amendment. That is, where SA Water does not accept a meter read taken by a customer, it must send a field officer to inspect the meter within 10 business days.

This change will allow customers to take and submit their own meter reads, though they will be under no obligation to do so. It will remain SA Water's responsibility to ensure regular meter reads occur.

SA Water will continue to have an obligation to use its best endeavours to ensure an actual meter read is taken every 12 months (as required under clause 18.5.2), although this obligation will be able to be fulfilled either by SA Water taking a read or by SA Water accepting a read taken by a customer.

These amendments will remove uncertainty about whether future bill adjustments will occur after a customer submits their own meter read. Currently, customers are invited to submit their own meter reads where SA Water cannot access a property to read a water meter. These reads become the basis of estimated bills. Until SA Water obtains access and takes its own meter read there is uncertainty about whether there will be future bill adjustments.

These amendments offer the potential to reduce the costs of meter reads. For example, SA Water may decide to concentrate on having customers in low-density regional areas (where the cost of conducting meter reads per customer is relatively high) submit their own meter reads. Further, the amendments introduce the possibility that actual reads could be taken by customer proxies, such as property conveyancers or property managers.

A related, although minor, matter of note is that SA Water continues to manage a small number of customers that do not allow access for conducting meter reads over an extended period, which leads to inaccurate billing and means that SA Water incurs costs in attempting to arrange access.⁸⁷ These amendments may assist with better managing this issue.

The main risk associated with allowing actual meter reads to be taken by customers is inaccuracy. Where this is the case, SA Water will not recover the correct amount from the customer. This may mean that a customer pays too much or that the costs remain with SA Water (and are ultimately borne by other water customers).

To manage this risk, the amendments to clause 18.4 include protections for customers and SA Water. They give SA Water:

- ▶ discretion over the form in which a customer read may be provided (for example, as a photo, or a keyed-in read)
- ▶ discretion over whether to accept a customer read if it does not consider it reasonably accurate (for example, if the photo is not of that customer's meter, or the meter display is not clearly visible)
- ▶ responsibility to provide explanation to a customer within five business days if it has decided not to accept a read

⁸⁶ EWOSA submission to Draft Decision, p. 2, SACOSS submission to Draft Decision, p. 28.

⁸⁷ At July 2019, 429 customers had not allowed access for SA Water to conduct meter reads for more than two years. This number has fallen from 900 at the time of SAW RD16, and from 2,500 at the time of SAW RD13).

- ▶ responsibility to send a field officer to inspect the meter following that explanation and, in any case, within 10 business days
- ▶ responsibility to provide clear information and instructions for customers about how to take a meter read, and
- ▶ responsibility to set out a process under its standard complaints and dispute resolution procedures to attempt to rectify a disputed meter read taken by a customer.

SA Water considers it low risk that meter reads taken by customers may be inaccurate, as its practical experience is that the majority of reads submitted by customers (used as the basis for estimated bills) are in line with subsequent reads conducted by SA Water.

However, SA Water plans to mitigate the risk of inaccurate reads by:

- ▶ only accepting reads taken by customers in the form of photos
- ▶ only accepting reads that are consistent with previous consumption at the supply address, and
- ▶ obtaining a physical inspection of each meter at least every two years.

SA Water has undertaken to review these risk mitigation practices if there is a material increase in the number of inaccurate customer reads received as a result of this change. The Commission expects SA Water to inform the Commission of any subsequent changes required to continue to appropriately manage this risk.

Obtaining a physical inspection of each meter at least every two years will allow SA Water to monitor the accuracy of customer meter reads and assess if the overall number of inaccurate reads is acceptable. However, where it has already accepted a customer read, SA Water will not be able to adjust meter reads or bills on the basis of these physical inspections.

Currently, SA Water is able to recover undercharged amounts where a customer does not allow access to their property for conducting meter reads, without limitation, after it ultimately takes a meter read (as per clause 21.1). This will continue to be the case. However, following the change described in this section, if a customer that has not allowed access submits their own read, which SA Water accepts, that actual read date would limit any future recovery of undercharged amounts.

5.2.5.1 Matters raised in consultation

In consultation, SA Water responded to the new requirement at clause 18.4.2(d) that it must provide an explanation to a customer within five business days if it has decided not to accept a meter read taken by that customer. Clause 18.4.2(d) says that:

'With regard to an actual meter read that is undertaken by a customer (and not the retailer or its agents), the retailer (d) must provide an explanation to a customer within five business days if it has reasonably formed the view not to accept a read of the relevant meters at the customer's supply address which specifies how the read is deficient and: (i) what is required for it to meet the requirements of an actual meter read and be accepted; or (ii) the reasons for why the retailer is not accepting an actual meter read from the customer.'

SA Water already accepts meter reads taken by customers as the basis for estimated bills. In its current practice, where it receives a read which it considers unacceptable (because, for example, it is not consistent with historical consumption), it does not routinely contact customers to advise the read is unacceptable. It does, however, send a field officer to the supply address to inspect the meter, within 10 business days of the customer submitting their read.

SA Water has indicated that it can accommodate the new requirement to contact customers to advise the read is unacceptable but may need to collect additional contact information when the customer submits the read in order to do so.

Having a timeframe associated with sending a field officer to the supply address to inspect the meter, if required, will be a valuable outcome for customers. It will add certainty about water consumption, and the billed amount, which will be missing if SA Water simply advises it will not accept a read.

Therefore, in the Final Code, a new clause 18.4.2(e) has been added so that SA Water is required to send a field officer to the supply address to inspect the meter, so water consumption for the billing period may be settled. (This is in addition to clause 18.4.2(d) which requires SA Water to provide an explanation to a customer within five business days if it has decided not to accept the read). The requirement is to send a field officer to inspect the meter, rather than to conduct a meter read, in recognition that access to the meter may not be possible, which may be more likely where a customer has decided to submit their own read.

The Commission notes that the costs of managing meter reads from customers may change as a result of these amendments, but has not accepted a specific additional cost. The actual cost to contact customers to provide an explanation where a read is not accepted, and to send a field officer to inspect the meter, will depend on the number of customers that take up the option of submitting their own meter reads and how accurate those reads are. This cost may, over time, be offset by reduced costs of conducting meter reads, if more customers use the opportunity to read their own meters (as discussed above).

5.2.6 Change the limit on recovering undercharged amounts from 12 months to nine months

Under previous arrangements, where SA Water makes an error or omission and undercharges a customer as a result, it may only recover amounts undercharged in the 12 months before the error is discovered.

The Commission has now reduced the time limitation on SA Water recovering any amount it undercharges in these circumstances from 12 months to nine months. The relevant amendments are to clause 21.2 (undercharging) and clause 18.2 (failure to issue a bill).

The final decision on this matter is the same as the draft decision. Submissions to the Draft Determination from EWOSA and SACOSS were supportive of this change.⁸⁸

This amendment was suggested by EWOSA during consultation for this review. EWOSA noted that customers may find it difficult to pay undercharged amounts when they are later recovered and that a nine-month limitation is applied in the National Energy Retail Rules.⁸⁹

5.2.6.1 Matters raised in consultation

In consultation, SA Water indicated that it is not opposed to this change, but that its implementation will require a change to its billing system, and incur a one-off cost of around \$20,000. The Commission accepts that this change is likely to require a change to SA Water's billing system, but considers that the small cost involved can be accommodated within the overall IT expenditure amounts incorporated into this Final Determination.

⁸⁸ EWOSA submission to Draft Decision, p. 2, SACOSS submission to Draft Decision, p. 28.

⁸⁹ Australian Energy Market Commission, National Energy Retail Rules Version 19, Rule 30, available at <https://www.aemc.gov.au/sites/default/files/2019-12/NERR%20-%20v19%20-%20Part%202.pdf>.

5.2.7 Payment difficulty and hardship

Given that the South Australian Government is currently undertaking a review of the WI Act's payment difficulty and hardship provisions, and that the review may give rise to statutory amendments, the Commission will postpone its response on Code-related issues on those matters until that review is finalised.⁹⁰ The final decision on this matter is the same as the draft decision.

The Commission acknowledges the importance to stakeholders of the Codes' payment difficulty and hardship provisions.⁹¹ A number of issues with those provisions have been raised and documented, including that:

- ▶ the extent of payment difficulty and financial hardship amongst SA Water customers is unclear, making the extent of the issue and effectiveness of current provisions hard to assess
- ▶ current payment difficulty and hardship provisions exclude residential tenants, and the ambiguity in the WI Act on this matter
- ▶ early assistance of the type the Code requires when a customer faces initial payment difficulty, may not be readily accessible, and
- ▶ access to higher levels of assistance provided in SA Water's hardship program may be improved.

The Commission has documented these issues, and, where relevant, referred them to the DEW, which is conducting the WI Act review.

5.2.7.1 Matters raised in consultation

Submissions from EWOSA, SACOSS and Uniting Communities reiterated the importance of the Code's payment difficulty and hardship provisions, and how those provisions relate to residential tenants.⁹²

SACOSS and Uniting Communities noted the potential for the outbreak of COVID-19 and the related containment measures to exacerbate financial hardship amongst SA Water customers and tenants.

For example, Uniting Communities noted that *'the impacts of COVID-19 virus will almost certainly mean that many more SA Water customers will face payment difficulties, this matter now becomes ever more prescient.'*⁹³ However, Uniting Communities supported *'the decision of the Commission to postpone its response to payment difficulty and hardship provisions until the WI Act review is completed.'*⁹⁴ EWOSA noted the Commission's position on that matter.⁹⁵

SACOSS, however, raised concern about improvements to the Code's payment difficulty and hardship provisions being delayed until after the WI Act review, particularly in the context that the outbreak of

⁹⁰ Consumer protections dealing with payment difficulty and customer hardship are provided through the hardship provisions under the Code, which are required under section 25(5) of the WI Act. Section 37 of the WI Act further requires SA Water to have a hardship policy in place which, if different to the Minister's Hardship Policy, is approved by the Commission. In approving SA Water's hardship policy, the Commission seeks advice from the Department of Human Services, which has social policy expertise and responsibility for development of the Minister's Hardship Policy.

⁹¹ As noted by Consumers SA, EWOSA, SACOSS, and Uniting Communities in the SA CEP, SA Water Regulatory Determination 2020: Priorities Report, and in submissions to the Commission on SA Water's RBP from EWOSA, SAFRRA and Uniting Communities.

⁹² EWOSA submission to Draft Decision, p. 2, SACOSS submission to Draft Decision, pp. 28 – 31, Uniting Communities submission to Draft Decision, p. 8.

⁹³ Uniting Communities submission to Draft Decision p. 8.

⁹⁴ Uniting Communities submission to Draft Decision p. 9.

⁹⁵ EWOSA submission to Draft Decision, p. 2.

COVID-19 and the related containment measures may further delay amendments to legislation, which may be recommended as part of the WI Act review.⁹⁶

Accordingly, SACOSS sought that the Code provide payment difficulty and hardship provisions to the maximum extent it is able, until such time as amendments to the WI Act are made. To this end, SACOSS recommended that the Commission change the Code's definition of 'residential customer' to use the definition set out in section 37(5) of the WI Act, which includes consumers that are not land owners.⁹⁷ Further, it recommended that the Commission consider whether there are any legislative barriers to providing additional protections for 'consumers' within the Code.⁹⁸

The Commission acknowledges SACOSS's concern about deferring any change to the Code's payment difficulty and hardship provisions until after the WI Act review, particularly given that it is not clear when stakeholders will next have an opportunity to contribute to that review, or when it will be finalised. Further, the Commission acknowledges this concern may be heightened by the potential for the outbreak of COVID-19 and related containment measures to lead to increased financial hardship. The Commission intends to respond promptly to any amendments to the WI Act, and to consult broadly on subsequent changes to hardship provisions.

The Commission considers that the Code currently provides payment difficulty and hardship provisions to the extent it is able, and will review those provisions following conclusion of the review of the WI Act.

The Code's current definition of 'residential customer', *'a customer which acquires retail services primarily for domestic purposes'* is consistent with the requirements of the WI Act.⁹⁹ The definition of 'residential customer' in section 37(5) of the WI Act applies only to that section, and only for the purposes of the Minister developing and publishing a customer hardship policy.

Outside of that section, the WI Act extends its definition of 'customer', *'a person who owns land in relation to which a retail service is provided,'* to consumers only in specific prescribed circumstances: limitations on grounds for disconnection and processes to be followed before disconnection; dispute resolution; and, operation of the Ombudsman scheme.¹⁰⁰

In utilising its powers to make Code provisions under the WI Act, the Commission can only make provisions which protect consumers to the extent it is consistent with the WI Act. Put another way, the Commission cannot create Code provisions that cover consumers unless they have been specifically brought within the definition of 'customer' within the WI Act.

5.2.8 Family violence

The Commission has considered whether to add specific provisions to the Code for customers experiencing family violence. Noting the lack of a specific legislative mandate to make explicit family violence provisions for customers, which does exist interstate, the Commission has decided not to pursue this matter through changes to the Code at this time.

⁹⁶ SACOSS submission to Draft Decision, p. 31.

⁹⁷ SACOSS submission to Draft Decision, pp. 28 - 29.

⁹⁸ SACOSS submission to Draft Decision, pp. 30 - 31.

⁹⁹ Specifically, it is consistent with the Minister's designation that 'residential customers' are 'customers who are supplied with, or seek provision of, a retail service (or retail services) primarily for domestic purposes,' Government Gazette 20 December 2012, p. 5708. This designation is made for the purposes of section 25(1)(b)(c)(d)(h) and section 36 of the WI Act. Section 25(1) relates to the licence conditions the Commission must impose on water industry entities, which include compliance with Code provisions.

¹⁰⁰ WI Act section 4(1), WI Regulation 4.

In Victoria, under a specific legislative mandate, the Essential Services Commission of Victoria (ESCV) introduced family violence provisions into its Customer Service Codes for Urban and Rural Water Businesses in 2018.¹⁰¹

Currently, SA Water has some practices that are consistent with the approach required in Victoria. For example, it recognises that family violence can be linked with financial hardship, and will refer relevant customers to family violence assistance services. It also has a policy of providing leave to employees affected by family violence.

However, SA Water does not have an overarching family violence strategy, or provide specific training on how to respond to, or assist in relation to family violence. It does not employ some of the specific mechanisms used interstate (such as 'safety flags' to identify accounts where extra care handling private details may be required). These would be valuable and important improvements, which could be coordinated by adopting a family violence policy with similar features to those employed in Victoria.

The Commission invites stakeholders to identify and raise with the Commission, at any time as they arise, any Code provisions that present particular barriers to providing assistance to people experiencing family violence.

5.2.8.1 Matters raised in consultation

In its submission to the Draft Determination, SACOSS noted its support for the Commission 'urging SA Water to adopt a family violence policy similar to that required of Victorian water businesses'.¹⁰²

Uniting Communities supported the Commission considering the issue, but disagreed with the Commission's decision not to add specific provisions to the Code, given the extent of family violence in Australia.¹⁰³ Its view is:

*'While we accept that it is not the role of a regulated revenue decision for a water business to solve the tragedy of family violence, we strongly suggest that all members of the Australian community including businesses, can and should play a role in reducing the incidence of family violence.'*¹⁰⁴

It requested that:

*'South Australia follow the decisions made by the Victorian Essential Services Commission and seek to include provisions, into the water industry code, that recognise and appropriately respond to the impact of family violence on many customers,' and that 'the Code should be proactive in identifying the importance of responses to family violence.'*¹⁰⁵

The Commission notes that an overarching family violence strategy, specific training, and some of the specific mechanisms used interstate would be valuable and important improvements to SA Water's approach to family violence. It urges SA Water, as a responsible, Government-owned provider of essential services, to consider and adopt such practices.

¹⁰¹ ESCV, Customer service code urban water businesses, August 2018, clause 14, available at <https://www.esc.vic.gov.au/water/codes-and-guidelines/customer-service-codes>, ESCV, Customer service code rural water businesses, August 2018, clause 11, available at <https://www.esc.vic.gov.au/water/codes-and-guidelines/customer-service-codes>.

¹⁰² SACOSS submission to Draft Decision, p. 28.

¹⁰³ Uniting Communities submission to Draft Decision, pp. 9-10.

¹⁰⁴ Uniting Communities submission to Draft Decision, p. 10.

¹⁰⁵ Uniting Communities submission to Draft Decision, p. 10.

5.2.9 Changes to reflect revised Australia Post delivery times

The Commission has made final decisions to: change the date of receipt definition to reflect current Australia Post delivery times; and, to change timeframes that must be allowed for a customer to pay a bill and for reminder notice periods to reflect SA Water's current billing practices, which provide sufficient timeframes for these matters.

The final decisions on this matter differ from those in the Draft Determination, which were to make a series of amendments to reflect revisions to Australia Post delivery times since the last Code review in 2016. Each of the five proposed amendments are discussed here in turn.

Date of receipt definition

The final decision is to change the definition of date of receipt for documents sent by post from two business days after the retailer sends a notice to five business days; and, to include a timeframe for documents sent by express post of four business days.

The date of receipt definition sets out when a customer is considered to have received a notice, depending on whether the retailer provides it by post, email, by handing it to a customer or by leaving it at the supply address. For notices given by post or registered post, it is currently two business days after the date the retailer sent the notice.

The date of receipt definition applies in relation to registration of life support equipment (clause 9.1.1), withdrawal of an offer to supply a retail service (clause 11.2.3), provision of notice of planned interruptions (clause 16.3.2), interruption for health and safety reasons (clause 16.4.1), and provision of warning of restriction for non-payment (clause 26.4.1(f)).

The draft decision was to change the date of receipt definition for documents sent by post from two business days after sending to seven business days after sending. The rationale for that draft decision was that Australia Post delivery times have changed since the last Code review in 2016. The increase from two business days to seven business days was to allow the timeframe for sending regular letters within Australia (two to six business days) and one additional business day.

However, the draft decision did not recognise that the timeframes for sending regular letters within the same State are shorter than the Australia-wide timeframes. The 'same State' timeframes are: two to three business days to metropolitan locations and three to four business days to country locations.¹⁰⁶ The 'same State' timeframes are relevant to SA Water for the purposes set out above. (In a minority of cases, for owners that are not occupiers and live interstate, slightly longer timeframes will apply. However, the clauses to which this definition applies are most relevant to occupants).

The final decision to change the date of receipt for documents sent by post from the current two business days to five business days after sending allows for the maximum 'same State' timeframe (four business days), and one additional day.

The final decision to include a date of receipt for documents sent by express post, of four days after sending, as per the draft decision, allows the maximum time for express post delivery for addresses outside the defined network (three business days) and one additional business day.

Timeframe allowed for customers to pay a bill

The final decision is to change the timeframe that must be allowed for a customer to pay a bill (clause 18.9.1) to 23 calendar days after SA Water issues the bill.

¹⁰⁶ Australia Post, Delivery speeds and coverage, 2020, available at: <https://auspost.com.au/business/shipping/domestic-shipping/delivery-speeds-and-coverage>.

Several timeframes in the Code do not refer to the date of receipt definition, and instead apply from when SA Water sends a notice. These include the timeframe that must be allowed for a customer to pay a bill (clause 18.9.1): *'unless otherwise agreed with a customer, the pay-by date specified in the bill must be not less than 12 business days after the date the retailer sends the bill.'*

The draft decision was to change the pay-by date timeframe from 12 business days to 14 business days to reflect a typical increase in Australia Post delivery times (that is, not the maximum time delivery might take, but a typical time).

The final decision to change the pay-by date timeframe to 23 calendar days has been made to reflect SA Water's current practice of calculating the pay-by dates printed on bills, which allows for current Australia Post delivery times.

SA Water's practice is to set a standard pay-by date for bills that is 23 calendar days ahead of when each bill is printed. That is, to allow 23 calendar days between the invoice date and the pay-by date. Even when there is the maximum possible number of weekend days and public holidays (over the Christmas/New Year period), this timeframe provides a pay-by date of 14 business days after the bill is sent. This is more than the 12 business days currently required by the Code, and the same period proposed by the draft decision.

This practice has accommodated customers who receive bills by mail and have experienced increases in Australia Post delivery times. Outside of the Christmas/New Year period, the practice provides even more time to pay bills (up to an additional three business days).

SA Water has no plans to change its practice of printing standard pay-by dates that are 23 calendar days ahead of when each bill is printed. Its current billing system does not have the flexibility to, for example, tailor pay-by dates to account for specific upcoming public holidays, or to put different pay-by dates on bills sent by email. This practice provides an appropriate timeframe for customers to pay their bills.

For these reasons, the Commission has decided to adopt SA Water's current practice as the minimum requirement for calculating bill pay-by dates.

Timeframe allowed for customers to pay a bill after review

The final decision is to apply the same minimum timeframe of 23 calendar days to the date for payment for any amount still outstanding following a customer being informed of the outcome of a bill review (clause 20.3.1(b)(iii)).

The Code currently requires that where SA Water finds a bill is incorrect after it has been reviewed, SA Water *'must correct the customer's bill'* and *'may require the customer to pay the amount of that bill which is still outstanding'* (clause 20.3.1(b)(i) and (iii)).

The draft Code made the requirement that, in this situation, SA Water *'must correct the customer's bill and issue a corrected bill'* (clause 20.3.1(b)(i)). Further, the draft decision was to apply a minimum timeframe that must be allowed for a customer to pay the balance of that bill, after review, with that minimum timeframe the same as the minimum timeframe required when a bill is first issued (under clause 18.9.1).

The final decision on clause 18.9.1 (discussed above) is to change the timeframe that must be allowed for a customer to pay a bill to 23 calendar days after the bill is issued by SA Water. Therefore, the final decision on this matter is that a minimum timeframe of 23 calendar days will apply to the date for payment for an amount still outstanding following review of a bill, with that period starting from when the corrected bill is issued.

The revised clause 20.3.1(b)(iii) will read: *'may require the customer to pay the amount of that bill which is still outstanding, and the pay-by date must not be less than 23 calendar days from when the corrected bill is issued'*.

Minimum reminder notice period

The final decision is to change the timeframe that must be allowed for reminder notice periods (clause 18.10.2 (b)) to 17 calendar days after SA Water issues the notice.

The Code currently requires that reminder notices, issued by SA Water after the pay-by date for a bill has passed, must *'state the date on which the reminder notice period ends (which must not be more than five business days after the date the notice is issued)'* (clause 18.10.2(b)).

The draft decision was to change the minimum timeframe for the reminder notice period from five business days to 10 business days.

In consultation, SA Water explained that it uses the same approach for calculating the pay-by dates printed on reminder notices as it does for calculating those printed on bills. SA Water sets a standard pay-by date for reminder notices that is 17 calendar days ahead of when each reminder notice is printed. That is, to allow 17 calendar days between the invoice date and the pay-by date. Even when there is the maximum possible number of weekend days and public holidays (over the Christmas/New Year period), SA Water provides a pay-by date of 10 business days after the reminder notice is sent. This is more than the five business days currently required by the Code, and the same period proposed in the draft decision.

SA Water has no plans to change this practice, which provides an appropriate reminder notice period.

For these reasons, the Commission has decided to adopt SA Water's current practice as the minimum requirement for calculating reminder notice periods.

Minimum restriction warning notice period

The final decision is to leave the minimum timeframe for restriction warning notice periods (clauses 26.1.2(d) and 26.4.1(f) unchanged at five business days, and to amend clause 26.1.2(d) so that in both clauses, the five business days applies from date of receipt, rather than date of issue.

The Code currently requires that when a restriction warning notice is issued for a matter other than non-payment, those restriction warning notices must *'allow a period of not fewer than five business days after the date of issue for the customer to rectify the matter before restriction will or may occur'* (clause 26.1.2(d)).

It also currently requires that, before restricting supply for any reason (including non-payment), SA Water must have *'given the residential customer a written restriction warning with five business days' notice of its intention to arrange for the restriction'* with the five business days *'counted from the date of receipt of the restriction warning'* (clause 26.4.1(f)).

The draft decision was to change the minimum timeframes in each of these clauses from five business days to 10 business days. However, the draft decision did not recognise that SA Water issues restriction warning letters at a site visit by either handing the letter to a customer or leaving it at their address.

Therefore, the timeframe does not need to be extended to allow for changes in Australia Post delivery times. However, for consistency and to reflect SA Water's practice of issuing restriction warning letters at a site visit, clause 26.1.2(d) will be amended to apply from date of receipt, rather than date of issue.

5.2.10 Other minor amendments

The Commission has made several other minor amendments to the Code, which are described in Table 5.1. Unless otherwise noted, no issues were raised in consultation regarding these minor amendments.

Minor amendments which remain as set out in the Draft Determination include:

- ▶ Revisions to improve consistency with other Acts: For example, clause 27.3.1(c) has been amended so if a retailer arranges for disconnection, it must meet preconditions set out in the WI Act.
- ▶ Making requirements for a retailer to advise the Commission in writing of matters required by the Code: This is consistent with section 108(3) of the WI Act, which requires the determination must be in writing.
- ▶ Insertion of timeframes where none are currently specified: For example, clause 1.5.1 has been amended to introduce a defined time period of 10 business days for providing the standard customer contract.
- ▶ Improved accessibility of life support equipment registration: Clause 9.1.1 has been amended to allow that consumers (not just customers) can notify SA Water that life support equipment is required, and to allow that a medical professional, carer or family member can provide medical confirmation.
- ▶ Removal of specific obligations on customers: Clause 29.4.1 has been amended to remove obligations for customers to overcome or minimise the effects of force majeure events; clause 9.2.1 has been amended to allow a retailer to 'request' rather than permit a retailer to 'require' notification when life support equipment is no longer required at the supply address.

Minor amendments which have been changed or added in this Final Determination include:

- ▶ The requirement at clause 18.10.2 regarding reminder notices: The draft decision was to amend this clause so that reminder notices must contain the words '*urgent payment is required*'. This has been changed to a requirement that reminder notices must contain words '*to the effect of urgent payment is required*'. Further discussion is included in Table 5.1.
- ▶ The requirement at clause 18.11.4 regarding provision of historical billing data: Following a query by SA Water, this clause has changed to clarify that for consumers that are not customers, historical billing data must be provided '*for the previous two years (or the relevant part of the two year period if the consumer has not resided at the premises for the whole of the previous two years)*'. Further discussion is included in Table 5.1.
- ▶ The map of the Adelaide metropolitan area has been removed from the Code: It is no longer required, as the draft decision was to remove reference to that map from the Adelaide metropolitan area definition. Instead, SA Water will be required to publish a current version of the Adelaide metropolitan area on its website. Further discussion is included in Table 5.1.
- ▶ Editorial changes that improve clarity and consistency.

Table 5.1: Summary of other minor amendments to the Code

Clause and description of change	Discussion
<p>1.2 Scope</p> <p>1.2.1 – this clause has been amended to explain that the Code regulates provision of retail services to consumers in some specified circumstances.</p>	<p>This reflects the WI Act extension of obligations to consumers in some instances, that is, in relation to disconnections and dispute resolution processes.</p>
<p>1.3 Application</p> <p>1.3.1 (ii) – this clause has been amended so that the entity must be advised in writing that it must comply with the Code.</p>	<p>This is consistent with section 108(3) of the WI Act, which requires the determination must be in writing.</p>
<p>1.5 Obtaining a copy of this industry code or the standard contract</p> <p>1.5.1 – this clause has been amended to introduce a defined time period of 10 business days for providing the standard customer contract.</p>	<p>Currently no time period is defined, rendering the clause ineffective.</p>
<p>1.6 Other Acts, industry codes and guidelines</p> <p>1.6.1 (e) – this clause has been added, to note that the retailer’s obligations include those owed under the customer sales contract.</p>	<p>The purpose of clause 1.6.1 is to explain that this Code is not the limit of retailer’s obligations to consumers. This addition specifically point outs that retailers still have to comply with their obligations under contracts.</p>
<p>1.7 Interpretation</p> <p>1.7.1 (c) – this clause has been changed to reflect SA Water’s status as a statutory corporation.</p> <p>1.7.1 (e) – this clause has been amended to give a proper description of legal instruments.</p> <p>1.7.1 (g) – this clause has been amended to add ‘guardian(s)’ to the meaning of a reference of a person.</p>	<p>-</p>

Clause and description of change	Discussion
1.8 Definitions	-
<p>Adelaide metropolitan area: this definition has been changed to remove the reference to the map included in the service standards schedule, and the map itself has been removed from the Code. The revised definition is <i>'the area in which customers are supplied with retail services as agreed between SA Water and the Commission from time to time'</i>.</p>	<p>The map of the Adelaide metropolitan area is no longer required, as the final decision is to remove the reference to that map from the Adelaide metropolitan area definition.</p> <p>Instead, SA Water will be required to bring an up-to-date version of the Adelaide metropolitan area to the Commission for agreement, and then publish that map on its website. This will allow for any changes during SAW RD20 to be accommodated without revisions to the Code.</p>
<p>Retail service: this definition has been revised to define a retail service as involving sale and supply, and excludes services as per the WI Act regulations.</p>	<p>This revision is has been made to be consistent with the WI Act.</p>
<p>2.3 Obligation to provide Customer Charter</p> <p>2.3.1(a) – this clause has been amended to read (additional words underlined): <i>'A retailer must ... 'advise a customer of the availability of its Customer Charter <u>and that a customer may obtain a copy free of charge</u> as soon as practicable after the customer enters into a standard contract, being no later than the issue of the first bill'</i>.</p>	<p>Currently, this clause requires that SA Water <i>'advise a customer of the availability of its Customer Charter as soon as practicable after the customer enters into a standard contract, being no later than the issue of the first bill'</i>.</p> <p>SA Water addresses this requirement by including this statement on bills: <i>'Customer charter: Read our Standard Customer Contract and Customer Charter at www.sawater.com.au'</i>.</p> <p>This statement, and the link on bills that allows a customer to obtain a copy free of charge, satisfies the requirement made by the amended clause 2.3.1(a).</p>
<p>2.4 Charging for Customer Charter</p> <p>2.4.1 – this clause has been amended so that a retailer may charge for providing a second copy of a Customer Charter, rather than for a request to provide a second copy of a Customer Charter.</p>	<p>The link to a 'request' has been removed as a customer may make a second request because a retailer did not provide the Customer Charter when first asked. The focus is now on the second 'provision' rather than the second 'request'.</p>
<p>4.2 Accessible communications</p>	<p>There is a cost in preparing and posting large print versions of documents. However, from an equal opportunity perspective, it is reasonable that customers who cannot read SA Water's standard size print are provided with a large print document free of charge.</p>

Clause and description of change	Discussion
<p>4.2.1(d) – this clause has been amended so as a retailer must provide a large print version of the Code to a customer unable to read standard sized print if requested, free of charge. Currently, a retailer is able to make a reasonable charge for a large print version of the Code.</p>	<p>In consultation, SA Water queried whether its responsibility to provide copies of the Code can reasonably extend to providing large print versions, free of charge.</p> <p>The Commission considers it is reasonable to require SA Water to provide copies of the Code, if requested and free of charge, for all customers including those who may require large print versions. No further amendments have been made to this clause.</p>
<p>9.1 Registration of life support equipment</p> <p>9.1.1 – this clause has been amended to allow that consumers at residential premises, not just residential customers, can advise they require life support equipment. It has also been amended to allow that a medical professional, carer or family member can provide medical confirmation.</p>	<p>Only allowing residential customers to provide this confirmation poses a risk. For example, landlords may not do this soon enough for tenants or tenants may be unwell and unable to do this themselves. Any consumer may require a carer, family member or medical professional to provide notification for them.</p>
<p>9.1.3 – this clause has been added, which requires that if a retailer is advised that a person requires life support equipment, it must comply with clause 9.1.1 pending receipt of appropriate medical confirmation.</p>	<p>This allows protection for the person requiring life support in the circumstance that arranging documentation cannot be done immediately.</p>
<p>9.2 Cessation of requirement for life support equipment</p> <p>9.2.1 – this clause has been amended to allow a retailer to ‘request’ rather than ‘require’ notification when life support equipment is no longer required at the supply address.</p>	<p>This removes a potentially binding obligation on customers.</p>
<p>10.1 Obligation to inform customers about hardship policy</p> <p>10.1.1 (b) – this clause has been amended to require that a retailer makes available, at its offices, copies of the current version of its hardship policy for customers to take free of charge.</p>	<p>As retailers have to send this policy to customers free of charge (as per 10.1.1(d)), it is in both parties’ interest that the customer can get a copy at the office immediately and without postage expenses.</p>
<p>13.1 Continuation of a retail service</p> <p>13.1.2 (b) – this clause has been amended to prohibit a retailer from accepting any security deposit, refundable advance or any other form of security from a customer.</p>	<p>Currently, this clause prohibits a retailer from seeking or requiring a security deposit. The meaning of the term ‘seek’ is ambiguous but suggests that the retailer is actively pursuing this in order to provide the service. Prohibiting actually accepting any security deposit, refundable advance or any other form of security provides stronger prevention.</p>

Clause and description of change	Discussion
<p>14.1.1 Customer connection policy</p> <p>14.1.1 – this clause has been amended to require that the current version of the connection policy is provided on a retailer’s website, and is made available free of charge.</p>	<p>This creates a continuous obligation and will require a retailer to update websites when there are changes.</p>
<p>16.1 Minimising interruptions</p> <p>16.1.2 – this clause has been amended to change ‘unplanned interruptions to retail services caused by a burst, leak, blockage or spill’ to ‘unplanned interruptions to retail services’.</p>	<p>This change has the effect extending a retailer’s responsibility to all unplanned interruptions, not only those caused by a ‘burst, leak, blockage or spill’.</p>
<p>16.6 Powers under other Acts</p> <p>16.6.1 – this clause has been amended to update references to relevant Acts.</p>	<p>-</p>
<p>18.1 Frequency of bills</p> <p>18.1.3 – this clause has been added, to allow that a customer who has agreed to a modified billing cycle may revert back to a billing cycle that is at least quarterly by providing written notice to the retailer.</p>	<p>In consultation, SA Water queried whether clause 18.1.3 would allow customers with which it has a contract that specifies monthly billing to move to quarterly billing.</p> <p>Clause 18.1.1 requires billing ‘at least quarterly’ but does not specify or require any particular billing period including quarterly billing. It only requires that a bill is issued at least every quarter. As monthly billing meets the requirement of being at least quarterly, this requirement is not inconsistent with any contractual terms for monthly billing.</p> <p>However, if a customer agreed to six monthly billing, including by contract, clause 18.1.2 would provide a power to revert back to at least quarterly billing. Clause 18.1.2 states that: <i>‘A retailer and a customer may mutually agree to a billing cycle with a regular recurrent period that differs from clause 18.1.1.’</i></p>
<p>18.7 Contents of bills</p> <p>18.7.3 – this clause has been added to require that bill contents are presented so as to be easily understood. This reiterates the requirement of clause 4.2.1.</p>	<p>This reiteration of clause 4.2.1 is intentional. It addresses bills specifically, and ensures there is no inconsistency between clauses.</p>

Clause and description of change	Discussion
<p>18.10 Reminder notices</p> <p>18.10.2 – this clause has been modified so that: reminder notices must contain words to the effect of ‘urgent payment is required’; include information regarding the consequences of non-payment and any fees or charges that may be imposed if payment is not made during the reminder notice period; and, include current contact details for the industry Ombudsman.</p>	<p>In consultation, SA Water requested that the requirement that reminder notices must contain the words ‘urgent payment required’ be changed to be a requirement that reminder notices contain words to the effect of ‘urgent payment required’.</p> <p>In its recent bill and reminder notice redesign project, SA Water conducted research into the most suitable words to use in reminder notices that balance a sense of urgency with encouraging customers to access payment difficulty or hardship support if required. It has provided that research and the redesigned reminder notice to the Commission.</p> <p>The final decision is to change the requirement in clause 18.10.2 so as reminder notices must contain words to the effect of ‘urgent payment is required’.</p>
<p>18.11 Historical billing data</p> <p>18.11.2 and 18.11.3 – these clauses have been amended to require a retailer send the information within ten business days, rather than provide information within ten business days.</p>	<p>The word ‘provide’ requires that the customer actually receive the data in ten business days. Due to postal delivery times this may not be possible.</p>
<p>18.11.4 – this clause has been amended to require a retailer to provide historical billing data in respect to a supply address which the consumer occupies, rather than resides.</p> <p>18.11.4 (b) – this clause has been amended to require a consumer has occupied the supply address for the whole of the period for which they are requesting historical billing data.</p>	<p>The word ‘reside’ limits the application of this clause to consumers at residential addresses. The definition of consumer in section 4 of the WI Act and the extension of the definition of customer to include consumers in WI Regulation 4 (a)-(c) for disconnections, dispute resolution and ombudsman schemes does not limit this term to only residential consumers.</p> <p>In consultation, SA Water asked for clarification on whether clause 18.11 requires historical billing data to be provided to both tenants and customers, and for what time period.</p> <p>In the Draft Code, this clause was amended to replace the word ‘tenant’ with ‘consumer’. The substance of the clause remained unchanged.</p> <p>Clause 18.11 requires historical billing data to be provided to both tenants and customers for a period of up to two years, with historical billing data provided to tenants only for the period they have resided at a premise.</p>

Clause and description of change	Discussion
	To make this clearer, the clause has been further amended to specify that for consumers that are not customers, historical billing data must be provided ' <i>for the previous two years (or the relevant part of the two year period if the consumer has not resided at the premises for the whole of the previous two years)</i> '.
<p>19.1 Change in land use</p> <p>19.1.1 – this clause has been amended to clarify that where the land use at the customer’s supply address changes, the retailer may require the customer to transfer to a different tariff as part of its contractual terms. That is, not through authority of the Code.</p>	<p>In consultation, SA Water queried whether this change properly reflects how changes in land use are currently decided and applied. That is, that the Valuer-General has the legal power and responsibility to change land use at premises.</p> <p>Before the amendment, clause 19.1.1 provided that '<i>Where the land use at the customer's supply address changes, the retailer may require the customer to transfer to a tariff applicable to the customer's new use at that supply address with effect from the date of the change in use.</i>' That is, it gave SA Water the power to require customers to transfer tariffs.</p> <p>As the power was not a contractual power it did not need to be included in contracts (noting that in practice, the standard contract does address tariffs changing with land use change). Therefore, the clause was amended to include the phrase 'as part of its contractual terms'. Addition of this phrase does not create any new power, but clarifies that the existing power must be exercised through contractual terms.</p>
<p>20.3 Procedures following a review of a bill</p> <p>20.3.1 (b) (i) – this clause has been amended to require that a retailer issue a corrected bill, where it makes a correction.</p>	This is to ensure that customers are provided with a corrected bill when it has been reviewed.
<p>23.4 Payments in advance</p> <p>23.4.1 – this clause has been amended to prohibit a retailer charging a fee to accept payment in advance.</p>	This is particularly important because customers experiencing financial problems may want to utilise this option.

Clause and description of change	Discussion
<p>23.5 Long absence or illness</p> <p>23.5.1 – this clause has been amended to prohibit a retailer charging a fee to accept payment in advance, or arrange bill redirection, when a customer is unable to make a payment using standard arrangements due to a long absence or illness.</p>	<p>Again, this is particularly important because customers experiencing financial problems may want to utilise this option.</p>
<p>26.2 Prohibitions on water service flow restriction</p> <p>26.2.1 (d) – this clause has been amended to allow that a medical professional, carer or family member acting on behalf of a residential customer or consumer can advise a retailer that a person residing at an address is dependent on life support equipment.</p>	<p>This change allows for a person using life support equipment to have a suitable person advise SA Water on their behalf, recognising that because they are dependent on life support equipment they may be unable to do so.</p>
<p>27.3 Permitted disconnections</p> <p>27.3.1 (c) – this clause has been amended so, if a retailer arranges for disconnection where a customer has refused entry for meter reading or other duties, the retailer must ensure that all necessary conditions to authorise the disconnection under the Act or other relevant applicable regulatory instrument have been met.</p>	<p>This change reflects power to disconnect allowed by section 63 of the WI Act has a number of preconditions to authorise disconnection, and that a water entity must restore a connection in specified conditions.</p>
<p>28.1 Retailer and customer obligations</p> <p>28.1.1 (g) – this clause has been amended so as if a retailer arranges for reconnection or removal of a flow restriction, this is subject to any other legislative conditions for reconnection being met.</p>	<p>Under section 63 of the WI Act, reconnection or removal of flow restriction are contingent on it being physically safe for an entity to restore supply.</p>
<p>28.2 Waiver of reconnection fee for hardship customer</p> <p>28.2.1 – this clause has been amended to clarify that a retailer must not charge a restoration fee to a customer experiencing hardship, other than ‘in matters where the disconnection was permitted or authorised under State or Commonwealth legislation and the payment of a reconnection fee is authorised or is a requirement for reconnection’.</p>	<p>This removes a potential inconsistency with section 63 of the WI Act, as someone experiencing hardship could have had supply restricted for refusing access. Without this clarification, this clause applies where the customer is experiencing financial hardship, regardless of the reason for restriction.</p>

Clause and description of change	Discussion
<p>29.4 Obligation to overcome or minimise effects of force majeure events, and 29.5 Settlement of industrial disputes</p> <p>Clauses 29.4.1 and 29.5.1 – these clauses have been amended to remove obligations from customers to remove, overcome or minimise the effects of force majeure events, or settle an industrial dispute that constitutes a force majeure event.</p>	<p>The current obligation on customers is not appropriate because customers are not engaged in the conduct or operations of the water industry.</p>
<p>30.3 Obligation to provide customer information to appointed operator</p> <p>30.3.2 – this clause has been added so to allow that if an operator of last resort is appointed, and that operator requests customer records, these must be provided by the retailer in the format that the appointed operator reasonably requires.</p>	<p>This is to allow for the use of records. If, for example, records were provided in hard copy, they could not be reviewed in a reasonable period.</p>

5.3 Service standards with performance targets

The Commission has made a final decision to apply 22 service standards during SAW RD20, fewer than the 33 service standards proposed in the Draft Determination.

Those service standards are summarised in Table 5.2 which also sets out whether each service standard represents a change from the current framework, or the Commission's Draft Determination.

The final service standards cover aspects of customer service, responsiveness to service issues, service restoration timeliness and the timeliness of connections.

Separate service standards for the Adelaide metropolitan area and regional areas are retained, rather than accepting SA Water's proposal to combine these measures into single state-wide measures.

The Commission has accepted the new customer service standards proposed by SA Water (to monitor customer satisfaction, first contact resolution, and complaint escalation to EWOSA), and a new service standard for responsiveness to low priority water network events (for both the Adelaide metropolitan area and regional areas).

Several new service standards proposed in the Draft Determination are not included in the final framework. For reliability outcomes, SA Water will instead report against performance measures and targets drawn from its RBP. On water aesthetics outcomes, SA Water will report against milestones it plans to deliver using increased expenditure, using measures developed with the Commission.

The performance targets proposed for all service standards are set such that there will be no reduction in service levels (as compared to historical average levels of performance),¹⁰⁷ and with increases in service levels applying only where SA Water has demonstrated customer support and willingness to pay for particular improvements.

¹⁰⁷ Based on the longest available time period for which that data exists.

Table 5.2: Summary of Final Decision on service standards for SAW RD20

Service standard		Performance target	Change to current framework?	Change to Draft Decision?	Mean of historical performance	Years used to calculate mean	Target set to reduce, maintain or improve historical performance
Customer service							
1. Customer satisfaction	Customers who are satisfied with recent service experience.	> 93 percent	Yes, new service standard.	No	Single year 2018-19 performance 93 percent	1	Maintain
2. First contact resolution	Account enquiry telephone calls resolved at first point of contact.	> 85 percent	Yes, new service standard.	No	Single month performance April 2018 73 percent	n/a	Improve
3. Telephone responsiveness	Fault telephone calls answered within 50 seconds.	> 85 percent	Yes, target service level now 50 seconds (not 30).	No	Single year 2018-19 performance 87 percent	1	Reduce ¹
4. Complaint responsiveness	Customer and community complaints responded to in 10 business days.	> 95 percent	Yes, applies to all complaints (not just written complaints).	No	Single year 2018-19 performance 91 percent	1	Improve

Service standard		Performance target	Change to current framework?	Change to Draft Decision?	Mean of historical performance	Years used to calculate mean	Target set to reduce, maintain or improve historical performance
5. Complaint escalation	Percentage of customer and community complaints escalated to the ombudsman ² following dissatisfaction with SA Water response to a complaint.	< 15 percent	Yes, new service standard.	No	17 percent	6	Improve
Connections							
6. Connection application responsiveness	Network connection applications processed in the target timeframe of 20 business days.	> 95 percent	No	Yes, draft decision 15 days.	98 percent ³	2	Maintain
7. Water network connection timeliness	Water network connections constructed in target timeframes of 25 business days (standard connections) or 35 business days (non-standard connections).	> 95 percent	No	No	95 percent	6	Maintain
8. Sewer network connection timeliness	Sewer network connections constructed in target timeframe of 30 business days (standard connections) or 50 business days (non-standard sewer connections).	> 94 percent	Yes, current target > 90 percent.	Yes, draft decision 95 percent.	94 percent	6	Maintain
Response (attendance)							
9. Water quality responsiveness – metropolitan Adelaide	Water quality service requests assessed by field staff that have resolution or plan of action communicated with the customer in target timeframes.	> 99 percent	No	No	100 percent	6	Maintain

Service standard		Performance target	Change to current framework?	Change to Draft Decision?	Mean of historical performance	Years used to calculate mean	Target set to reduce, maintain or improve historical performance
10. Water quality responsiveness – regional areas	Water quality service requests assessed by field staff that have resolution or plan of action communicated with the customer in target timeframes.	> 97 percent	Yes, current target > 96 percent	No	97 percent	6	Maintain
11. Water event responsiveness – high priority – metropolitan Adelaide	Water network break and leak events with the greatest customer or community impact attended by field crews in target timeframes. ⁴	> 99 percent	No	No	99 percent	6	Maintain
12. Water event responsiveness – high priority – regional areas	Water network break and leak events with the greatest customer or community impact attended by field crews in target timeframes ⁴	> 99 percent	No	No	99 percent	6	Maintain
13. Water event responsiveness – low priority – metropolitan Adelaide	Water break, leak and boundary events with low to medium customer or community impact attended by field crews in target timeframes. ⁵	> 83 percent	Yes, new service standard	Yes, draft decision target > 95 percent.	83 percent	4	Maintain
14. Water event responsiveness – low priority – regional areas	Water break, leak and boundary events with low to medium customer or community impact attended by field crews in target timeframes. ⁵	> 97 percent	Yes, new service standard	Yes, draft decision target > 95 percent.	97 percent	4	Maintain
15. Sewer event responsiveness – regional areas	Sewer events attended by field crews in target timeframes.	> 99 percent	No	No	99 percent	6	Maintain

Service standard		Performance target	Change to current framework?	Change to Draft Decision?	Mean of historical performance	Years used to calculate mean	Target set to reduce, maintain or improve historical performance
16. Sewer event responsiveness – metropolitan Adelaide	Sewer events attended by field crews in target timeframes.	> 99 percent	No	No	100 percent	6	Maintain
Restoration							
17. Water service restoration timeliness – metropolitan Adelaide	Unplanned water service interruptions resolved in target timeframes.	> 98 percent	Yes	Yes, draft decision target > 99 percent.	98 percent	6	Maintain
18. Water service restoration timeliness – regional areas	Unplanned water service interruptions resolved in target timeframes.	> 98 percent	Yes	Yes, draft decision target > 99 percent.	98 percent	6	Maintain
19. Sewerage service restoration timeliness – metropolitan Adelaide	Sewerage service events restored in target timeframes.	> 95 percent	No	No	95 percent	6	Maintain
20. Sewerage service restoration timeliness – regional areas	Sewerage service events restored in target timeframes.	> 99 percent	No	No	100 percent	6	Maintain
21. Sewer overflow clean-up timeliness – metropolitan Adelaide	Sewer overflow clean-ups resolved in target timeframes.	> 98 percent	No	No	98 percent	6	Maintain

Service standard	Performance target	Change to current framework?	Change to Draft Decision?	Mean of historical performance	Years used to calculate mean	Target set to reduce, maintain or improve historical performance	
22. Sewer overflow clean-up timeliness – regional areas	Sewer overflow clean-ups resolved in target timeframes.	> 99 percent	No	No	99 percent	6	Maintain

¹ The telephone responsiveness service level has been reduced by limiting application of the standard to fault calls only (with no responsiveness standard for account enquiry calls) and, changing the target service level from 30 seconds to 50 seconds. SA Water estimates that the associated cost savings will allow it to introduce the new service level for ‘first contact resolution’, with no net cost impact and an overall improvement in customer satisfaction.

² EWOSA is the relevant ombudsman. SA Water is required by the Commission, under condition 9.2 of its Water Industry Retail Licence, to participate in an industry ombudsman scheme. That industry ombudsman scheme is provided by EWOSA.

³ The performance target has been set to ‘maintain’ as more than 95 percent (the current target), rather than more than 98 percent, to reflect that there only two years of data available to establish average recent performance.

⁴ High priority water network break and leak events are those defined as priority one incidents (those with the greatest customer or community impact. For example, total loss of supply to a customer, major loss of water, events that cause major or significant damage to property, events that pose an immediate danger to people or the environment) or priority two incidents (any other water network break or leak event with potential for high impact to customers or the community).

⁵ Low priority water network break and leak events are those defined as priority three incidents (water network break, leak and boundary events with low to medium customer or community impact, usually at the boundary, for example, a leaking meter or priority four incidents (water network break, leak and boundary events with low customer or community impact, usually at the boundary, for example, a meter that cannot be located or read, or a noisy meter).

5.3.1 Role of service standards

The Code sets out behavioural standards and minimum requirements that SA Water must meet in the sale and supply of retail services to its customers. Its obligations include a requirement to use its best endeavours to meet service standards.^{108,109} Code compliance is a condition of SA Water's retail licence.¹¹⁰

Service standards describe what customers can expect from SA Water and are intended to reflect the quality and reliability levels valued by customers, now and in the long term. The standards, and the level they are set at, are one influence on the cost of service delivery and so are a crucial reference point in defining 'lowest sustainable prices'.

The Commission's expectation is that service standards should:

- ▶ cover the elements of service that matter to customers¹¹¹
- ▶ draw on genuine and thorough customer engagement
- ▶ not duplicate other regulatory requirements (such as those relating to health, environmental protection, and safety and technical requirements), unless there is evidence that customers value a service level beyond those minimums, and
- ▶ reflect what customers are willing to pay for,¹¹² as consideration of the inherent trade-offs between prices and service levels (quality and reliability) is a central concern in establishing efficient service standards.

In competitive markets, these trade-offs are resolved through competition between alternative providers. In the case of SA Water, a monopoly provider operating without effective competition in the relevant market, service levels need to be carefully considered and established by the Commission, through regulation. It is important for the Commission to consider whether customers are willing to pay for improvements to current service levels, or would prefer lower service levels in exchange for lower prices.

In Guidance Paper 3, the Commission set an expectation that SA Water should, in its RBP, propose a set of service standards to apply for SAW RD20, after testing those proposals with its customers and in the Negotiation Forum. This expectation was set because SA Water is best placed to understand the aspects of service that matter most to its customers, and service standard outcomes ultimately reflect SA Water's commitment to its customers.

5.3.2 SA Water's process

SA Water's process for developing service standards is briefly described in Appendix I of its RBP. Throughout that process, it has voluntarily provided further detail and documentation to the Commission.

¹⁰⁸ Best endeavours means to act in good faith and use all reasonable efforts, skill and resources.

¹⁰⁹ Current service and reliability standards are set out in Schedule 1 of the Code, available at <https://www.escosa.sa.gov.au/ArticleDocuments/334/20160606-Water-Retail%20Code-MajorRetailersWRC-MR02.pdf.aspx?Embed=Y>.

¹¹⁰ Clause 6.3 of SA Water's licence requires it to comply with applicable service standards determined by the Commission. SA Water's current and past applicable service standards and performance targets are available at <https://www.escosa.sa.gov.au/industry/water/codes-and-guidelines/service-standards>.

¹¹¹ Commission, Guidance Paper 3, pp. 7-8, available at <https://www.escosa.sa.gov.au/ArticleDocuments/1200/20181101-Water-SAWRD20-GuidancePaper3-ServiceStandards.pdf.aspx?Embed=Y>.

¹¹² Commission, Guidance Paper 3, pp. 7-8.

The process began by establishing the broad areas of service valued by customers. This was determined by drawing on SA Water's ongoing program of customer research and engagement, and through specific engagement to inform SA Water's corporate strategy and establish the foundation for business planning to develop the RBP, which began in 2017. The process is described in Appendix 3 to Guidance Paper 3, and in the CNC report.¹¹³ It resulted in identification of five key themes (and several other minor themes): safe water, minimal interruptions, price and service stability, water security, and consistent high-quality water.

Weaknesses with this foundation work were noted by both the CNC and Cardno, an expert asset management consultant engaged by the Commission.

The CNC's view was that SA Water began the process of discerning what its customers value with the main outcomes predetermined. That is, that *'SA Water was seeking confirmation of the outcomes it had already decided were important, rather than ... eliciting what was important to customers, unprompted by preconceptions.'*¹¹⁴

Cardno also critiqued the methodology used in this work, and found that the link between the customer engagement and the resulting corporate strategy was not clear in some instances. Cardno concluded *'that there is potential for this lack of clarity to impact on prudent decision making.'*¹¹⁵

Despite its findings of weaknesses in this foundation work, the CNC thought the key themes emerging from the process were nevertheless likely to be correct, being based on earlier research and SA Water's understanding of what its customers value.¹¹⁶

This work set the general direction for the customer-driven elements of SA Water's business planning, and influenced several of the Strategic Element Measures in SA Water's internal corporate strategy (Strategic Element Measures reflect customers' values as well as regulatory, technical, and corporate priorities). Guidance Paper 3 noted that Strategic Element Measures may be an appropriate basis for service standards.

SA Water conducted targeted research to design improvements to the service standards, including customer forums focusing on reliability and environmental protection, focus groups and a survey examining telephone responsiveness and customer satisfaction.¹¹⁷

It also conducted research to examine customer support for a range of initiatives to improve services. This included a choice modelling study, which examined customer willingness to pay across 19 service areas,¹¹⁸ and a follow-up contingent valuation study, which checked customer willingness to pay for the costs of five initiatives to improve services. These initiatives were: improvements to metropolitan water quality, improvements to regional water aesthetics, upgrade of non-potable supplies, expansion of the urban recycled water network, and, reduction of sewer overflows to the environment.

A weakness in SA Water's customer engagement process was lack of documentation, identifying which customer priorities to address using service standards, and the links with expenditure to improve services. For example, there is no documentation that shows how the initial stages of engagement identified the 19 areas explored in choice modelling. It is not clear that all of the 19 areas that SA Water chose to explore were most important to customers, based on the explanations of the process provided.

¹¹³ Colmar Brunton, SA Water: What's important to our customers, June 2017, provided to the Commission.

¹¹⁴ Report of Independent Chair of the CNC, p. 33.

¹¹⁵ Cardno, Evaluation of SA Water's asset management system, March 2020, p. 14, available at <https://www.escosa.sa.gov.au/ArticleDocuments/21462/20200304-Water-SAWRD20-EvaluationSAWaterAssetManagementSystem-Cardno.pdf.aspx?Embed=Y>.

¹¹⁶ Report of Independent Chair of the CNC, p. 33.

¹¹⁷ SA Water's RBP – Appendix C – Customer Engagement.

¹¹⁸ Commission, Guidance Paper 3, Appendix 5.

SA Water then considered the results of these two strands of research, together with performance results from its internal monitoring and reporting and the practices of interstate water businesses. It produced a draft set of service standards which SA were presented to its Customer Working Group in October 2018. This session generated constructive discussion, with participants discussing the proposed service standards in groups and voting on whether they should be adopted.

SA Water made some changes to the draft service standards following the Customer Working Group session, after which it presented the proposed service standards to the CNC in the Negotiation Forum.

Overall, the CNC:

'... was impressed with the efforts made by SA Water to discover how it might improve the service provided to customers and, specifically, the pains taken to find ways to make improvements without adding to cost and so to price'.¹¹⁹

The CNC's comments and suggestions about each proposed service standard are addressed throughout this Chapter.

5.4 Final decision

The Commission's final decision is that 22 service standards will apply in SAW RD20. This section explains the Commission's overall decision on the service standard framework, before the detail of, and decisions on, individual service standards are explained in section 5.5.

5.4.1 Maintaining service for regional customers

SA Water proposed that the service standards that currently apply separately to the Adelaide metropolitan area and regional areas be combined. The Commission has not accepted that proposal, consistent with the draft decision on this matter. Separate service standards will be retained, in order to focus SA Water on service delivery in both regional and metropolitan areas, with no reduction in service levels.

Currently, SA Water's service standards include six sets of service standards that apply separately to the Adelaide metropolitan area and regional areas:

- ▶ response to water quality complaints
- ▶ attendance at water network breaks, leaks and bursts
- ▶ attendance at sewerage network overflows
- ▶ water network service restorations
- ▶ sewerage network service restorations, and
- ▶ sewerage network overflow clean-ups.

In considering SA Water's proposal to combine each set of service standards, the Commission has balanced the potential benefit of fewer service standards overall with the potential drawbacks from this approach, discussed below.

The potential benefit of this proposal is that it reduces the total number of service standards, which the Commission expected SA Water to consider in developing its proposal. Guidance Paper 3 stated that the service standards SA Water proposes should not be too numerous, in order to be understandable to customers. It is also consistent with the Commission's decision to combine service standards in order

¹¹⁹ Report of Independent Chair of the CNC, p. 44.

to achieve this outcome in SAW RD16, where the number of service standards was reduced from 66 down to 18.

However, Guidance Paper 3 also noted that combining service standards can mask matters of detail.¹²⁰ SA Water's proposal raises three main issues in this regard that need further consideration.

First, because of the smaller number of customers in regional areas (28 percent of drinking water customers and 12 percent of sewerage customers) regional performance will not be transparent if performance is measured as an average across the entire customer base.

Second, there is a financial incentive, at least theoretically, for SA Water to reduce levels of service where delivery costs are higher, which will generally be the case in regional areas. Combined service standards introduce a greater risk that degradations in service in regional areas could be offset by an improvement in the Adelaide metropolitan area, while allowing SA Water to still achieve a state-wide average service level performance target.

Third, there are currently three instances where customers in the Adelaide metropolitan area and customers in regional areas have different target service levels, with regional customers having slightly better service. These instances are:

- ▶ water quality responsiveness (current target timeframes: 96 percent metropolitan and 99 percent regional, proposed: 96 percent)
- ▶ sewerage service restoration timeliness (current target timeframes: 95 percent metropolitan and 99 percent regional, proposed 95 percent), and
- ▶ sewerage overflow clean-up timeliness (current target timeframes: 98 percent metropolitan and 99 percent regional, proposed 98 percent).

An average target service level (for combined service standards) would mean regional customers no longer have these slightly better target service levels.

In consultation, SA Water presented a draft of its proposed service standards to its Customer Working Group. That group did not raise a concern with the proposal to combine the current services standards into a state-wide target. However, the focus of the discussion was on the importance of providing the same level of service to all customers, regardless of location. SA Water did not explain any of the potential drawbacks outlined above, and it is unclear whether the group understood that the same levels of service are not currently provided to all customers, nor would this outcome be achieved through SA Water's proposal.

Given that the customer engagement process overall found *'strong support for changes that benefit regional South Australia'*,¹²¹ the Customer Working Group may have arrived at a different conclusion regarding the combination of service standards had these risks been clearly explained.

Therefore, while the Commission's preference remains to manage the overall number of service standards to assist customers with understanding what they can reasonably expect from SA Water, in this instance, the Commission's view is the risks of doing so outweighs the benefits. Accordingly, the Commission's final decision is to retain the separate service standards for the Adelaide metropolitan area and regional areas.

¹²⁰ Commission, Guidance Paper 3, p 5.

¹²¹ SA Water, RBP, Appendix C, p. 17

5.4.2 New service standards

The Commission's final decision is to accept new customer service standards proposed by SA Water (to monitor customer satisfaction, first contact resolution, and complaint escalation to EWOSA), and a new service standard for responsiveness to low priority water network events (which will apply separately to the Adelaide metropolitan area and regional areas). However, several new service standards proposed in the Draft Determination will not be included in the final framework (as summarised in Table 5.3), with those service areas instead being addressed by detailed monitoring and reporting of the investment and outcome commitments made by SA Water in its RBP.

Table 5.3: Service standards proposed in the Draft Determination but not adopted in the Final Determination

Proposed service standard
Reliability
Water network interruption frequency Number of unplanned interruptions (per 1,000 properties per year).
Water network interruption duration Average duration of unplanned water supply interruptions (minutes), across all customers, over one year.
Water service interruption frequency – worst served customers Customers experiencing three or more unplanned water service interruptions in a year.
Water leakage performance Amount of water leakage (real losses) from infrastructure in litres per service connection per day.
Internal sewer overflow frequency – worst served customers Customers experiencing more than one internal sewer overflow event in a five-year period (rolling average).
Internal sewer overflow frequency – overall incidence Number of internal sewer overflow events experienced by customers in one year.
Sewer overflows to the environment Number of environmental incidences caused by wastewater network overflows (five-year rolling average).
Water aesthetics
Acceptable water aesthetics – Adelaide metropolitan area Customers supplied with water with aesthetic parameters that meet Australian Drinking Water Guidelines (ADWG) aesthetic target range for 'acceptable'.
Good water aesthetics – Adelaide metropolitan area Customers supplied with water with aesthetic parameters inside SA Water's target range for 'good' aesthetics. Target level of service: to be developed with SA Water to match expected outputs of final expenditure included in SAW RD20.

Proposed service standard

Acceptable water aesthetics – regional areas

Customers supplied with water with aesthetic parameters that meet the ADWG aesthetic target range for 'acceptable'.

Good water aesthetics – regional areas

Customers supplied with water with aesthetic parameters inside SA Water's target range for 'good' aesthetics.

5.4.2.1 Reliability service standards

The Commission's final decision is that SA Water will have a regulatory obligation to achieve water and wastewater reliability outcomes in SAW RD20. That obligation is described further in Chapter 10.

Briefly, reliability outcomes will be described using performance measures and targets included in SA Water's RBP. SA Water will be required to undertake an annual self-assessment on its performance against those measures, and publicly report on the outcomes of that assessment annually.

The Commission has made this decision to align with the directions under section 6 of the *Public Corporations Act 1993*, which include that 'SA Water will fund up to \$155.5 million of capital expenditure to meet community and owner expectations on water main performance' during SAW RD20.

This amount of expenditure is the same as that in SA Water's proposal, which also described the outcomes SA Water plans to deliver with that expenditure, using customer and technical performance measures, and described further in supporting documents and business cases. SA Water explained that those measures: 'reflect what our customers; the business and legislation require Water Asset Planning to meet as an acceptable level of service.'¹²² The Commission considers that these measures suitably describe the 'community and owner expectations' for which the Government has prescribed expenditure.

This approach will allow a more holistic understanding of SA Water's performance – providing greater transparency between the levels of service provided, the management of various risks to providing that service, the expenditure required and the outcomes ultimately delivered to consumers. Therefore, the Commission has decided to apply the same approach to both water and sewerage reliability, as these constitute two of the core services that customers expect SA Water to get right every time.

This approach has the added benefit of allowing more time for the Commission to work with SA Water and the Technical Regulator over the SAW RD20 period (including stakeholder consultation within that process) to refine the appropriate technical levels of service that are required to support the longer-term reliability expectations of the community and SA Water's owner.¹²³

5.4.2.2 Water aesthetics service standards

The Commission's final decision is that SA Water will monitor and report on water aesthetics (above the minimum requirements of SA Health). Specifically, it will report on improvements delivered through increased expenditure in SAW RD20. That approach is intended to hold SA Water to account for its RBP commitments, and is described further in Chapter 10.

¹²² SA Water, *Water Lead Asset Management Plan*, p. 52, SA Water, *Wastewater Lead Asset Management Plan*, p. 38.

¹²³ Noting that in submissions, the Technical Regulator queried whether draft wastewater service standards could better capture the underlying reliability of the sewer main, and SA Water noted its preference for the water leakage measure included in the draft decision to be reconsidered.

The draft decision was to introduce four water aesthetics service standards for:

- ▶ customers supplied with water with 'acceptable' aesthetic characteristics (two standards, one for the Adelaide metropolitan area and one for regional areas), and
- ▶ customers supplied with water with 'good' aesthetic characteristics (two standards, one for the Adelaide metropolitan area and one for regional areas).

Since the Draft Determination, Commission staff have worked with SA Water to develop suitable measures, and to identify the aesthetics outcomes SA Water plans to achieve through its water quality programs. Some further work is required to finalise suitable measures, and milestone targets need to be derived where expenditure has been included in the revenue caps. For example, for the metropolitan water quality program, interim targets may be set linked with completion of the Happy Valley water treatment plant upgrade and the staged introduction of chloramination to the individual systems across Adelaide (see section 6.11.3).

Water aesthetics outcomes are suited to tracking through the monitoring framework, rather than through the service standards framework, as there is limited data to track performance (only annual data is available), and that the nature of the water quality improvement projects is that outcomes are delivered at one point in time, following major capital works (for example, a new pipeline or water treatment works).

5.4.2.3 Evaluation of potential new service standards

In its submission to the Draft Determination, SA Water queried the Commission's approach to including new service standards in the framework, as well as its reasoning in setting performance targets to maintain, improve or reduce performance: *[the draft decision] emphasises maintaining levels of service, rather than improving them, yet introduces new standards and increases the targets on others.*¹²⁴

The Commission's aim has been to establish a set of service standards that describe what customers can expect from SA Water, and reflect the quality and reliability levels valued by customers, now and in the long term.

In evaluating the service standards included in SA Water's proposal, the first consideration was whether they reflected the aspects of service that matter most to customers. The Commission used SA Water's customer research and customer engagement as a reference point. Commission staff attended many of the relevant engagement activities, and were provided with supporting documentation, and the opportunity to raise queries about the process as it unfolded.

The new customer service standards, and the new service standard for responsiveness to low priority water network events, were clearly supported by customer research and customer engagement (see section 5.5.3.3). The water and wastewater reliability service standards proposed by SA Water (that are not, ultimately, in the Final Determination) were also clearly supported by customer research and engagement (see section 5.4.2.1).

However, the draft decision considered that there were gaps in the service standard proposal and that it did not cover some aspects of service that matter to SA Water's customers, as demonstrated by its own engagement. These were:

- ▶ overall water network reliability
- ▶ reducing sewer overflows to the environment (above EPA requirements), and
- ▶ improvements to water aesthetics (above SA Health requirements).

¹²⁴ SA Water submission to Draft Decision, p. 52.

While SA Water had proposed significant expenditure to maintain water network reliability, improve water aesthetics, and reduce sewer overflows to the environment, it had not proposed service standards on these matters.

Therefore, the Draft Determination added service standards to address these gaps and, in doing so, the Commission considered results from SA Water's customer research and engagement alongside the comments of the CNC and the Regulators' Working Group, submissions from stakeholders, SA Water's historical performance and relevant national and international benchmarks.¹²⁵

In particular, the Commission considered the evidence available to SA Water on community expectations regarding water network reliability, as explored in the 2019 AMCL Water Main Management Independent Review,¹²⁶ the CNC report¹²⁷ and submissions to the Commission on SA Water's RBP from EWOSA¹²⁸ and Uniting Communities.¹²⁹ This issue is also noted in submissions to the Draft Determination from EWOSA¹³⁰ and the Technical Regulator.¹³¹

As explained above, the final decision is to address these areas through a new regulatory obligation for SA Water to achieve water and wastewater reliability outcomes in SAW RD20, and specific reporting on improvements delivered through increased expenditure.

The Commission also considered, and decided against, new service standards to address issues raised in consultation that SA Water did not explore through its customer engagement. For example, three stakeholders represented on the CEP (the Local Government Association SA, Property Council of Australia SA and the UDIA SA) raised concerns about water pressure.

The Commission considered whether a water pressure service standard could be usefully incorporated in the framework. Several other Australian jurisdictions (Victoria, New South Wales, Queensland, and Tasmania) have service standards related to either minimum flow rate or water pressure failures. However, in South Australia, water pressure is a matter addressed by the Technical Regulator. The Technical Regulator requires that SA Water meets, at a minimum, the Water Services Association of Australia standard regarding water pressure. As the Technical Regulator already sets those requirements, it would not be appropriate for the Commission to require a service standard related to water pressure.

5.4.3 Maintain, improve or reduce

In its submission to the Draft Determination, SA Water queried the Commission's reasoning in setting performance targets to maintain, improve or reduce performance.¹³² Whether each service level or performance target has been set to 'maintain', 'improve' or 'reduce' is identified in Table 5.2.

¹²⁵ Section 25(1)(b)(ii) of the WI Act requires the Commission to make a licence issued to a water industry entity subject to the condition that it complies with any Code provisions made by the Commission under Part 4 of the ESC Act, as in force from time to time, relating to any minimum standards of service that take into account relevant national benchmarks developed from time to time.

¹²⁶ AMCL, SA Water Water Main Management Independent Review, August 2019, pp. 18, 30, available at <https://www.sawater.com.au/community-and-environment/our-water-and-sewerage-systems/our-networks/independent-review>.

¹²⁷ Report of Independent Chair of the CNC, p. 45.

¹²⁸ EWOSA, submission to SA Water RBP, December 2019, p. 4, [https://www.escosa.sa.gov.au/ArticleDocuments/21453/20200116-Water-SAWRD20-SAWaterBusinessProposal2020-Submission-Funds from operations.pdf.aspx?Embed=Y](https://www.escosa.sa.gov.au/ArticleDocuments/21453/20200116-Water-SAWRD20-SAWaterBusinessProposal2020-Submission-Funds%20from%20operations.pdf.aspx?Embed=Y)

¹²⁹ Uniting Communities, submission to SA Water RBP, February 2020, p. 1, <https://www.escosa.sa.gov.au/ArticleDocuments/21453/20200205-Water-SAWRD20-SAWaterBusinessProposal2020-Submission-UnitingCommunities.pdf.aspx?Embed=Y>.

¹³⁰ EWOSA submission to Draft Decision, pp. 2-3.

¹³¹ Technical Regulator submission to Draft Decision, p. 2.

¹³² SA Water submission to Draft Decision, p. 52.

In deciding whether to set each performance target to 'maintain', 'improve' or 'reduce', the Commission has sought to balance customer preferences for service with the costs of provision.

In assessing evidence of customer support for setting service levels of performance targets to 'improve', the Commission has:

- ▶ where there are no obvious or directly identifiable costs, sought evidence from customer engagement or research activities that customers support the improvement, and
- ▶ where there are obvious or directly identifiable costs, also sought evidence from economic evaluation or willingness to pay research.

On that basis, the final decision to set service levels or performance targets to 'improve' for the new customer service standards, for which there are no obvious or directly identifiable costs, was made using evidence from customer research that did not address willingness to pay.

The draft decision to reduce the connection application processing time from 20 business days to 15 business days was made on the same basis. However, in this Final Determination the timeframe remains at 20 business days as SA Water has since identified that reducing connection application processing times does raise a direct cost, which has not been tested with customers.

5.4.3.1 What does it mean to 'maintain' performance?

Where the cost to 'improve' or 'reduce' has not been tested with customers, the Commission has set standards that do not result in reductions to service levels, as compared to historical average levels of performance. In the Draft Determination, this was achieved by setting performance targets as the mean of the most recent four years of performance data. The final decision achieves this by setting performance targets using the longest period of data available, in most instances six years (as shown in Table 5.2).

The longest period of data available is used because water and wastewater assets are long-life assets, and performance should reasonably be expected to remain steady over the longer term, unless there is a clearly identifiable trigger for that to change.

Using the longest period of data available smooths the effect of year-to-year variation over time. The advantage of smoothing that variation is that, sometimes, it is due to factors in SA Water's operating environment over which it has limited control (such as, for example, the impact of weather patterns and soil moisture conditions on water and sewer network performance, or the impact of delays in obtaining third party permits on connection application processing times). That said, while SA Water cannot control those factors or their occurrence, it can and should understand the implications of their occurrence on its network and on its performance.

On the whole, for service standards that are not new, performance targets set using six years of performance data are the same as SAW RD16 performance targets, which were set using the two years of performance data available at that time.

However, there are two SAW RD20 performance targets that demand better performance than in SAW RD16. First, for sewer network connection timeliness, the target for construction within timeframes has increased from 90 to 94 percent. This captures recent improvement in the timeliness of sewer connection construction: in 2018-19, for example, 98 percent of connections were completed within timeframes.

Second, for water quality responsiveness – regional areas, the target for performance within timeframes has changed from 96 to 97 percent. This target, set using six years of performance data rather than four, captures more year-to-year variation, and does not necessarily reflect a single change in SA Water's practices or operating environment.

Further, there is one case where the SAW RD20 performance target is set slightly lower than in SAW RD16: for water service restoration timeliness – regional areas (target for performance within timeframes has changed from 99 to 98 percent). This target, set using six years of performance data rather than four, captures more year-to-year variation, and does not necessarily reflect a single change in SA Water’s practices or operating environment.

Also, where average performance against restoration or responsiveness performance targets is at 100 percent, the Commission has set performance targets at 99 percent, recognising that achieving that performance outcome year-on-year is unlikely. This affects two performance targets: water quality responsiveness – Adelaide metropolitan area, sewer event responsiveness – Adelaide metropolitan area, sewer service restoration timeliness – Adelaide metropolitan area.

5.4.4 Performance targets, not performance indicators

When performance targets are set on the basis of an average measure of performance, results in any individual year can reasonably be expected to be better than or worse than the target.

In its submission to the Draft Determination, SA Water raised a concern that using the term ‘performance target’ sets an expectation that it will deliver that target each and every year: *‘[t]aking an averaging approach necessarily means SA Water would fail targets that are set this way at least 50 percent of the time’*. SA Water has asked the Commission to use a different term. Its view is *‘a more appropriate way to describe these measures would be ‘average performance indicator’ rather than ‘target’*.¹³³

SA Water identifies that the reporting thresholds included in the Draft Determination, for the proposed reliability service standards, allowed for some expected variation. It sees reporting thresholds: *‘have the benefit of allowing a measure to be missed in one out of four years within a regulatory period, while still being considered acceptable performance without having to demonstrate best endeavours’*.¹³⁴ Its view is that reporting thresholds should be applied across all service standards.

The Commission has made a final decision that:

- ▶ the term ‘performance target’ will continue be used in the SAW RD20 service standard framework, because the term suitably conveys the Commission’s expectation that SA Water will consistently use its best endeavours to achieve the annual target
- ▶ SA Water will complete performance self-assessments for each service standard during SAW RD20, to demonstrate its understanding of performance outcomes and its response to those outcomes, and to share successes and approach issues openly, and
- ▶ reporting thresholds will not be defined for SAW RD20, so as SA Water may be responsible for deciding if and how to use analysis to understand its performance.

5.4.5 Cost of reporting on additional service standards

In its submission to the Draft Determination, SA Water raised a concern about costs associated with changes to the service standard framework:

‘In keeping with a 2018 request from the Commission, the development of a business intelligence portal to automate the delivery of performance data for 18 service standard areas was budgeted. New measures proposed in the Draft Determination have not been budgeted for and will increase system development and deployment costs by more than \$500,000 and are unlikely to be completed

¹³³ SA Water submission to Draft Decision, p. 52.

¹³⁴ SA Water submission to Draft Decision, p. 52.

*by 1 July 2020. The costs of this additional work should be recognised, along with the additional time needed to complete them and any interim reporting methods required.*¹³⁵

SA Water is seeking to establish a 'business intelligence portal' in SAW RD20, and included expenditure of \$0.5 million for this purpose within its RBP, which has been included in this Final Determination, as part of the business case for data analytics and integration.

The \$0.5 million referred to by SA Water in its submission is in addition to the \$0.5 million included in this Final Determination, bringing the total cost of the 'business intelligence portal' to \$1.0 million. SA Water's submission argued that additional expenditure is required because of the changes to the service standard framework.

The Commission expects that SA Water has a robust method for collecting and verifying its performance data. However, it has no particular requirement regarding the technology or system to be used, and notes that SA Water has been able to access and provide time-series data on all service standards included in the Draft Determination.

SA Water has been expecting the service standard framework to be changed for SAW RD20. Its RBP included 19 service standards, eight of which were new, and six of which were based on consolidation of existing separate standards for the Adelaide metropolitan area and regional areas. The Final Determination includes 22 service standards, five of which are new, and five of which require a change to a service level or performance target. The level of revision is similar to that proposed by SA Water, and should reasonably be accommodated within the existing budget of \$0.5 million for the 'business intelligence portal'.

5.5 Individual service standards

The SAW RD20 service standard framework covers four themes: customer service, connections, responsiveness (attendance) and restoration. This section discusses each theme, and each of the 22 service standards.

5.5.1 Customer service

SA Water currently has two service standards in this area. They relate to telephone responsiveness (customer calls answered within 30 seconds) and complaint responsiveness (responsiveness to written complaints).

The final decision is to accept changes to each of these service standards, and three new service standards, as proposed by SA Water. The three new service standards focus on quality of customer service: customer satisfaction, first contact resolution (for account enquiry calls), and complaints handled in-house without escalation to EWOSA.

Further, the final decision is to reduce the telephone responsiveness service level (which will, in SAW RD20, apply only to fault calls) from 30 seconds to 50 seconds. SA Water has conducted research that shows this reduction in service level is acceptable to its customers, and the cost saving will offset the cost of introducing first contact resolution for account enquiry calls. The reasons for each decision are discussed further below.

5.5.1.1 Customer satisfaction

The Commission has introduced a 'customer satisfaction' service standard, to reflect the quality of SA Water's communication with customers, and the quality of its customer service systems. The performance measure is 'customers who are satisfied with recent service experience'. Customer

¹³⁵ SA Water submission to Draft Decision, p. 53.

satisfaction relates to satisfaction with experience in asking a question, reporting a fault, or applying for a new connection, as reported to SA Water by customers.

This new service standard is consistent with the Commission's guidance (in SAW RD16 and in Guidance Paper 3) that SA Water should consider how service standards could have an increased focus on customer satisfaction.¹³⁶

The central limitation of this type of service standard is that customer satisfaction is a qualitative notion and can be difficult to measure. The new service standard, as proposed by SA Water, responds to this limitation. It is based on a methodology that has been employed consistently within SA Water for since the beginning of 2018.

Underneath the aggregate customer satisfaction measure sit a number of sub-measures (that relate to different reasons for customer contact, channels of contact, and aspects of satisfaction). This also means that if SA Water continues its strong overall performance against this service standard, detail in the supporting measures will allow SA Water to identify and focus on any areas of weaker performance.

The methodology employs a robust sample size, a number of survey techniques and frequent surveying, which limits the extent to which methodology design affects results.

The final decision is to set the performance target at more than 93 percent of customers satisfied with recent service experience. This will maintain the level of performance SA Water has delivered during 2018-19. The Draft Determination cited some older data. Specifically, it noted that *'the target service level of 93 percent reflects performance over the last two years, noting that performance has improved from 81 percent at the end of 2016-17.'* During consultation, SA Water provided the Commission with time-series data for all service standards included in the Draft Determination. In doing so, SA Water noted that for customer satisfaction, data for the period up to and including 2017-18 does not use the current methodology, and should not be used for comparison or to establish a baseline of recent performance.

5.5.1.2 First contact resolution

The Commission has made a final decision to introduce a 'first contact resolution' service standard, as proposed by SA Water. The performance measure is the number of account enquiry telephone calls being resolved at the 'first point of contact' (that is, during the first telephone call).

SA Water proposed this service standard based on findings of customer engagement, namely that customers want to speak with front line staff who are capable of resolving their query without referring them to a different person, and without the customer needing to contact SA Water again. To resolve issues on first contact, call centre operators need to spend more time on each call. SA Water reviewed calls to its contact centre made in April 2018, and found that 27 percent of calls were 'repeats' and, 24 percent of calls could have been avoided had the operator taken more time on the first contact.

The final decision is to set the performance target at more than 85 percent of calls resolved on first contact. This is as proposed by SA Water, and consistent with SA Water's review of calls in April 2018 (described in its business case) showed that 73 percent of calls were resolved on first contact (as 27 percent were repeat callers), and SA Water's plan to improve performance.

An 85 percent target level of service represents an improvement in customer service. SA Water expects there will be no net impact on workload to deliver this change: staff will need to spend more time on each call, but there will be fewer calls. However, more staff will be required at peak times, and to provide

¹³⁶ Commission, SA Water Regulatory Determination 2016, June 2016, section 4.4.4, available at <https://www.escosa.sa.gov.au/ArticleDocuments/334/20160606-Water-SAWaterRegulatoryDetermination2016FinalReport.pdf.aspx?Embed=Y>, Commission, Guidance Paper 3, p. 11.

for that the Commission has made a final decision to reduce the telephone responsiveness service standard from 30 seconds to 50 seconds, as proposed by SA Water (discussed further below). This will mean that improved 'first contact resolution' will have no net cost impact.

The Commission will seek regular reporting and updates from SA Water on its progress, and review this target level of service if that is required to keep call centre costs at current levels.

5.5.1.3 Telephone responsiveness

The current SA Water telephone responsiveness service standard is that it will respond to 85 percent of all customer telephone calls within 30 seconds.¹³⁷ SA Water consistently meets this target service level, and has done so since 2013-14.

The Commission has reduced the telephone responsiveness service level by: first, limiting application of the standard to fault calls only (with no responsiveness standard for account enquiry calls); and second, changing the target service level from 30 seconds to 50 seconds.

SA Water estimates that the associated cost savings will allow it to introduce the service level for 'first contact resolution' (as discussed above).

This proposal was supported by SA Water's customer research which examined how long customers expect to wait to have different types of calls answered.¹³⁸ That research found both residential and business customers would expect to wait up to five minutes to have general enquires answered, and up to one minute for a response to an urgent fault call. The research recommended answering general enquiries from residential customers within three minutes, from business customers within two minutes, and fault enquiries within one minute.

SA Water presented findings of this research, and its proposal to extend average waiting times, to its Customer Working Group in October 2018. The Customer Working Group supported a focus on 'first point of contact' resolution of issues, and agreed that waiting times could be longer to allow SA Water to provide that service.¹³⁹ The CNC, which was supportive of SA Water's overall service standard proposal, also noted this research and SA Water's response to it.¹⁴⁰

Extending waiting times for fault calls from 30 seconds to 50 seconds is a change that is supported by evidence from customer research and customer engagement. However, removing the telephone responsiveness service standard from account enquiry calls carries a risk that waiting times may increase to unacceptable levels. SA Water plans to mitigate this risk by monitoring call answering times and managing them to maintain customer satisfaction levels (measured by the new service standard). To an extent, it is also mitigated by the new complaint escalation service standard and revised complaint responsiveness service standard (discussed below). The Commission will manage this risk by requiring regular reporting and updates from SA Water on call waiting times, and the benefit it allows (that is, the impact on 'first contact resolution').

The performance target will be set at 85 percent. This is consistent with the limited data available on recent performance: performance in 2018-19 and in 2019-20 (as at April 2020) was 87 percent. It is also the same as the target for the current telephone responsiveness service standard.

¹³⁷ The Commission's Water Industry Guideline No. 2 defines telephone call as a call made to any number identified in the customer enquiries and complaints procedure. SA Water's Customer Enquiry, Complaint and Dispute Resolution Process: identifies numbers for general enquiries, service faults and emergencies, major projects, connection enquiries, the Australian Water Quality Centre, and Dial Before You Dig.

¹³⁸ Research based on 608 interviews with residential customers and 401 interviews with business customers in June 2018.

¹³⁹ SA Water RBP, Appendix C, p. 14.

¹⁴⁰ Report of Independent Chair of the CNC, p. 45.

The intention is not necessarily to set this target to 'maintain' current performance, but to set it and the 'first contact resolution' target together so that, in sum, call centre costs are maintained at current levels while customer satisfaction is improved.

5.5.1.4 Complaint responsiveness

The current service standard is that SA Water will respond to 95 percent of written complaints (received by mail, fax, email or other means) within 10 business days if complaints do not require investigation and within 30 business days if investigation is needed.¹⁴¹ SA Water consistently meets this target service level.

The Commission has changed the target timeframe to 10 business days for all complaints, regardless of whether investigation is required, and to extend the complaints responsiveness service standard to apply to all complaints, regardless of whether they are made in writing, by phone, or through another channel. This is as proposed by SA Water.

This is appropriate because as less than half of all complaints to SA Water are made in writing (38 percent in 2017-18).¹⁴² Further, while around half of all complaints to SA Water require some investigation, SA Water's practice is to provide an interim response within 10 days if a matter is complex and further information is required.

The Commission also notes that SA Water's practice of acknowledging complaints within two business days is important to customers. SA Water's 2018 research found that when customers contact SA Water by email or web form, they expect a response within four hours, and when customers contact SA Water by web chat, they expect a response within two minutes. SA Water will need to meet these expectations to maintain customer satisfaction (as discussed above).

The performance target will be set at 95 percent. This is consistent with the limited data available on recent performance, and the same as the target for the current complaint responsiveness service standard. SA Water has begun measuring complaint responsiveness against the revised service standard. Performance in 2018-19 was 91 percent and in 2019-20 (as at April 2020) was 97 percent.

5.5.1.5 Complaint escalation

The Commission has introduced a service standard for the proportion of complaints escalated to EWOSA¹⁴³ following dissatisfaction with SA Water's attempt to resolve that complaint. The new service standard is same as SA Water's proposal.

The performance target will be 15 percent (that is, good performance would be under that target level). This is as proposed by SA Water, and a slight improvement on the performance over the six years to 30 June 2019. Over that period, 17 percent of complaints on average, each year, were escalated to EWOSA. SA Water has improved its performance recently, with 11 percent of complaints escalated in both 2018-19 and 2017-18, and proposed the 15 percent performance target at no additional cost.

This service standard has the potential to encourage SA Water to satisfactorily resolve customer complaints in the first instance, and is supported by EWOSA.¹⁴⁴ The value of this standard could be

¹⁴¹ Commission, Water Industry Guideline No 2 – regulatory information requirements for major retailers, July 2016, Glossary, available at <https://www.escosa.sa.gov.au/ArticleDocuments/952/20160706-Water-GuidelineNo2-MajorRetailers-WG2-03.pdf.aspx?Embed=Y>

¹⁴² Reporting to the Commission showed that in 2017-18, 678 written complaints and 1763 total complaints were received.

¹⁴³ SA Water is required by the Commission, under condition 9.2 of its Water Industry Retail Licence, to participate in an industry ombudsman scheme. That industry ombudsman scheme is provided by EWOSA.

¹⁴⁴ EWOSA, p. 3.

enhanced with greater alignment between the complaint categories used by SA Water and those used by EWOSA.

5.5.2 Connections

SA Water currently has four service standards that relate to connections. The final decision is to remove the trade waste application service standard and retain the existing service standards for connection application responsiveness, water network connection timeliness, and sewer network connection timeliness. These decisions are further described below.

5.5.2.1 Connection application responsiveness

The current service standard is that SA Water will process 95 percent of network connection applications within a target timeframe of 20 business days. This applies to both water and sewer connections.

The final decision is to retain this service standard, and the current target timeframe of 20 business days. This differs from the draft decision, which was to change the target timeframe to 15 business days, as proposed by SA Water.

SA Water proposed to change the timeframe based on findings from its customer engagement on connections, which found that surveyors in particular struggled with the length of the connection application process. SA Water's proposal stated that it could achieve this improvement without increasing costs.

Following the Draft Determination, SA Water advised the Commission that it no longer expects to be able to deliver that improvement without increasing costs. Specifically, delivering the improvement would require additional ongoing labour costs of \$80,000 - \$100,000 each year.

Where there are directly identifiable costs of setting service standards to 'improve', the Commission has sought supporting evidence from economic evaluation or willingness to pay research. This newly identified additional cost has not been tested with customers. Therefore, the final decision is to retain the existing timeframe for connection application responsiveness at 20 business days.

The performance target will be set to maintain recent performance at 95 percent. There only two years of data available to establish average recent performance. Due to data integrity issues at SA Water, data are not available for a longer period. To reflect this, the performance target has been set at 95 percent (the current target).

5.5.2.2 Water network connection timeliness

The current service standard is that SA Water will construct 95 percent of water network connections within target timeframes of 25 business days (standard installations) or 35 business days (non-standard installations).

The final decision is to retain this service standard. In the six years to 30 June 2019, SA Water's average annual performance was 94.8 percent, which is in line with expected performance outcomes. Therefore, the performance target has been set to maintain this level of performance, at more than 95 percent.

5.5.2.3 Sewer network connection timeliness

The current service standard is that SA Water will construct 90 percent of sewer network connections within target timeframes of 30 business days (standard installations) or 50 business days (non-standard installations).

The final decision is to retain this service standard. In the six years to 30 June 2019, SA Water's average annual performance was 94.2 percent. Therefore, the performance target has been set to maintain this level of performance, at more than 94 percent.

This differs from the draft decision, which was to set the performance target at more than 95 percent, reflecting average annual performance over four years, rather than six.

5.5.2.4 Trade waste application responsiveness

The current service standard is that SA Water will process 99 percent of trade waste applications within 10 business days. SA Water has exceeded this in the six years to 30 June 2019 (average annual performance was 99.3 percent).

The final decision is to remove this service standard, as proposed by SA Water, because:

- ▶ This service standard relates to a small subset of customers, and therefore does not warrant inclusion in a service standard framework that represents the aspects of service its customers value most. (There were 750 trade waste applications received in 2018-19, compared with 11,753 water and sewer connection applications).
- ▶ SA Water is performing well against this service standard. Any change will be detected in SA Water's customer satisfaction and complaints monitoring and responded to accordingly.

5.5.3 Response (attendance)

SA Water currently has six service standards that relate to response (attendance). Two are for response to water quality complaints (metropolitan and regional), two are for attendance at water network breaks, leaks and bursts (metropolitan and regional), and two are for attendance at sewerage network overflows (metropolitan and regional).

SA Water proposed to establish separate service standards for low and high priority water network events. The Commission has accepted that proposal, but has established service standards for low priority events and for high priority events separately for the Adelaide metropolitan area and regional areas. In response to the Draft Determination, SA Water provided performance data for low priority events specific to the Adelaide metropolitan area and regional areas. The final decision reflects those data in the performance targets.

In total, SA Water will have eight service standards that relate to response (attendance) in SAW RD20. The reasons for these final decisions are set out below.

5.5.3.1 Water quality responsiveness

The current service standards are that SA Water will respond to 96 percent of water quality complaints in the Adelaide metropolitan area, and 99 percent of water quality complaints within regional areas, within target timeframes. The target timeframes are one hour (priority one incidents), two hours (priority two incidents) and 48 hours (priority three incidents).

The final decision is to retain separate service standards for the Adelaide metropolitan area and regional areas. In the six years to 30 June 2019, SA Water's average annual performance was 96.9 percent (Adelaide metropolitan area) and 99.7 percent (regional areas). Therefore, performance targets have been set to maintain this level of performance, at 97 percent (Adelaide metropolitan area) and 99 percent (regional areas, noting that the Commission has not set any individual target at 100 percent).

The final decision is to retain the current target timeframes but to make changes to the definitions of complaint priorities, as proposed by SA Water and as set out in the Draft Determination. The definition

of priority one is broader than the current definition: it captures all complaints that indicate a potential risk to human health. The definition of priority two does not mention human health and instead emphasises water aesthetics. These definitions better reflect SA Water’s current practice, and are summarised in Table 5.4.

Table 5.4: Proposed priority levels for water quality complaint responsiveness

	Current definition	Proposed definition
Priority 1	Where there is a potential for serious risk to human health Timeframe: 1 hour	Where the request indicates potential risk to human health Timeframe: 1 hour
Priority 2	Where there is the potential for low risk to human health Timeframe: 2 hours	Where the request indicates taste and odour issues or contaminated/dirty water Timeframe: 2 hours
Priority 3	All other cases Timeframe: 48 hours	All other water quality reports, for example milky/cloudy water Timeframe: 48 hours

5.5.3.2 Water event responsiveness – high priority

The current service standards are that SA Water will respond to 99 percent of water network breaks, leaks and bursts in the Adelaide metropolitan area, and 99 percent of water network breaks, leaks and bursts in regional areas, within the required timeframes of one hour (priority one incidents) and five hours (priority two incidents).

The final decision is that the water network breaks, leaks and bursts captured in this service standard will be known as ‘high’ priority events, and that separate service standards for the Adelaide metropolitan area and regional areas will be retained. In the six years to 30 June 2019, SA Water’s average annual performance was 98.5 percent (Adelaide metropolitan area) and 98.9 percent (regional areas). Therefore, performance targets have been set to maintain this level of performance, at 99 percent (Adelaide metropolitan area) and 99 percent (regional areas).

The final decision is to change the definition of Priority 1 events, to clarify that such events are those that cause ‘major or significant’ damage. This revision is shown in Table 5.4. Without this clarification, Priority 1 events may capture those where there is very minor damage.

5.5.3.3 Water event responsiveness – low priority

The final decision is to set two new service standards for low priority water network events, one for the Adelaide metropolitan area and one for regional areas. SA Water proposed one service standard for low priority water network events that combined metropolitan and regional performance.

Low priority water network events include leaking or noisy meters, and minor issues that have a limited customer or community impact. These are not captured in the current water event responsiveness service standard and are not reported to the Commission.

‘Low’ priority events will be further defined as priority three (target timeframe: seven days) and priority four events (target timeframe: 15 days), as set out in Table 5.5. SA Water consulted with customers regarding the definitions and timeframes for priority three and four events. The current level of service is six business days for priority three events and 21 business days for priority four events. SA Water has proposed this improvement at no net cost increase.

Table 5.5: Proposed priority levels for water network events

	Current definition	Proposed definition
Priority 1	A leak or service issue that: results, or may result, in a total loss of supply to a customer; results, or may result in, a major loss of water; causes, or may cause, damage to property or; poses, or may pose, an immediate danger to people or the environment. Timeframe: 1 hour	Water network break and leak events with the greatest customer or community impact. For example, total loss of supply to a customer, major loss of water, events that cause major or significant damage to property, events that pose an immediate danger to people or the environment. Timeframe: 1 hour
Priority 2	Any other burst of service issue. Timeframe: 5 hours	Any other water network break or leak event with potential for high impact to customers or the community. Timeframe: 5 hours
Priority 3	n/a	Water network break, leak and boundary events with low to medium customer or community impact, usually at the boundary, for example, a leaking meter. Timeframe: 7 days
Priority 4	n/a	Water network break, leak and boundary events with low customer or community impact, usually at the boundary, for example, a meter that cannot be located or read, or a noisy meter. Timeframe: 15 days

The final decision is to set performance targets of 83 percent (Adelaide metropolitan area) and 97 percent (regional areas), to maintain recent performance. In the four years to 30 June 2019, SA Water's average annual performance in was 83.47 percent (Adelaide metropolitan area) and 97.4 percent (regional areas). Six years' performance data is not available.

These performance targets differ from those in the Draft Determination, which were 95 percent for the Adelaide metropolitan area and 95 percent for regional areas. The Draft Determination applied the target proposed by SA Water to each group of customers, but did not account for the current performance differences between the Adelaide metropolitan area and regional areas. The relevant performance data was provided by SA Water in response to the Draft Determination.

5.5.3.4 Sewer event responsiveness

The current service standards are that SA Water field crews will attend 99 percent of sewer network overflows in the Adelaide metropolitan area, and 99 percent of sewer network overflows within regional areas, within the required timeframes of one hour (priority one incidents), two hours (priority two incidents) and four hours (priority three incidents).

The final decision is to retain separate service standards for the Adelaide metropolitan area and regional areas. In the six years to 30 June 2019, SA Water's average annual performance was 98.7 percent (Adelaide metropolitan area) and 99.6 percent (regional areas). Therefore, performance targets have been set to maintain this level of performance, at 99 percent (Adelaide metropolitan area) and 99 percent (regional areas, noting that the Commission has applied a rule not to set any individual target at 100 percent).

The final decision is to retain current target timeframes, as proposed by SA Water, which are:

- ▶ Priority 1, where the overflow is inside a customer's building – one hour.
- ▶ Priority 2, where the overflow is outside a building on customer's property – two hours.
- ▶ Priority 3, where the overflow is external to a customer's property – four hours.

5.5.4 Restoration

SA Water currently has six service standards that relate to timeframes for restoration. Two are for water network service restoration (metropolitan and regional), two are for sewerage network service restorations (metropolitan and regional), and two are for sewerage network overflow clean-ups (metropolitan and regional).

The Commission has made a final decision that SA Water will have six service standards that relate to restoration in SAW RD20. Each service standard is set out below.

5.5.4.1 Water service restoration timeliness

The current service standards are that SA Water will restore 99 percent of unplanned water service interruptions in the Adelaide metropolitan area and regional areas within the required timeframes of five hours (category one incidents), eight hours (category two incidents) and 12 hours (category three incidents).

The final decision is to retain separate service standards for the Adelaide metropolitan area and regional areas. In the six years to 30 June 2019, SA Water's average annual performance was 98.3 percent (Adelaide metropolitan area) and 98.2 percent (regional areas). Therefore, performance targets have been set to maintain this level of performance, at 98 percent (Adelaide metropolitan area) and 98 percent (regional areas).

These performance targets differ from those in the Draft Determination, which were 99 percent (Adelaide metropolitan area) and 99 percent (regional areas). The Draft Determination targets were set using four years' data and the rationale that performance targets should not be set to require worse performance than the SAW RD16 targets.

Elsewhere in the final service standard framework, performance targets are set to maintain recent performance, with the effect of requiring better performance than the SAW RD16 targets. The final decision to set targets using many years of data as possible aims to capture the effect of year-to-year variation, which occurs in part due to influences beyond SA Water's control. Therefore, it is reasonable that, performance targets are set to reflect performance over the longer time period, regardless of how that compares with SAW RD16 targets.

The final decision is to retain the current category definitions and target timeframes which are:

- ▶ Category 1, where the interruption could be life threatening or otherwise have serious consequences such as impacting critical needs customers, hospitals, schools, residential care facilities, child care centres, prisons, youth detention facilities or other correctional facilities – 5 hours.
- ▶ Category 2, where the interruption causes a disruption to a customer's business activities – 8 hours.
- ▶ Category 3, all other cases – 12 hours.

The Commission has decided to add 'prisons, youth detention facilities or other correctional facilities' to the list of examples in the Category 1 definition in the Code's service standard schedule, to align it with the list of examples in the Commission's Water Industry Guideline Number 2, which already includes these facilities.¹⁴⁵ In practice, for reporting purposes, SA Water prepares a definitive list of customer types considered as critical needs customers, based on land use codes.

SA Water proposed changing the definition of Category 1 interruptions to be:

where the interruption ~~could be~~ is life threatening or ~~otherwise have~~ has potentially serious consequences such as impacting critical needs customers, hospitals, schools, residential care facilities, or child care centres.

If there is uncertainty about whether an interruption is life threatening or may have serious consequences, SA Water takes a precautionary approach in restoring supply. This is suitably reflected in the current definition. Therefore, the Commission has not accepted this proposed change.

5.5.4.2 Sewer service restoration timeliness

The current service standards are that SA Water will perform 95 percent of sewerage network service restorations in target timeframes for metropolitan areas and perform 99 percent in target timeframes for regional areas. The target timeframes are five hours (category one and category two incidents), 12 hours (category three incidents), and 18 hours (category four incidents).

The final decision is to retain separate service standards for the Adelaide metropolitan area and regional areas. In the six years to 30 June 2019, SA Water's average annual performance was 95.0 percent (Adelaide metropolitan area) and 99.7 percent (regional areas). Therefore, performance targets have been set to maintain this level of performance, at 95 percent (Adelaide metropolitan area) and 99 percent (regional areas, noting that the Commission has not set any individual target at 100 percent).

The final decision is to retain the current target timeframes which are:

- ▶ Category 1, where the interruption could be life threatening or otherwise have serious consequences such as impacting critical needs customers, hospitals, schools, residential care facilities, child care centres, prisons, youth detention facilities or other correctional facilities – 5 hours.
- ▶ Category 2, where the interruption causes a disruption to a customer's business activities – 5 hours.
- ▶ Category 3, all other full loss of service events – 12 hours.
- ▶ Category 4, all partial loss events where a customer has a sewerage service but it is draining slowly – 18 hours.

Further, 'prisons, youth detention facilities or other correctional facilities' will be added to the list of examples in the Category 1 definition, as discussed above.

5.5.4.3 Sewer overflow clean-up timeliness

The current service standards are that SA Water will perform 98 percent of sewer overflow clean-ups in target timeframes for metropolitan areas, and perform 99 percent in target timeframes for regional areas. The target timeframes are four hours (category one incidents), six hours (category two incidents), and eight hours (category three incidents).

¹⁴⁵ Commission, Water Industry Guideline No 2 – regulatory information requirements for major retailers.

The final decision is to retain separate service standards for the Adelaide metropolitan area and regional areas. In the six years to 30 June 2019, SA Water's average annual performance was 97.5 percent (Adelaide metropolitan area) and 99.3 percent (regional areas). Therefore, performance targets have been set to maintain this level of performance, at 98 percent (Adelaide metropolitan area) and 99 percent (regional areas).

The final decision is to retain the current target timeframes which are:

- ▶ Category 1, where a sewer overflows inside a customer's building – 4 hours.
- ▶ Category 2, where a sewer overflows outside a building on a customer's property – 6 hours.
- ▶ Category 3, where a sewer overflows, external to customer's property – 8 hours.

5.6 Guaranteed Service Level scheme

A Guaranteed Service Level (GSL) scheme is a system for making defined payments to individual customers who experience particular types of poor service. Typically, GSL scheme payments do not compensate customers for any losses they experience as a result of poor service; they simply provide a customer service gesture. Guidance Paper 3 discussed the merits of, and design options for, financial incentive and penalty schemes.¹⁴⁶

The Commission has decided not to introduce a GSL scheme during SAW RD20. SA Water does not currently have a GSL scheme and did not propose to introduce one for SAW RD20. This is consistent with advice provided by the Commission in Guidance Paper 3¹⁴⁷ and the view of the CNC that GSL-style payments funded by all customers are not warranted unless the inconvenience suffered is significant.¹⁴⁸

Although it does not have a GSL scheme, SA Water does make some service gesture payments to customers on a case-by-case basis (for example, small amounts when a billing error has been made, and more substantial payments where property is damaged by water or sewerage and SA Water is responsible). It also makes payments to assist customers to manage high water use or leakage that occurs on the customer's side of the meter. The Commission considers payments of this nature to be a reasonable part of SA Water's customer service program.

In July 2019, as part of research to support consideration of a GSL scheme, the Commission requested from SA Water expenditure data on these payments. Data was not available on payments made regarding damaged property or on customer service gestures. Current expenditure on the leakage and high water use allowances is approximately \$2 million per annum.

Therefore, the Commission has made a further final decision to require reporting, at an aggregate level, on SA Water's service gesture, high water use and leakage payments. The purpose of this is not to discourage SA Water from making payments of this nature but rather to ensure that expenditure on these payments is transparent, as recommended by the CNC, and inform any future consideration of a more formalised scheme of customer payments.

In developing reporting requirements, the Commission will work with SA Water and look to use existing reporting where possible. For example, this may include using the quarterly report that SA Water has advised it prepares for the Treasurer on all service gesture payments to customers. Further, the Commission notes SA Water's concern that *'commercial and privacy considerations will need to be reflected as the style of reporting is determined'*¹⁴⁹ and will do so as the reporting guidelines are developed.

¹⁴⁶ Commission, Guidance Paper 3, p. 12.

¹⁴⁷ Commission, Guidance Paper 3, p. 12.

¹⁴⁸ Report of Independent Chair of the CNC, p. 45.

¹⁴⁹ SA Water submission to Draft Decision, p. 53.

Part C – Drinking water and sewerage retail services

The Commission's revenue determination allows SA Water to recover the efficient cost of providing drinking water and sewerage retail services to customers. The cost components that the Commission has determined are:

- ▶ operating expenditure
- ▶ return on RAB
- ▶ return on working capital
- ▶ return of capital (depreciation), and
- ▶ tax allowance.

SA Water operates a capital-intensive business and the return on assets and return of capital components cover its fixed infrastructure costs, including forecast capital expenditure. Operating expenditure is included as a separate building block component. The working capital allowance addresses the funding cost associated with the mismatch in the timing of SA Water's revenue and expenditure cash flows. The tax allowance reflects the net impact to shareholders of the tax obligations of the benchmark-efficient ownership entity.

6 Prudent and efficient expenditure

Final decision - Asset Management System

SA Water has continued to refine the key plans and approaches that underpin its asset management system over the past four years. However, four broad issues have been identified with SA Water's asset management system that lead the Commission to conclude that, overall, SA Water has not proposed a prudent and efficient level of expenditure for the SAW RD20 period. The areas where further refinement is required include:

- ▶ greater alignment between stakeholder expectations and asset management objectives, to ensure that the need for, and expected outcomes from, expenditure are robust and clear
- ▶ greater consistency of approach between asset classes, to provide greater assurance that medium and long-term asset management planning and decision making considers the impact of reprioritisations across the entire asset portfolio
- ▶ further prioritisation to achieve an optimised investment program for SAW RD20, and
- ▶ closer monitoring and reporting of the benefits of expenditure realised over time, to establish a clearer understanding of the relationship between expenditure and its intended performance outcomes.

These findings have led the Commission to make a series of cost adjustments to the sample of SA Water's proposed programs, projects and initiatives which have been examined in detail, as well as the application of more challenging efficiency targets. Based on the Commission's analysis, those adjustments establish more efficient expenditure forecasts for SAW RD20 than those proposed by SA Water in its RBP.

Final decision - Capital expenditure

The prudent and efficient amounts of capital expenditure included in the calculation of the revenue caps are as follows:

- ▶ \$1,104.8 million (\$Dec18) for drinking water retail services, which is \$325.0 million higher (42 percent) than that provided for in SAW RD16 and 10 percent lower than that proposed by SA Water in its RBP, and
- ▶ \$539.6 million (\$Dec18) for sewerage retail services, which is \$37.4 million higher (seven percent) than that provided for in SAW RD16 and two percent higher¹⁵⁰ than that proposed by SA Water in its RBP.

Final decision - Operating expenditure

The prudent and efficient amounts of operating expenditure included in the calculation of the revenue caps are as follows:

- ▶ \$1,408 million (\$Dec18) for drinking water retail services, which is one percent lower than that spent in SAW RD16¹⁵¹ and four percent lower than that proposed by SA Water in its RBP, and
- ▶ \$543 million (\$Dec18) for sewerage retail services, which is four percent more than that spent in SAW RD16 and five percent lower than that proposed by SA Water in its RBP.

¹⁵⁰ The final decision is higher than SA Water's proposal due to the impact of a Ministerial direction (see section 6.6 for details).

¹⁵¹ Note: SA Water's actual operating expenditure for 2019-20 is not yet known so these figures include an estimate of actual expenditure as \$507.7 million (\$Dec18).

6.1 Introduction

This Chapter sets out the Commission's decisions and reasoning in relation to the prudent and efficient operating and capital expenditure that SA Water should incur in providing retail services during the four-year period commencing 1 July 2020. It provides:

- ▶ background information about the nature of SA Water's capital and operating expenditure and the 'prudent and efficient' test applied by the Commission to its proposed expenditure (section 6.2)
- ▶ information about past trends in SA Water's expenditure (section 6.3)
- ▶ the Commission's assessment of SA Water's asset management system, which underpins its capital and operating expenditure decisions (section 6.4), and
- ▶ decisions on the prudence and efficiency of SA Water's capital and operating expenditure forecasts for the SAW RD20 period (sections 6.5 to 6.14) .

The Commission's assessment, reasons and final decisions on the prudence and efficiency of SA Water's capital and operating expenditure for the SAW RD20 period are discussed as follows:

- ▶ establishing the efficient base year for operating expenditure (section 6.7)
- ▶ scrutinising the capital and operating expenditure proposed by SA Water and comparing the proposals against the longer-term expenditure and performance trends under the five key investment drivers SA Water used to categorise its expenditure proposal:
 - **External responsibilities:** investments by SA Water to meet its legal and regulatory responsibilities (section 6.9)
 - **Sustaining services:** investments by SA Water to continue to provide and sustain reliable services for its customers, by planning ahead and investing where needed (section 6.10)
 - **Improving services:** investments by SA Water to reflect customer feedback on what is important to them and what they are willing to pay for (section 0)
 - **Enabling growth:** investments by SA Water to service new water and sewerage customers or increase the services available to existing customers (section 6.12), and
 - **IT expenditure:** investments by SA Water to enhance its digital capabilities as a key enabler for achieving efficiencies and meeting customer expectations (section 6.13).
- ▶ establishing top-down efficiency factors for both the operating and capital expenditure forecasts, taking into account any specific adjustments that have been made to the sample of programs, projects and initiatives reviewed, to avoid the potential for double counting of expected efficiencies (section 6.14).

The Commission's final decision on the prudent and efficient level of operating expenditure to be included in calculation of the maximum revenue caps for SAW RD20 is set out in Table 6.1.

Table 6.1: Summary of the operating expenditure final decision for SAW RD20 by retail service and year (\$Dec18, million)

Item description	2020-21		2021-22		2022-23		2023-24		SAW RD20 total	
	Water	Sewerage	Water	Sewerage	Water	Sewerage	Water	Sewerage	Water	Sewerage
Normalised base year¹	336.0	129.7	336.0	129.7	336.0	129.7	336.0	129.7	1344.0	518.8
<u>Plus additional expenditure (by investment driver):</u>										
External obligations	+15.4	+3.9	+20.4	+4.6	+21.2	+6.9	+22.0	+8.3	+79.0	+23.8
Sustaining services	+6.1	+1.2	+6.8	+1.2	+7.4	+1.3	+7.5	+1.3	+27.8	+5.0
Improving services	+1.3	+2.6	+2.9	+3.1	+4.9	+3.7	+6.5	+4.3	+15.6	+13.7
Enabling growth	0.0	+0.4	+0.3	+0.8	+1.0	+1.2	+1.0	+1.6	+2.3	+4.0
Total additional operating expenditure	22.8	8.1	30.4	9.7	34.6	13.1	37.0	15.5	124.7	46.5
Minus savings & efficiencies ²	-6.1	-2.2	-14.0	-5.2	-17.8	-6.6	-22.6	-8.4	-60.5	-22.4
Total by retail service	352.8	135.6	352.3	134.3	352.7	136.3	350.4	136.8	1408.2	543.0
Total operating expenditure	488.3		486.7		489.0		487.2		1951.2	

Notes:

1. The normalise base year reflects SA Water's actual operating expenditure in 2018-19, normalised to remove any once-off or abnormal costs (or savings) incurred by SA Water in that year, to make it representative of the costs that SA Water is likely to face in future years under normal circumstances.
2. The 0.5 percent continuing efficiency has not been applied to SA Water's efficient labour costs, and the programs and projects in the section 6 Ministerial directions. Savings include adjustments made to reflect forecast reductions in wholesale electricity costs over the SAW RD20 period.

The Commission's final decision on the prudent and efficient level of capital expenditure to be included in calculation of the maximum revenue caps for SAW RD20 is set out in Table 6.2.

Table 6.2: Summary of the capital expenditure final decision for SAW RD20, relative to SA Water's RBP (\$Dec18, million)

Item description	2020-21	2021-22	2022-23	2023-24	SAW RD20 total
SA Water RBP	527.6	394.3	466.4	453.8	1842.0
Consequential impact of updated 2019-20 forecast	+48.8	0.0	0.0	0.0	+48.8
Removing ZCEF	-138.0	0.0	0.0	0.0	-138.0
Section 6 Ministerial directions:					
Tea Tree Gully Wastewater works	+3.7	+22.0	+25.1	+8.5	+59.2
Kangaroo Island – security and supply of water	+1.0	0.0	0.0	0.0	+1.0
SAW RD20 RBP sample adjustments:					
<u>External obligations:</u>					
Open Reservoirs	+7.3	+5.0	0.0	0.0	+12.3
<u>Sustaining services:</u>					
Sewerage mains management program	+9.5	-5.8	-9.5	-9.5	-15.2
Structures - water networks	-1.5	-1.5	-1.5	-1.5	-5.8
<u>Improving services:</u>					
Metropolitan water quality improvement program	-10.4	-10.4	-10.4	-10.4	-41.4
Regional water quality improvement program	-6.2	-6.2	-6.2	-6.2	-24.8
<u>Enabling growth:</u>					
Morgan System (Upper Spencer Gulf) augmentation	-22.8	0.0	0.0	0.0	-22.8
Glenelg Adelaide Parklands recycled water expansion	-1.5	-2.5	-3.0	-3.0	-10.0
<u>IT expenditure:</u>					
IT – Risk Management	-2.4	-2.4	-2.4	-2.4	-9.6
Subtotal (before efficiency targets applied)	415.1	392.6	458.6	429.3	1695.6

Item description	2020-21	2021-22	2022-23	2023-24	SAW RD20 total
Continuing efficiency - (0.5 percent) ¹	-1.7	-3.2	-5.8	-7.5	-18.3
Catch-up efficiency - (1.5 percent) ²	-2.9	-5.1	-10.9	-13.8	-33.0
Total capital expenditure	410.5	384.0	441.9	408.0	1644.4

Notes:

1. Does not apply to section 6 Ministerial directions.
2. Does not apply to the programs and projects in the SAW RD20 reviewed sample, or to section 6 Ministerial directions.

6.2 Context and methodology for assessing prudent and efficient expenditure

The Commission's assessment is undertaken in the context of the following factors:

- ▶ SA Water's customers' clear desire for prices to be as low as sustainably possible
- ▶ the expectation that SA Water, as a long-life asset owner and manager, will have in place prudent, efficient and robust long-term asset management and associated expenditure plans, such that any variations in required expenditure between regulatory periods are readily identifiable, transparent and justifiable (including to SA Water's customers)
- ▶ SA Water's current expenditure levels, including both the expectations set out in SAW RD16 and the actual expenditure that SA Water has incurred over the past four years
- ▶ SA Water's current performance levels, which, as explained in Chapter 5, have been generally consistent with overall regulatory requirements
- ▶ the customer engagement work undertaken by SA Water on investment options and expenditure requirements,
- ▶ feedback and evidence from stakeholders, including SA Water's RBP proposals, and
- ▶ the directions under section 6 of the *Public Corporations Act 1993*, which specify on-going and new requirements that SA Water must deliver during the regulatory period, and the expenditure associated with those requirements to be incorporated into the revenue caps (net of any specified contribution or subsidy from the South Australian Government or other sources).

In that overall context, the Commission's focus has been on understanding the justification for any departures from current expenditure levels, as those levels (set under SAW RD16) appear to have been generally prudent and efficient, given SA Water's outturn performance. The Commission's assessment has given regard to current performance and expenditure levels, SA Water's RBP, additional detailed information provided by SA Water to further explain its proposals, submissions received from stakeholders and an assessment of the evidence provided by Cardno.

6.2.1 Capital expenditure

Capital expenditure is expenditure on the purchase or creation of an asset that can be utilised over the longer term. SA Water operates in a capital-intensive industry and owns many long-life assets, such as pipe networks, dams, and water and sewerage treatment plants. Capital planning and investment is a continuous and ongoing process. Over time, existing assets may be upgraded or replaced, and growth of the network requires new assets to be constructed or acquired.

The Commission adds capital expenditure to the RAB if it deems that expenditure to be prudent and efficient. SA Water can then earn a return on and of (regulatory depreciation) the value of the assets over their useful life (which in some cases is over 50 years).

6.2.2 Operating expenditure

Operating expenditure is driven by labour costs, electricity costs for pumping and treating water, carrying out maintenance activities, reading meters, sending out customer bills and the many other activities required to provide an ongoing service to customers. Unlike capital expenditure, operating expenditure is expensed as it is incurred, so customers have the potential to benefit from any efficiency savings immediately.

6.2.3 Lifecycle value realisation

Effective asset management decision-making should maximise the value that can be realised over the life of an asset (acquisition/creation, operation and maintenance, and end-of-life decommissioning, disposal or renewal). Lifecycle value realisation is the process of trying to balance the costs and benefits of different renewal, maintenance and disposal strategies, which will generally include the assessment of several options with a combination of operating and capital expenditure.

While the Commission uses different methodologies to assess operating and capital expenditure, it assesses the overall prudent and efficient level of expenditure for programs and projects, noting that there may be trade-offs between capital and operating expenditure in some instances.

6.2.4 The prudent and efficient tests

Broadly speaking, expenditure (capital or operating) on an activity is considered *prudent* where there is a clear justification for that activity, driven by factors such as (and noting that, in practice, any expenditure is likely to be driven by a combination of these):

- ▶ a legislative or regulatory obligation, which SA Water must comply with
- ▶ an expectation that the activity will deliver benefits to consumers that outweigh the costs, or
- ▶ a clear expectation from customers that an outcome should be achieved, and that they are willing to pay for that outcome.

Expenditure is considered *efficient* where there is evidence that it represents the lowest sustainable (or 'long-term') cost of achieving the intended outcome.

The Commission assessed the effectiveness of SA Water's asset management system in supporting continuous improvement in SA Water's long-term investment planning, prioritisation and appraisal processes. This informs the Commission's conclusions on the prudence and efficiency of both past capital expenditure and future capital and operating expenditure proposals.

The Commission engaged Cardno, in association with Atkins Acuity, to provide an asset management, financial and engineering assessment of SA Water's capital and operating expenditure plans, and also of the asset management system used to develop those plans. Cardno's review included assessing whether SA Water's:

- ▶ decision-making systems and processes are consistent with the principles set out in its asset management framework
- ▶ capital expenditure in the current regulatory period (2016-2020) was prudent, efficient, and achieved its intended outcomes, and
- ▶ capital and operating expenditure proposals for the next regulatory period (2020-2024) are prudent, clearly identify intended outputs and outcomes, and reflect efficient costs of delivery.

This process assessed the prudent and efficient level of capital expenditure by examining a sample of proposed programs and projects, chosen to cover water and sewerage, metropolitan and regional areas and various asset types or categories. The projects and programs sampled comprise 25 percent of the SAW RD16 capital expenditure program and 39 percent of the SAW RD20 program. In examining the programs and projects, the Commission has been alert to matters such as unreasonable cost estimates, unnecessary engineering solutions and inconsistencies between programs or projects.

Along with the evidence presented by SA Water and stakeholders, the Commission has given consideration to evidence provided by Cardno in reaching its proposed position on the prudent and efficient level of expenditure required for SAW RD20, and the need for any adjustments to the prudent and efficient level of expenditure from the SAW RD16 capital program to be included in the RAB.

In some cases, SA Water has not been able to make the case for any increases above current expenditure levels, as those proposed increases have not been supported by detailed business cases or other supporting evidence through the Commission's follow up enquiries. As a matter of general practice, in a long-life asset company such as SA Water, material or significant departures from forecast costs would not be expected absent a clearly identifiable change in the operating environment. If sound and robust long-term asset management plans are in place and effective (including provision for reasonable contingencies), trends in likely material projects and costs drivers should be known well in advance, even if more granular costs (labour, materials and the like) will vary through time and may be somewhat less predictable over the longer run.

In particular, several of the proposed increases under 'sustaining services' and 'external responsibilities' do not appear to be additional or new activities that would necessarily lead to higher expenditure. SA Water has not demonstrated that a number of its proposed expenditure increases are justified, relative to what it should already be carrying out as part of its regular business-as-usual activities.

Further, in the absence of a new obligation or significant change in circumstance, simply identifying new activities is not in itself a justification for an increase in total expenditure: while new activities may be required in the future, other activities which previously took place may no longer be required, offsetting those new costs.

In some cases, SA Water proposed new expenditure in response to outcomes of its willingness to pay surveys. The Commission has concerns with various aspects of those surveys, including the manner in which SA Water has interpreted the results. While informative of customers' preferences, the Commission has not used the survey results as sole evidence to inform its decisions on additional expenditure.

The Commission is also mindful of the tension that arises from SA Water's customer engagement findings, which showed that customers' clear priority was maintaining the lowest sustainable price but also indicated some support for making contributions towards the costs of various new initiatives. The Commission has therefore weighed up all evidence – not just SA Water's customer engagement findings – in forming a judgement as to whether or not new initiatives and expenditure is prudent, efficient and in consumers' long-term interests.

Unless expressly stated otherwise, all figures in this chapter exclude the costs associated with the ZCEF initiative. As discussed in Chapter 4, the costs (and expected benefits) of ZCEF have been excluded on the basis that the program is a commercial electricity generation venture. This means that the total figures (both SA Water's and the Commission's) presented in this chapter are different to the figures included in SA Water's RBP.

6.2.5 The importance of long-term asset management, cost variance assessment and ongoing monitoring of expenditure trends

As regulatory determinations are point-in-time assessments, SA Water's actual expenditure during each four-year regulatory period may—and in practice does—vary from forecasts, due to factors such as changing priorities and external factors (such as changes in regulatory obligations). SA Water may also need to respond to unexpected events, such as extreme weather conditions, an unforeseeable decline in the performance of a group of assets or changes in key input costs that it cannot directly control.

While some variation is expected over time, it is important to understand the factors driving any material variations. For example, SA Water may be entering a period in the life cycle of its assets where particular classes or systems need replacement, based on age, condition or performance. However, as many of SA Water's assets have long useful lives, the forecast long-term profile of any such expenditure should be known or readily identifiable—reducing the likelihood or unexpected or unforeseen expenditure requirements.

Further, where a genuinely exogenous event might have an impact on asset-related expenditure, even though SA Water may not reasonably be expected to predict the timing of the event or control its occurrence, its long-term plans should at least be able to identify the potential range of events in terms of asset consequences (though it may not be able to specifically identify them) and what it might do in the case of an occurrence of one or more of those (risk-management planning).

A high-level understanding of long-term expenditure requirements should be both knowable and known in a long-term asset management business such as SA Water, and should be transparently available to stakeholders on a regular basis.

This means that some variation between the forecast and actual expenditure should be easily identified and explained as SA Water reprioritises its actual expenditure throughout a regulatory period to respond to changing circumstances.

However, responses to such matters should not always require an *increase* in the total expenditure needed to continue to provide drinking water and sewerage throughout a regulatory period, particularly as changes between forecast and actual expenditure will not always go in one direction.

Actual expenditure may be below previously forecast levels as a result of:

- ▶ improved business practices, allowing more efficient operations
- ▶ a rebalancing between the operating and capital expenditure required to manage assets to deliver the same, or better, service outcomes in different ways, such as increasing maintenance operations for existing assets prior to pursuing an asset refurbishment or replacement decision
- ▶ a reprioritisation or deferral of previously planned investments, resulting from changes in demand, operating conditions or a better understanding of the actual operations of asset systems, or
- ▶ delays in the commencement of scheduled works resulting from the issues that arise through the detailed design phase of a project, coordination issues or other contracting or market conditions that impact on the availability of the required resources.

However, a decline in actual expenditure could also be evidence of unsustainable business practices or asset management and investment strategies. For example, in the case of long-life assets, the impact of any under-investment may not become apparent in the level of service provided for some years.

The Commission requires SA Water to report annually on its actual expenditure, and to provide detailed explanations of the reasons for material variations from the amounts allowed in SA Water’s regulatory determinations. The Commission’s proposals for enhancing the monitoring and reporting framework are discussed further in Chapter 10.

6.3 Trends in expenditure since 2013-14

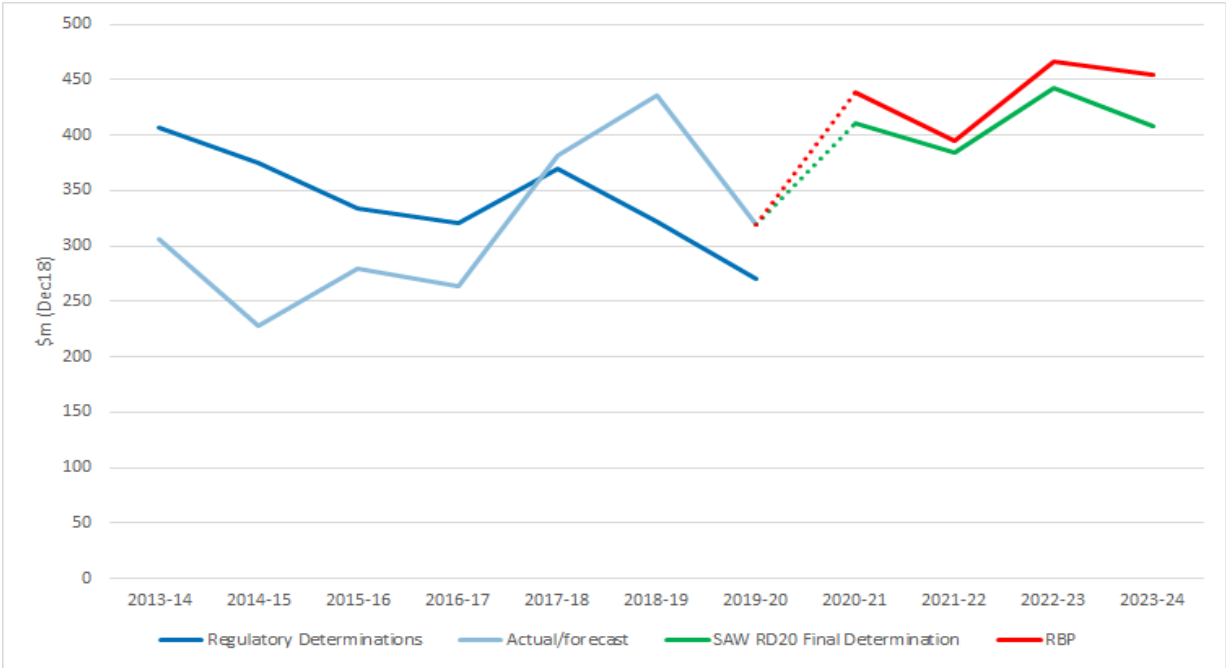
The Commission has made two regulatory determinations for SA Water: the first (**SAW RD13**) in 2013 and the second (SAW RD16) in 2016. Each involved *ex ante* assessment of the prudent and efficient costs of providing retail services, including an assessment of forecast expenditure requirements.

Analysing the drivers of expenditure variations as compared to those *ex ante* assessments assists with identifying ongoing efficiency improvements, and unsustainable business practices or asset investment and management strategies.

6.3.1 Capital expenditure has continued to increase

Figure 6.1 shows the trend in SA Water’s net capital expenditure from 2013-14 to 2023-24. It compares the differences between the expenditure benchmarks set in the Commission’s regulatory determinations in SAW RD13 and SAW RD16 and SA Water’s actual expenditure in each of these periods. It also shows two possible future investment paths: SA Water’s RBP and the Commission’s Final Determination.

Figure 6.1: Net capital expenditure, 2013-14 to 2023-24



From 2013-14 to 2017-18, actual annual capital expenditure was below the annual capital expenditure amounts incorporated into the Commission’s regulatory determinations. However, from 2017-18, SA Water has spent more than the amount forecast under SAW RD16, and it is expecting to exceed those forecasts in the remaining year of the current regulatory period.

The difference between the capital expenditure benchmark in SAW RD16 and the capital expenditure that SA Water is expected to incur in the SAW RD16 period is mainly driven by the construction of the Northern Adelaide Irrigation Scheme (**NAIS**). This project was not anticipated at the time of SAW RD16 and is forecast at \$80.6 million of net capital expenditure by the end of SAW RD16 (30 June 2020).

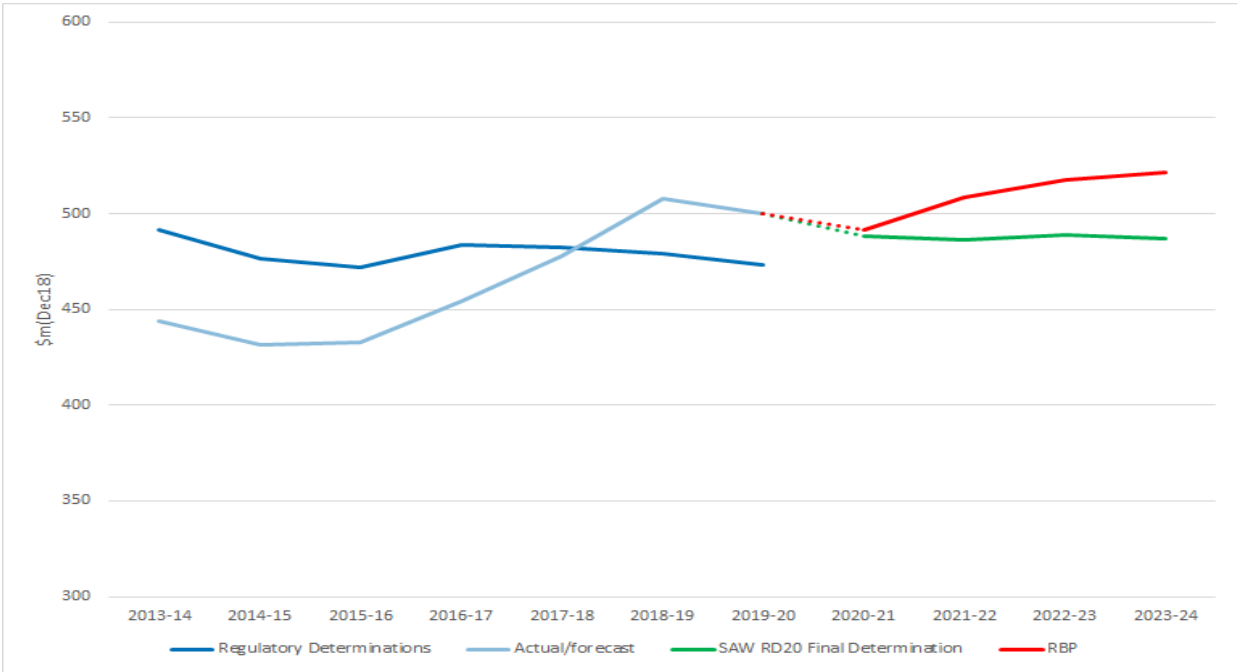
However, SA Water will also have spent more on water network management (\$102.1 million extra or 87 percent higher) and sewerage network management (\$73.1 million extra or 328 percent higher) by the end of the SAW RD16 period than was expected at the start of the SAW RD16 period. The additional expenditure on managing the water network has primarily been driven by the replacement of additional water reticulation mains in metropolitan Adelaide (\$76.8 million extra or 92 percent higher) and investments in several small smart networks trials that were not envisaged at the start of the SAW RD16 period (\$15.3 million extra). The additional expenditure on managing the sewerage network has primarily been driven by additional sewer mains renewals (\$32.1 million extra or 218 percent higher) and odour management activities (\$12.0 million extra or 66 percent higher).

The higher level of expenditure in SAW RD16 will be partially offset by a lower level of expenditure on growth-related upgrades to its network and treatment plants (\$35.0 million less or 21 percent below forecast) and water tanks and other structures (\$30.5 million less or 13 percent below forecast).

6.3.2 Operating expenditure has continued to increase

Figure 6.2 shows the trend in SA Water’s actual operating expenditure from 2013-14 to 2019-20, with various projections from 2019-20 to 2023-24. As for capital expenditure, it compares the differences between the expenditure benchmarks set in the Commission’s regulatory determinations in SAW RD13 and SAW RD16 and SA Water’s actual expenditure in each of these periods. It also shows two possible future operating expenditure paths; SA Water’s RBP and the Commission’s Final Determination.

Figure 6.2: Operating expenditure, 2013-14 to 2023-24



From 2013-14 to 2017-18, actual annual operating expenditure was below the annual amounts forecast in the regulatory determinations but has since moved above those levels. However, actual operating expenditure has increased by around five percent each year in real terms (above inflation), since 2015-16.

There are three components of operating expenditure that account for over half of SA Water’s \$465.7 million base year (2018-19) expenditure: labour costs (\$122 million, or 26 percent), the Allwater Metro Alliance Contract (\$97.5 million, or 20 percent) and electricity (\$62 million, or 13 percent).

There are two key drivers of SA Water's labour costs:

- ▶ the price of labour (wages and associated on costs such as superannuation, leave and personal injuries insurance), and
- ▶ the quantity of people employed (or hours worked).

SA Water's total labour costs are a function of these two factors, and to a large extent, the effect of any labour productivity changes. SA Water should be able to adjust these elements to ensure that total labour costs do not exceed CPI. SA Water's ability to pay above CPI wages and stay within its labour cost allowance will depend on how effectively it incentivises labour force productivity.

There is evidence that SA Water is effective at achieving labour force productivity gains over the longer term. Over the previous and current periods, SA Water has managed its workforce within the CPI envelope, despite growth in its full-time employee numbers. For example, SA Water's annual reports show relatively stable outcomes for labour costs over the previous and current regulatory periods.¹⁵² Additionally, since 2014, SA Water's Enterprise Bargaining Agreements have included wage increases of between two and three percent, which is on average 0.6 percent per annum above CPI.

The Allwater Metro Alliance Contract is an outsourcing contract covering elements of the operation and maintenance of the water and sewerage system in the metropolitan Adelaide area. The costs of this contract have increased by 1.5 percent year on year (above inflation) since 2012-13; rising from \$88 million in 2012-13 to a forecast amount of \$98 million in 2019-20.

SA Water has advised the Commission that it renegotiated the Allwater Metro Alliance Contract during 2018-19, after consecutive years of Allwater exceeding its agreed expenditure budgets. As part of this renegotiation, a revised 'gain and pain share' mechanism has been incorporated into the contract to strengthen incentives for Allwater to meet its financial targets. However, the rising costs of this arrangement were a key factor in SA Water's consideration of its future metropolitan service delivery model.

In SAW RD16, electricity costs amounted to 11 percent of total operating expenditure at \$217 million, with \$54.2 million included in the efficient base year. For SAW RD20, the efficient base year includes \$62 million for electricity costs, which is 13 percent of total efficient operating expenditure.

SA Water developed the ZCEF program to attempt to gain more control over its electricity costs. However, as previously noted in Chapter 4, this program has been excluded from the Commission's assessment.

6.4 Assessing the Asset Management System

Efficient and effective delivery of water and sewerage services by SA Water is dependent on an efficient and effective asset management system that aids in decision making on the levels of service, risks and life cycle costs for a diverse portfolio of water and sewerage assets.

SA Water has been working to implement an asset management system that aligns with the Institute of Asset Management (IAM) Framework.¹⁵³ The IAM Framework draws on ISO55000¹⁵⁴, an international

¹⁵² SA Water's annual reports are available at <https://www.sawater.com.au/about-us/annual-reports>.

¹⁵³ The IAM is an international professional body for asset management professionals. The IAM develops asset management knowledge and best practice and generates awareness of the benefits of the asset management discipline for the individual, organisations and wider society. The IAM has over 22,000 members in 158 different countries. <https://theiam.org/>.

¹⁵⁴ International Organisation for Standardisation, ISO55000, available <https://www.iso.org/standard/55088.html>.

standard covering the management of assets of any kind, which focusses on the coordinated activity of an organisation to realise value from assets.

SA Water's asset management system is still evolving, and will continue to do so, as it is based on continuous improvement. The more that SA Water learns about the way its assets work together to deliver the services that its customers value, the more it can refine those systems.

The Commission's regulatory determination process serves as a regular external assessment of the cycle of continuous improvement in SA Water's asset management system. The Commission reviews SA Water's expenditure and investment planning, prioritisation and appraisal processes. Evidence of sound and robust governance, systems and processes provides a level of comfort that the actual investment decisions SA Water makes during a regulatory period, to respond to changing needs and priorities, will be more likely to be prudent and efficient.

6.4.1 Clarification of issues raised about factual inaccuracies, misinterpretations and misunderstandings in the Draft Determination

SA Water's submission on the Draft Determination raised an overarching concern that the Commission's assessment of its asset management system included factual inaccuracies, misinterpretations and misunderstandings. It expressed concern that the Commission, and its engineering and asset management consultant, Cardno, had overlooked relevant source material and in some cases, had made recommendations that appeared to have very little basis of justification.¹⁵⁵

SA Water suggested that this issue may have arisen as a result of the compressed timeframe and the vast amount of material it had provided for review. It was concerned that some of the issues it raised through informal feedback to the Commission had not been addressed in the Draft Determination.

Following further review of these matters, the Commission can confirm that it has reviewed all relevant materials provided by SA Water. Some of SA Water's comments appear to have been informed by minor typographical errors in the Cardno's draft report that were amended in the final report. Other issues characterised as factual inaccuracies, misinterpretations and misunderstandings are areas where the Commission and SA Water disagree on the correct interpretation of data and other evidence used in decision making.¹⁵⁶

The issues SA Water raised in respect of specific programs, projects and initiatives are addressed in detail in the relevant sections below.

6.4.2 SA Water's description of its asset management system

SA Water has provided a high-level overview of its asset management system for its stakeholders as an attachment to its RBP.¹⁵⁷ It summarises the purpose, guiding principles and objectives for its asset management system as follows:

In managing our assets, we aim to deliver the services our customers and regulators expect while managing risks and ensuring the cost to deliver is as low as possible over the lifetime of each asset.

¹⁵⁵ SA Water submission, p. 16.

¹⁵⁶ The Commission notes that, as held by the Australian Competition Tribunal in the matter *Re GasNet Australia (Operations) Pty Ltd* [2003] ACompT 6 (23 December 2003), there is no single correct decision which arises in relation to such regulatory issues, and the decision-making process involves issues of discretion, judgement and degree (to the extent permitted under the statutory framework). In such cases, given the range of possible choices, the Commission recognises that different minds, acting reasonably, can be expected to make different choices on the same subject matter.

¹⁵⁷ SA Water, RBP, Appendix O.

The key principles that guide our asset management are:

- ▶ *Infrastructure assets exist to provide our customers with safe, sustainable and affordable water and sewerage services.*
- ▶ *Asset management decisions follow the corporate principles for decision making.*
- ▶ *Across the business, people have the knowledge, accountability and behaviours to influence levels of service experienced by our customers through smart, innovative asset management and a total expenditure approach.*
- ▶ *Our Asset Management System aligns with industry best practice and we are committed to continual improvement.*
- ▶ *Asset Management objectives are designed to deliver the corporate performance measures.*

The Asset Management System sets out how we need to manage every asset across the State for a 30-year period based on its condition, age and current performance.

Decisions are based on customer expectations as well as our legal and regulatory responsibilities, mindful we respond as these expectations and responsibilities evolve. In addition, these aspects are balanced with the optimised life cycle cost to keep prices as low and stable as possible for our customers.

SA Water refers to the following key internal documents that support its asset management system:

- ▶ Strategic Asset Management Plan.
- ▶ Lead Asset Management Plans.
- ▶ System Asset Management Plans.
- ▶ Facility Type Asset Management Plans.

The Commission notes that these detailed documents are not publicly available, and so other stakeholders are limited in the feedback they can provide on SA Water's asset management framework.

6.4.3 Evidence on SA Water's asset management system

As detailed below and in the following section, the Commission, with assistance from Cardno, has reviewed the overall asset management framework, including a sample of the suite of non-public internal documents that further explain key elements of SA Water's asset management system. It has done so to assess the extent to which SA Water's decision-making systems and processes – as evidenced through actual expenditure outcomes in SAW RD16 and the expenditure proposal for SAW RD20 – are consistent with the principles set out in its asset management framework.

The Commission has also had regard to a report prepared for SA Water's Board by AMCL, a consultancy endorsed by the IAM, on how well SA Water's asset management and operational approach to water mains management aligns with international leading practice.¹⁵⁸ Those findings are relevant to the Commission's consideration of SA Water's Adelaide service delivery (ASD) contract, discussed further in section 6.14.3.3.

Cardno's review of the asset management system identified four broad and somewhat interrelated issues summarised below, each of which is expanded upon in more detail in the following sections:

- ▶ alignment between stakeholder expectations and asset management objectives need further refinement during the SAW RD20 period

¹⁵⁸ AMCL, SA Water water main management independent review, August 2019.

- ▶ medium and long-term asset management planning and decision making is generally sound, but is undertaken with varying levels of maturity across asset classes
- ▶ further prioritisation is likely to be required to achieve an optimised investment program for SAW RD20, and
- ▶ closer monitoring of the benefits realised from expenditure is required to establish a clearer understanding of the relationship between expenditure and its intended performance outcomes.

6.4.4 Alignment between stakeholder expectations and asset management objectives need further refinement during the SAW RD20 period

The IAM Framework states that good asset management provides a clear connection between an organisation's strategic plan and the asset management activities delivered by staff. This is known as 'alignment' or 'line of sight' and enables all staff to understand how they contribute to achieving success.¹⁵⁹

Establishing a clear line of sight between the proposed expenditure and the expected service outcomes will make it easier for SA Water's customers and other stakeholders to monitor and evaluate whether:

- ▶ the proposed initiatives, programs and projects have a clearly identified driver, an expected service outcome and a robust system for monitoring, evaluating and reporting on achievement of the intended outcomes throughout the regulatory period, and
- ▶ any expenditure reductions are sustainable and the result of ongoing efficiencies or prudent short-term deferrals of expenditure that are unlikely to increase the total cost of delivering the necessary service outcomes in the future.

Under the planning approach taken by SA Water to develop its RBP, and consistent with the Commission's expectations as set out in its Guidance Papers, customer research has informed SA Water's corporate strategy and this, in turn, has been used to develop the objectives of its asset management system. The corporate strategy is therefore central to SA Water's asset management system.

The Commission notes that, while SA Water has provided a short summary of its strategy on its website,¹⁶⁰ SA Water considers its corporate strategy (with the detailed KPIs and targets) to be an internal document. This materially limits stakeholders' ability to provide feedback on this critical foundation document.

Within its asset management system, SA Water has defined asset management objectives which are intended to support the overall corporate objectives and reflect stakeholder requirements (such as those expressed in the customer service standards, in legislation and identified through customer research). By defining asset management objectives based on stakeholder expectations, asset management processes are then able to support technical and financial decisions, planning and activities to achieve these objectives. As noted above, this is termed 'alignment' within the ISO55001:2014 standard. Clear 'alignment' helps to establish whether or not expenditure is prudent.

¹⁵⁹ IAM, 'An anatomy', available <https://theiam.org/knowledge/Knowledge-Base/the-anatomy/>

¹⁶⁰ Refer <https://www.sawater.com.au/about-us/about-sa-water/our-strategy>.

6.4.4.1 Cardno's evidence

Cardno concluded that SA Water's asset management objectives generally demonstrate a sound alignment with its strategic goals and transparently capture various regulatory obligations, including drinking water quality, environmental protection and the Commission's reliability service standards.¹⁶¹ However, Cardno also observed that there were a number of asset management objectives that did not provide a clear line of sight between stakeholder expectations and asset management activities.¹⁶²

This issue presented itself in several of the programs and projects that were reviewed by the Commission, with support from Cardno, and was most apparent when the key driver for an expenditure proposal was to improve services, based on customers' willingness to pay for those improvements.

Cardno also identified an issue with a lack of clarity regarding the business objectives that are within the scope of the asset management system and those matters outside of that system, citing the brand health index and innovation index as two examples that rely on factors outside the control of asset management. This means that there is a risk that the performance of the asset management system is being measured on factors that are outside its ability to influence through sound asset management practices.

6.4.4.2 Commission's position

In addition to making specific adjustments to expenditure in the sample of programs and projects examined (as explained later in this Chapter), the Commission has applied a 'catch-up' efficiency to the remainder of SA Water's capital program to account for expected savings that will result from the refinement of alignment between stakeholder expectations and asset management objectives during the SAW RD20 period (discussed further in section 6.14).

6.4.5 Medium and long-term asset management planning and decision making is generally sound, but is undertaken with varying levels of maturity across asset classes

Many of SA Water's assets have relatively long expected useful lives, which requires SA Water to have sound long-term planning, maintenance and renewal processes.

Capital investment decision making uses a range of processes to evaluate and analyse options for the creation of new assets, increasing the capability of existing assets and the replacement (or disposal) of assets at the end of their useful life. The IAM Framework identifies a range of methods that can be used to evaluate whether an investment is worthwhile and to compare alternative investments, with Cost Benefit Analysis using discounted cash flows one of the most commonly employed.¹⁶³ It further suggests that Cost Benefit Analysis calculations must consider the required period of the asset's function and include all expenditure and benefits; a process known as 'life cycle costing'.

6.4.5.1 Cardno's evidence

Cardno suggested that SA Water's planning framework is broadly sound. It allows SA Water to undertake planning at different levels (for example, at the individual asset level, the system level and the portfolio level) and through different lenses (for example, life cycle strategy, safety and emergency management). Further, Cardno has seen evidence to suggest that SA Water has continued to evolve its risk management framework, with Asset Management Plans providing greater definition of risks before and after controls have been employed.¹⁶⁴

¹⁶¹ Cardno, pp. 19-21.

¹⁶² Cardno, pp. 19-21.

¹⁶³ IAM, 'An anatomy', p. 43, available <https://theiam.org/knowledge/Knowledge-Base/the-anatomy/>.

¹⁶⁴ Cardno, pp. 23-24.

However, while Cardno was satisfied that SA Water generally has sound plans in place for the medium and long term, there was evidence that long-term planning for asset renewal is performed with varying degrees of maturity across asset classes:

*For water mains, there are complementary models in place to assist SA Water's decision making which provides it with a balanced view of long term needs and the short term interventions included in the forward expenditure program. For sewer mains, we consider that SA Water has a sound understanding of long term needs across the asset class but there can be better integration with short term planning through an enhanced approach to assessing the consequence of failure of segments of mains. For water tanks, SA Water does not yet have a complete picture of the condition of the entire asset class which limits the extent to which long term planning is informative.*¹⁶⁵

It suggested that this inconsistency in approach between asset classes is likely to pose a greater challenge for SA Water in the near future, as the asset base (both in total and across a number of asset classes) is moving out of 'middle age' (as measured by the fair value divided by the replacement cost) and into a period where long-term planning needs to be increasingly integrated with short-term planning for renewal and replacement. SA Water will need to continue to improve its processes to be able to understand the relationship between investment, asset deterioration, asset performance and service provided.

Cardno also noted that, while it saw evidence that SA Water undertakes life cycle costing and other financial analyses as part of its decision-making processes for determining the appropriate interventions and the magnitude of investment required, these practices were inconsistently applied.¹⁶⁶

6.4.5.2 Commission's position

In addition to making specific adjustments to expenditure in the sample of programs and projects examined (as explained later in this Chapter), the Commission has also applied a 'catch-up' efficiency to the remainder of SA Water's capital program to account for expected savings that will result from improved asset management decision making in the SAW RD20 period (discussed further in section 6.14).

6.4.6 Further prioritisation is likely to be required to achieve an optimised investment program for SAW RD20

A rigorous investment planning, prioritisation and appraisal process, where future expenditure plans are thoroughly scrutinised, is more likely to lead to prudent and efficient investment decisions across the business. SA Water needs to have, and demonstrate to stakeholders that it has, such a process. It is also important for customers and other stakeholders to have the opportunity to have meaningful input into this process.

Guidance Paper 4 noted the Commission's expectation to see evidence that SA Water has made genuine efforts to understand what its diverse customer base expects, and how SA Water has responded to what it has heard in prioritising the various initiatives, programs and projects it ultimately proposes in its draft business plan.¹⁶⁷

SA Water provided a high-level summary of its planning process in its publicly available documentation, describing the key stages in that process and how it had used feedback from its customers to inform various stages of that process.¹⁶⁸

¹⁶⁵ Cardno, pp. 23.

¹⁶⁶ Cardno, p. 24.

¹⁶⁷ Refer <https://www.escosa.sa.gov.au/ArticleDocuments/1200/20181101-Water-SAWSAW RD20-GuidancePaper4-PrudentAndEfficientExpenditure.pdf.aspx?Embed=Y>.

¹⁶⁸ SA Water, RBP, pp. 11-17, Appendix B and Appendix C.

6.4.6.1 Stakeholder evidence

Several stakeholders raised concerns about the level of information that SA Water provided publicly in its RBP, which made it hard for them to comment on the expenditure proposed. In particular, stakeholders commented that it was difficult to untangle the impact of SA Water's proposed expenditure (which it can control) from changes in the cost of financing its investments (over which has less control).

EWOSA noted that while SA Water has produced a document that is easy to read, it lacks the detailed information that is generally provided to the public through regulatory review processes.¹⁶⁹

The Conservation Council SA noted its position that it is critical for a long-term business planning exercise to:

- ▶ think beyond the confines of a regulatory period, and
- ▶ have sufficient transparency to allow the community to engage with the long-term challenges with planning for the efficient and equitable use of our water resources.

It suggested that SA Water needs to better recognise the benefits of working with consumers (and other stakeholders) to explore options and agree on the way forward on the various challenges facing the water industry, citing climate change adaptation, improving water security and resilience, and greater wastewater capture and reuse as examples.

ZCEF was singled out from the overall expenditure proposal as a positive example of SA Water seeking to mitigate its impact on climate change. However, the Conservation Council SA tempered its support by noting that the initiative appears to lack consideration of other energy users, the movement of costs to other consumers and the possibilities for affecting energy security in regions.

SACOSS summarised its position as follows:

SA Water's 'Our Plan 2020-24', forecasts bill savings for customers which it states result from operational efficiencies and the contained costs of its capital program. This narrative is a key concern for SACOSS. In fact, there are few underlying savings in SA Water's proposal, with the forecast bill reductions delivered via the lower cost of capital under the prevailing lower interest rates compared with the 2016-2020 regulatory period.

SA Water is launching or bringing forward several new capital initiatives to improve service quality which seem contrary to customers' clear desire for prices to be as low as sustainably possible. Arguably, SA Water should instead be striving to achieve savings in the underlying business in order to deliver greater savings for customers.

In this sense, SACOSS does not consider SA Water have given adequate weight to the views expressed by consumer participants in the Consumer Experts Panel Priorities Report, and by survey respondents generally that price was an important consideration and that bills should be kept in check as far as possible.¹⁷⁰

Further, several stakeholders commented that, while it was clear that SA Water had undertaken a vast amount of customer research to inform its proposals, it was also important to consider more collaborative, cooperative and community-based methods for defining the issues that need to be solved, and then to develop cost-effective solutions to address those problems.

¹⁶⁹ EWOSA, p. 5.

¹⁷⁰ SACOSS, p. 5.

SAFFRA wanted to encourage SA Water to model best practice customer and community engagement, and to be more transparent, open and inclusive with customers.¹⁷¹ In particular, it suggested that SA Water should collaborate with stakeholders to find more innovative water supply solutions and that the South Australian Government should fund, in consultation with SA Water, drinking water supply to remote areas of South Australia.

Consumers SA expressed broad support for the extra challenge provided through the use of the CNC but highlighted some of the limitations with the process and made suggestions for the Commission to consider for the next regulatory review process.¹⁷² It also expressed the view that SA Water appears to have made a genuine attempt to understand customer views, even if the CNC did not consider the process used to be best practice. However, Consumers SA suggested that SA Water should consider making more detailed information available on how its consultation processes led to the decisions ultimately made about the expenditure proposals included in the RBP, with ZCEF used as an example where it is unclear how, when and if at all SA Water consulted with the community or its customers on that program.¹⁷³

Mr Richard Clark also observed that the CNC challenge process appears to have been tremendously beneficial in testing SA Water's future plans, and expressed broad support for the CNC's recommendations for building in even greater community participation in developing future plans.¹⁷⁴ However, Mr Clark was concerned that SA Water's proposal provided limited evidence that it has considered alternative solutions to meet its proposed service outcomes, while achieving greater benefits at lower costs, citing the plans to upgrade the capacity of Bolivar to receive and treat additional wastewater and the NAIS as examples.¹⁷⁵

6.4.6.2 Further evidence considered by the Commission

The Commission's assessment has been able to draw on SA Water's detailed internal documentation that was not made publicly available. Two key documents provided further information on SA Water's planning process: the Water Lead Asset Management Plan and the Wastewater Lead Asset Management Plan.

To develop its RBP, SA Water first prepared a 'Technical Investment Plan', a bottom-up plan informed by specialist asset managers across the business. The Technical Investment Plan totalled \$2,079 million for both water and sewerage assets, but this did not include proposed IT expenditure. The levels of investment were based on the activities considered necessary to continue to achieve existing service levels as well as several areas in which customers had expressed some desire for improved services.

The Technical Investment Plan was then subject to internal challenge and scenario testing before a plan was developed to put forward to the CNC. The 'baseline' scenario totalled \$1,280 million and was developed to meet service requirements while sustaining or reducing asset risk.

¹⁷¹ SAFRRA, submission to SA Water RBP, p. 5, available at <https://www.escosa.sa.gov.au/ArticleDocuments/21453/20200116-Water-SAWRD20-SAWaterBusinessProposal2020-Submission-SAFRRA.pdf.aspx?Embed=Y>.

¹⁷² Consumers SA, submission to SA Water RBP, p. 1, available at <https://www.escosa.sa.gov.au/ArticleDocuments/21453/20200116-Water-SAWRD20-SAWaterBusinessProposal2020-Submission-ConsumersSA.pdf.aspx?Embed=Y>.

¹⁷³ Consumers SA, p. 2.

¹⁷⁴ Richard Clark, submission to SA Water RBP, pp. 1-2, available at <https://www.escosa.sa.gov.au/ArticleDocuments/21453/20200116-Water-SAWRD20-SAWaterBusinessProposal2020-Submission-RClark.pdf.aspx?Embed=Y>.

¹⁷⁵ Clark, pp. 3-5.

The program put forward to the CNC reduced expenditure on asset renewals and increased expenditure to improve service levels for a total of \$1,512 million; a \$232 million (or 18 percent) increase on the internally-tested scenarios.

6.4.6.3 Cardno's evidence

Cardno suggested that, by inference, the Technical Investment Plan has a more conservative risk profile than that which SA Water proposed to adopt for the SAW RD20 period.¹⁷⁶

Cardno noted that its analysis of the reprioritisation of the overall capital expenditure program between the program put forward to the CNC and that included in SA Water's RBP showed that some of the largest variances are \$103.7 million for the ZCEF project and \$123.7 million for growth projects (Kangaroo Island desalination, Eyre Peninsula desalination and the Upper Spencer Gulf Augmentation). It noted that, while the emergence of new needs throughout a planning process is not unusual, the late inclusion of relatively large additional expenditure in these areas calls into question the cost-service-risk balance presented to the CNC, as no expenditure was deferred or reprioritised to off-set the new items; they were simply added to the previously proposed program.¹⁷⁷

6.4.6.4 Commission's position

This evidence suggests to the Commission that there is likely to be further scope for SA Water to reprioritise its capital expenditure program for the SAW RD20 period.

6.4.7 Closer monitoring of the benefits realised from expenditure is required to establish a clearer understanding of the relationship between expenditure and its intended performance outcomes

'Benefits realisation' is a standard process within expenditure governance frameworks.

SA Water has a form of benefits realisation in place, however, several issues were identified through this review. For example, SA Water identified a list of 172 'outcomes' that it wanted to achieve during the SAW RD16 period. These outcomes are a combination of outputs (for example, activities undertaken or works delivered) and outcomes (for example, achieving an overall level of customer satisfaction of 87.5 percent), as well as measures of outcomes (for example, achieving 85 percent against the previous target).

While this list of outcomes for SAW RD16 is comprehensive, and performance is tracked across many of these areas, it is difficult to map the outcomes to SA Water's line of sight within its asset management framework. The use of outputs and outcomes within the framework for the same purpose creates some confusion around the relationship between expenditure and performance. SA Water is currently collecting a vast amount of data, but there is a need for it to refine its analysis of that data.

6.4.7.1 Cardno's evidence

Cardno acknowledged that estimating future benefits can be difficult. However, where benefits are unknown or uncertain, SA Water's customers are likely to benefit from a cautious approach that first verifies benefits through trials before wider expenditure programs are pursued.

¹⁷⁶ Cardno, p. 27.

¹⁷⁷ Cardno, pp. 26-30.

Cardno noted that;

[w]hile capital program development and prioritisation seeks to optimise benefits to customers with cost, circumstances will inevitably change during the delivery period. Therefore, monitoring the benefits realised by expenditure provides assurance to customers and other stakeholders that an expenditure program continues to deliver value for money.’¹⁷⁸

Cardno notes this is particularly important for the areas in which SA Water has proposed expenditure to improve service, as there is an explicit regulatory requirement that the benefits of this expenditure exceed the costs.

6.4.7.2 Commission’s position

A more focused benefits realisation framework is required to establish a clearer relationship between expenditure and the performance outcomes achieved. There are opportunities for SA Water to improve the process by which it estimates future benefits (and performance outcomes) to be achieved at the time it is developing its plans and then seeks to verify the actual benefits achieved through ongoing monitoring and evaluation. Benefits realisation should include specific measurement of performance or benefits before expenditure occurs, to establish a robust baseline, and further measurement afterwards, to confirm that the anticipated benefits have been achieved.

This issue is also linked to the Commission’s concern about the need for greater alignment between stakeholder expectations and asset management objectives.

6.5 Assessing expenditure proposed by SA Water for SAW RD20

SA Water’s proposed capital expenditure program for SAW RD20 of \$1,752.8 million is around 25 percent higher than it is forecast to spend by the end of the SAW RD16 period. However, its proposed capital program for SAW RD20 is around 37 percent higher than the capital expenditure benchmark used in the Commission’s SAW RD16 Final Determination.

The major increase between SAW RD16 forecast expenditure and SA Water’s proposed capital expenditure for the SAW RD20 period is driven by additional expenditure on water quality improvement programs (319 percent increase), growth-related projects (86 percent increase), mechanical and electrical works (55 percent increase), water network management (37 percent increase), and the IT program (17 percent increase). SA Water proposed a marginal increase on sewerage network management (four percent increase).

SA Water has proposed \$2,039 million of operating expenditure over the SAW RD20 period, net of the expected efficiency benefits from the ZCEF initiative, which is six percent above the amount incorporated into SAW RD16 and five percent above SA Water’s actual operating expenditure in SAW RD16.

The Commission has assessed SA Water’s proposed capital and operating expenditure, having regard to all evidence presented by SA Water, submissions from stakeholders and expert advice. It has also considered prudent and efficient expenditure requirements in the context of COVID-19, which was discussed in various submissions to the Draft Determination.

¹⁷⁸ Cardno, p. 30.

SA Water's submission to the Draft Determination argued that:

*The COVID-19 pandemic is changing the landscape in which SA Water operates, and will also require new and different priorities. SA Water will be integral to the economic recovery of South Australia during and after the pandemic. The final determination needs to ensure SA Water is able to respond appropriately, and in time.*¹⁷⁹

The submission did not suggest any specific areas where adjustments to forecast expenditure should be made in response to COVID-19, but requested that the Commission consider the issue for the Final Determination.

At this stage, the Commission is unable to predict the extent to which the outbreak of COVID-19 and the related containment measures will impact SA Water's expenditure requirements during the SAW RD20 period. It has no basis for making any adjustments to SA Water's forecast expenditure in the absence of any evidence that it has, or will, materially impact SA Water's costs. It expects that, over time, any such impacts may become clearer. Should SA Water be able to demonstrate that COVID-19 has materially changed its expenditure during the regulatory period, the cost pass-through mechanism discussed in Chapter 4 provides a means of adjusting future revenue caps to incorporate that change.

SA Water has also highlighted that it may form part of the South Australian Government's response to rebuilding the State's economy, following the crisis. If that were to be the case, the Commission would expect the South Australian Government to make those responsibilities transparent, for example issuing further directions under section 6 of the *Public Corporations Act 1993*. This is a matter for Government policy and cannot be reflected in this Final Determination at this stage. If further directions were issued during the regulatory period, the Commission would take those directions into account, which may impact the SAW RD20 revenue caps.

The remainder of this Chapter summarises the Commission's final decisions on the prudence and efficiency of SA Water's actual capital expenditure during the SAW RD16 period and its proposed capital and operating expenditure for the SAW RD20 period by:

- ▶ including the requirements set by the direction issued to SA Water by the Minister for Environment and Water, pursuant to section 6 of the *Public Corporations Act 1993* (section 6.6)
- ▶ establishing the efficient base year for operating expenditure (section 6.7)
- ▶ scrutinising the capital and operating expenditure proposed by SA Water and comparing the proposals against the longer-term expenditure and performance trends under the five key investment drivers SA Water used to categorise its expenditure proposal (external responsibilities in section 6.9, sustaining services in section 6.10, improving services section in section 6.11, enabling growth in section 6.12, and scrutinising IT expenditure (section 6.13), and
- ▶ establishing top-down efficiency factors for both the operating and capital expenditure forecasts, taking into account any specific adjustments that have been made to the sample of programs, projects and initiatives reviewed, to avoid the potential for double counting of expected efficiencies (section 6.14).

6.6 Ministerial direction

As detailed in Chapter 2, since publication of the Draft Determination, the Minister for Environment and Water has issued SA Water with a direction pursuant to section 6 of the *Public Corporations Act 1993*, which directs SA Water to purchase or provide a number of specified services, facilities and contributions from 1 July 2020.

¹⁷⁹ SA Water submission, p. 67.

Additional expenditure specified in the direction, beyond that included in the Draft Determination, has been included in the Final Determination, as required under clause 5.8.2 of the October 2018 Pricing Order. Those new expenditure items are summarised in Table 6.3.

Table 6.3: Impact of section 6 directions on Final Determination, relative to Draft Determination (\$m Dec18)

New section 6 direction	Capital Expenditure	Operating Expenditure
Drinking Water		
Water Planning and Management Charges Contribution ¹⁸⁰	-	+44.8
Annual reimbursement of fees paid for valuation roll ¹⁸¹	-	+2.7
Flushing of Torrens Lake	-	+2.3
Improving the security and water supply on Kangaroo Island (net of Government contributions)	+27.0	+2.4
Upgrading the water supply of SA Water customers in regional areas	+37.7	+4.8
Aboriginal Communities serviced by SA Water (net of Government contribution)	-	+7.4
Continue to meet community and owner expectations on water reticulation main performance	+37.2	+1.6
Total	+101.9	+66.0
Sewerage		
Tea Tree Gully Community wastewater management scheme	+59.2	+0.9

6.7 Establishing the efficient base year for operating expenditure

The final decision is that the normalised base year operating expenditure for 2018-19 is \$465.7 million. This is a reduction of \$13.3 million on SA Water's RBP proposal of \$479.0 million, but a \$7.0 million per annum increase on the base year in the Draft Determination (\$458.7 million).

In assessing the prudent and efficient level of operating expenditure for future years, the Commission starts by establishing an efficient 'base year'. This efficient base year takes an actual year of SA Water's operating expenditure, which is 'normalised' to remove any once-off or abnormal costs (or savings) incurred by SA Water in that year, to make it representative of the costs that SA Water is likely to face in future years under normal circumstances. From this efficient base year, adjustments can then be made for known changes to SA Water's operating circumstances in future years.

¹⁸⁰ Not a new direction, but costs have increased materially since the Draft Determination.

¹⁸¹ Not a new direction, but costs have increased materially since the Draft Determination.

SA Water proposed 2018-19 as its base year for the purpose of calculating base line operational expenditure for SAW RD20. However, expenditure was higher than normal in 2018-19 for a number of reasons, including the once-off and unique cost variances that SA Water identified in its RBP. To account for this, SA Water proposed a number of 'normalisation' adjustments, which reduced operating expenditure by \$27.5 million, taking its starting position of \$506.5 million in 2018-19 down to a normalised base year of \$479.0 million.¹⁸²

The most significant of the normalisation adjustments proposed by SA Water related to electricity and associated energy costs, which accounted for a reduction of \$14.2 million. SA Water explained that electricity costs were abnormally high in 2018-19 because of the drier summer, which resulted in a much higher volume of water being pumped than normal, due to both lower rainfall catchment in reservoirs and higher customer demand for water. In addition to this, average wholesale electricity spot prices remained high in 2018-19 (SA Water is exposed to the spot-price electricity market), having previously withdrawn from retail energy contracts in SAW RD16. SA Water also incurred an \$8.4 million break-fee in choosing to terminate a long-term energy contract with AGL during 2018-19, although SA Water stated that the cost of this break fee is likely to be outweighed by the benefits of future savings from a lower market price for Renewable Energy Certificates (RECs).

The Commission amended the starting position base year operating expenditure for 2018-19 from \$506.5 million to \$507.7 million in order to reconcile differences between the figures used in SA Water's RBP and actual expenditure as reported in its final regulatory accounts for that year.

From this revised starting point, the Commission made a draft decision that the 'normalised' prudent and efficient base year should be \$458.7 million (as compared with SA Water's proposal of \$479 million).

Based on further evidence provided by SA Water in response to the Draft Determination, the Commission's final decision is that the prudent and efficient base year is \$465.7 million. This is \$7 million more than the Commission's draft decision, but \$13.3 million less than SA Water's proposed efficient base year.

The \$13.3 million difference between the Commission's Final Determination and SA Water's proposal relates largely to the Commission's alternative views on several of SA Water's proposed normalisation adjustments, and the addition of a 2019-20 general efficiency target of 1.5 percent to the normalised base year. These are listed in Table 6.4.

Table 6.4: Base year and normalisation adjustments

SA Water 2018-19 Base Year and Normalisation Adjustments	SA Water original proposal	SA Water revised proposal	Commission Draft Determination	Commission Final Determination
Actual Regulated Accounts	506.5	506.5	507.7	507.7
Electricity	-14.2	-14.2	-20.1	-17.7
Chemicals	-0.7	-0.7	-1.7	-1.7
Treatment Plant Contracts	-1.1	-1.1	-1.1	-1.1
AGL contract termination	-8.4	-8.4	-8.4	-8.4

¹⁸² SA Water made a number of minor adjustments to its efficient base year proposal in late 2019. However, as these changes reduced SA Water's 'balancing reduction' (listed as 'other/unknowns' in Table 6.4) from \$4.3 million to \$1.8 million, these resulted in no net change to its normalised base year operating expenditure of \$479.0 million.

SA Water 2018-19 Base Year and Normalisation Adjustments	SA Water original proposal	SA Water revised proposal	Commission Draft Determination	Commission Final Determination
Site Restoration	-1.4	-1.4	-1.4	-1.4
Over accrual	-0.2	-0.2	-0.2	-0.2
Additional Labour	0.8	0.8	-3.3	-3.3
Additional Contractors	1.7	1.7	1.0	1.0
Additional Training	0.2	0.2	0.0	0.0
Other/unknowns	-4.3	-1.8	0.0	0.0
IT savings		-1.3	-2.9	-1.3
Murray Bridge operating expenditure		1.0	0.0	1.0
South Australian Government Radio Network		-1.2	-1.2	-1.2
Allwater contract costs		-1.0	-3.0	-1.4
General efficiency target 2019-20 (1.5%)	0	0	-6.9	-6.4
Base year operating expenditure	479.0	479.0	458.7	465.7
Difference - SA Water, Draft Determination and Final Determination			-20.3	-13.3

Material reductions to SA Water's proposed efficient base year include:

- ▶ a net \$3.3 million reduction in labour costs, primarily related to costs associated with positions that were left vacant, on the basis that it is normal to expect a certain level of vacancies in any given year
- ▶ a \$1.4 million reduction for Allwater Contract related costs (primarily an adjustment to reflect a payment made by Allwater in 2018-19 under the pain/gain share mechanism that was not recognised in SA Water's adjustments)
- ▶ a \$3.5 million reduction to SA Water's proposed efficient electricity costs to:
 - remove \$3.3 million of revenue earned from the sale of RECs to help off-set higher energy costs in 2018-19, as SA Water actually recorded a loss on the disposal of RECs in 2018-19, and,
 - adjust for a \$0.2 million difference to the cost of the normalised efficient volume of electricity.
- ▶ a \$6.4 million reduction to reflect the 1.5 percent general efficiency target applied by the Commission in the SAW RD16 final determination for 2019-20.

The Commission has included the following adjustments that result in increases to the efficient base year in the Draft Determination:

- ▶ an additional \$1.0 million for operating costs to support the new Murray Bridge Wastewater Treatment Plant
- ▶ the removal of the further \$1.6 million saving related to SA Water's 2019-20 IT program, and
- ▶ the removal of a \$2.6 million reduction related to network charges.

Details on the reasons for each of these adjustments is discussed below.

6.7.1 Labour

In its RBP, SA Water had sought an additional \$0.8 million operating expenditure for labour costs in its normalised base year. This represented an additional nine full time equivalent positions (FTE) recruited late in 2018-19 and early in 2019-20 (\$0.5 million), and the cost of filling vacancies that existed at the end of 2018-19 (\$0.3 million), which were left vacant due to pressure to deliver within overall operating expenditure budgets for the year. This proposed increase of \$0.8 million took operating expenditure for labour costs from the \$125.1 million actually incurred in 2018-19 to SA Water's proposed normalised base year figure of \$126.0 million.

However, after SA Water's proposed normalisation of labour costs, its 2018-19 net labour operating expenditure would have been higher than all other years of SAW RD16, including SA Water's budget for 2019-20.¹⁸³

Cardno recommended an alternative approach to normalising SA Water's base year, adopting SA Water's budget for 2019-20 of \$122.7 million, noting that figure was similar to the average of the two prior years 2016-17 and 2017-18 (\$122.3 million).¹⁸⁴ The Commission did not accept this approach, and instead looked at SA Water's 2018-19 actual labour costs and its proposed efficient base year labour costs in detail.

The Draft Determination reduced the base year by \$3.3 million for labour costs, which resulted in a base year expenditure figure of \$121.9 million. This reduction was made on the basis of the following:

- ▶ It is normal for a business to be under pressure to deliver within operating budgets and to have staff vacancies. The additional \$0.3 million associated with the identified vacancies was removed, on the basis that it is normal to expect a certain level of vacancies in any given year.¹⁸⁵
- ▶ There was insufficient evidence that the actuarial adjustments for leave provisions and workers compensation costs of \$2.3 million made in SA Water's 2018-19 accounts were reflective of a normal year, and so a reduction was made to reflect that amount.
- ▶ The proportion of labour costs transferred to capital projects were abnormally low in 2018-19, when considered against prior years' actual expenditure and the 2019-20 budget, so a reduction of \$1.5 million was made to bring this into alignment.

The Draft Determination did allow for SA Water's normalisation adjustment for an additional nine FTEs on the basis that these positions were filled, but noted that it expected SA Water to monitor its employee levels to manage its costs within the envelope of allowed expenditure. These nine additional FTEs increased the base year operating expenditure by \$0.5 million. However, in accepting this adjustment, the Commission noted that, with the nine FTEs related to the above normalisation

¹⁸³ Cardno, p. 43.

¹⁸⁴ Cardno, p. 43.

¹⁸⁵ Cardno, p. 43.

adjustment and other additional FTEs recruited during 2018-19 (which SA Water explained were reflected in the base year operating expenditure), the base year labour costs represented an increase of approximately 31 FTEs as compared to 2017-18.

Submissions

In its response to the Draft Determination, SA Water accepted the Commission's adjustment to the base year labour costs, with the exception of the \$1.5 million adjustment for labour costs transferred to capital projects. SA Water put the view that it saw no basis to reduce its base year for undercapitalisation of labour by \$1.5 million, as those costs in 2018-19 were higher than 2016-17 and 2017-18.¹⁸⁶

Discussion

The Commission accepts that the value of labour costs transferred to capital projects in 2018-19 was higher than recent years, but has based its decision on the proportion of labour being costed, not the total amount of that labour.

Analysis of SA Water's financial accounts for 2018-19 showed a growth in labour costs but not a corresponding proportionate increase in labour costs transferred to capital projects: almost all the increase remained in operating costs. In SA Water's 2019-20 budget, there is a reversion back to a higher amount of labour costs transferred to capital projects in proportion to the increase in gross labour. This appears to demonstrate that an abnormally low proportion of labour costs were capitalised for the base year.

Accordingly, the final decision reflects the draft decision, and a \$3.3 million net reduction to the base year operating expenditure for labour costs has been applied.

6.7.2 Allwater Metro Alliance Contract

In its RBP, SA Water proposed a normalisation reduction of \$1.0 million to take account of a once-off catch up in backlog works that resulted in \$1.0 million additional costs in 2018-19. That proposed adjustment would reduce operating expenditure for the Allwater Metro Alliance Contract from the actual amount of \$98.9 million incurred in 2018-19 to SA Water's proposed normalised base year figure of \$97.9 million.

The Draft Determination adopted SA Water's proposed \$1.0 million adjustment for the catch up in backlog works, given it was a once-off increase in 2018-19. However, the Commission made an additional reduction of \$2.0 million for a 'pain share' payment that was made by Allwater to SA Water due to actual expenditure significantly exceeding its agreed budget during 2018-19.

Accordingly, the Draft Determination proposed that the appropriate base year normalisation adjustment for the Allwater Metro Alliance Contract was a reduction of \$3.0 million (rather than \$1.0 million proposed by SA Water), which resulted in a base year expenditure figure of \$95.9 million.

Submissions

In its submission to the Draft Determination, SA Water stated that the \$2.0 million 'pain share' amount was reflected in the 2018-19 base year costs of \$98.9 million.¹⁸⁷ SA Water also stated that it no longer supported the proposed \$1.0 million reduction made to the base year to reflect additional costs resulting from resolving a metropolitan field services backlog of works on the basis that the actual volume of work undertaken was commensurate with a normal year.¹⁸⁸

¹⁸⁶ SA Water's submission, p. 26.

¹⁸⁷ SA Water submission, p. 25.

¹⁸⁸ SA Water submission, p. 25.

Discussion

Since the Draft Determination, SA Water has provided further evidence on this matter to clarify the treatment of the \$2.0 million 'pain share' adjustment in the proposed base year. However, this evidence suggests that \$1.6 million of the \$2.0 million pain share payment was adjusted for, but not the full \$2.0 million. Based on this new evidence, the Commission has amended its normalisation reduction from \$2.0 million to \$0.4 million.

The Commission does not accept SA Water's claim that the proposed \$1 million adjustment for the completion of backlog works should be removed on the basis that the total volume of actual work over the period was commensurate with a normal year. No evidence was provided to support this claim, and the Commission has noted several instances in SA Water's internal documents and accounts where this expenditure was specifically identified as additional Allwater costs.

Consequently, the final decision is to make a net reduction of \$1.4 million to the base year operating expenditure for Allwater Metro Alliance Contract costs.

6.7.3 Electricity

6.7.3.1 Base year adjustments

In its RBP, SA Water proposed a normalisation adjustment to reduce operating expenditure for electricity by \$14.2 million in recognition of abnormally high costs in 2018-19. That proposed reduction would have taken operating expenditure for electricity from the actual amount incurred in 2018-19 of \$79.7 million to SA Water's proposed normalised base year figure of \$65.5 million.

The Draft Determination proposed a prudent and efficient base year normalisation reduction for electricity of \$20.1 million, which resulted in a base year operating expenditure figure of \$59.6 million.

For the energy component of SA Water's electricity operating costs, the Commission adopted the gross adjustment of \$17.5 million calculated by SA Water, being the volume and price variance for electricity in 2018-19 (prior to deducting revenue from sale of RECs, which the Commission did not accept) as the appropriate normalisation adjustment in the base year.

For the network and other charges component of SA Water's electricity operating costs, the Commission made a further normalisation adjustment, to take into account the estimated reduction in these costs due to the lower volume of energy assumed to be consumed in the normalised base year. This normalisation adjustment was a \$2.6 million reduction and was calculated to reflect the estimated impact on variable network and other charges from the significantly lower volume of energy consumption assumed in the base year (37 percent less) as compared with actual costs in 2018-19.

The Commission's normalisation adjustments to the 2018-19 base year for the volume and price of energy (\$17.5 million) and for the network and other charges component of SA Water's electricity operating costs (\$2.6 million) therefore totalled \$20.1 million.

Submissions

In its submission to the Draft Determination, SA Water noted that the \$2.6 million reduction for network charges should be removed on the basis that '*network charges have remained flat for several historical years despite significant variable energy movement*'.¹⁸⁹

¹⁸⁹ SA Water submission, p. 25 and p. 63.

Discussion

SA Water has, since the Draft Determination, provided further evidence on this matter which substantiates its submission that network charges have remained flat historically, despite significant variations in energy consumption, and are forecast to remain relatively flat (on the whole) over SAW RD20. However, to account for variances in costs within 'network charges', for instance distribution costs and Mandatory Renewable Energy Target (MRET) costs, the Commission has taken a more disaggregated approach to determining network charges in the final decision. The Commission considers that this is more accurate and reflective of SA Water's actual electricity costs over the period. This approach is discussed further in section 6.7.3.2 below, in relation to the treatment of additional electricity costs over the SAW RD20 period.

The Commission has also recalculated the electricity normalisation adjustment from \$17.5 million to \$17.7 million, based on normalised electricity volume data provided by SA Water.

The final decision is to make a net reduction of \$17.7 million to the base year operating expenditure for electricity costs. This is \$2.4 million less than the \$20.1 million reduction made in the Draft Determination. This reflects the Commission's removal of the \$2.6 million adjustment for network charges, and the recalculation of normalised electricity costs from \$17.5 million to \$17.7 million, based on electricity volume data provided by SA Water.

6.7.3.2 Incremental adjustments to electricity costs during SAW RD20

The Draft Determination made incremental adjustments to the base year operating expenditure benchmark for electricity costs during SAW RD20. These adjustments were designed to recognise the forecast reduction in electricity prices between the base year (2018-19) and throughout the SAW RD20 period.

These incremental adjustments, shown in Table 6.5, were based on SA Water's own normalised base year cost per megawatt hour of electricity and the change in the price of 'base load electricity' futures contracts traded on the Australian Securities Exchange as available at the time.

Table 6.5: SAW RD20 Draft Determination incremental adjustments to electricity

Stage (\$m)	2020-21	2021-22	2022-23	2023-24
Normalised base year	59.6	59.6	59.6	59.6
Incremental adjustment for forecast reduction in energy prices	-5.4	-10.3	-9.7	-9.7
Electricity allowance for SAW RD20	54.2	49.3	49.9	49.9

These incremental adjustments reflected the Commission's understanding that SA Water had the ability to outperform the average volume weighted spot market pool price for electricity by 25 percent, by shifting its demand to avoid price peaks.

The Commission applied a \$2.6 million base year normalisation adjustment for network charges, and then held network costs constant across the SAW RD20 period. The Commission then made incremental adjustments to the proposed electricity operating expenditure for each year of SAW RD20, based on forecast wholesale electricity price reductions, reflected in base load electricity futures contracts. SA Water's ability to outperform the average volume-weighted electricity wholesale spot price by 25 percent, by shifting its demand to avoid price peaks, was also reflected in the Draft Determination.

Submissions

In its submission to the Draft Determination, SA Water provided new and more disaggregated evidence on this issue, which provides a more robust position on anticipated changes in SA Water's electricity costs over the SAW RD20 period.

Discussion

The Commission accepts the new evidence SA Water provided and has utilised it in making its final decision on this matter.

The Commission has made incremental adjustments to SA Water's electricity related operating expenditure based on changes in three key components of SA Water's electricity costs between the base year (2018-19) and the SAW RD20 period, as shown in Table 6.6. The three components to the incremental adjustments are:

- ▶ the price of 'base load electricity' futures contracts traded on the Australian Securities Exchange, as published recently by the Australian Energy Regulator (AER)¹⁹⁰
- ▶ network charges, including metering, distribution and transmission costs, and
- ▶ MRET costs, including large-scale generation certificates, small-scale technology certificates and fees.

Table 6.6: SAW RD20 incremental adjustments to electricity costs

(\$m)	2020-21	2021-22	2022-23	2023-24
Forecast electricity cost	22.5	19.1	22.0	22.0
Network charges	26.9	26.9	26.9	26.9
Mandatory Renewable Energy Target charges	6.5	5.6	5.0	5.0
Amortised AGL contract termination fee	2.0	2.0	2.0	2.0
Total energy costs (nominal)	57.9	53.7	56.0	56.0
Total energy cost (real \$Dec18)	57	52.2	53.8	53.8
Normalised base year	62.0	62.0	62.0	62.0
Adjustment to normalised base year	-5.0	-9.8	-8.1	-8.1

Note: No incremental adjustments are proposed to 2023-24 due to there being no reliable source of electricity price forecasts beyond 2022-23. Totals may not add due to rounding.

The Commission accepts SA Water's submission that its ability to outperform the average electricity wholesale spot market price in the base year should be calculated using a consistent time-weighted (simple) average spot price, rather than a volume-weighted average price. A volume-weighted average price is generally above a time-weighted average price due to the weights applied to peak prices, which is not comparable to prices faced by SA Water, where it can generally avoid peak prices due to its ability to shift demand. Using this approach changes the calculation of SA Water's ability to outperform the

¹⁹⁰ AER, Australian Securities Exchange Energy (settled price on 27 December 2019) for base load contracts between 2019-20 and 2022-23. Available at: <https://www.aer.gov.au/wholesale-markets/wholesale-statistics/quarterly-base-futures-prices-and-volume-traded>.

average spot price in 2018-19 from a factor of 22 percent to 12 percent. This has been used by the Commission to set the expectation of SA Water's ongoing ability to outperform wholesale market prices, based on base-load electricity futures prices, during the SAW RD20 period.

The Commission has assumed that wholesale electricity prices will not change from 2022-23 to 2023-24. This is because the Commission has taken the view that the futures market price in 2023-24 is based on very low volumes of futures trades and is not a sufficiently reliable estimate of market prices in that year. In the absence of sufficiently reliable evidence of wholesale market prices in 2023-24, the Commission has assumed no change relative to 2022-23 prices

Forecast electricity network charges are based on AER determinations and evidence provided by SA Water in relation to its distribution and transmission costs. For distribution costs, the Commission has applied an eight percent reduction to 70 percent¹⁹¹ of SA Water's budgeted 2020-21 distribution costs and held this constant over SAW RD20. This is consistent with the pricing outcomes proposed in the AER's SA Power Networks 2020-2025 draft distribution determination.¹⁹² For transmission costs, the Commission has accepted SA Water's evidence of an increase in 2019-20 and 2020-21 and held those costs constant for the remainder of the SAW RD20 period, based on the AER's 2018-23 final revenue determination decision for Electranet, which stated that these charges should remain relatively stable over this period.¹⁹³

The Commission has separated out SA Water's costs related to meeting its renewable energy commitments through the purchase of large-scale generation certificates (**LGC**) and small-scale technology certificates (**STC**). To account for the costs of these certificates in SA Water's electricity allowance, the Commission has used evidence provided by SA Water and SA Water's normalised base year energy use of 358,000 MWh to calculate the volume of certificates required. Based on evidence available from the Clean Energy Regulator, the Commission has held STC costs constant at \$40 per MWh over SAW RD20, while LGC costs are expected to decrease from \$29 per MWh in 2020-21 to \$21 per MWh in 2021-22, reducing further to \$15 per MWh in 2022-23 and 2023-24.¹⁹⁴ The Commission has held constant the percentage of each certificate type SA Water is required to surrender at the 2020 rate. This reflects the fact that the legislated Large-scale Renewable Energy Target (**LRET**) has now been met and the renewable power percentage (**RPP**) will now remain relatively constant.¹⁹⁵

There is significant uncertainty about the small-scale technology percentage (**STP**) that will apply during the SAW RD20 period, noting that the percentage is set by the Clean Energy Regulator each year by estimating the amount of STCs that are expected to be created in the year ahead (through the installation of small-scale renewable generators), with a correction factor for differences between the previous year's estimate and actual STCs created. The STP is only set on a year ahead basis; there is no long-term STP.

¹⁹¹ This reflects the split between Distribution Use of Service (DUoS) charges and Transmission Use of Service charges (TUoS).

¹⁹² AER, 'Draft Decision - SA Power Networks Distribution Determination. 8 October 2019. Available: <https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/sa-power-networks-determination-2020-25>.

¹⁹³ AER, 'Final Decision: Electranet Transmission Determination 2018-23. Published, 30 April 2018. Available: <https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/sa-power-networks-determination-2020-25>.

¹⁹⁴ See the Clean Energy Regulator's website for more details on STC and LGC market updates <http://www.cleanenergyregulator.gov.au>.

¹⁹⁵ The 2020 Renewable Power Percentage is 19.31% and will remain constant over SAW RD20. See: <http://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/the-renewable-power-percentage>.

Evidence from the Clean Energy Regulator suggests that the STP has been difficult to forecast with accuracy one year ahead.¹⁹⁶ While information from the Clean Energy Regulator suggests the potential for the STP to decline over the next two years,¹⁹⁷ there are high error margins with those estimates. Noting that the STC costs comprise only six percent of SA Water's total electricity expenditure, the Commission has assumed that the future STP will remain constant at the 2020 percentage.¹⁹⁸

The Commission's approach to disaggregating key components of SA Water's electricity allowance provides a more transparent understanding of SA Water's total electricity costs. In the Draft Determination, the costs and savings associated with SA Water's termination of the ADP AGL energy contract (the AGL energy contract) were reflected in the broader operational expenditure allowance for each year of SAW RD20, and not in SA Water's electricity allowance. By terminating the AGL energy contract, SA Water embedded savings of at least \$4.4 million per annum, offset by a \$8.4 million termination fee, which it has amortised over the SAW RD20 period. By disaggregating SA Water's electricity costs over SAW RD20, and thus more accurately reflecting SA Water's forecast actual costs, these savings are now captured in the Commission's incremental adjustments to the base year for electricity and not as savings in SA Water's broader operational expenditure.

6.7.4 Murray Bridge Waste Water Treatment Plant

SA Water proposed an operating expenditure increase of \$1.0 million associated with the new Murray Bridge Waste Water Treatment Plant (WWTP).

In reviewing this expenditure, Cardno observed that SA Water had not clearly articulated why this higher amount should be carried forward to the SAW RD20 base year, and noted that there should be offsetting benefits from not having to operate the older Murray Bridge WWTP.¹⁹⁹ The Draft Determination did not accept SA Water's proposed \$1.0 million increase for the Murray Bridge WWTP, as the Commission accepted the evidence put forward by Cardno.

Submissions

In its submission to the Draft Determination, SA Water did not accept the reasoning behind the Commission's decision not to allow the additional \$1.0 million for increased operating expenditure related to the new Murray Bridge WWTP.²⁰⁰ SA Water put the view that although *'there are offsetting benefits from not operating the old plant... the new plant still costs \$1 million more per annum to operate than the old plant did.'*²⁰¹ SA Water also provided evidence from its accounts demonstrating this operating cost increase.²⁰²

¹⁹⁶ Clean Energy Regulator, Small-scale Technology Percentage historical data:

<http://www.cleanenergyregulator.gov.au/DocumentAssets/Pages/Small-scale-technology-percentage.aspx>.

¹⁹⁷ Green Energy Markets, STC Data modelling 2020-2022, Report to the Clean Energy Regulator, January 2020, available at: <http://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/the-small-scale-technology-percentage/small-scale-technology-percentage-modelling-reports>.

¹⁹⁸ The Small-scale Technology Percentage for 2020 is 24.40%. See: <http://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/the-small-scale-technology-percentage#Calculating-the-smallscale-technology-percentage>.

¹⁹⁹ Cardno, p. 46.

²⁰⁰ SA Water submission, p. 25.

²⁰¹ SA Water submission, p. 25.

²⁰² SA Water submission, p. 26.

Discussion

The Commission reviewed the new evidence provided by SA Water which explained why there is a differential between the operating costs of the old Murray Bridge WWTP and the new Murray Bridge WWTP.

That new evidence showed that there is a significant difference in technologies used between the WWTPs, with the new WWTP requiring additional operating expenditure to support more extensive wastewater processing and odour management.

Additionally, it should be noted that although operating costs for the new WWTP are slightly higher, significant efficiencies of \$33.0 million were achieved by SA Water in the construction of the new Murray Bridge WWTP, which have been passed on to customers.²⁰³

Having regard to this new evidence, the Commission now accepts that operating costs for the new WWTP are slightly higher. Accordingly, the final decision is to accept SA Water's proposed additional operating expenditure of \$1.0 million per annum for the new Murray Bridge WWTP.

6.7.5 IT savings

In its RBP, SA Water proposed a normalisation reduction to operating expenditure of \$1.3 million to capture savings from IT-related initiatives not yet realised in 2018-19.

In recognition of the IT-driven savings that SA Water committed to realise in the final year of SAW RD16 (2019-20), the Commission made an additional normalisation adjustment of \$1.6 million, increasing the normalisation adjustment relating to IT-driven savings from SA Water's proposed \$1.3 million to \$2.9 million.

Submissions

In its submission to the Draft Determination, SA Water stated that it did not accept the Commission's proposed additional normalisation adjustment for IT savings of \$1.6 million. It argued that these savings were delivered by business units and were already embedded in the base year. SA Water provided the Commission with further evidence and information in relation to its SAW RD16 IT savings and how it delivers these savings commitments, suggesting that the IT-related savings '*were not delivered through IT savings as originally considered back in 2016, but they have been delivered by means of restructure, internal resourcing and seeking synergy through contracts.*'²⁰⁴

Discussion

SA Water's approach to assessing IT-driven business efficiencies is to estimate the benefits that an IT-enabled solution would provide to an individual business unit. So long as the cost of the IT solution does not exceed the expected benefits to that business unit, it is considered a prudent and efficient solution. However, the expected benefits and forecast IT costs are then considered in aggregate across the business; it does not then matter if the expected benefits to individual business units are achieved through other means, such as restructuring or revised contracting arrangements, as submitted by SA Water.

This approach has made it difficult to untangle which IT savings SA Water had delivered, which were still outstanding, and which were no longer required. It has also made it difficult to assess the efficiency of SA Water's approach to planning and delivering on IT projects, and the overall effectiveness of the solutions actually provided. It is also difficult to assess whether the 'alternative means' of delivering the

²⁰³ SA Water submission, p. 26.

²⁰⁴ SA Water submission, p. 26.

expected IT-enabled business efficiencies are sustainable over the longer term, or if they are short-term fixes to ongoing business inefficiencies.

The Commission has reviewed and accepted the new evidence provided by SA Water that these IT-enabled business savings were factored into individual business unit budgets, and have already been delivered and embedded in the base year. Accordingly, the final decision has removed the additional \$1.3 million reduction to the efficient base year to accept that savings that were previously expected to be delivered through IT-enabled solutions were achieved through other means.

However, the Commission expects SA Water to make improvements to the way it monitors, evaluates and reports on the efficiency and effectiveness of its IT projects over the SAW RD20 period, so that an appropriate level of scrutiny is placed on IT delivery, consistent with other areas of the business.

6.7.6 Application of 2019-20 general efficiency target

In the SAW RD16 Final Determination, the Commission applied continuing efficiencies equal to one percent per annum in 2016-17 and 2017-18 and 1.5 percent per annum in 2018-19 and 2019-20.

To date, SA Water has met or exceeded these targets, suggesting that SA Water should be able to continue to deliver general efficiencies of 1.5 percent in 2019-20.

In its RBP, SA Water did not propose to incorporate the 2019-20 general efficiency target applied by the Commission in the SAW RD16 Final Determination.

The Draft Determination, however, applied this 1.5 percent general efficiency to the normalised base year, which resulted in a \$6.9 million reduction, from \$465.6 million to \$458.7 million.

Submissions

In its submission to the Draft Determination, SA Water stated that it did not agree that the 1.5 percent general efficiency needed to be applied to its proposed efficient base year, as it had already achieved an efficient base year for the SAW RD20 period of \$479 million.

In RD16 the Commission accepted SA Water had efficient operating expenditure and determined that, after compounding efficiency targets in 2016-2018 of 1.0 per cent, 1.0 per cent and 1.5 per cent respectively, an efficient base year for the 2020-2024 regulatory determination would be \$479 million.

The Commission applied a further 1.5 per cent efficiency target for the 2019/20 year, a further saving of \$6.9 million.

SA Water proposed a base year of \$479 million in Our Plan, in line with the determined efficiency starting position for RD20.

It proposed the following efficiencies to reach its 1.5 per cent efficiency target for 2019/20:

- ▶ *\$6.4 million saving from terminating the Adelaide Desalination Plant electricity contract with AGL, and*
- ▶ *\$1.3 million relating to IT business projects not delivered and saved from the 2019/20 budget through other means.*

This totals \$7.7 million and exceeds the 2019/20 efficiency target of \$6.9 million. The 2019/20 efficiency target therefore does not need to be re-applied in this determination.²⁰⁵

²⁰⁵ SA Water submission, pp. 24-25.

Discussion

The Commission does not accept SA Water's position that the SAW RD16 decision on the 1.5 percent efficiency target in 2019-20 implied a '*determined efficiency starting position for RD20*' of \$479 million. Consistent with general regulatory practice, the Commission's regulatory approach provides an incentive for SA Water to out-perform the efficiency expectations that are incorporated into the forecast operating expenditure amounts. While SA Water's operating expenditure in the base year is lower than that forecast in the regulatory determination, it does not imply that SA Water should cease seeking further cost savings in 2019-20. It is not the case that achieving actual operating expenditure of \$479 million was a fixed end point.

As the base year is the normalised 2018-19 operating expenditure and SAW RD20 begins in 2020-21, there is a year of general productivity efficiencies that must be taken into account. In considering that expectation, the Commission has accepted that SA Water has already identified \$0.6 million of efficiencies that would reasonably contribute towards the achievement of the 1.5 percent efficiency target in 2019-20. This \$0.6 million is a portion of the \$6.4 million in AGL energy contract termination savings that SA Water put forward. The Commission arrived at this amount after it confirmed with SA Water that the AGL contract termination will take effect from 1 June 2020, from when savings will begin to accrue. As such, the Commission has accepted one month of the 12 months of anticipated savings from the termination of this contract against the efficiency target in 2019-20.

As the Commission has decreased the quantum of normalisation reductions to the base year, the application of the 1.5 percent efficiency factor results in a slightly higher efficiency target of \$7.0 million for 2019-20, rather than the \$6.9 million included in the Draft Determination.

In relation to the \$1.6 million of IT savings that SA Water proposed should offset the 2019-20 general efficiency target, the Commission notes that SA Water has previously stated that these savings are planned and identified at the start of the SAW RD16 and achieved by various business units across the period.²⁰⁶ Additionally, as SA Water noted in its submission to the Draft Determination,²⁰⁷ the \$1.6 million of IT savings in question relate to savings delivered and embedded in the 2018-19 base year 'through other means'.²⁰⁸ Accordingly, the Commission does not accept that these IT program savings—which were identified by SA Water in its SAW RD16 IT program development and used to offset and justify the operating expenditure required to support this IT program—should be considered a continuing efficiency.

The final decision reduces the \$7 million 2019-20 efficiency adjustment by \$0.6 million, to \$6.4 million.

6.8 Summary of final decisions on additional expenditure for SAW RD20

In assessing the prudent and efficient level of operating expenditure for future years, the Commission starts by establishing an efficient 'base year'. This efficient base year begins as an actual year of SA Water's operating expenditure, before being 'normalised' to remove any once-off or abnormal costs (or savings) incurred by SA Water in that year, to make it representative of the costs that SA Water is likely to face in future years. This assessment has been explained in section 6.7 above.

From this efficient base year for operating expenditure, adjustments have then been made for known changes to SA Water's operating circumstances in future years.

The Commission assesses the prudent and efficient level of capital expenditure by examining a sample of the programs and projects that SA Water is proposing to invest in, with the sample being chosen to cover water and sewerage, metropolitan and regional areas and various asset types or categories.

²⁰⁶ SA Water submission, p. 26.

²⁰⁷ SA Water submission, p. 26.

²⁰⁸ SA Water submission, p. 26.

In examining the sample of programs and projects, the Commission is able to identify issues with SA Water's systems and processes that mean adjustments should reasonably be made to its forecast costs (for example, unreasonable cost estimates, unnecessary engineering solutions, or inconsistencies between programs or projects).

Where identified, adjustments are made to proposed program or project expenditure, taking account of the impacts from both a capital and operating expenditure perspective (for example, the deferral of an asset renewal capital expenditure project may result in the need for additional operating expenditure to extend the life of the existing asset, or vice versa).

The Commission has assessed the need or justification for any changes to existing expenditure levels, grouped into the five key drivers of investment identified by SA Water:

- ▶ **External responsibilities:** investments by SA Water to meet its legal and regulatory responsibilities (section 6.9)
- ▶ **Sustaining services:** investments to allow SA Water to continue to provide and sustain reliable services for its customers, by planning ahead and investing where needed (section 6.10)
- ▶ **Improving services:** investments by SA Water to reflect customer feedback on what is important to them and what they are willing to pay for (section 0)
- ▶ **Enabling growth:** investments by SA Water to service new water and sewerage customers or increase the services available to existing customers (section 6.12), and
- ▶ **IT expenditure:** investments by SA Water to enhance its digital capabilities as a key enabler for achieving efficiencies and meeting customer expectations (section 6.13).

Assessing SA Water's future expenditure requirements by the key investment driver identified by SA Water is important, as it informs the reasonable sources of evidence that should be provided in support of the business cases.

The summary of the final decisions on net capital and operating expenditure are set out in Table 6.7 and Table 6.8, respectively.

Table 6.7: Summary of the Commission's final decision on net capital expenditure for SAW RD20, by SA Water's investment driver (\$Dec18, million)

\$m(Dec18)	RBP submission	Commission adjustments	Draft Determination	Commission adjustments	Section 6 Direction	Final Determination
External responsibilities	364.4	-12.9	351.5	+19.7	+59.2	430.4
Sustaining services	868.4	-82.0	786.4	-7.8	+37.2	815.8
Improving services	382.2	-223.4	158.8	-0.3	+37.7	196.2
Enabling growth	190.7	-50.9	139.8	-0.1	+27.0	166.7
Efficiency-driven IT	36.3	-1.2	35.1	+0.1	-	35.2
SAW RD20 net capex	1842.0	-370.5	1471.5	+11.6	+161.1	1644.4

Table 6.8: Summary of the Commission's final decision on net operating expenditure for SAW RD20, by investment driver (\$Dec18, million)

\$m(Dec18)	RBP submission	Commission adjustments	Draft Determination	Commission adjustments	Section 6 Direction	Final Determination
Additional investment, by driver:						
External responsibilities	50.1	-10.2	39.9	+5.4	+57.3	102.7
Sustaining services	65.7	-49.1	16.6	+14.6	+1.6	32.8
Improving services	33.0	-9.6	23.4	+0.2	+5.7	29.3
Enabling growth	13.5	-9.5	4.0	0.0	+2.4	6.4
Total additional opex	162.3	-78.4	83.9	+20.2	+67.0	171.1
Base opex	1916.0	-81.2	1834.8	+28.0	-	1862.5
Electricity adjustment	-	-35.0	-35.0	-3.9	-	-31.1
Savings (exc. ZCEF)	-20.7	-43.4	-64.1	+30.0	-	-34.0
Efficiency 0.5%	-16.6	-0.1	-16.7	-1.0	-	-17.7
SAW RD20 net opex	2041.0	-238.1	1802.9	+81.2	+67.0	1951.2

Notes: Table may not add due to rounding. The Draft Determination included \$238.4 million in base operating expenditure for electricity and \$35 million of adjustments over SAW RD20 to reflect forecast reductions in wholesale electricity market prices over the period. The Final Determination includes \$248 million of base operating expenditure for electricity and \$31.1 million of reductions over SAW RD20. See Table 6.6 for further details on the Commission's SAW RD20 electricity adjustments.

The following sections provide summaries of the Commission's reasons for the above adjustments, by each of the key investment drivers identified by SA Water.

6.9 External responsibilities

The final decision is that \$443.8 million²⁰⁹ is a prudent and efficient amount to be included in SAW RD20 for capital expenditure to meet external responsibilities. Further, the prudent and efficient operating expenditure is an additional \$102.7 million over SAW RD20 to meet external responsibilities.

SA Water characterises external responsibilities as investments to meet its legal and regulatory responsibilities. In total, SA Water proposed \$384.6 million of capital expenditure and \$50.4 million of operating expenditure in the SAW RD20 period to meet its external responsibilities.

In the Guidance Papers released prior to SA Water preparing its RBP, the Commission set out an expectation that SA Water was required to demonstrate that its planned investment is both prudent and efficient, and to establish a clear line of sight between proposed expenditure and its anticipated outputs and outcomes (Guidance Paper 4).

²⁰⁹ Before the application of catch-up and continuing efficiencies.

Further, as many of the external responsibilities are driven by the need to meet the requirements of other regulators, the Commission has been assisted by the members of the Regulators Working Group in assessing the proposed expenditure under this driver.

SA Water's proposal

The following key investments were driving the majority of SA Water's proposed capital expenditure for this investment driver:

- ▶ **Mount Bold Reservoir** – \$86.9 million of capital expenditure during SAW RD20 (with a further estimated \$215.5 million of capital expenditure during SAW RD24) for safety upgrades to the Mount Bold Reservoir to address the risks of failure posed by flood conditions and earthquakes, in line with the requirements of the Australian National Committee on Large Dams (**ANCOLD**) guidelines.
- ▶ **Eyre Peninsula Desalination Plant** – \$86.1 million of capital expenditure during SAW RD20 (with a further estimated \$5.1 million of capital expenditure during SAW RD16) to construct and operate a desalination plant at Sleaford Bay to address the water supply security issues that exist on the Eyre Peninsula while protecting the natural resources in the area.
- ▶ **Open Reservoirs** – \$26.1 million of capital expenditure during SAW RD20 to provide additional water treatment at Happy Valley treatment plant, as required under the *Safe Drinking Water Act* (\$21.4 million), and to upgrade site security and safety (fencing, gates, signage, cameras etc.) across seven reservoir sites (\$4.7 million) to allow recreational access to various reservoirs around the State.

The capital expenditure proposed represents an 8 percent decrease on the amount spent on external responsibilities in SAW RD16.

Table 6.9 shows the breakdown of the average additional \$12.5 million in operating expenditure per year SA Water proposed to fund programs to meet its external responsibilities.

Table 6.9: SA Water initiative by average additional operational expenditure per annum

External responsibility initiatives	SA Water proposal (\$m)	Draft Determination (\$m)	Final Determination (\$m)
Eyre Peninsula Desalination Plant	5.1	3.9	3.9
Asset investment operating costs	3.8	2.6	2.6
NAIS	2.8	2.8	2.8
IT investment operating costs	1.8	1.8	1.8
Safety (property portfolio)	0.7	0.5	0.5
Environmental improvement plans (inc recycling)	0.8	0.8	0.8
Water industry licence fee reduction	-2.4	-2.4	-1.0
Subtotal	12.5	10.0	11.4
Section 6 Direction	-	-	14.3
Total per annum	12.5	10.0	25.7

Impact of the section 6 Direction

Additionally, since the Draft Determination, the Minister for Environment and Water has issued SA Water with a direction pursuant to section 6 of the *Public Corporations Act 1993*, which directs SA Water to acquire the assets of the Tea Tree Gully community wastewater scheme, and to fund upgrade and improvement works to a capital expenditure of \$59.2 million. Those costs have been included in the Final Determination, as required under the Pricing Order, bringing the total forecast capital investment related to external responsibilities to \$443.8 million.

Further to this, an additional \$57.3 million of operating expenditure is included over SAW RD20 to fund initiatives related to external responsibilities required of SA Water in accordance with the section 6 Direction as follows:

- ▶ an average \$11.2 million per annum for Water Planning and Management Charges Contribution
- ▶ an average \$0.7 million per annum annual reimbursement of fees paid for valuation roll
- ▶ an average \$0.6 million per annum for flushing of Torrens Lake, and
- ▶ an average \$1.9 million per annum for Aboriginal communities serviced by SA Water.

This operating expenditure is in addition to the existing operating expenditure included in SA Water's normalised base year. This brings the total forecast operating expenditure related to external responsibilities to \$102.7 million.

6.9.1 Summary of adjustments to additional operating expenditure for meeting external responsibilities

The final decision is to allow \$11.4 million per annum of additional operating expenditure for external responsibilities. This is a \$1.4 million per annum increase to the draft decision, which accounts for SA Water's licence fees under the WI Act being set above the amount forecast in the Draft Determination.

Further, an additional average \$14.3 million per annum of operating expenditure will be included in this final decision and relates to initiatives required to be undertaken by SA Water pursuant to the section 6 Direction.

The majority of the additional costs allowed to support SA Water's ability to meet its external responsibilities are the result of new obligations that SA Water is required to meet, and are therefore considered prudent. However, several adjustments have been made to set SA Water's proposed costs (excluding the section 6 Direction costs) to an efficient level of an average of \$11.4 million per year, which is 9 percent lower than the amount proposed by SA Water.

In its submission to the Draft Determination, SA Water accepted the Commission's reductions to additional operating expenditure for asset investment operating costs, the Eyre Peninsula Desalination Plant costs and operational expenditure related to property portfolio safety initiatives.²¹⁰ As there were no further submissions on any of these matters, the Commission's final decisions remain the same as the draft decisions.

²¹⁰ SA Water submission, Table 23 p. 11 of 79.

The final decision makes the following adjustments:

- ▶ an average \$1.2 million per annum reduction to additional proposed operational expenditure for the Eyre Peninsula desalination plant
- ▶ an average \$1.2 million per annum reduction to additional proposed asset investment operational expenditure
- ▶ an average \$0.2 million per annum reduction to additional proposed operational expenditure for property portfolio related safety initiatives, and
- ▶ an average increase of \$1.4 million per annum to account for SA Water's licence fees under the *Water Industry Act* being set above the amounts forecast in the Draft Determination.

6.9.2 Mount Bold Reservoir dam safety upgrade

The final decision is that \$86.9 million is a prudent and efficient amount of capital expenditure to be included in SAW RD20 for the Mount Bold reservoir dam safety upgrade. This is the same amount proposed by SA Water, and is consistent with the Draft Determination. SA Water has forecast further capital expenditure of \$215.5 million during SAW RD24 to complete this project.

The Mount Bold reservoir dam safety upgrade is the major project within the SAW RD20 dam safety program, with total expenditure of \$90.6 million during the period. This is a 19 percent reduction on the SAW RD16 dam safety program expenditure of \$111.6 million.

Given this project will be completed over two regulatory periods, the Commission will require SA Water to provide further documentation about the outputs and outcomes expected by the end of SAW RD20.

SA Water proposed to invest \$86.9 million of capital expenditure during SAW RD20 (and a further \$215.5 million during SAW RD24) for safety upgrades to the Mount Bold Reservoir. The safety upgrades would involve increasing the structural strength of the spillway gate and dam to resist earthquake loads and large floods, and constructing an apron to prevent erosion that may occur as a result of overflows from a probable maximum flood. These safety upgrades would address the risks of failure posed by flood conditions and earthquakes, in line with the requirements of the ANCOLD guidelines.

Submissions

The Technical Regulator supported SA Water's proposal, stating that the proposed works were necessary to meet ANCOLD guidelines, which are considered best practice for dam safety in Australia.²¹¹

Submissions from SA Water, Business SA, and the Technical Regulator were all supportive of that position. In particular, the Technical Regulator reiterated its support, noting that:

*'The [Draft Determination] allows SA Water to proceed with dam safety upgrades which will enable SA Water to meet the ANCOLD Guidelines and is supported.'*²¹²

²¹¹ Technical Regulator, submission to SA Water RBP, p. 1, available at <https://www.escosa.sa.gov.au/ArticleDocuments/21453/20200116-Water-SAWRD20-SAWaterBusinessProposal2020-Submission-OTR.pdf.aspx?Embed=Y>.

²¹² Technical Regulator, submission to the Draft Determination, p. 1, available at <https://www.escosa.sa.gov.au/ArticleDocuments/21479/20200430-Water-SAWRD20-DraftDecisionSubmission-OfficeTechnicalRegulator.pdf.aspx?Embed=Y>.

Discussion

The Commission accepts the ANCOLD Guidelines as the basis of best practice for dam safety in Australia. Given the available evidence, the Commission has decided that \$86.9 million as proposed by SA Water is a prudent and efficient amount to be included in SAW RD20 for safety upgrades at the Mount Bold Reservoir.

This final decision is supported by Cardno's assessment of this program, which suggested that the proposed works were prudent, as they were within SA Water's overall obligations to manage its dams in line with the ANCOLD guidelines, and that the forecast costs represent the current best estimate of efficient costs for the project.²¹³

The Commission notes that a secondary benefit of the project is that the upgraded dam can provide flood mitigation for the community downstream in Onkaparinga. That is, in addition to the dam upgrade works reducing the risk of failure, they can also reduce the risk of downstream flooding. SA Water has considered flood mitigation benefits in its options analysis. The optimal flood mitigation benefits come at a marginal cost, which SA Water has indicated is in the order of five to ten percent of overall project costs. However, flood mitigation is not an SA Water responsibility, and so would need to be funded separately by the community or the South Australian Government.

Given this project will be completed over two regulatory periods, the Commission will require SA Water to provide further documentation about the outputs expected by the end of SAW RD20. Further, SA Water will need to keep sufficient financial records to be able to demonstrate that the marginal costs of any possible flood mitigation works that proceed as part of the project are funded by third parties (such as the community or the South Australian Government) and are not charged to water customers. This will be captured within the monitoring and reporting framework, discussed in Chapter 10.

6.9.3 Eyre Peninsula Desalination Plant

The final decision is that \$86.1 million is a prudent and efficient amount of capital expenditure to be included in SAW RD20 for completion of the Eyre Peninsula desalination project. This is the same amount as proposed by SA Water. The project commenced in 2018-19, with expenditure up to June 2020 forecast at \$5.1 million, leading to total project cost of \$91.2 million.

The completed plant will have a capacity of 4 GL per annum, with the marine and transfer pipeline infrastructure sized for an ultimate capacity of 8 GL, to allow for future demand growth. The plant will relieve pressure on the existing groundwater source (Uley South Basin), which is currently operating at above the long-term sustainable extraction level.

SA Water proposed to construct a desalination plant at Sleaford Bay on the Eyre Peninsula, to relieve pressure on the existing groundwater source (Uley South Basin), which is currently operating at above the long-term sustainable extraction level. The completed plant would have a capacity of 4 GL per annum, with the marine and transfer pipeline infrastructure sized for an ultimate capacity of 8 GL, to allow for future demand growth. Construction costs were estimated at \$91.2 million, with expenditure up to June 2020 forecast at \$13.1 million, and the remaining \$78.1 million included in the SAW RD20 proposal, with proposed commissioning of the plant to occur ahead of the 2021-22 summer.

²¹³ Cardno, pp. 82-83, C21-C24.

The Commission considered analysis by the DEW, which confirms that the current extraction levels from the Uley South Basin are unsustainable, and Cardno's assessment that the options analysis undertaken by SA Water was appropriate, and that the sizing and costing of the proposed desalination plant solution was efficient.²¹⁴

The draft decision was that \$78.1 million, as proposed by SA Water, is a prudent and efficient amount of capital expenditure to be included in SAW RD20 for completion of the Eyre Peninsula desalination project. The draft decision also proposed that an average additional \$3.9 million per annum of operating expenditure should be accepted.

Submissions

The Commission notes that submissions to the Draft Determination from SA Water, Business SA and SACOSS were all supportive of the project.

Discussion

Since the Draft Determination, SA Water has provided an updated forecast for the project, which sees \$8.0 million of investment deferred from 2019-20 into 2020-21. While total forecast project costs remain unchanged at \$91.2 million, expenditure in the period to June 2020 is now forecast at \$5.1 million, with expenditure during the SAW RD20 period now forecast at \$86.1 million.

The Commission accepts that updated information and the final decision is, therefore, that \$86.1 million, is a prudent and efficient amount of capital expenditure to be included in SAW RD20 for completion of the Eyre Peninsula desalination project.

However, SA Water has provided inconsistent information on the operational expenditure required to support this project. SA Water's RBP proposed an average additional \$5.1 million per annum, while the more detailed business case proposed an average additional \$3.9 million per annum. The final decision is to adopt the level of operating expenditure proposed in the business case.

The Commission expects project-specific documentation on the outcomes this expenditure achieves (in this case, balancing supply and demand, water security, and water quality), to be available to support an ex-post review of a sample of projects and programs at the end of SAW RD20.

6.9.4 Open Reservoirs

The final decision is to include \$26.1 million of capital expenditure in SAW RD20 for works to allow recreational access to various reservoirs across South Australia. This is the same amount as proposed by SA Water, and an increase of \$12.3 million over the Draft Determination.

The Commission has not tested the prudence or efficiency of this investment, however it notes advice from SA Health that that the works at the Happy Valley treatment plant, totalling \$21.4 million, are required to allow SA Water to continue to meet its obligations under the *Safe Drinking Water Act*, while facilitating recreational access at this site.

The Commission will test the actual expenditure on this initiative as part of the ex-post sample for SAW RD24.

SA Water proposed to invest \$13.8 million of capital expenditure during SAW RD20 to provide additional water treatment at Happy Valley treatment plant (\$9.2 million), and to upgrade site security and safety (fencing, gates, signage, cameras etc.) across seven reservoir sites (\$4.6 million) to allow recreational access to various reservoirs around the State.

²¹⁴ Cardno, p. 83 and pp. C25-C27.

Submissions

SA Health advised that the works at Happy Valley treatment plant are required to allow SA Water to continue to meet its obligations under the *Safe Drinking Water Act*, while facilitating recreational access at this site. The proposed works to upgrade site security and safety at other reservoirs also appear to be reasonably required to ensure safe public access to these sites.

Discussion

The Commission accepted that the additional works are required, and included the \$13.8 million proposed capital expenditure in the Draft Determination.

Since the Draft Determination, SA Water has provided further information on the proposed works at Happy Valley water treatment plant. Detailed project development work has now been undertaken to establish the best technology option to minimise the public health risk of cryptosporidium breakthrough following public access to the reservoir. The preferred solution comprises a 'closed vessel reactor with low pressure UV lamps disinfection system', at a revised project cost of \$21.4 million, an increase of \$12.2 million over the initial estimate. Taken together with the site security and safety upgrades, the revised investment related to open reservoirs totals \$26.1 million.

The Commission did not include the open reservoirs project within the sample of projects that were subject to detailed review as part of its assessment of SA Water's proposed capital expenditure. However, SA Water has stated that the proposed works are required to meet the requirements of both the Department of Health and the Australian Drinking Water Quality Guidelines. The Commission has included the \$26.1 million proposed capital expenditure in the calculation of the final maximum revenue caps. The actual investment on this initiative will be tested as part of the ex-post sample for SAW RD24.

6.9.5 Northern Adelaide Irrigation Scheme

SA Water proposed an average additional \$2.8 million per annum of operating expenditure to support the Northern Adelaide Irrigation Scheme (NAIS).

The NAIS program and associated infrastructure was implemented by SA Water under a direction of the Minister for Water on 23 August 2017. With a planned net capital expenditure investment of \$110.0 million (\$155.6 million gross cost less \$45.6 million Commonwealth Government contribution), the NAIS is a significant initiative that seeks to reuse 12GL of treated wastewater from the Bolivar Wastewater Treatment Plant, by transferring it to the Northern Adelaide Plains, to be used beneficially for food production. The initiative avoids the need to discharge into Gulf St Vincent and assists SA Water to meet environmental obligations under its licence.

Submissions

The EPA stated its support for NAIS:

*'as a means to avoid environmental discharge, particularly into the Gulf of St Vincent and as a means of productive, beneficial and sustainable use of recycled water,' and as a 'key to delivery of part of the metropolitan EIP [Environment Improvement Programs] requirements derived from the ACWQIP [Adelaide Coastal Water Quality Improvement Plan] Targets.'*²¹⁵

Business SA commented that SA Water should be solely responsible for commercial risks associated with this project, such that sewerage charges are not linked to SA Water's ability to earn irrigation related revenues, or that proposed cost increases impacting sewerage charges are capped.²¹⁶

²¹⁵ EPA, p. 6.

²¹⁶ Business SA, p. 5.

SACOSS also highlighted the commercial risk aspects of the project and suggested that it would be appropriate for the cost of the project that is allowed in the RAB to be capped at the actual cost or no more than the \$67.6 million Net Present Value (NPV) of the existing discharge arrangement. SACOSS went on to comment that the Commonwealth Government contribution to the project should not be included on SA Water's RAB, as it is a capital contribution from a third party; and that the South Australian Government should bear the cost of any project cost over-runs by capping the cost that is allowed onto the RAB.²¹⁷

Uniting Communities submitted that it understands the proposed release of treated wastewater is best undertaken through the NAIS, rather than discharging into Gulf St Vincent and that using the treated water for food production is sensible. However, Uniting Communities asked the Commission to check the cost allocations between SA Water sewerage customers and users of water delivered through the NAIS to ensure SA Water sewerage customers are not paying more than is necessary for this project.²¹⁸

Further, in its response to the Draft Determination, Uniting Communities stated that '*We support NAIS, but do not consider that it should be playing any role in increasing the base for capex expenditure*'.²¹⁹

Discussion

Since the Draft Determination, SA Water has provided to the Commission an updated forecast for the project. Net capital expenditure is now forecast at \$80.4 million (\$124.0 million gross cost less \$43.6 million in contributions) by the end of the SAW RD16 period, a reduction of \$8.0 million from the RBP forecast. SA Water forecasts to invest a further \$23.8 million during the SAW RD20 period, with further contributions of \$28.1 million forecast to be received. This will take the net project cost at completion to \$76.1 million.

As foreshadowed in the draft decision, the Commission has reviewed the allocation of both expenditure and revenues related to the NAIS, to ensure that all NAIS-related costs and revenues are treated appropriately.

For capital expenditure, SA Water received a direction pursuant to section 6 of the *Public Corporations Act 1993* (dated 23 August 2017), which directed it to construct the NAIS. The Commission then received a Pricing Order under section 35 of the WI Act (dated 28 October 2018), which directs it, at section 5.8.1, to '*...allow SA Water to recover such costs as are attributable to and payable by SA Water in accordance with the law, including a direction under section 6 of the Public Corporations Act 1993*'. The Commission has, therefore, included the net construction costs of the NAIS.

For operating expenditure, the Commission has received no new evidence that changes the draft decision to include additional expenditure to support the operation of the NAIS in the revenue cap.

A further financial component is the revenue that SA Water will earn from selling the recycled water delivered by the NAIS. This income will be deducted from the revenues that SA Water is able to recover through charges, ensuring that sewerage customers benefit fully from the investment that they have funded.

6.9.6 Asset investment operating costs

SA Water proposed an average additional \$3.8 million per annum of operating expenditure for the following programs to meet its external responsibilities:

- ▶ Optimising WWTP performance – \$1.2 million

²¹⁷ SACOSS, p. 18.

²¹⁸ Uniting Communities, p. 23.

²¹⁹ Uniting Communities, response to Draft Determination, p. 11.

- ▶ Non-electricity costs for the Eyre Peninsula Desalination Plant – \$1.2 million
- ▶ Sewerage odour reduction – \$1.0 million
- ▶ Water dam and network operations – \$0.4 million

The Commission has accepted all of these proposed additional costs as being prudent and efficient, with the exception of the non-electricity costs for the Eyre Peninsula Desalination Plant, (which is in addition to the amount separately identified in section 6.9.3), as SA Water provided no explanation of why these additional costs are necessary.

6.10 Sustaining services

The final decision is that \$841.2 million²²⁰ is a prudent and efficient amount to be included in SAW RD20 for capital expenditure for sustaining services. Further, the prudent and efficient operating expenditure is an additional \$32.8 million over SAW RD20 to sustain services.

SA Water characterises sustaining services as investment to allow it to continue to provide and sustain reliable services for its customers, by planning ahead and investing where needed. In total, SA Water proposed \$871.9 million of capital expenditure and \$65.7 million of operating expenditure in the SAW RD20 period to sustain services.

Sustaining services should primarily involve work that is routine and repeatable and it is in an area where improvements in technology and strategic contracting arrangements are likely to result in ongoing efficiencies. This means that any proposed increases in expenditure should be able to point to a clear driver.

In the Guidance Papers released prior to SA Water preparing its RBP, the Commission set out two expectations that SA Water was required to address in relation to proposed expenditure of this nature.

First, guidance was provided on the need for SA Water to demonstrate that its planned investment is both prudent and efficient, and to establish a clear line of sight between proposed expenditure and its anticipated outputs and outcomes (Guidance Paper 4).

Second, guidance was provided that service standards should cover the elements of service that matter to customers, so as to act as a reference point for expenditure proposals (Guidance Paper 3).

In some instances, SA Water has not been able to demonstrate that the proposed expenditure increases are justified relative to what it should already be carrying out as part of its regular business-as-usual activities. Further, in the absence of a new obligation or significant change in circumstance, simply identifying new activities is not in itself a justification for an increase in total expenditure.

However, the Commission has identified instances where additional expenditure for new activities has been justified by SA Water on the basis that further maturation of elements of its asset management system are required.

Additional expenditure, primarily operating expenditure, has been allowed to enable SA Water to improve its understanding of the condition of specific asset classes and inform its approach to expenditure to achieve specified performance outcomes.

Accordingly, while the Commission acknowledges that some new activities may be required in the future, and may require additional expenditure, other activities which previously took place may no longer be required, eventually offsetting the increase in other 'new' costs. Furthermore, the additional

²²⁰ Before the application of catch-up and continuing efficiencies.

expenditure allowed by the Commission should enable SA Water, over the medium to long term, to achieve greater expenditure efficiencies.

SA Water's proposal

The following key investments are driving a significant portion of the proposed capital expenditure:

- ▶ **Reticulated water mains management** – \$144.2 million of capital expenditure to manage its water reticulation network to minimise interruptions to water supply, with a particular focus on decreasing the number of customers who experience three or more interruptions in a 12-month period down from 2,862 (the average across the four years to 2018-19) to 1,750 by the end of SAW RD20. The expenditure for this program is now subject to a direction under section 6 of the *Public Corporations Act 1993* and so is not discussed in this Final Determination.
- ▶ **Sewerage mains management program** – \$67.6 million of capital expenditure on a program of work to renew approximately 89 kilometres of reticulated sewer mains, in order to maintain the serviceability of the sewer network.
- ▶ **Morgan to Whyalla Pipeline No. 1** – \$61.9 million of capital expenditure to renew approximately 14 km of the Morgan to Whyalla Pipeline No. 1, to ensure ongoing reliability of water supplies to townships and a number of large industrial users in the region.
- ▶ **Water Storage Tanks Renewal Reliability program** – \$19.7 million of capital expenditure to upgrade and improve the condition of water storage tanks, to maintain continuity of water supply, and to address risks to the quality of water supplied.

The capital expenditure proposed represents a 15 percent increase on the amount spent on sustaining services in SAW RD16.

Table 6.10 shows the breakdown of the average additional \$16.4 million in operating expenditure per year SA Water proposed to fund programs related to sustaining services.

Table 6.10: SA Water initiative by average additional operational expenditure per annum

Sustaining initiatives	SA Water proposal (\$m)	Draft Decision (\$m)	Final Determination (\$m)
ADP contract	4.4	2.4	2.4
Asset investment operating costs	4.1	0.0	2.0
SAW RD16 IT operating cost uplift	3.2	0.5	2.1
Wage increases	2.1	0.0	0
Technical training	1.0	0.15	0.15
IT licencing cost above inflation	0.6	0.6	0.6
IT investment operating costs	0.4	0.4	0.4
Water Network Management	0.4	0.0	0.0
subtotal	16.4	4.2	7.8
Section 6 Direction	-	-	0.4
Total per annum	16.4	4.2	8.2

Impact of the section 6 Direction

Since the Draft Determination, the Minister for Environment and Water has issued to SA Water a direction pursuant to section 6 of the *Public Corporations Act 1993*, which requires SA Water to continue to meet community and owner expectations on water reticulation main performance. The direction specifies that SA Water incur capital expenditure of \$144.2 million for that purpose, in line with SA Water's RBP. This capital expenditure has, therefore, been included in the capital expenditure forecasts reflected in this Final Determination, consistent with the requirements of the Pricing Order.

Further, an additional \$0.4 million per annum of operating expenditure for water network management is also included in the final decision, in accordance with the section 6 Direction.

6.10.1 Summary of adjustments to additional operating expenditure

The final decision is that an additional \$8.2 million per year is prudent and efficient additional operational expenditure for sustaining services, on the basis that the increased preventative maintenance proposed is a sound approach to managing the ADP and some additional IT costs are reasonably required to maintain current services. This is 50 percent lower than the amount proposed by SA Water.

The adjustments are the result of:

- ▶ an average \$2.0 million per annum reduction to additional proposed operating expenditure for the ADP
- ▶ an average \$2.1 million per annum reduction to additional proposed asset investment operating expenditure
- ▶ an average \$1.1 million per annum reduction to additional proposed operating expenditure to provide ongoing support for the SAW RD16 IT capital program
- ▶ an average \$2.1 million per annum reduction to additional proposed operating expenditure for an above CPI wage increase, and
- ▶ an average \$0.85 million per annum reduction to additional proposed operating expenditure for technical training.

In its submission to the Draft Determination, SA Water accepted the Commission's approach to not allow its above CPI wage increase proposal but, instead, ring-fence its labour costs from the continuing efficiency target.²²¹ SA Water provided further information in response to the draft decisions on asset investment operating expenditure,²²² additional operating expenditure for the ADP,²²³ additional expenditure for the SAW RD16 IT program²²⁴ and its proposed technical training program.²²⁵ The operating expenditure adjustments SA Water provided further evidence in relation to, with the exception of the additional RD16 IT program costs, are discussed below in sections 6.10.5 to 6.10.8. Refer to section 6.13 for details regarding the Commission's analysis of SA Water's IT program expenditure.

²²¹ SA Water submission, Table 23 p. 11 of 79.

²²² SA Water submission, pp. 18, 29.

²²³ SA Water submission, p.28-29.

²²⁴ SA Water submission, p. 27-28.

²²⁵ SA Water submission, p. 30-31.

6.10.2 Sewerage mains management program

The final decision is that \$52.4 million is a prudent and efficient amount of capital expenditure to be included in SAW RD20 for renewal works on the reticulated sewerage network. This represents a \$5.6 million (12 percent) increase on the \$46.8 million spent on sewerage renewal works in SAW RD16, and a \$15.2 million (22 percent) reduction to the amount proposed by SA Water for SAW RD20. This amount will allow approximately 70 kilometres of the sewerage network to be renewed during the SAW RD20 period.

The Commission will closely monitor sewerage network reliability outcomes achieved over the SAW RD20 period.

SA Water proposed to invest \$98.8 million of capital expenditure on its sewerage network management programs, which is an increase of \$47.6 million, or 93 percent, on the amount included in SAW RD16. This increase can be attributed to the following large programs:

- ▶ sewerage reticulation mains program (\$67.6 million)
- ▶ sewerage odour management program (\$20.2 million), and
- ▶ sewerage network ancillaries (\$8.8 million).

The capital expenditure review focused on the proposed sewerage reticulation mains program. The Draft Determination suggested that SA Water had failed to provide adequate evidence to support the need for the 44 percent increase in expenditure proposed for that program in SAW RD20. It was noted that, unlike the deteriorating trend in environmental overflows, sewer breaks, chokes and internal overflows performance had all marginally improved over the SAW RD16 period. The draft decision was that SA Water should be able effectively manage its sewerage mains program in SAW RD20 for \$45.1 million, in line with the actual expenditure in SAW RD16. This was \$22.5 million less than the amount proposed by SA Water.

Submissions

As noted in section 6.4.1, SA Water's submission on the Draft Determination expressed concern that the Commission, and its engineering and asset management consultant, Cardno, had overlooked relevant source material in reviewing this program, and requested a further review prior to the Commission making its final decision.²²⁶

SA Water asserted that incomplete source material had been reviewed:

*'...Cardno has not referenced the Wastewater Pipe Networks Asset Management Plan, which is the primary document detailing how these assets are managed. The review instead references the Wastewater Networks Facility Asset Management Plan...'*²²⁷

And further:

*'[T]he justification for the investment strategy in these assets is set out in the Wastewater Pipe Networks Asset Management Plan. SA Water assumes this document has not been read.'*²²⁸

²²⁶ SA Water, pp. 16-17.

²²⁷ SA Water, p. 16 of 79.

²²⁸ SA Water, p. 17 of 79.

It stated that there was confusion around the difference between the proposed capital and operating expenditure programs and, based on this, requested that the draft decision in this area be reviewed.²²⁹

The Technical Regulator expressed support for SA Water's policy of relining all condition grade 4 and 5 sewer mains prior to failure, and expressed concern that the draft decision would lead to a deterioration in network reliability.²³⁰

Business SA, referencing a report prepared by its consultant, Isle Utilities, stated that it '*...thinks ESCOSA's Draft Decision is reasonable.*'²³¹

Discussion

Since the release of the Draft Determination, the Commission has conducted another thorough review of the sewerage reticulation mains program in both SAW RD16 and SAW RD20, with the assistance of further asset management and engineering advice from Cardno.²³² This was considered necessary to provide all stakeholders with assurance that the Commission's assessment did not include factual inaccuracies, misinterpretations or misunderstandings.

The Commission confirms that the draft decision on the sewerage mains program was based on a thorough review of SA Water's key documentation supporting the proposed program, including the following:

- ▶ Wastewater Lead Asset Management Plan
- ▶ 2019 Wastewater Networks Asset Management Plan²³³
- ▶ Wastewater Pipe Networks Asset Management Plan
- ▶ Network Overflows Management business case
- ▶ Wastewater Gravity Mains Approach, and
- ▶ Wastewater Gravity Main Decision Support Tool.

It also included consideration of other detailed responses provided to follow up questions resulting from reviewing the above documentation that SA Water had initially provided.

Following the Draft Determination, SA Water provided the same package of documentation for further review, with most documents remaining largely unchanged since they were first provided. It also responded to a series of follow up questions from the Commission that aimed to clarify any remaining points of confusion.

The main point of difference between the Commission and SA Water appears to be on the matter of the appropriate treatment of sewerage mains assessed (or estimated) to be of condition grades 4 (poor) or 5 (very poor). This is discussed in more detail below.

²²⁹ SA Water submission, pp. 16-17.

²³⁰ Technical regulator submission, p. 2.

²³¹ Business SA, Attachment A (Isle Utilities), p. 6.

²³² Cardno/Atkins, Technical Memorandum: Review of SA Water Asset Management System, Further advice – Expenditure of wastewater mains <https://bit.ly/SAWRD20-FurtherAdvice-SewerageMains-Cardno>.

²³³ The filename for the 2019 Wastewater Pipe Networks Asset Management Plan was incorrectly labelled as the Wastewater Pipe Networks Facility Asset Management Plan and so the wrong filename was picked up in the reference section of Cardno's draft report. This referencing error was corrected in the final report. The Wastewater Pipe Networks Asset Management Plan was reviewed in reaching the draft decision and has been further reviewed to confirm the final decision.

The Commission considered it important to review the evolution of SA Water’s approach to managing this core program across the two periods, given that SA Water’s proposed SAW RD20 program is a 44 percent increase on the SAW RD16 program.

The key findings from this review follow.

Review of the SAW RD16 sewerage mains program

The sewerage reticulation mains program in SAW RD16 covered the renewal of both trunk and reticulation gravity mains (37km in total), although the program principally covered sewer mains which can be lined rather than replaced. The expenditure benchmark was set at \$13.7 million at the start of SAW RD16, which was lower than the \$18.9 million SA Water had included in its original business case. Outturn expenditure is forecast to exceed this amount by a small margin (\$0.4 million or 2 percent) at \$19.3 million.

There was an observable deteriorating trend in overflow performance (as defined by Type 1 and Type 2 overflows to the environment that are reportable to the EPA) over the SAW RD16 period. While Cardno noted that the rate of that deterioration was a cause for concern, it suggested SA Water’s response of undertaking additional sewer inspection and cleaning was appropriate.²³⁴ SA Water plans to continue with this approach for the SAW RD20 period, which the Commission has accepted as a prudent response. As this is addressed through operating expenditure, it is discussed further in section 6.11.6.

Conversely, sewer breaks, chokes and internal overflows performance have all marginally improved over the SAW RD16 period. Cardno suggested that the level of observed performance does not warrant the step change in sewer renewal activity that SA Water proposed for the SAW RD20 period (discussed further below).

Review of the SAW RD20 sewerage mains program

The review of the outcomes achieved through the SAW RD16 program helped to inform the assessment of the program SA Water proposed for the SAW RD20 period.

SA Water’s submission to the Draft Determination was concerned that the Commission had misunderstood the differences between the combination of approaches being proposed to manage sewerage mains (referred to in SA Water’s internal documentation as ‘wastewater pipe networks’). Table 6.11 provides a summary of the two main programs.

Table 6.11: SA Water’s proposed approach for managing sewerage mains in SAW RD20

Wastewater Pipe Networks Asset Management Plan	
Wastewater Mains Renewal Program (CAPEX)	Wastewater Mains Preventative Maintenance Cleaning Program (OPEX)
Aim of the program is to maintain service to customers by investing capital to renew wastewater mains before they collapse, avoiding service interruptions to customers.	Aim of the program is to improve service levels for the environment (environmental overflows) by preventatively maintaining wastewater mains before they experience overflows.

²³⁴ Cardno, pp.71-72 and pp. B12-B15 and Cardno, Technical memorandum, p. 1.

Wastewater Pipe Networks Asset Management Plan	
Mains targeted within this program are mostly Reinforced Concrete (RC) mains assessed to be in poor or very poor condition which pose a risk of structural failure and interruption to the customer.	Mains targeted within this program are predominantly Vitrified Clay (VC) mains which through a predictive model have been assessed to pose a high risk of tree root related chokes and overflows that would result in an environmental overflows.
Intervention method invests capital at the optimal time, proven through NPV to be the lowest cost means of renewal (lining) compared to dig up and replace after failure.	Intervention method invests operationally, proven through NPV as the lowest whole of life cost option of preventing overflows through ongoing preventative maintenance on still structurally sound pipes.

The sewerage mains preventative maintenance program is addressed primarily through operating expenditure, and is discussed further in section 6.11.6.

SA Water proposed to invest \$67.6 million during SAW RD20 in the sewerage mains renewal program to renew approximately 89 kilometres of reticulated sewer mains, in order to maintain the serviceability of the sewer network. The proposal is to continue its current practice of relining pipes rather than replacing assets after they have collapsed and failed, with all pipe sections known or estimated to be in condition grades 4 (poor) or 5 (very poor) included in the program for renewal.

The Draft Determination noted that SA Water's current strategy was not considered to appropriately balance the risk of pipeline failure and the cost of preventing failure and did not establish the optimal timing for intervention, based on the varying criticality of pipes within the broader proposed program.²³⁵ SA Water failed to demonstrate that it had a sophisticated approach to scoring the risk of the 'consequence of failure' for the specific sections of pipe identified for renewal within the overall program.²³⁶ The need for further refinement of this tool was acknowledged by SA Water in its Wastewater Gravity Mains Approach document, where it had noted its intention to move towards more sophisticated consequence scoring in the future.

Cardno suggested that an improved understanding of risk in this asset class may lead to further improvements in performance (all else being equal) in the SAW RD20 period, without the need for an increase in expenditure.²³⁷ Cardno recommended that a five percent efficiency adjustment (rather than the three percent proposed) be applied to the program, given that the work is routine, repeatable and in an area where technology gains are evident.²³⁸ The Commission concurred with this conclusion from the assessment of all available evidence.

SA Water's Wastewater Gravity Mains Approach document has been developed with reference to a number of best practice guidance documents for managing wastewater mains. However, SA Water appears to have chosen to align its approach with best practice principles, rather than completely implementing the recommendations contained in those guidance documents.

²³⁵ Cardno, p. 81 and p. C11.

²³⁶ Cardno, p. 81 and pp. C9-C11.

²³⁷ Cardno, p. 81 and pp. C9-C11.

²³⁸ Cardno, p. C12.

Cardno has confirmed that SA Water has followed best practice guidance on classifying its sewers into three broad categories for management throughout their lifecycle, and that the classification is based on the consequence of failure of the asset:

*For assets that have a high consequence of failure, a predictive approach that attempts to avoid failure of the asset is adopted. For assets that have a lower consequence of failure, a 'reactive approach' strategy is recommended. Where the frequency of failure of assets in this 'reactive approach' category is found to be unacceptable, a 'preventative approach' strategy is then recommended.*²³⁹

However, SA Water's approach document does not identify what constitutes a 'high' consequence; it only includes descriptions of what consequences may occur. Cardno has advised that this is inconsistent with industry best practice:

For sewer networks, there is usually a much greater length of smaller diameter reticulation sewers (versus larger diameter mains), so the split of asset categories across these strategies is usually very heavily weighted to the reactive approach/run to fail approach. In our experience, these proportions are typically 5-10% in the preventative/avoid fail approach and 90-95% in the reactive/run to fail approach.

*SA Water does not employ this approach of classifying concrete sewer mains by assessing their consequence of failure. Instead, it is proactively avoiding failure on all identified mains, based on its financial decision rule.*²⁴⁰

Accordingly, it is important to assess SA Water's financial decision rule, which underpins its current policy of proactively replacing all known condition grade 4 and 5 mains prior to failure. SA Water confirmed that its decision rule for replacement of condition grade 4 and 5 mains is based on the NPV analysis included in the Wastewater Network Management - Mains (Trunk and Reticulation) Business Case. This NPV analysis was developed for SAW RD16 and was also used to justify the SAW RD20 approach to sewerage mains renewals; it has not been updated with more recent cost data, or a more complete range of repair-based costs.

Cardno identified two major concerns with the financial analysis that SA Water has used to support its decision rule to replace all condition grade 4 mains:

- ▶ The assumption on costs to repair on fail are very high. They appear inconsistent with a strategy to repair an initial failure, and then identify whether it is appropriate to undertake more work, and the extent of that work.
- ▶ The modelling is coarse; it includes condition grade 5 assets, a simplistic replacement profile and broad assumptions. It does not take into account the fact that there is likely to be considerable variability on a main by main/site by site basis, including consideration of factors such as the need for traffic control.

Following further review of these matters, the Commission confirms that it has considered all relevant information provided by SA Water and that its draft decision was not based on confusion between proposed capital and operating expenditure programs; rather it was based on a different interpretation of relevant standards and industry best practice in this area.

²³⁹ Cardno, Technical memorandum, p. 7.

²⁴⁰ Cardno, technical memorandum, p. 8.

The Commission acknowledges that there is a trade-off between cost and reducing the risk of sewerage network failures, and its consideration is based on evidence of best practice in striking the right balance between the two. This is central to the Technical Regulator's comment about the potential for reduced network reliability.

Following this comprehensive review, the Commission remains of the view that SA Water has not been able to provide clear evidence that the consequences of failure of the pipes included in the proposed program have been adequately considered. SA Water's decision rule to replace all known condition grade 4 or 5 sewer mains is more conservative than that employed by other utilities, and is not aligned to industry best practice.

The final decision on the sewerage main program reflects a level of revenue consistent with a policy of proactively addressing those sewer mains with a high consequence of failure, while adopting a reactive/run to fail approach for those sewer mains with a lower consequence of failure.

Further analysis supporting the Commission's final decision on this matter is provided in Cardno's Technical Memorandum.

When taken together with the other elements of the sewer renewal program (third party works, rising mains renewals, and recycled water mains renewals), this results in a revenue amount of \$52.4 million; a \$7.3 million increase on the Draft Determination, but a \$15.2 million reduction to the amount proposed by SA Water for SAW RD20.

The Commission will closely monitor sewerage network reliability outcomes achieved over the SAW RD20 period (discussed further in Chapter 10).

6.10.3 Morgan to Whyalla Pipeline No. 1 works

The final decision is that \$61.9 million is a prudent and efficient amount of capital expenditure to be included in SAW RD20 for renewal works on the Morgan to Whyalla Pipeline No. 1. This is the same amount as proposed by SA Water, and is consistent with the draft decision. There was no material capital expenditure in this area during SAW RD16.

This amount will allow approximately 14 kilometres of the pipeline to be renewed during the SAW RD20 period.

SA Water proposed to invest \$61.9 million of capital expenditure during SAW RD20 to renew approximately 14 km of the Morgan to Whyalla Pipeline No. 1, sections of which recent condition assessments have identified as being in a deteriorating condition. The major driver of the works is to ensure ongoing reliability of water supplies to townships and a number of large industrial users in the region.

The Draft Determination included \$61.9 million as a prudent and efficient amount for renewal works on the Morgan to Whyalla Pipeline No. 1.

Submissions

SA Water was supportive of the position taken in the Draft Determination. No other submissions were received on this matter.

Discussion

SA Water has a longer term plan to renew further sections of the Morgan to Whyalla Pipeline over the next 40 years, at an estimated cost of \$686 million. This plan assumes that no other source of supply (for example, local desalination) becomes a more efficient option.

The Commission notes that the section of pipeline where work is planned over the SAW RD20 period (that is, section three from Baroota to Port Augusta) is likely to be required into the longer term under any future supply scenario. Further, the works planned for the SAW RD20 period are targeted to specific sections of pipeline with confirmed condition issues. These works are, therefore, considered prudent and do not bind SA Water in terms of its long-term strategy for water supply to the Upper Spencer Gulf region.

Cardno suggested that, based on its review of the condition assessments undertaken by SA Water, it considered the proposed works to be prudent. It also concluded that, based on a review of the options analysis undertaken and an assessment of the proposed unit costs of the planned works, the forecast costs were likely to be efficient.²⁴¹

The Commission has no further or new evidence that would cause it to change its draft decision. The final decision is, therefore, that that \$61.9 million is a prudent and efficient amount to be included in SAW RD20 for renewal works on the Morgan to Whyalla Pipeline No. 1.

The Commission expects that SA Water will document capital and operating expenditure, and the related outputs and the outcomes, and that documentation will be available to support an ex-post review at the end of SAW RD20.

6.10.4 Water storage tank renewals

The final decision is that \$13.9 million is a prudent and efficient amount of capital expenditure to be included in RD20 for the Water Storage Tanks Renewal Reliability program. This is a \$5.8 million (29 percent) reduction to the amount proposed by SA Water for SAW RD20, and is consistent with the draft decision.

SA Water has not demonstrated a need to incur capital expenditure above this level, particularly as it has not completed its inspection program during the SAW RD16 period. SA Water should inspect the remainder of its water storage tanks during SAW RD20, to determine a complete picture of the risks associated with these assets. Following this, a revised program of works should be established to mitigate the risks to supply.

SA Water proposed investment of \$180.0 million of capital expenditure on its structures programs, a decrease of \$57.1 million, or 24 percent, on the amount included in SAW RD16. Within this program, SA Water proposed investment of \$19.7 million during SAW RD20 to upgrade and improve the condition of water storage tanks through its Water Storage Tanks Renewal Reliability program, to maintain continuity of water supply and to address risks to the quality of water supplied.

The Draft Determination included \$13.9 million as a prudent and efficient amount to be included in SAW RD20 for the Water Storage Tanks Renewal Reliability program. That was \$5.8 million less than the amount proposed by SA Water. The adjustment reflected the Commission's position that SA Water had overestimated the risks relating to water storage tanks.

Submissions

In its response to the Draft Determination, SA Water stated that the '*... reduction is based on a number of factual misunderstandings including the level of risk SA Water carries on this group of assets as a result of underspend last period, and the risk that it will overspend due to unknown asset condition.*'²⁴²

²⁴¹ Cardno, p. 8 and pp. C17-C19.

²⁴² SA Water submission, Table 18, p. 3-4 of 79.

Discussion

The Commission reviewed the Water Storage Tanks Renewal Reliability program in both SAW RD16 and SAW RD20 in detail, given that SA Water has proposed to spend less in this area in the SAW RD20 period, which was itself a decrease on the capital expenditure benchmark in the SAW RD16 Final Determination.

The Commission considered the evidence provided by Cardno on its review of the structures program for SAW RD16, including all planned works on water storage tanks, which concluded that SA Water had overstated the risk related to these assets at the time of SAW RD16. Cardno recommended that the prudent level of investment over the SAW RD20 period should be reduced by \$5.8 million, to reflect the fact that SA Water had spent 26 percent less than it had previously planned for the SAW RD16 period, and had failed to complete an inspection program to assess the condition of all storage tank assets, with 34 percent of water storage tanks remaining uninspected.²⁴³

Both the Commission and Cardno are aware of how SA Water has progressed across the SAW RD16 period in obtaining asset condition information for this group of assets, and, as explained above, the Draft Determination was made in the context of that information.

It is the Commission's position that SA Water needs to better demonstrate the actual level of risk across its portfolio, and its understanding of that risk, particularly of the potential for operational contingencies to mitigate these risks. The Commission expects SA Water to undertake this work during the SAW RD20 period, and the final decision includes additional operating expenditure, as described in section 6.10.6, which will allow SA Water to undertake more extensive asset condition performance inspections, monitoring and assessments across its range of assets.

The final decision is that \$13.9 million is a prudent and efficient capital expenditure amount to be included in SAW RD20 for the Water Storage Tanks Renewal Reliability program. SA Water has not demonstrated a need to incur capital expenditure above this level, particularly as it has not completed its inspection program during the SAW RD16 period.

The Commission expects project-specific documentation on the outcomes that expenditure achieves (in this case, ongoing reliability of water supplies), to be available to support an ex-post review of a sample of projects and programs at the end of SAW RD20.

6.10.5 Adelaide Desalination Plant contract

SA Water proposed an average additional \$4.4 million per annum of operational expenditure for increased costs associated with operating and maintaining the APD.

The following two elements each make up approximately half of the proposal:

- ▶ higher maintenance costs due to aging ADP assets, and
- ▶ an increase in the cost of energy, specifically the cost of buying RECs to operate the ADP.

The ADP is subject to a Federal funding agreement that requires 100 percent of its electricity to be offset by accredited Green Power RECs. SA Water had met this requirement through an electricity contract with AGL, which required SA Water to buy a minimum number of RECs per year at a specified price. Under the AGL contract, both the price and the number of RECs SA Water were required to buy were forecast to rise in SAW RD20. These contractual obligations would have materially increased the ADP energy costs over SAW RD20.

²⁴³ Cardno, pp. 81-82 and pp. C13-C17.

In the Draft Determination, the Commission noted that SA Water's proposal for additional operating expenditure to run the ADP did not appear to consider the fact that the AGL contract is terminated effective June 2020.

Submissions

In its submission to the Draft Determination, SA Water put the view that the Commission double counted savings in not allowing \$2.0 million of additional operating expenditure for ADP energy costs, while identifying further savings to be generated by the termination of the AGL energy contract, stating: *'the \$2.0 million reduction proposed by the Commission has already been included in the savings committed as part of the AGL contract termination.'*²⁴⁴

Discussion

The termination of the AGL contract enables SA Water to limit its purchase of RECs to only the number required under the Federal funding agreement, and at market prices. The number of RECs SA Water must purchase under the Federal funding agreement for the ADP will increase over SAW RD20; however, this increase is significantly less than that which had been required under the AGL contract. Further, as SA Water will be purchasing RECs from the market, the cost associated with the required increase in RECs will not be significant.

The Commission accepts SA Water's evidence in relation to the potential double counting of savings resulting from the termination of the AGL energy contract it raised in its response to the Draft Determination. This issue has been resolved by the Commission through the electricity allowance, which adjusts the base year electricity costs (including costs pursuant to purchasing RECs under the AGL energy contract) to reflect forecast electricity costs over SAW RD20 (without the AGL energy contract).

The increased electricity costs associated with operating the ADP, including additional costs required under the Federal funding agreement, have now been included in the proposed operational expenditure benchmark for electricity in SAW RD20.

As such, the final decision is to remove the additional expenditure associated with purchasing RECs under the AGL contract, but to allow the \$2.4 million per annum of additional operating expenditure required to undertake maintenance on the ADP.

6.10.6 Asset investment operating costs

SA Water proposed an average additional \$4.1 million per annum of operational expenditure for a range of programs to sustain its network and ancillary assets:

- ▶ Prioritised investigations and maintenance of major non-pipeline assets - \$3.2 million
- ▶ Maintenance on ancillaries in the sewerage network - \$0.5 million
- ▶ Condition investigations across pumping mains - \$0.2 million
- ▶ Major pipeline ancillary asset refurbishment - \$0.2 million

The Draft Determination was that SA Water had not clearly aligned the proposed activities under these proposed asset investment expenditure programs with an associated rationale or specific explanation or justification. Without understanding why these works have not previously been undertaken, and why SA Water's existing operating expenditure for investigation and maintenance cannot be reprioritised to deliver this program of works, the Commission could not justify allowing the proposed additional

²⁴⁴ SA Water submission, p. 29.

expenditure. In the absence of any evidence to the contrary, the Draft Determination accepted Cardno's evidence that this expenditure should be seen as business as usual and accommodated within existing levels of expenditure.²⁴⁵

Submissions

In its submission to the Draft Determination, SA Water provided further evidence and analysis in support of its proposals.²⁴⁶

Discussion

Over the period of SAW RD16, SA Water identified that expanding its asset monitoring and condition assessment activities were a key focus of its plan to better understand asset health and performance. Subsequently, SA Water proposed several programs of work across SAW RD20, driven by operating expenditure, to undertake more extensive asset condition performance inspections, monitoring and assessments.

Understanding asset health and performance is a key component of a mature asset management system. The data generated through asset condition inspections and monitoring can have significant flow on effects to medium-and long-term asset management planning and decision making (refer section 6.4.5), and can lead to expenditure efficiencies by clarifying the relationship between expenditure and performance outcomes (refer section 6.4.7).

In further evidence provided by Cardno on this matter, it noted that SA Water was *'requested to provide evidence as to whether it faced any changed circumstances or new obligations that led to these increases in expenditure'* and that no such evidence was provided.²⁴⁷ Cardno reiterated its original position in relation to this proposed expenditure, stating that *'identifying new activities is not in itself a justification for an increase in total opex because new activities will also be offset by discontinued or reprioritised activities.'*²⁴⁸ Additionally, Cardno stated that *'SA Water's desire for increased maturity in this area also does not represent a change in its circumstances or a new obligation.'*²⁴⁹

The Commission acknowledges that this area of SA Water's asset management system needs further maturation. For instance, the relevant asset approach documents, along with SA Water's submission to the Draft Determination, make clear that in some instances specific asset classes are currently not subject to any inspection or condition monitoring regimes. In its submission to the Draft Determination, SA Water stated that this operating expenditure is linked to *'operating and maintaining assets in the most prudent and efficient ways taking into account whole of lifestyle costing for the assets.'*²⁵⁰ The Commission considers that for asset classes where no inspection regime is in place, and those where a 'totex' solution to optimise asset lifecycle costs is planned, the additional expenditure will enable SA Water to make more efficient expenditure decisions for the long-term management of these assets.

Over time, maturation in SA Water's asset management processes should lead to reprioritisation between new activities and obligations and those it currently undertakes, which should ultimately result in cost neutrality or operating efficiencies. However, based on the available evidence, the Commission does not consider that SA Water will be able to achieve the necessary step change in its current practices without additional operating expenditure to implement the new asset inspection and condition monitoring programs in the short term.

²⁴⁵ Cardno, pp. 55-56.

²⁴⁶ SA Water submission, pp. 18-19, 29.

²⁴⁷ Cardno Technical Memorandum, p. 4.

²⁴⁸ Cardno Technical Memorandum, p. 4.

²⁴⁹ Cardno Technical Memorandum, p. 4.

²⁵⁰ SA Water submission, p. 18.

Nevertheless, it remains the case that SA Water has not clearly articulated specific outcomes and benefits from the total expenditure proposed. As stated in the Draft Determination, without understanding why these works have not previously been undertaken, and why SA Water's existing operating expenditure for investigation and maintenance cannot be reprioritised to deliver this program of works, the Commission cannot justify allowing all of the proposed expenditure.

The Commission has allowed \$2.05 million per annum, which it considers is sufficient for maintenance on ancillaries in the sewerage network, condition investigations across pumping mains, major pipeline ancillary asset refurbishment and prioritised investigations and maintenance of major non-pipeline assets. This will allow SA Water to improve its understanding of the health and performance of its asset systems, while providing a broader behavioural signal about the need for SA Water to prioritise its asset inspections and condition monitoring activities to the most valuable areas.

In relation to similar expenditure proposals in the future, the Commission expects to have available the analysis underlying the decision making on which assets and asset classes are being subject to greater inspections and monitoring; and the benefits achieved through the additional activities. Specifically, this should include matters such as: what the inspection regime looks like as compared to any existing regime; why existing funding cannot be reprioritised; and, importantly, how the additional data gathered in relation to the asset or asset class will be used to improve decision making and deliver expenditure efficiencies over the medium to long term.

The Commission will monitor SA Water's ongoing asset management maturity in these areas as part of its ongoing monitoring and reporting program (refer Chapter 10) and as part of SAW RD24.

6.10.7 Wage increases

SA Water proposed an average additional \$2.1 million per annum of operational expenditure to cover the costs of providing wage increases above the CPI for its staff. SA Water's proposal had two underlying drivers:

- ▶ In the renegotiation of its enterprise bargaining agreement, SA Water anticipates strong argument for an above CPI wage increase to compensate employees for the forecast labour productivity growth (demonstrated by the forecast gap between Wages Price Index (**WPI**) and CPI).
- ▶ Offering above CPI wage increases is key to attracting and retaining talent, improving internal Engagement and Culture indexes, and increasing labour productivity.

The Draft Determination did not accept the need for this additional expenditure, on the basis that by driving labour force productivity over the longer term, SA Water should continue to have the capacity to pay above CPI wages to attract and retain talent and improve employee engagement. Further, to address the potential for 'double counting' efficiencies, the Commission proposed to remove SA Water's efficient base year labour costs from the calculation of the 0.5 percent general efficiency target for operational expenditure.

Submissions

The CNC noted that the increase would consume 50 percent of the proposed efficiency dividend, even though none appeared to be attributable to workforce productivity growth.²⁵¹

Uniting Communities suggested that SA Water's proposed salary increases should be kept in line with those of the majority of its customers and so be no greater than CPI.²⁵²

²⁵¹ Report of Independent Chair of the CNC, pp. 55-56.

²⁵² Uniting Communities, p. 20.

Uniting Communities made a further submission on this point in response to the Draft Determination, commenting on short-term impacts on labour costs, particularly in light of COVID-19. It stated that:

While supporting the direction of the draft determination, we suggest that the question of labour costs will need to be reviewed prior to the final decision, to take into account the impacts of COVID-19, to the best extent that is possible and in line with income changes across the range of SA Water customers.²⁵³

Business SA expressed support for the Commission's approach to SA Water's labour costs which 'strike[s] a reasonable balance in limiting wage rises to CPI but removing an additional productivity adjustment. Accordingly, any above CPI wages rises pay for themselves in productivity gains'. However, it also raised two issues around uncertainties:

However, we recognise that the impacts of COVID-19 have not yet been materially factored into SA Water's determination and that decisions on wage rises may need to consider outcomes from the upcoming Fair Work Commission's review of minimum wage changes which flow through to awards.²⁵⁴

Discussion

The final decision is that no additional operational expenditure is required to allow SA Water to manage its labour costs in SAW RD20. Submissions from SA Water²⁵⁵ and Business SA supported that position.

At \$122 million, labour costs are the single largest cost line of SA Water's normalised base year operating expenditure; 26 percent of its total controllable operating expenditure. It is a fundamental principle of economic regulation to incentivise efficiency in these costs that SA Water can control.

SA Water has stated that its labour prices have historically risen at a rate higher than the CPI and has pointed to evidence that wages, through the WPI, have done the same. The Commission accepts this argument over the long-term.

However, in the short run, the Commission considers that the growth in the price of labour can be expected to vary with, among other things, economic conditions (namely spare capacity in the labour market), short and long-term inflation expectations, and bargaining power. Accordingly, while the gap between WPI and CPI may be indicative of labour productivity growth, it may at times reflect other factors. For instance, slower economic growth and spare capacity in the labour market may limit real wage demands in wage bargaining.

The Commission has considered the impacts of the outbreak of COVID-19 and the related containment measures on SA Water's operating costs and labour costs more specifically. At this point in time, there is insufficient evidence of the impacts of the event on SA Water's costs during the SAW RD20 period, including labour costs. The Commission's position is that, to the extent that COVID-19 materially changes SA Water's costs during the period, it could be addressed through the cost pass-through mechanism, discussed in Chapter 4.

Based on historical information, there is evidence that SA Water has demonstrated effectiveness at achieving labour productivity gains over the longer term and managing its labour costs in a manner that meets employee and market expectations within the CPI envelope.

By driving labour force productivity over the longer term, SA Water will continue to have the capacity to pay above CPI wages to attract and retain talent and improve employee engagement.

²⁵³ Uniting Communities, submission to Draft Determination, p. 6.

²⁵⁴ Business SA, p. 3.

²⁵⁵ SA Water submission, p. 11.

To address the potential for 'double counting' efficiencies, the Commission has removed SA Water's efficient base year labour costs from the calculation of the 0.5 percent general efficiency target for operational expenditure.

6.10.8 Technical training

In its RBP, SA Water proposed an average additional \$1 million per annum of operational expenditure to improve the management and delivery of technical training and assessment across all operational areas (approximately 400 staff).

SA Water's technical training proposal involved:

- ▶ establishing a Technical Training Centre of Excellence internal to SA Water
- ▶ undertaking an initial audit of current training gaps and risks
- ▶ developing an Integrated Operational Technical Capability Framework, and
- ▶ developing and delivering a range of internal training.

Most of the additional operating expenditure related to funding for eight FTE to deliver this training via the Technical Training Centre of Excellence. The training delivered would be additional to the current technical training program, which relies largely on Registered Training Organisations to deliver the 'National Water Package' modules to SA Water employees.

The draft decision was that an average additional \$0.15 million per annum (\$0.35 million in the first year and \$0.25 million in the second year of SAW RD20) of operational expenditure should be sufficient to allow for targeted technical training for field staff during SAW RD20. Although the Commission did not consider the initiative to be efficient in its current form, it did accept that an average additional \$0.15 million per annum of operating expenditure could be considered prudent and efficient in the given context.

Submissions

The CNC was sceptical of the efficiency of this proposal; specifically, of the need to employ an average of an extra eight FTE. However, the CNC also put the view that it lacked the specialist knowledge to challenge this number.²⁵⁶ The CNC accepted the proposal on the understanding that there should be savings in operational expenditure from fewer injuries and greater productivity, the benefits of which will flow through to customers.²⁵⁷

In its submission to the Draft Determination, SA Water stated that *'the allocated funding would not be sufficient to support the delivery of the training program within the required timeframe.'*²⁵⁸ This was based on several reasons, including geographical spread and travel costs, the diversity of the range of skills and competencies required by staff, compliance consistency and the challenges associated with adopting new technology.

Discussion

The Commission has not received any additional evidence that changes its assessment of the prudent and efficient nature of this program, or its draft decision in relation to the initiative. The final decision reflects the draft decision: an average additional \$0.15 million per annum of operational expenditure is sufficient to allow for targeted technical training for field staff on high risk activity standard operating procedures (SOPs) during SAW RD20.

²⁵⁶ Report of Independent Chair of the CNC, p. 55.

²⁵⁷ Report of Independent Chair of the CNC, p. 55.

²⁵⁸ SA Water submission, pp. 30-31.

Cardno's evidence was that SA Water had not provided a robust justification for this scale of increase in training expenditure per capita, noting that it is targeted at 376 field personnel, and it had not identified or quantified the productivity benefits that it expected to arise from this program. Accordingly, Cardno recommended no net increase to SA Water's technical training costs, as the program should either pay for itself through identifiable and quantifiable productivity gains elsewhere in the business or be reprioritised within the current training budget.²⁵⁹

There are three tiers for SA Water's proposed training program:

- ▶ Tier 1 training deals with identified high-risk SOPs
- ▶ Tier 2 is proposed to develop training on core technical activity SOPs, and
- ▶ Tier 3 training is focused on site specific SOPs.

The additional expenditure will allow for Tier 1 training to proceed but not Tier 2 or Tier 3.

In its RBP, SA Water stated that it has undertaken a pilot in 2019-20 (Phase 1), at a cost of \$1 million, that will develop the integrated technical capability framework, and develop and deliver training to the Customer Field Service Group (155 staff) on Tier 1 - high risk activity SOPs. As this program of training will have largely been established prior to SAW RD20, the Commission considers the roll-out of training on high risk activity SOPs should be continued and extended to the rest of the field services group (an additional 220 staff) during Phase 2 in 2020-21.

This training would require an investment to initially develop and deliver before becoming embedded into SA Water's 'business as usual' safety and compliance training program. Accordingly, the Commission has assumed an amount of \$0.35 million for 2020-21 to supplement the existing technical training budget for that year, and for an additional two FTEs to conclude developing the training, and to support and deliver the training. As the training program should be fully developed by 2021-22, the Commission expects \$0.25 million for that year would be sufficient to support two FTEs to conclude the initial delivery and embed this training into SA Water's existing safety and compliance training program.

The Commission considered this investment prudent and efficient, as it should have a direct impact on reducing SA Water's current and future incident rates across safety, water quality and the environment, and improve SA Water's legal and regulatory compliance.

The Commission has allowed \$0.35 million for the first year of SAW RD20 and \$0.25 million for the second year of SAW RD20 to enable SA Water to leverage off existing investments made in this training program in 2019-20. As stated in the Draft Determination, the additional operating expenditure allowed for this initiative is for SA Water to complete the delivery of phase 2 of Tier 1 in 2020-21 (involving 220 staff from field services, not 400 as stated by SA Water in its response) and the embedding of the training into SA Water's existing safety and compliance program.

For this program, the Commission would expect to see evidence that this expenditure has assisted SA Water meet its reduced lost time and safety incident targets across SAW RD20.

²⁵⁹ Cardno, p. 60.

6.11 Improving services

The final decision is that \$202.4 million²⁶⁰ is a prudent and efficient amount to be included in SAW RD20 for capital expenditure to improve services. Further, the prudent and efficient operating expenditure is an additional \$29.3 million over SAW RD20 to improve services.

SA Water characterises improving services as investments reflecting customer feedback on what is important to them and what they are willing to pay for. In total, SA Water proposed \$278.5 million of capital expenditure and \$33.0 million of operating expenditure in the SAW RD20 period to improve services.

In the Guidance Papers released prior to SA Water preparing its RBP, the Commission set out three expectations that SA Water was required to address in relation to proposed expenditure of this nature.

First, that SA Water must be able to demonstrate that planned investment is both prudent and efficient, with a clear line of sight between any proposed expenditure and its expected outputs and outcomes (Guidance Paper 4). As is explained below (and as was the case in the Draft Determination), SA Water has not met this requirement in relation to the proposed regional water quality improvement program, with more detailed work required by SA Water before the proposal can be considered prudent and efficient.

Second, that evidence from customer engagement would be required to support expenditure proposals designed to improve levels of service, including evidence drawn from the results of willingness to pay research (Guidance Paper 3).

Third, that service standards should cover the elements of service that matter to customers, so as to act as a reference point for expenditure proposals (Guidance Paper 3).

SA Water's proposal

The capital expenditure proposed in this investment area represented a very material increase; \$179.5 million (181 percent) more than the amount included in SAW RD16. The majority of the improvement expenditure, \$186.6 million, was for a water quality management program. That program is driven by three large projects:

- ▶ **Upgrades to 340 of 650 properties in regional areas with non-potable supplies** – \$37.7 million to upgrade the water supply to drinking water quality for 340 properties out of the total of 650 properties in regional areas where SA Water currently provides non-drinking water. SA Water is required to deliver this project in accordance with a Ministerial direction under section 6 of the *Public Corporations Act 1993* and is therefore not discussed in this Final Determination.
- ▶ **Metropolitan water quality improvement program** – \$122.2 million to upgrade disinfection and filtration practices in metropolitan Adelaide, primarily to improve the taste of drinking water.
- ▶ **Regional water quality improvement program** – \$24.8 million to construct a pipeline to connect Melrose, Wilmington and Quorn with supply from the Murray River, construct a desalination plant at Naracoorte, and make minor improvements at Swan Reach, Morgan, Nangwarry and Cadell, in order to improve the taste and smell of drinking water, reduce its salinity, and reduce the potential impact of scaling and corrosion on water appliances.

The Commission has reviewed the metropolitan and regional water quality improvement programs in detail, noting the associated material expenditure proposed and that SA Water's proposal to undertake them is underpinned largely by its views on customer feedback.

²⁶⁰ Before the application of catch-up and continuing efficiencies.

Table 6.12 shows the breakdown of the average additional \$8.2 million in operating expenditure per year SA Water proposed to fund programs to improve services.

Table 6.12: SA Water initiative by average additional operational expenditure per annum

Improve initiatives	SA Water proposal (\$m)	Draft Decision (\$m)	Final Determination (\$m)
Asset investment operating expenditure	3.7	2.2	2.2
IT investment operating costs	3.3	3.3	3.3
Regional community support	0.7	0.3	0.4
Reconciliation Action Plan	0.3	0.0	0.0
Recycled water expansion	0.1	0.0	0.0
Geospatial information systems Data Quality Improvement	0.1	0.0	0.0
subtotal	8.2	5.8	5.9
Section 6 Direction (Asset investment operating expenditure)	-	-	1.4
Total per annum	8.2	5.8	7.3

Impact of section 6 Direction

Since the Draft Determination, the Minister for Environment and Water has issued SA Water with a direction pursuant to section 6 of the *Public Corporations Act 1993*, which directs SA Water to invest up to \$37.7 million to upgrade the water supply to drinking water quality for 340 properties out of the total of 650 properties in regional areas where SA Water currently provides non-drinking water, in line with SA Water's RBP. This capital expenditure has, therefore, been included in the capital expenditure forecasts reflected in this Final Determination, consistent with the requirements of the Pricing Order.

Further, an average \$1.4 million per annum of additional operating expenditure relates to regional non-potable water and Tea Tree Gully upgrades, and is subject to the section 6 Direction.

6.11.1 Summary of adjustments to additional operating expenditure for improving services

The final decision is that an average of \$7.3 million per annum is will be included in SAW RD20 for additional operating expenditure associated with initiatives to improve services. This is 11 percent lower than SA Water's proposal of \$8.2 million per annum.

The adjustments are the result of:

- ▶ an average \$0.3 million per annum reduction to additional proposed operational expenditure for asset investment operating costs, including taking account of the section 6 Direction
- ▶ an average \$0.3 million per annum reduction to additional proposed operational expenditure for regional community support program
- ▶ an average \$0.3 million per annum reduction to additional proposed operational expenditure for the Reconciliation Action Plan

- ▶ an average \$0.1 million per annum reduction to additional proposed operational expenditure for recycled water expansion, and
- ▶ an average \$0.1 million per annum reduction to additional proposed operational expenditure for Geospatial information systems data quality improvement.

6.11.2 Other minor additional operating expenditure

In its submission to the Draft Determination, SA Water accepted the Commission's adjustments in relation to Geospatial information systems data quality improvements and its reconciliation action plan.²⁶¹

SA Water provided further information in response to the draft decision on asset investment operating expenditure, which would be required as a result of the decisions on capital expenditure related to metropolitan water quality improvement program in section 6.11.3 and regional water quality improvement program in section 6.11.4.

SA Water also provided further information in relation to its proposed additional operating expenditure for its GAP expansion project discussed in section 6.11.6, and its regional community support program discussed in section 6.11.7.

6.11.3 Metropolitan water quality program (Happy Valley Water Treatment Plant and introduction of chloramination)

The final decision is that \$80.8 million is a prudent and efficient amount of capital expenditure to be included in SAW RD20 for the metropolitan water quality program. This is 46 percent (\$25.3 million) more than the \$55.5 million in total spent on water quality improvements during the SAW RD16 period,²⁶² and 33 percent (\$41.4 million) less than the \$122.2 million proposed by SA Water for the SAW RD20 period.

The Commission's position is that it is prudent to undertake the proposed works. However, those works should occur over six years, rather than the four years that SA Water proposed, to enable SA Water to better learn from and overcome the technical challenges expected from a rollout of this size.

SA Water proposed to invest \$122.2 million during SAW RD20 to improve metropolitan water quality. This comprised two interrelated projects to be delivered over four years and completed by the end of the SAW RD20 period: Happy Valley water treatment plant upgrades (\$68.6 million); and, the introduction of chloramination, which involves works at five metropolitan water treatment plants (\$53.6 million).

SA Water's stated objective for this program was improving water aesthetics in metropolitan Adelaide, particularly the taste of drinking water. It stated that the Happy Valley water treatment plant upgrade would address earthy and musty tastes, caused by the impact of algae; roll-out of chloramination would reduce chlorine taste and odour.

²⁶¹ SA Water submission to draft decision Table 23, p. 11 of 79.

²⁶² The amount allowed for SAW RD20 includes \$81 million for metropolitan water quality improvements, \$26 million for managing water quality at reservoirs, and \$8 million for smaller improvements. The total amount spent on water quality improvements in SAW RD16 was \$55 million, which included metropolitan and regional expenditure across source water, treatment plants and networks.

The Commission's draft decision was to allow \$80.8 million as a prudent and efficient amount to be included in SAW RD20 for the metropolitan water quality program, with the proposed works occurring over six years, rather than four.

Submissions

Support from stakeholders for this program has been mixed. Some supported the proposal while others, notably, Business SA,^{263, 264} SACOSS^{265, 266} and Uniting Communities^{267, 268} questioned the need for further aesthetic improvements in Adelaide, particularly in light of high water prices.

Both Business SA and Uniting Communities asked why the Draft Determination provided for metropolitan but not regional water aesthetic improvements.^{269, 270} SACOSS asked how changes in water aesthetics will be measured and if it is necessary to have measurement processes in place before providing for expenditure.²⁷¹

SA Water's submission raised a concern that staging the project over six years rather than four may affect the forecast efficiencies of conducting the chloramination roll-out and the Happy Valley water treatment plant upgrade concurrently.²⁷²

Discussion

Having reviewed the evidence and information provided, the Commission has formed the view that SA Water's business case for delivering this improvement was sufficiently comprehensive and based on robust options analysis.

The results from SA Water's second willingness to pay study (called *Would You Invest In This?*) conducted to inform its RBP indicated that the majority of customers surveyed at that time were willing to accept up to \$124 million of expenditure to improve metropolitan water aesthetics.

The Commission acknowledges the evidence of customer support for that level of expenditure and has used that result as a reference point in assessing the metropolitan water quality improvement project. However, the Commission continues to have concerns about the limitations of the use of willingness to pay research.

Most importantly, the results from any willingness to pay research should only ever be used as one input to inform wider decision-making processes. It may be informative and persuasive as one of a range of evidence sources but should not be the sole source of evidence used to justify major investment. It must be balanced with, for example, evidence from other stakeholder submissions, wider customer and community engagement, along with other types of engineering, financial and economic evidence and analysis.

Further, for the results of willingness to pay research to be used to meaningfully quantify benefits in a cost-benefit analysis, it must carefully follow best practice design recommendations and principles.

²⁶³ Business SA submission to RBP, p. 2 and p. 14.

²⁶⁴ Business SA submission to draft decision, p. 2.

²⁶⁵ SACOSS submission to RBP, p. 12.

²⁶⁶ SACOSS submission to draft decision, pp. 6-8.

²⁶⁷ Uniting Communities submission to RBP, p. 22.

²⁶⁸ Uniting Communities submission to draft decision, p. 14.

²⁶⁹ Business SA submission to draft decision, p. 2.

²⁷⁰ Uniting Communities submission to draft decision, p. 14.

²⁷¹ SACOSS submission to draft decision, pp. 6-8.

²⁷² SA Water submission to draft decision, p. 69.

For example, the Productivity Commission has issued guidance on the use of various non-market valuation techniques,²⁷³ which were used in the IPART 2020 Sydney Water price review.²⁷⁴ While the Productivity Commission's guidance relates specifically to the use of stated preference studies to estimate non-market environmental values, the principles are broadly relevant.²⁷⁵ It suggests that stated preference studies should generally have the following characteristics:

- ▶ Participants are given the impression that their answers are consequential.
- ▶ The environmental goods or attributes in the survey are expressed in terms of endpoints that people directly value.
- ▶ There is alignment between the environmental goods or attributes being valued and the likely policy outcomes.
- ▶ The information provided to participants is clear, relevant, easy to understand and objective.
- ▶ Participants are encouraged to consider the context of their decisions, including their income and other expenditures, as well as alternative or substitute environmental outcomes.
- ▶ The valuation questions require participants to make discrete choices (such as 'yes/no' or selecting options), and include a 'no-answer' option to identify participants that are indifferent, unfamiliar with the environmental good, or object to the question.
- ▶ Valuation questions are designed and analysed using appropriate statistical techniques.
- ▶ Follow-up questions are used to detect potential sources of bias, including 'protest' answers and cases where participants did not understand the valuation question(s) or the information provided.
- ▶ Participants are given adequate time to complete the survey.
- ▶ The sample of people surveyed is representative of the broader community (in terms of location, income, age and other characteristics), and large enough to permit robust data analysis.
- ▶ Estimates of average willingness to pay are supplemented with confidence intervals to indicate the precision of the estimates.
- ▶ Population-wide estimates of the benefits or costs of a policy are calculated in a transparent and appropriate way.
- ▶ A copy of the survey instrument is attached to the study report, along with a list of all payment levels and attributes used in different versions of the survey. Ideally, the underlying data should be made available, so that other researchers can replicate the statistical analysis.

²⁷³ Productivity Commission, Environmental Policy Analysis: A Guide to Non-Market Valuation, January 2014, pp. 44 – 48, available at: <https://www.pc.gov.au/research/supporting/non-market-valuation>.

²⁷⁴ IPART 2020, Review of prices for Sydney Water from 1 July 2020, Draft Report, Appendix P Discretionary Expenditure Framework, p. 101, available at: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/pricing-reviews-water-services-metro-water-prices-for-sydney-water-corporation-from-1-july-2020/legislative-requirements-prices-for-sydney-water-corporation-from-1-july-2020/draft-report-review-of-prices-for-sydney-water-march-2020.pdf>.

²⁷⁵ The principles and technical considerations for developing robust stated preference studies are elaborated further in Johnston, R. J. et al., Contemporary Guidance for Stated Preference Studies, Journal of the Association of Environmental and Resource Economics, 4(2), available at: https://aaec.vt.edu/content/dam/aaec_vt_edu/people/faculty/URLs/boyle/boyle-kevin-contemporary-guidelines-2017-jaere.pdf.

Several stakeholders raised similar concerns about limitations with SA Water's willingness to pay research, and the way that SA Water had used the findings from that research in its business planning processes.^{276,277,278}

One of the Commission's specific concerns with SA Water's research into customer preferences for improving services is that it did not effectively establish the total additional amount of discretionary expenditure acceptable to customers. While willingness to pay research can provide a guide as to that amount, further engagement and discussion with stakeholders is needed to establish this important collective budget constraint.

In SA Water's second willingness to pay study, *Would You Invest In This?*, customers were presented with the bill impact of their choices. Reminding people that their choices have a real impact (on their bills, and funds available for other expenditure) is important in best practice willingness to pay research.²⁷⁹ However, the Commission has concerns with how that bill impact stage of the survey was executed. Participant and stakeholder feedback was that it was confusing to also represent the likely impact of other changed financial parameters on bills during SAW RD20 and that presentation of the bill impact of capital expenditure projects (where costs are recovered over long asset lifespans) may obscure the ongoing nature and significance of that expenditure.

The Commission also has concerns with how SA Water interpreted the results of the study; particularly with how its analysis excluded responses where a person valued the service, but was not willing to pay because they disagreed that the costs should be recovered through SA Water bills (there were 720 such 'protest votes', out of 6,480 total responses). While this did not change the fact that the majority of customers were willing to accept the costs of specific service improvements, it changed the size of that majority. Further, considering that information may have assisted SA Water to understand and settle the matter of how much additional expenditure may be tolerated by customers.

The ongoing concerns of stakeholders, notably Business SA, SACOSS and Uniting Communities, demonstrate that SA Water's customer research and engagement did not resolve the issue of how much additional discretionary expenditure is acceptable to customers.

Having regard to those concerns, the Commission will issue further guidance about the evidence necessary to support discretionary expenditure proposals, particularly the use of willingness to pay research as an input to regulatory decision-making processes, and its relative importance compared with other types of evidence, ahead of starting the SAW RD24 process.

As noted above, the Commission emphasises that willingness to pay (and similar evidence) is generally not sufficient on its own to justify expenditure – particularly at the levels proposed by SA Water. When combined with other evidence, however, it may provide supporting evidence for such expenditure proposals.

In that context, the Commission notes that it was presented with and reviewed two other key sources of evidence supporting the metropolitan water quality improvement project.

First, the chloramination component of the program has public health benefits which have the support of SA Health (although not a regulatory requirement). The available evidence is that chloramination maintains disinfection to the end of water networks more effectively than SA Water's current chlorination practice. SA Health considers this a reasonable measure to reduce potential threats to

²⁷⁶ Report of Independent Chair of the CNC, p. 64.

²⁷⁷ Business SA, submission to RBP, p. 6.

²⁷⁸ SACOSS submission to draft decision, pp. 6-8.

²⁷⁹ Productivity Commission, p. 45.

drinking water safety, and its introduction to be consistent with the risk management framework in the ADWG. The Commission accepts SA Health's technical and health evidence in that regard.

Chloramination is already used as primary disinfection for 11 of SA Water's country drinking water systems, including those supplied by the Morgan and Tailem Bend water treatment plants²⁸⁰, as well as in Brisbane, Sydney and parts of Victoria.

Second, the Happy Valley water treatment plant upgrade component of the program, aimed at managing algal outbreaks, is expected to be delivered more efficiently if conducted concurrently with that chloramination program. Cardno's evidence on this point was that the Happy Valley water treatment plant upgrade:

'will allow a smaller chlorine contact tank to be installed at Happy Valley water treatment plant ... The information provided does not quantify the avoided cost but a high level estimate of the avoided costs is between \$5 million and \$20 million. The actual costs will depend on the site footprint and configuration and ground conditions'.²⁸¹

By replacing the need for copper dosing at Happy Valley reservoir to manage algal outbreaks, the Happy Valley water treatment plant component would also mitigate environmental impacts, thereby reducing operating expenditure by \$300,000 per annum.

SA Water's submission raised a concern that staging the project over six years rather than four may affect the forecast efficiencies of conducting the chloramination roll-out and the Happy Valley water treatment plant upgrade concurrently.²⁸² The potential for efficiencies is important to the program's rationale. The Commission will continue to monitor SA Water's performance in delivering this program over the SAW RD20 period, with an expectation that SA Water will inform the Commission of the reasons for any material changes to the timing, costs or effective achievement of expected program outcomes well in advance of additional expenditure being committed to this program.

In its draft decision, the Commission noted the need for SA Water to develop the line of sight between this expenditure and its expected outputs and outcomes. In its submission to the draft decision, SACOSS queried how changes in water aesthetics will be measured, and if it is necessary to have measurement processes in place before providing for expenditure.²⁸³

As explained below, there are various measures of water aesthetics that currently exist and are applied by SA Water, which could be used to measure the success of the program. As described further in Chapter 10, the Commission will require reporting on program outcomes, with SA Water's current measurement practices providing the basis for that reporting.

Measures include the range of scientific characteristics that contribute to each dimension of water aesthetics (and influence subjective perceptions of water quality). Those include:

- ▶ the type and amount of disinfectant used, and incidence of algal blooms in reservoirs, influence taste and odour
- ▶ water hardness (high levels of calcium and magnesium) creates the potential for scaling in appliances and pipes
- ▶ salinity, particularly an issue in ground water, influences the palatability and use of drinking water

²⁸⁰ See list of SA Water's country drinking water supply system sources and treatment, at https://www.sawater.com.au/_data/assets/pdf_file/0005/171068/County-Drinking-Water-Supply-System-Sources-and-Treatment.pdf.

²⁸¹ Cardno, Evaluation of SA Water's asset management system, p. 87.

²⁸² SA Water submission to draft decision, p. 69.

²⁸³ SACOSS submission to draft decision, pp. 6-8.

- ▶ pipeline sediments and level of organic material affect water appearance, and
- ▶ improper balance of chloride and sulphates, and alkalinity, create the potential for corrosion of infrastructure and appliances.

The range of scientific characteristics that contribute to water aesthetics are listed in the ADWG, which also specifies values for many of those characteristics, and are monitored by SA Water. All drinking water customers receive water that is safe to drink, and all of SA Water's metropolitan drinking water customers receive water that meets values for aesthetic characteristics that are defined in the ADWG.

SA Water also monitors a broader set of water aesthetics criteria that include characteristics for values that are not defined in the ADWG and, in some instances, higher values for characteristics than those defined in the ADWG. SA Water has established these criteria using customer research and engagement, an approach allowed under the ADWG in recognition of the fact that the perception of water quality is subjective and the scientific characteristics that contribute to water aesthetics vary from place to place.²⁸⁴

SA Water has stated that its metropolitan water quality improvement program would deliver water that meets its own water aesthetics criteria to 90 percent of metropolitan customers. SA Water can identify and measure the outputs this program will deliver (changes in the scientific characteristics of water that underpin aesthetics), which in turn affects customer perception of water quality.

In relation to the Business SA and Uniting Communities' submissions on why the Draft Determination provided for metropolitan but not regional water aesthetic improvements, the Commission (for reasons elaborated in the following section) has reached the conclusion that SA Water has not done sufficient work nor has it provided sufficient evidence to support a conclusion that the regional water quality improvement program is prudent in its current form. In particular, SA Water does not have a clear long-term plan to direct investment to the highest-priority communities. On the other hand, SA Water does have a clear plan and has provided sufficient evidence (as explained above) in relation to the metropolitan program.

On balance, after taking the range of evidence into account, the Commission's final decision is that the combination of drivers for this program and the supporting evidence (as described above), along with the overall package of expected benefits are sufficient to include expenditure for this combined program in SAW RD20, subject to an adjustment to extend the rollout of the program across six years rather than four.²⁸⁵

6.11.4 Regional water quality improvement program

The final decision is to not allow the \$24.8 million of capital expenditure proposed for the regional water quality improvement program as SA Water has not established that this is based on a long-term plan for directing investment to the highest-priority communities that matches specific solutions with community needs. SA Water must complete further work to establish that plan, before any particular investment may be considered prudent.

SA Water proposed to invest \$24.8 million during SAW RD20 to improve water aesthetics in specific regional towns. That expenditure would cover the connection of Melrose, Wilmington and Quorn with supply from the River Murray at Booleroo via a 90 kilometre pipeline; construction of a desalination plant at Naracoorte; and, minor improvements at Swan Reach, Morgan, Nangwarry and Cadell. This

²⁸⁴ National Health and Medical Research Council, May 2019, ADWG Version 3.5, p. 80 available at: <https://www.nhmrc.gov.au/about-us/publications/australian-drinking-water-guidelines#block-views-block-file-attachments-content-block-1>.

²⁸⁵ Cardno, p. 87 and pp. C31-C37.

would deliver improved water aesthetics to approximately 5,000 of SA Water's 207,000 regional drinking water customers.

The draft decision was to not allow the \$24.8 million proposed for the regional water quality improvement program until further, broad-based, community consultation has occurred to better define the needs, scope and efficient costs of meeting the proposed outcomes. Unlike the metropolitan program discussed above, SA Water has proposed this program based solely on customer survey evidence.

Submissions

The Commission received numerous submissions to the draft decision about regional water aesthetics, particularly in relation to water supply in Quorn. Submissions were received from many individuals, businesses and community organisations, the Flinders Ranges Council, Regional Development Australia, local Councillors and Members of Parliament.

Those submissions are evidence of the realities for people living in communities with water aesthetics issues. The submissions outlined concerns that the current water supply is not palatable and may not be healthy to drink, despite meeting regulatory requirements for drinking water. Further, submissions outlined concerns that the current water supply causes damage to appliances (including hot water systems, air conditioners, and washing machines) and is not suitable for gardening. Submissions described the costs that individuals and businesses incur to manage alternative drinking supplies (such as installing and maintaining rainwater tanks), and to replace appliances, fittings and fixtures. Some submissions noted that water quality is constraining growth and impacting tourism.

Discussion

SA Water has approximately 207,000 regional drinking water customers, served by 59 drinking water systems. All of those customers currently receive water that is safe to drink. However, the evidence presented to the Commission is that there are also various issues with water aesthetics across all of regional South Australia, including the taste, smell or appearance of water, its salinity, and its potential to create scaling and corrosion. Some water aesthetic issues can influence customers' perceptions about the safety of the water.

The Commission notes that around 67,000 regional customers, served by 50 drinking water systems, currently receive water that does not meet all values for aesthetic characteristics defined in the ADWG. There are also around 163,000 regional customers, served by 52 drinking water systems, that currently receive water that does not meet the expanded aesthetic criteria SA Water understands to be important, based on its customer research.

As discussed above in relation to metropolitan water quality, SA Water monitors a set of water aesthetics criteria that include characteristics for which values are not defined in the ADWG, and in some instances, higher values for characteristics than those in the ADWG. SA Water has established these criteria using customer research and engagement, an approach allowed under the ADWG, in recognition that the perception of water quality is subjective, and the scientific characteristics that contribute to water aesthetics vary from place to place.²⁸⁶

The incidence and impact of those water aesthetics issues vary across regional South Australia to a much greater extent than across metropolitan Adelaide. The Commission acknowledges the importance of water aesthetics for regional South Australians and the realities for people living in communities with water aesthetics issues. Given the number of regional customers that could potentially benefit from improvements, it is important that SA Water has a long-term plan to direct

²⁸⁶ National Health and Medical Research Council, May 2019, ADWG Version 3.5, p. 80 available at: <https://www.nhmrc.gov.au/about-us/publications/australian-drinking-water-guidelines#block-views-block-file-attachments-content-block-1>.

investment to the highest-priority places as soon as possible, and carefully match specific solutions with community needs.

Results from SA Water's second willingness to pay study (called *Would You Invest In This?*) conducted to inform its RBP showed that the majority of customers would be willing to accept up to \$25 million of expenditure to improve regional water aesthetics (as a general proposition).

The Commission acknowledges that level of expenditure has some support among customers. However, as noted above, the Commission continues to have concerns about the limitations of willingness to pay research and will issue further guidance about use of willingness to pay research as an input to regulatory decision-making processes, and its relative importance compared with other types of evidence, ahead of starting the SAW RD24 process.

As noted earlier, customer survey findings alone are not a determinative factor in considering the expenditure for the regional water quality improvement program as proposed by SA Water. The Commission has also considered, and given weight to, the fact that SA Water has not developed a long-term plan, in consultation with a wide group of customers and other stakeholders, to address the complex and diverse regional water aesthetic issues currently being experienced by a wide group of customers across the State as a whole.

SA Water stated that it used a multi-criteria analysis tool to identify particular communities to include in its proposal. The multi-criteria analysis tool assessed a sub-set of potential improvements to regional systems against various technical, social and financial criteria.

However, the evidence is that SA Water has only considered that 26 of its 59 regional drinking water supply systems meet technical criteria for upgrades; and it has not included or explained details of how it proposes to manage the wider regional water aesthetic issues identified above. It then focused its analysis on half of those 26 systems; excluding 13 where there are currently operational strategies in place to manage aesthetics, or where there is the potential for improvement as a secondary benefit of other works.

The Commission acknowledges the improvements SA Water has made to its multi-criteria analysis tool since the SAW RD16 review,²⁸⁷ including the additional information provided since the Draft Determination. However, the Commission also notes the available evidence of the scale and scope of aesthetics issues and problems across all of regional South Australia (not just in the limited areas considered by SA Water in its proposal), the number of regional drinking water customers affected overall (163,000 versus the 5,000 who would benefit from the current proposal) and the limited scope of the options proposed.

In light of that evidence, the Commission has formed the view that SA Water's approach to undertaking multi-criteria analysis requires further development to be able to better inform the comprehensive long-term plan necessary for addressing the diverse regional water aesthetics issues currently experienced across regional South Australia.

Specifically, to develop the comprehensive long-term regional water quality improvement plan, SA Water must do the following:

- Identify all systems that are candidates for improvements, and explain the reasons why those systems are candidates. The current analysis identifies 26 regional systems based on 'technical water quality risks'. SA Water should examine whether other systems should also be included, based on the aesthetic parameters of the water being supplied.

²⁸⁷ As per the Commission's SA Water Regulatory Determination 2016, June 2016, p. 108, available at <https://www.escosa.sa.gov.au/ArticleDocuments/334/20160606-Water-SAWaterRegulatoryDetermination2016FinalReport.pdf.aspx?Embed=Y>.

- ▶ Include in planning all of those systems which were identified as candidates for improvements (through the process described above). Systems should not be excluded from consideration if there are currently operational strategies in place to manage aesthetics, or if there is the potential for improvement as a secondary benefit of other works.
- ▶ Consult with customers broadly. To date, limited consultation has occurred in communities most affected by water aesthetics issues, with wider research focusing on perceptions of water quality. The broader customer base must be consulted, in order to define reasonable outcomes and priorities for a long-term improvement program. Consulting broadly is important because all customers will pay the cost of improvements.
- ▶ Engage with its customers to develop the criteria used for prioritisation of communities within the program. SA Water must clearly set out its existing technical, social and financial criteria, and ask customers and other stakeholders whether these are comprehensive, and how each criterion should be weighted.
- ▶ Develop options for improvements, where the impact on aesthetic characteristics and expected impact on customer perception of water quality, are clearly articulated.
- ▶ In assessing options, SA Water should engage with the customers who may benefit directly to design solutions that will match their particular needs, in an efficient manner.

The development of such a transparent, long-term and comprehensive plan would address concerns raised by stakeholders, including the CNC²⁸⁸, SACOSS,²⁸⁹ and Uniting Communities.²⁹⁰

In the absence of such a comprehensive, long-term plan, the \$24.8 million proposed for the regional water quality improvement program cannot be categorised as a prudent and efficient investment at this time. SA Water has not established a long-term program for regional water aesthetic upgrades (the need for which was identified at SAW RD16), nor has it demonstrated satisfactorily that the projects proposed are the highest priorities across all of regional South Australia.

6.11.5 Glenelg to Adelaide Parklands (GAP) recycled water network expansion

The final decision is not to allow the \$10.0 million of capital expenditure proposed for the Glenelg to Adelaide Parklands recycled water network expansion (**GAP expansion**) because it is neither prudent nor efficient. While SA Water has demonstrated that this level of expenditure on providing recycled water for public open spaces is broadly supported by customers, it has not demonstrated firm demand for the proposed recycled water services, nor how its proposal responds to any specific EPA requirements.

SA Water proposed to invest \$10.0 million of capital expenditure in SAW RD20 to expand the recycled water mains and reticulation systems fed by water from the Glenelg WWTP to serve a development at Tonsley. It suggested that the GAP expansion as proposed would satisfy customer preferences for increased use of recycled water to irrigate public spaces, and to improve the quality of effluent discharged to the Gulf of St Vincent. SA Water indicated it plans to invest \$115 million beyond the SAW RD20 period to further the GAP expansion, investigate providing free recycled water to Councils, and further reduce its environmental impact.

²⁸⁸ Report of Independent Chair of the CNC, p. 64.

²⁸⁹ SACOSS submission to draft decision, p. 10.

²⁹⁰ Uniting Communities submission to draft decision, p. 14.

Submissions

The GAP expansion was supported by the EPA.^{291,292} The EPA supports the GAP expansion because it will contribute to SA Water meeting the requirement that the metropolitan WWTPs meet a combined nutrient load target for discharge by 2030. It explains:

*'The Glenelg WWTP (EPA Licence Number 1560) has an EIP [Environment Improvement Programs] condition that requires that nutrient loads across the three metropolitan plants meet the outcomes of the Adelaide Coastal Water Quality Improvement Program of 300 tonnes of nitrogen by 2030. The GAP scheme forms an important aspect of the reduction of loads to the Gulf for the Glenelg WWTP, as water that is diverted to reuse reduces the total load to the Gulf. Increasing the use of recycled water is therefore encouraged by the EPA to meet EIP outcomes as an effective means of achieving the Objects of the Environment Protection Act 1993 through the application of the waste management hierarchy.'*²⁹³

SA Water disagreed with the Commission's draft decision not to include the GAP expansion, as increasing use of recycled water is *'directly in keeping with our customers' values and the clear feedback they consistently provided throughout the engagement process'*.²⁹⁴ However, it also acknowledged:

*'... that the GAP expansion may not be as well developed as the Commission would like in order to approve it at this time. An alternative is to consider a \$10 million program of funding to pursue any recycling water projects that demonstrate benefits during 2020-2024 in order to increase the amount of water SA Water recycle, in line with our customers' expectations and willingness to pay.'*²⁹⁵

Discussion

The Commission acknowledges that level of expenditure has some support among customers. Results from SA Water's second willingness to pay study (called *Would You Invest In This?*) conducted to inform its RBP showed the majority of customers to be willing to accept up to \$11 million of expenditure to increase the amount of recycled water available through the GAP scheme by 300 megalitres per year.

While there is a possibility that the EPA's load target may be amended to reflect the results of recent research, this has not yet occurred. Accordingly, there is currently no specific regulatory requirement that the proposed GAP expansion would be satisfying.

According to the Commission's pricing principles for excluded services (see section 4.1.3), the costs of providing additional recycled water should be met by those using recycled water, and by sewerage customers (to the extent that recycling water is the lowest cost option for disposal).

SA Water has not documented the income expected from recycled water customers (that is, firm demand), nor that the GAP expansion is the lowest cost option of wastewater treatment. These matters were explored in the Cardno report published alongside the Draft Determination.²⁹⁶

The Commission's final decision is not to allow the \$10.0 million of new capital expenditure proposed for the GAP expansion because it is neither prudent nor efficient. This is consistent with the draft decision.

As noted above, while the Commission continues to have concerns about the limitations of willingness to pay research, those concerns were not deciding factors in disallowing the GAP recycled water network expansion as proposed by SA Water. Rather, it was that the expenditure could not be

²⁹¹ EPA submission to RBP, p. 6.

²⁹² EPA submission to draft SAW RD20, pp.1-2.

²⁹³ EPA submission to draft SAW RD20, pp.1-2.

²⁹⁴ SA Water submission to draft SAW RD20, p. 43.

²⁹⁵ SA Water submission to draft SAW RD20, p. 47.

²⁹⁶ Cardno, pp. 86 and pp. C28-C30.

considered prudent in the absence of firm demand from customers for the recycled water or a specific regulatory requirement.

6.11.6 Asset investment operating costs

SA Water proposed an average additional \$3.7 million per annum of operational expenditure across four programs of work associated with capital expenditure programs.

Those programs include an average additional \$2.2 million per annum to deliver a mains cleaning program to support reducing Type 1 and Type 2 sewerage overflows to the environment, and three programs to improve water quality, with an average additional \$1.5 million per annum of operating expenditure.

In relation to the additional \$1.5 million per annum of operating expenditure for the three programs to improve water quality, the Commission's final decision is:

- ▶ Not to accept \$0.2 million per annum of operating expenditure associated with the regional water quality improvement program (refer section 6.11.4).
- ▶ Not to include \$0.1 million per annum for the metropolitan water quality improvement program, as the decision to require this program to be delivered over an extended time period makes the additional amount proposed immaterial (refer section 6.11.3).
- ▶ To include the \$1.2 million per annum of additional operating expenditure associated with the regional non-potable water upgrade program, as it is subject to the section 6 Direction.

SA Water proposed an additional \$2.2 million per annum of operating expenditure to undertake more preventative maintenance on its sewerage mains to improve current service levels and reduce the number of sewerage overflows to the environment. The primary focus of this program is to implement pipe blockage reduction strategies, including removing incursions from tree roots, by drawing on information obtained through trial projects in 'hotspot locations'. SA Water proposed this additional operating expenditure to address a deteriorating trend in the number of Type 1 and Type 2 environmental overflows, which are reportable to the EPA.²⁹⁷

The proposed additional expenditure will reduce overflows and contribute to the technical level of service measure of the '*number of wastewater overflows to the environment*'. SA Water states that the improved service levels were supported by its willingness to pay research, which found that customers were willing to pay enough to cover the costs of reducing the total number of sewerage overflows to the environment.²⁹⁸

Submissions

Submissions in relation to the water quality improvement initiatives are set out in section 6.10.4 and section 6.11.4.

The CNC considered that the mains cleaning program was likely to be of material assistance in achieving SA Water's targets for reductions in external and internal overflows, which it considered well supported by customers.²⁹⁹

The EPA's submission to SA Water's RBP noted that SA Water has general environmental duties under the *Environment Protection Act 1993*, as well as more defined obligations to manage the sewer network to ensure overflows are minimised under the *Environment Protection (Water Quality) Policy 2015*. On that

²⁹⁷ Type 1 environmental overflows are more than 1ML, Type 2 environmental overflows are less than 1ML.

²⁹⁸ SA Water, Our Plan 2020, Appendix C, Our Plan customer engagement, pp. 62-64.

²⁹⁹ Report of Independent Chair of the CNC, p. 58.

basis, the EPA supported the proposed expenditure to reduce environmental wastewater overflows.³⁰⁰ Further, in its submission to the Draft Determination, the EPA supported the Commission's position to allow an additional \$2.2 million per annum of operating expenditure related to reducing environmental overflows.³⁰¹

Discussion

Sewerage cleaning program

The final decision is to allow an additional average \$2.2 million of operating expenditure per annum to support reducing Type 1 and Type 2 overflows to the environment.

In evaluating SA Water's RBP, Cardno recommended accepting SA Water's proposed operating expenditure increase to undertake additional mains cleaning to further improve service outcomes related to Type 1 and Type 2 environmental overflows from wastewater mains.³⁰² The Commission accepted that advice and included the additional average \$2.2 million of operating expenditure in the Draft Determination.

However, there is level of uncertainty as to the level of improvement that SA Water should be able to achieve with the additional amount.

SA Water put the case that the additional \$2.2 million per annum of operating expenditure would allow it to achieve a 20 percent performance improvement from the current rate of 113 reportable Type 1 and 2 environmental overflows per year to less than 91 by the end of SAW RD20.³⁰³ However, as part of the process of further examining SA Water's overall approach to its sewerage mains management program since the Draft Determination, discussed in section 0 above, Cardno suggested there was evidence that SA Water should be able to increase its sewerage mains cleaning program by around 50 percent with this level of additional expenditure.³⁰⁴

The Commission expects that the proposed level of additional inspections and cleaning should be able to drive a material improvement in environmental overflows; particularly considering SA Water will be employing a targeted maintenance approach of focusing on identified 'hot spots'. The outcomes achieved through this enhanced program will be closely monitored during SAW RD20.

6.11.7 Regional community support

In its RBP, SA Water proposed an average additional \$0.7 million per annum of operational expenditure to extend the level of support for SA Water's regional customers.

Currently, SA Water's regional teams provide support and advice to regional customers and communities who are affected by loss of service, property damage, and in some emergency circumstances, provide temporary water supply. SA Water proposed to bring its regional support program more into line with its metropolitan community support program, implemented in 2016, without seeking to match it.

Under SA Water's proposal, improvements to regional support activities would include:

- ▶ providing support and assistance to customers experiencing four-hour outages, as provided in the metropolitan area, rather than only customers experiencing six-hour outages (current practice), and

³⁰⁰ EPA submission to RBP, p. 4.

³⁰¹ EPA submission to draft SAW RD20, p. 1.

³⁰² Cardno, pp. 55-56.

³⁰³ SA Water: Business Case for Wastewater Network Overflows, p. 6.

³⁰⁴ Cardno, Technical memorandum, p. 14.

- ▶ providing temporary drinking water in all instances where there is a service outage for four hours or more, rather than only in emergency circumstances.

The business case suggested that the initiative required an additional four FTE and an on-call allowance for 10 staff, along with the use of five vans and five trailers.

SA Water stated that its willingness to pay research demonstrated that customers are willing to pay up to \$5.7 million for this increased level of service per annum, which is significantly more than the cost of this proposal.

The draft decision was that \$0.3 million per annum was a prudent and efficient amount to allow SA Water to develop a reasonable regional community support program. It estimated that this would cover the cost of cask water requirements and a small amount of additional staffing and resourcing. In the making its draft decision, the Commission acknowledged SA Water's early engagement activity with the Regional Communities Consultative Council and encouraged SA Water to continue to work to develop regional delivery partnerships to create the most efficient model of delivery.

Submissions

The CNC stated that the initiative should not be implemented without more consultation with regional customers and stakeholders, and that other options should be explored. These other options include potentially working with Country Fire Service and State Emergency Service volunteers and organisations like the Country Women's Association, with the aim of achieving the same outcome at lower cost, or a greater and more widespread outcome at the same cost.³⁰⁵

Similarly, Uniting Communities suggested that there could be lower cost options to achieve the goals of this program that could be developed with greater, open engagement with communities.³⁰⁶

In its response to the draft determination, SA Water stated that the proposed funding across SAW RD20 is *'not sufficient to guarantee an appropriate service level and will disadvantage regional customers.'*³⁰⁷ SA Water proposed an alternative option to delivering this service improvement suggesting the Commission allocate the full amount (\$0.7 million per annum) for the first two years and then fund the remaining two years of SAW RD20 based on progress in establishing and maturing this service.

Discussion

The Commission supports the extension of improved services to regional customers and communities, and appreciates that SA Water customers may be willing to pay more for these services to be extended.

However, the Commission considers that the cost of this proposal, taking into account the limited coverage of the proposed benefits, is too high. SA Water has stated that, on average, there are 220 'events' affecting 150 properties in regional areas that this proposal would address. Based on SA Water's proposal for an additional \$0.7 million per annum to deliver the proposed service improvement, the average cost of providing this additional assistance is estimated to be \$3,195 per event.

Instead, the Commission considers that, as identified by the CNC and Uniting Communities, the initiative may be delivered more efficiently through a partnership between SA Water and local community groups.

The Commission recognises SA Water's commitment to delivering improved services and support to regional communities, but does not accept that the proposed business model provides value for

³⁰⁵ Report of Independent Chair of the CNC, p. 58.

³⁰⁶ Uniting Communities, pp. 3, 22.

³⁰⁷ SA Water response, p. 28.

money. As noted by SA Water, the realities of providing the proposed service improvements across the state of South Australia mean there are extensive logistical factors to consider in determining the most cost effective approach.

Further, as the Commission is unable to vary the maximum revenue caps after it has made the Final Determination, the alternative option proposed by SA Water is not a viable solution.

The Commission's final decision is not to accept SA Water's original business case or the alternative option proposed by SA Water. In the Draft Determination, the Commission acknowledged SA Water's preliminary engagement with the Regional Communities Consultative Council and allowed funding to support limited service improvements and the continuation of this engagement with regional stakeholders. As SA Water stated that the proposed funding is not sufficient to achieve what the Commission proposed, the Commission has revised its decision. There continue to be two key factors that have influenced the Commission's final decision:

- ▶ There is insufficient evidence that the proposed model of service delivery has been designed in consultation with regional communities, and that it reflects the needs and expectations of SA Water's regional customers.
- ▶ There is insufficient evidence the proposed model of service delivery is the most cost efficient method of providing the proposed service improvements.

Accordingly, the Commission has decided that SA Water be funded based on a year-to-year increase over SAW RD20. This will allow for appropriate engagement and partnership development in year one, to ensure the proposed outcomes are aligned with customer needs, and the trial and implementation of more efficient delivery methods in regional communities in subsequent years. The Commission envisages that the initial years of service delivery will provide limited service improvements in major 'hot spot' regional communities. However, as more efficient delivery mechanisms are established with local partners, the cost of improving and extending the service to other communities would be expected to become more efficient.

The Commission's final decision is that an average additional \$0.4 million per annum is a prudent and efficient amount to be included in SAW RD20 to deliver an initiative to pilot and collaborate on an efficient delivery program to improve regional support services.

This decision reflects and should resolve the key concerns the Commission, and other stakeholders,³⁰⁸ have identified with SA Water's proposal, by ensuring community needs are reflected in the outcomes and the most efficient delivery methods are leveraged.

6.12 Enabling growth

The final decision is that \$171.9 million³⁰⁹ is a prudent and efficient amount to be included in SAW RD20 for capital expenditure to enable growth. Further, the prudent and efficient operating expenditure is an additional \$6.4 million over SAW RD20 to enable growth.

SA Water characterises enabling growth as investments in the costs associated with servicing new water and sewerage customers or increasing the services available to existing customers.³¹⁰ In total, SA Water proposed \$193.8 million of capital expenditure and an additional \$13.6 million of operating expenditure in the SAW RD20 period to enable growth.

³⁰⁸ CNC, Uniting Communities

³⁰⁹ Before the application of catch-up and continuing efficiencies.

³¹⁰ SA Water, RBP, p. 21.

In the Guidance Papers released prior to SA Water preparing its RBP, the Commission set out an expectation that SA Water was required to demonstrate that its planned investment is both prudent and efficient, and to establish a clear line of sight between proposed expenditure and its anticipated outputs and outcomes (Guidance Paper 4).

SA Water's proposal

The following key projects drive the majority of SA Water's capital expenditure proposal under this investment driver:

- ▶ Bolivar wastewater treatment plant capacity growth (\$23.6 million).
- ▶ Construction of a desalination plant on Kangaroo Island (\$25.9 million).
- ▶ Upper Spencer Gulf augmentation (\$22.8 million).
- ▶ Network augmentation Bolivar South (\$15.4 million).
- ▶ Barossa subsystem growth (\$14.2 million).
- ▶ Murray Bridge growth (\$12.2 million).

The capital expenditure proposed represents an 81 percent increase on the amount spent on enabling growth in SAW RD16.

While not included in its RBP, SA Water also foreshadowed a list of possible investment opportunities that may arise during the SAW RD20 period. In total, these potential investments are in the order of an additional \$2 billion, which is dominated by two large projects that are contingent on a single large customer for each project. These projects have not been looked at in any detail, given the early stages of development for these investments.

Table 6.13 shows the breakdown of the average additional \$3.4 million in operating expenditure per year SA Water proposed to fund growth related programs.

Table 6.13: SA Water initiative by average additional operational expenditure per annum

Growth initiatives	SA Water proposal	Draft Decision	Final Determination
Upper Spencer Gulf capacity upgrade	1.6	0.0	0.0
Kangaroo Island desalination	0.8	0.0	0.0
Asset investment operating costs	1.0	1.0	1.0
subtotal	3.4	1.0	1.0
Section 6 Direction	-	-	0.6
Total per annum	3.4	1.0	1.6

Impact of the section 6 Direction

Since publication of the Draft Determination, the Minister for Environment and Water has issued to SA Water a direction pursuant to section 6 of the *Public Corporations Act 1993*, which requires SA Water to construct a desalination plant and associated delivery infrastructure (conditional on securing a Commonwealth Government contribution) on Kangaroo Island, at a net capital expenditure of

\$27.0 million. As SA Water's RBP included \$25.9 million for works at Kangaroo Island, the Commission has added a further \$1.0 million of additional capital expenditure into the Final Determination.

The additional \$0.6 million per annum of operating expenditure in the section 6 Direction required to support the Kangaroo Island Desalination Plant has also been included in the final decision.

6.12.1 Upper Spencer Gulf capacity upgrade

The financial viability of the Upper Spencer Gulf capacity upgrade is heavily dependent on the expectation of the revenue that will be earned from a single large customer. SA Water has not provided evidence to demonstrate that the future demand is firm, including in its submission to the Draft Determination. Accordingly, all costs associated with this proposal have been removed on the basis that SA Water has not demonstrated firm demand requiring this project to go ahead in the SAW RD20 period.

6.12.2 Asset investment operating costs

The final decision is that the prudent and efficient operating expenditure for growth related programs is an additional \$1.0 million per year for asset investment operating costs, as proposed by SA Water, which the Commission accepts as an expected and reasonable incremental cost to manage 'natural' growth.

6.13 IT expenditure

The final decision is that \$133.9 million³¹¹ is a prudent and efficient amount to be included in SAW RD20 for capital expenditure on IT. Further, the prudent and efficient operating expenditure is an additional \$33.2 million over SAW RD20 to support IT programs.

SA Water characterised its IT expenditure proposal as necessary to enhance its digital capabilities as a key enabler for achieving efficiencies and meeting customer expectations. It suggested that its proposal included work required to meet mandatory requirements as well as maintaining and delivering improved services and efficiencies.

In the Guidance Papers released prior to SA Water preparing its RBP, the Commission set out three expectations that SA Water was required to address in relation to proposed expenditure of this nature.

First, that SA Water must be able to demonstrate that planned investment is both prudent and efficient, with a clear line of sight between any proposed expenditure and its expected outputs and outcomes (Guidance Paper 4). As explained below, the business cases for IT projects have general, high-level descriptions of expected outcomes.

Second, that evidence from customer engagement would be required to support expenditure proposals designed to improve levels of service, including evidence drawn from the results of willingness to pay research (Guidance Paper 3).

Third, that service standards should cover the elements of service that matter to customers, so as to act as a reference point for expenditure proposals (Guidance Paper 3).

As explained below, while approximately one-third of the proposed IT capital expenditure is planned to improve services, none of the 19 areas tested in willingness to pay research related directly to the IT expenditure proposals. Further, SA Water has not sought to link the costs of the IT expenditure with the costs of improvements with its proposed service standards (for example, the business case for 'first contact resolution' stated that this service standard will have no net cost increase because costs will be

³¹¹ Before the application of catch-up and continuing efficiencies.

met by reducing the telephone responsiveness service level; there was no recognition of the underlying IT cost required to support this change).

SA Water’s proposal

SA Water proposed IT capital expenditure of \$143.5 million and operating expenditure of \$22.3 million across seven program areas.

SA Water also proposed an average of \$3.2 million per annum of additional operating expenditure to sustain IT program initiatives from its SAW RD16 IT program, and an average additional \$0.6 million per annum to account for current IT licence costs rising at rates above inflation. This brings SA Water’s total proposed operating expenditure for IT over SAW RD20 to an average of \$9.4 million per annum.

This proposed expenditure is summarised in Table 6.14.

Table 6.14: Summary of SA Water’s proposed IT program (\$Dec18, million)

IT program	Capital expenditure (over 4 years)	Average additional operating expenditure (per year)
IT risk management	57.8	1.2
Digital presence	26.3	0.4
Integrated operations	16.3	1.2
Workforce collaboration and mobility	13.8	0.9
Corporate systems	13.8	0.7
Data intelligence and integration	9.3	0.9
Smart infrastructure	6.2	0.3
Additional operating expenditure for the SAW RD16 IT program and higher than anticipated licensing costs	-	3.8
Total IT expenditure	143.5	9.4

The key focus for each program was as follows:

- ▶ IT risk management – for refreshing hardware and software, and managing cyber security
- ▶ Digital presence – for enhancements to the CRM and digital communications channels
- ▶ Integrated operations – for enhancing information management systems to enable better decision making
- ▶ Corporate systems – for improvements to the billing system, procurement, and energy management
- ▶ Workforce collaboration and mobility – for work allocation and administrative tools
- ▶ Data intelligence and integration – for record keeping, data management and security, and
- ▶ Smart infrastructure – to install sensors on infrastructure to assess condition and identify issues, and automated dispatch.

SA Water explained that it expects the additional operating expenditure for the new SAW RD20 IT programs of an average \$5.6 million per annum to be offset by operating expenditure savings, leading to an operating expenditure neutral effect. Some of the programs are expected to provide a net operating expenditure saving (for example, smart infrastructure, and workforce collaboration and mobilisation), which should counterbalance the net increase in operating expenditure for other programs (for example, data intelligence and IT risk management).

While not included with its publicly available supporting documentation, SA Water provided business cases for each program to the Commission.

SA Water supported its proposal with two pieces of analysis from KPMG. First, an assessment of its IT Plan, which KPMG found to be prudent and efficient (a summary was included as Appendix M to the RBP and a full version of this report was provided to the Commission). Second, KPMG benchmarked SA Water's IT expenditure, and found it to be consistent with comparable entities (this report is included as Appendix L to the RBP).

SA Water's proposed IT capital expenditure was an increase of \$27.1 million (23 percent) above that included in SAW RD16 and \$21.1 million (17 percent) above the actual expenditure expected to be incurred during the SAW RD16 period. Its proposed IT operating expenditure was \$39.0 million (33 percent) above that included in SAW RD16.

The Draft Determination was to allow \$133.9 million³¹² for IT capital expenditure and \$24.8 million of operating expenditure in SAW RD20. This was based on there being scope for SA Water to deliver the objectives of the IT program, particularly the IT Risk Management program, at a lower cost than proposed in the RBP, and a lack of evidence supporting proposed additional operating expenditure for the SAW RD16 IT program.

Submissions

Since the Draft Determination, SA Water has provided to the Commission an updated forecast for IT capital expenditure during SAW RD16. Forecast spend has reduced by \$6.0 million, to \$122.4 million, with no consequential impact on forecast expenditure in the SAW RD20 period.

Business SA, SACOSS and Uniting Communities expressed concern about SA Water's proposed expenditure increase, and, in particular, the lack of clarity about the benefits for customers.

SACOSS stated that:

*'Any identified savings for these IT efficiency projects should be factored into reduced capex or opex or both and should at a minimum exceed the IT costs of the projects. It would not make sense to pursue greater efficiencies from IT programs unless those efficiencies can be identified in advance with a reasonable degree of confidence and are in excess of the costs.'*³¹³

Uniting Communities commented that:

*'[w]e are not convinced that all of the IT expenditure proposed by SA Water is absolutely necessary, and consequently some expenditure that is proposed may be in the interests of some customers, but not necessarily in the best interests of all customers.'*³¹⁴

Both SACOSS and Uniting Communities were supportive of the Draft Determination.

³¹² Before the application of catch-up and continuing efficiencies.

³¹³ SACOSS, p. 22

³¹⁴ Uniting Communities, p. 3

Business SA commented that:

*'We support ESCOSA's broader approach to better align IT investments and savings but we are concerned that if savings from existing IT investments have not been adequately justified that a higher burden of proof should be required to ensure this scenario does not repeat for future period IT Capital Expenditure.'*³¹⁵

The Commission's approach to identifying SA Water's IT savings more transparently in its draft decision was supported by stakeholders, with Business SA commenting that:

*'Business SA supports ESCOSA's approach to assessing SA Water's operating expenditure, particularly IT expenditure... We agree that savings from IT investments need to be more transparent to consumers, including a mechanism which provides more accountability to realise savings from IT investments.'*³¹⁶

Additionally, Business SA, through a supporting report from Isle Utilities, urged the Commission to undertake a benchmarking study of IT capital expenditure 'as soon as practically possible' and that 'Isle thinks that ESCOSA's Draft Decision is overly favourable to SA Water and warrants further challenge by Business SA.'³¹⁷

In response to the Draft Determination, SA Water requested the reinstatement of the \$9.6 million adjustment, stating that it was 'Based on a misunderstanding by Cardno of [the] importance of systems to our operations'³¹⁸. However, SA Water provided no supporting evidence to justify this claim.

Discussion

SA Water's approach to developing its IT expenditure program

SA Water's approach to managing its IT program avoids locking in exact solutions too early, so that it can take advantage of new and emerging technologies. While this provides it with operational flexibility, it has made it difficult to determine, on an ex-ante basis, whether the individual IT projects currently proposed for SAW RD20 are prudent, or if its forecast costs are efficient.

Cardno summarised its assessment of SA Water's current approach as follows:

*SA Water's approach is to define outcomes and have in place a planning process and governance framework to deliver on these objectives. This requires different processes compared with traditional planning. In particular, benefits realisation and overall program monitoring needs to be robust to ensure that the program delivers the cost savings and outcomes expected. SA Water advised that the benefits realisation approach is still being developed but that the monitoring and governance framework is in place. This includes an IT Governance Committee comprised of Senior Leadership Team and cross-business Senior Managers. Financial Delegations require Chief Executive approval for expenditure greater than \$4 million and General Manager approval for expenditure greater than \$1 million. We consider that the governance framework is appropriate but we are concerned that the benefits realisation approach needs to be robust and fully implemented for RD20 to provide assurance that the expected benefits (including risk mitigation and efficiency savings) are realised. SA Water acknowledged the importance of this.'*³¹⁹

The Commission remains concerned that the expected outcomes of SA Water's proposed IT expenditure are not clearly defined, which makes it hard to assess whether each project is worthwhile. That is, whether project costs are justified by the value customers place on a service

³¹⁵ Business SA, p. 2.

³¹⁶ Business SA (Attachment A), Isle Utilities p. 7.

³¹⁷ Business SA (Attachment A), Isle Utilities p. 7.

³¹⁸ SA Water, Appendix B, Table 18, p.4 of 79.

³¹⁹ Cardno, p. 85.

improvement, or the value of investing in IT-enabled solutions to improve the efficiency of business processes.

For example, where the key driver for an IT project is to improve services for customers, customer support should be clearly evidenced. This should be through specific customer engagement efforts, which present the costs of delivering improvements to customers for their consideration. SA Water should not assume that customers want continuous improvements, especially where these improvements come at an ever-increasing cost.

Approximately one-third of the proposed IT capital expenditure is planned to improve services, however, none of the 19 areas tested in willingness to pay research related directly to the IT expenditure proposals. For example, the Digital Presence Program (\$26.3 million) includes investment in the CRM which SA Water stated will *'improve our ability to resolve issues the first time customers contact us, one of our new service standards'*. However, SA Water has not sought to link the costs of improvements with its proposed service standards (for example, customer satisfaction and first contact resolution). Further, the separate business case supporting the introduction of 'first contact resolution' stated that this service standard will have no net cost increase because costs will be met by reducing the telephone responsiveness service level.

Guidance Paper 4 provided advice on documenting the link between expenditure, project outputs and project outcomes, as part of an effective asset management system. This evidence has not been provided and SA Water will need to establish measures that clearly identify whether the intended outcomes are actually delivered over the SAW RD20 period.

Similarly, where the purpose of an IT project is to enable wider business efficiencies, SA Water must be able to robustly identify and quantify the expected efficiencies; and then assess whether these expected efficiencies justify the initial, and ongoing, expenditure. This is particularly important as SA Water transitions more towards Software as a Service (**SaaS**) solutions, where it may be more limited in its ability to control future external costs. As expressed by SACOSS, the expected efficiencies should, at a minimum, exceed the costs of the project.³²⁰ As each project is delivered, its outturn efficiencies must be quantified, and included in the documentation of project benefits.

Achieving IT-enabled business efficiencies in SAW RD20

The efficiency and effectiveness of SA Water's flexible approach to IT project delivery during the SAW RD16 period has been difficult to assess, as there was a lack of documentation of the expected and outturn benefits achieved through the individual IT projects actually delivered.

This finding is supported by the evidence provided through Cardno's ex-post review of the SAW RD16 IT program, where it found unsatisfactory documentation of efficiencies delivered by IT projects, noting that *'...savings have been committed top-down, not quantified based on a bottom-up evaluation of the initiatives'*.³²¹

As discussed in section 6.7.5 above, SA Water has confirmed that this approach is by design. SA Water explained that the IT-related savings in SAW RD16 *'were not delivered through IT savings as originally considered back in 2016, but they have been delivered by means of restructure, internal resourcing and seeking synergy through contracts.'*³²²

This approach has made it difficult to untangle which IT savings SA Water had delivered, which were still outstanding and which were no longer required. It has also made it difficult to assess the efficiency of SA Water's approach to planning and delivering on IT projects, and the overall effectiveness of the solutions actually provided. It is also difficult to assess whether the 'alternative means' of delivering the

³²⁰ SACOSS, p. 22.

³²¹ Cardno, pp. 74-75 and pp. B33-B35.

³²² SA Water submission, p. 26.

expected IT-enabled business efficiencies are sustainable over the longer term, or if they are short-term fixes to ongoing business inefficiencies.

The Commission has set operating expenditure targets, which are in part, enabled by IT capital expenditure solutions, to provide appropriate efficiency targets for the SAW RD20 period. Section 6.14.3.1 provides further discussion on the specific IT program business savings target.

Additional ongoing operating expenditure to support IT capital investments undertaken in SAW RD16

A further complication in assessing the efficiency and effectiveness of SA Water's approach to IT projects was the proposal for an average additional \$3.2 million per annum of operational expenditure to support the ongoing—and increasing—costs associated with its current SAW RD16 IT capital program. These additional costs were not considered by KPMG in its Report on SA Water's IT program or included in its assessment of SA Water's total IT program operating expenditure.³²³

SA Water stated that increasing costs related to the SAW RD16 IT capital program were being driven by:

- ▶ higher initial operating costs associated with the use of SaaS solutions, and
- ▶ the transformation of SA Water to a digital utility.

The Draft Determination noted that, if this proposed additional expenditure was approved, it would more than double the operating expenditure required to support the SAW RD16 IT program; from \$2.8 million in the base year to \$6 million in 2020. The Commission's draft decision was made on the basis that insufficient evidence had been provided to support this increase in operating expenditure.

Having regard to additional evidence now supplied by SA Water in relation to operating expenditure needs for the SAW RD16 IT program,³²⁴ the Commission has accepted an additional \$2.1 million per annum of operating expenditure as follows:

- ▶ \$1.2 million for unanticipated increases in the cost of operating SaaS
- ▶ \$0.5 million not included in the base year, as this was due to be spent in 2019-20, and
- ▶ \$0.4 million for improving SA Water's capability to respond to customer needs digitally.

However, the Commission does not accept SA Water's claim that as it only spent \$2 million in the base year, and not \$2.8 million as allowed in SAW RD16, that an additional \$0.8 million of IT operating expenditure should be included in SAW RD20 to account for this. No adjustment was made by SA Water to its normalised efficient base year to account for this reduction in actual IT expenditure in 2018-19, and, therefore it remains in SA Water's efficient base year.

The final decision is to include an average additional \$1.6 million per annum in operating expenditure on top of the draft decision of \$0.5 million per annum, bringing the total additional operating expenditure for ongoing SAW RD16 IT program costs to \$2.1 million per annum.

The Commission notes that of the \$33.2 million of approved IT operating expenditure over SAW RD20 \$7.2 million, or 20 percent, relates to unanticipated cost escalations in licences and SaaS. SA Water uses an IT Cost Model to calculate IT program operating costs, which includes inputs such as resource costs, infrastructure and software costs, vendor costs and training costs. The basis of these input costs were not part of KPMG's review, however, it did suggest that SA Water's estimates should to be

³²³ KPMG IT Plan Review: SA Water, August 2018, p. 56.

³²⁴ SA Water submission, pp. 27-28.

thoroughly evidenced. The Commission notes that this evidence was not provided by SA Water, and will be an area of key focus in future IT program expenditure reviews.

Additionally, considering SA Water uses a rigorous IT Cost Model to determine forecast IT program expenditure, the Commission expects that anticipated support costs for capital expenditure (such as vendor and software costs) has been forecast more effectively for SAW RD20 and into the future. Further, as recommended by KPMG, the Commission will require SA Water to provide evidence of robust options analyses undertaken prior to the implementation of its SAW RD20 IT program as part of an ex-post review to inform SAW RD24.³²⁵

Ex-ante capital expenditure adjustment

The Commission has not been provided with any new evidence to refute the understanding that there is scope to deliver the IT capital expenditure program more efficiently. While not exhaustive of the areas where there is potential for further efficiencies to be realised, SA Water's proposed IT Risk Management Program has been used as an example of an area where a reasonable ex-ante adjustment can be made.

Cardno's evidence was that there was scope for SA Water to deliver on the objectives of the IT Risk Management Program for a lower cost. It suggested that the efficiencies are likely to be able to be achieved through greater challenge to the program needs and timing, (including through an enhanced approach to benefits realisation), a more complete approach to risk assessment of the activities proposed, and through further development of solutions to identify the most cost effective option.³²⁶

The Commission notes SA Water's concern in relation to the Draft Determination that the proposed adjustment to the expenditure required for this program was based on a misunderstanding of the importance of these systems to its operations. The Commission is not aware of any misunderstanding as to the importance of SA Water's IT systems to its operations, and confirms that no adjustments have been made based on the prudence of the proposed IT programs. The proposed adjustment was made on the basis that there is likely to be scope to deliver the objectives of the IT Risk Management Program for a lower cost.

Accordingly, the final decision is to reduce the overall IT capital expenditure benchmark to be included in SAW RD20 by \$9.6 million. Further, the Commission's final decision is that an average additional \$8.3 million per annum of operating expenditure is a prudent and efficient amount to enable SA Water to deliver its proposed IT program.

Better documenting objectives, outputs and outcomes achieved through IT projects

Taking account of all of the above matters identified through this review, the Commission intends to seek its own independent review of SA Water's approach to managing its IT program.

This review will take a similar approach to that used for the other parts of SA Water's business, including the extent to which IT planning and delivery processes are embedded (or otherwise) within SA Water's broader asset management system. It will assess the overall governance arrangements, planning processes, business case development, options analysis, financial analysis, costing models, project delivery, and project evaluation and benefits realisation processes. It will further assess the actual projects delivered during the SAW RD20 period, and how the lessons learned through that period have helped to inform the forward plan for the SAW RD24 period.

³²⁵ KPMG, IT Plan Review Summary Report, August 2019, p. 2. SA Water: Our Plan, Appendix M.

³²⁶ Cardno, p. 86.

To facilitate this review, SA Water will need to improve the way in which it documents the objectives, outputs and outcomes achieved through its IT program, and be able to make that documentation available for an IT-specific ex-post review of the SAW RD20 period.

6.14 Efficiency challenges for SAW RD20

The Commission has identified the potential for further significant efficiency savings over the SAW RD20 regulatory period beyond those proposed by SA Water. Top-down 'catch up efficiency' and 'continuing efficiency' targets are proposed for both the operating and capital expenditure forecasts.

Table 6.15 provides a summary of the efficiency challenges in SA Water's proposal versus those in the Final Determination.

Table 6.15: Summary of efficiency challenges proposed for SAW RD20

Efficiency challenges	SA Water proposal	Final Determination approach	Draft Determination (\$m)	Final Determination (\$m)
Capital expenditure:				
Catch-up	Flat 5% top-down	Flat 5% top down plus: a further 1.5% per annum ¹	34.4	33.0
Continuing		a further 0.5% per annum ²	19.7	18.3
Operating expenditure:				
Catch-up	AGL energy contract termination savings (\$20.6)	IT and Adelaide Service Delivery contract savings	64.1	34.0 ³
Continuing	0.5% per annum (\$16.6) ⁴	0.5% per annum ⁵	16.7	17.7

Notes:

1. Applied only to capital expenditure not reviewed through the sampling process or specified in the section 6 Direction.
2. Applied to all capital expenditure except as specified in the section 6 Direction.
3. The \$30.1 million reduction in operating expenditure catch-up efficiencies between the Draft Determination and the Final Determination is largely due to a reduction in anticipated savings resulting from the termination of the AGL energy contract and how the Commission has captured these savings. See section 6.14.3.2 for further details.
4. SA Water had proposed that this \$16.6 million would include business savings achieved through SAW RD20 IT program generated efficiencies, which alone amount to approximately \$22.3 million. SA Water RBP 2020, Our Plan, p. 22.
5. Applied to operating expenditure excluding labour costs and section 6 Direction.

6.14.1 What has SA Water proposed?

For operating expenditure, SA Water proposed an incremental general efficiency target of 0.5 percent per annum for both water and sewerage services over the SAW RD20 period. It proposed achieving this through identifying and realising general efficiencies within its business. These general efficiency savings are not directly attributable to specific initiatives; they are stretch targets that the business has set for itself.

For capital expenditure, SA Water has set itself a flat top-down efficiency target of five percent across both water and sewerage services over the SAW RD20 period. This has not been split between catch-up efficiency and continuing efficiency, nor has it been set on an incremental basis.

In its RBP, SA Water identify several key areas of improvement within its business where it expects to deliver its efficiency targets, including (not exhaustive): contract management, workforce planning, scope prioritisation modelling, project controls, and improved system and processes, which encompass competitive target outturn cost development, value for money work practices and performance management.³²⁷

6.14.2 Issues identified with the asset management system suggest greater capital delivery efficiencies are achievable in SAW RD20

An efficiency target of 1.5 percent per annum has been applied to the portion of the capital program that was not reviewed through the sampling approach. This target has been informed by the evidence provided by Cardno that there are at least two key areas in the asset management system where it believes SA Water should be able to make material improvements to its processes during SAW RD20: improved assurance over expenditure justification and improved asset management decision making.

In setting these targets, the Commission notes Cardno's evidence that it:

*'...had regard for SA Water's anticipated level of efficiency gains and the avenues in which it anticipates that it will achieve these efficiencies. We have sought to identify if further efficiency gains are possible over and above those identified by SA Water and this has been informed by our reviews of SA Water's asset management practices and the application of these practices to develop the forward expenditure program.'*³²⁸

The nature of the issues identified are summarised below.

6.14.2.1 Improved assurance over expenditure justification

There is scope for SA Water to refine its asset management objectives and line of sight so that there is greater recognition and integration with the regulatory framework in which SA Water operates. This would provide a higher level of assurance that expenditure is justified on the grounds of both stakeholder expectations and the regulatory framework. Cardno identified multiple examples³²⁹ of expenditure being proposed in the sample reviewed where there was insufficient evidence to conclude that it was a prudent investment:

- ▶ The proposal to increase expenditure in Smart Networks to \$20.9 million in SAW RD20 without quantifying the benefits expected to be delivered, even though a trial has been completed providing information which ought to have informed that assessment.
- ▶ The water network structures program proposing a level of expenditure to mitigate an unconfirmed level of asset failure risk, despite SA Water being aware of the benefits of quantifying this risk during the SAW RD16 period but not doing so.
- ▶ The wastewater networks program has been developed with limited consideration of consequence of failure. A more sophisticated approach will provide more assurance that cost and risk are being balanced.

³²⁷ SA Water RBP 2020, Our Plan, p. 22.

³²⁸ Cardno, p.88.

³²⁹ Cardno, pp. 88-89.

The Commission has accepted this evidence from Cardno, and its recommendation that the above issues should generate an incremental cost efficiency of one percent per annum over the SAW RD20 period.

6.14.2.2 Improved asset management decision making

Asset management decision making refers to lifecycle cost and risk analysis to determine optimum intervention to assets to achieve the asset management objectives.

Cardno identified numerous examples in the sample of programs and projects reviewed where SA Water's approach to lifecycle costing appeared to fall short of good practice, was inconsistently applied, or lacking in rigour. In some instances, financial analysis was limited (even in some cases where financial benefits were the key justification for the expenditure), limited sensitivity testing and scenario analysis was conducted, and the financial analysis period did not match the expected life of the underlying assets.³³⁰

Cardno suggested that improved asset management decision making should allow SA Water to realise the following benefits during SAW RD20:

- ▶ selection of options that are more favourable than what may be identified through less robust analysis
- ▶ avoidance of projects where the decision-making criteria are not met, and
- ▶ better appreciation of the lifecycle cost impacts across the entire program and over the long term to inform better decisions regarding total expenditure and affordability.

The Commission has accepted this evidence from Cardno, and its recommendation that the above issues should generate an incremental cost efficiency of 0.5 percent per annum over the SAW RD20 period.

6.14.2.3 Improved cost intelligence

Cardno suggested that a third area in which SA Water is likely to be able to make material efficiency gains during SAW RD20 is its approach to cost estimating. However, it noted that it has not suggested any catch-up efficiency for this area of improvement, as SA Water has identified its expectation that improved cost intelligence will support it to achieve the 'top-down' five percent efficiency gain it intended to apply to the overall capital expenditure program.³³¹

6.14.2.4 Draft Determination – Capital expenditure efficiency target

The Draft Determination set a catch-up efficiency target of 1.5 percent per annum, for the reasons specified in sections 6.14.2.1 and 6.14.2.2 above. This was in addition to the flat five percent top down target that SA Water had set for itself in its RBP. This target was applied to all capital expenditure, other than those projects and programs that were examined in detail as part of the sampling approach and generated an efficiency target in the Draft Determination of \$34.4 million.

A continuing efficiency target of 0.5 percent per annum was also set, for the reasons detailed in section 6.14.4, which set a further efficiency target in the Draft Determination of \$19.7 million.

³³⁰ Cardno, p. 89.

³³¹ Cardno, p. 88.

6.14.2.5 Matters raised in consultation and the Commission's further consideration

Uniting Communities, in its response to the Draft Determination, stated that *'The application of a continuing efficiency target of at least 0.5% per annum across capital and operating costs [is] strongly supported.'*³³²

SA Water, in its response to the Draft Determination, provided some further information in relation to the examples raised on the catch-up efficiency issue of 'Improved assurance over expenditure justification'.³³³

- ▶ On Smart Networks, SA Water explained that it has now implemented societal impact modelling, and that this had been used to update the original NPV analysis. As the proposed investment in Smart Networks forms part of the funding that is now specified under the section 6 Direction on water reticulation main performance, the Commission has not analysed this matter further.
- ▶ The response did not address why the risks around the water network structures program remain unquantified, instead making a case for additional funding to carry out further asset condition inspections during SAW RD20. (Water network structures are covered in detail in section 6.10.4).
- ▶ SA Water stated that it is *'...incorrect to say that the wastewater networks program has been developed with limited consideration of consequence of failure.'*³³⁴ It put the view that the sewer mains renewal program was confused with the operational response to reducing environmental overflows. This is incorrect; the Commission has addressed the issues raised in its assessment of the proposed sewerage mains management program in section 0.

The further evidence presented does not change the Commission's view that there remains scope for SA Water to continue to refine its asset management objectives and line of sight, so that there is greater recognition and integration with the regulatory framework in which it operates, and that this has the potential to drive further efficiency across the SAW RD20 period.

Likewise, in response to the catch-up efficiency target set based around 'Improved asset management decision making', SA Water provided further supporting information on how projects are evaluated and approved.³³⁵ However, that did not address the issues identified with the reviewed sample documentation³³⁶ and the Commission remains of the view that there is scope for SA Water to improve in this area.

SA Water further stated that it had:

*'...applied an efficiency of 5 per cent to the capital program proposed in Our Plan to acknowledge and drive further optimisation and efficiency...but the Draft Determination appears to apply the abovementioned efficiency targets on top of the already discounted capital plan. SA Water suggests that the 5 per cent is reinstated before any efficiency target is applied in the final determination.'*³³⁷

³³² Uniting Communities p.19.

³³³ SA Water, pp. 19-20 of 79.

³³⁴ SA Water, page 20 of 79.

³³⁵ SA Water, p. 21 of 79.

³³⁶ Cardno p. B10. As an example, the NPV analysis for the Hope Valley EL170 Tank Structure renewal was based on a 30 year life with zero residual value, in spite of the options being assessed having variously 20 year and 40 year useful lives.

³³⁷ SA Water, p. 21 of 79.

Both the Draft Determination³³⁸ and Cardno's report³³⁹ were quite clear that the catch-up efficiency targets set were in addition to the five percent target that SA Water had applied to its RBP prior to submission.

In conclusion on capital expenditure efficiencies, SA Water expressed the view that:

*'...the manner in which it has been applied is out of step with regulatory practice. Rather than apply a 1.5 per cent target for the capital expenditure this has been applied on an annual basis and compounded so that it is 3 per cent in 2021/22, 4.5 per cent in 2022/23 and 6 per cent in 2023/24. Even if Cardno's argument for the 1.5 per cent catch up efficiency target is accepted, it is not correct to apply a target of up to 6 per cent.'*³⁴⁰

However, SA Water did not cite any examples to support its position. The application of compounding efficiency targets is an attempt to mirror how the business will be able to incrementally improve its performance over time and is consistent with that applied in both SAW RD13 and SAW RD16, and commonly used in other Australian and international jurisdictions.

6.14.2.6 Final decision

The final decision is that the Commission will apply a compounding catch-up efficiency of 1.5 percent per annum across SAW RD20. As with the Draft Determination, to avoid any risk of double counting, the efficiency target has not been applied to the projects and programs that formed the reviewed sample. Further, it has not been applied to those capital expenditure items specified in the section 6 Direction from the Minister for Environment and Water to SA Water.

The final decision on the catch-up efficiency target is \$33.0 million.

Further, as discussed below, a compounding continuing efficiency target of 0.5 percent per annum has also be set for SAW RD20 capital expenditure. As with catch-up efficiency, this has not been applied to those capital expenditure items specified in the section 6 Direction.

The final decision on the continuing efficiency target is \$18.3 million.

6.14.3 Issues identified that suggest greater operating expenditure efficiencies are achievable in SAW RD20

A catch-up efficiency target of \$22.3 million for operating expenditure has been calculated to ensure IT-enabled efficiencies are transparently embedded in SA Water's budgets. Currently, SA Water's total continuing efficiency target of \$16.6 million is not sufficient to account for its proposed IT business savings of approximately \$22.3 million, aside from any further productivity efficiencies it should achieve over SAW RD20.

A further catch-up efficiency target of \$11.7 million has been set to recognise planned changes in procurement processes that should enable efficiencies to be achieved in the SAW RD20 period that are in addition to continuing productivity efficiencies.

As these efficiencies are driven by clearly identified areas of business savings prior to SAW RD20, these items have not been excluded from the calculation of the 0.5 percent continuing efficiency. The Commission expects SA Water to achieve continuing productivity efficiencies in line with those areas it identified in its RBP,³⁴¹ summarised in section 6.14.3.3.

³³⁸ Draft Determination section 7.12, p. 134.

³³⁹ Cardno, section 5.3.3, p. 88.

³⁴⁰ SA Water, p. 22 of 79.

³⁴¹ SA Water RBP 2020, Our Plan, p. 22.

Further discussion of SA Water's anticipated ability to achieve continuing efficiencies is at section 6.14.4.

6.14.3.1 Embedding IT-enabled business efficiencies so that they remain cost-neutral

SA Water has stated its expectation that business savings driven by its SAW RD20 IT capital investment program will result in that investment being almost operating expenditure neutral. To achieve this, SA Water's IT capital investment program will need to generate business savings of approximately \$5.6 million per annum: \$22.3 million over SAW RD20.³⁴² In its RBP, SA Water stated that these IT driven business efficiencies will help it in achieving its 0.5 percent accumulating continuing efficiency over SAW RD20.³⁴³

Considering that SA Water is proposing to deliver a total of \$16.6 million in savings to meet its 0.5 percent continuing efficient target, it appears that SA Water's operating expenditure efficiency proposal does not reflect its expected IT savings in full.

While the Commission's final decision is to accept that the proposed operating expenditure is necessary to achieve the wider business efficiencies, it wants to ensure that the associated business savings are transparently accounted for in the SAW RD20 period (refer to section 6.13 for further discussion on the SAW RD20 IT program expenditure).

Accordingly, the Commission has embedded an IT-related operating expenditure savings target of \$22.3 million, so that these expected savings are more easily identifiable than in SAW RD16. Over SAW RD20, the Commission will work with SA Water to develop a monitoring, evaluation and reporting framework for its IT investment program, to improve the level of IT expenditure transparency and accountability, and clearly map the benefits realised, in the future (see Chapter 10).

6.14.3.2 Locking in the expected savings from contract management and procurement processes

In its RBP, SA Water had identified \$5.2 million per year in procurement contract savings to be achieved over SAW RD20, as a result of breaking its long-term electricity contract with AGL (discussed further in section 6.7.3.2). The Draft Determination identified further savings of \$1.2 million per annum that the Commission considered SA Water should be able to realise across the SAW RD20 period as a result of concluding the contract.

In its submission, SA Water accepted this but claimed the Commission had double-counted \$2 million per annum of savings between the ADP additional operating expenditure and the AGL energy contract termination benefits.³⁴⁴

The Commission analysed further evidence provided by SA Water to support this claim and has accepted SA Water's position. This reduces the potential savings from SA Water's termination of the AGL energy contract to an average of \$4.2 million per annum over SAW RD20. However, rather than identify these savings separately from SA Water's electricity costs, the Final Determination has incorporated any savings from this contract termination into SA Water's electricity allowance, where these savings will be achieved by the business, by better reflecting SA Water's actual electricity costs over SAW RD20.

³⁴² This savings target is based on SAW RD20 IT program operating costs, and excludes additional operating expenditure allowed for SAW RD16 IT program costs (as savings related to these programs are already embedded in the base year) and unanticipated increases in licensing costs.

³⁴³ SA Water RBP 2020, Our Plan, p. 22.

³⁴⁴ SA Water submission, p. 29.

6.14.3.3 Material improvements should be expected from the new Adelaide service delivery arrangements

The Commission considers that there is scope for SA Water to achieve material improvements in the cost of managing, operating and maintaining its water and sewerage system in the metropolitan Adelaide area. Currently SA Water delivers these services through an outsourcing contract, the Allwater Metro Alliance, which SA Water has decided to terminate from July 2021 in favour of a revised service delivery model.

The Draft Determination noted SA Water's decision to terminate that contract. At that time, SA Water had stated that the revised model would assist it to manage underlying cost drivers, achieve efficiencies, improve customer satisfaction and implement more innovative solutions. In making its decision to change its service delivery model, SA Water had estimated that efficiency savings should be achievable. However, SA Water had not made any adjustments for these anticipated savings in its RBP, and so the Commission proposed an efficiency target of \$16.2 million over the SAW RD20 period, based on evidence available, to capture the savings that should be able to be achieved under the proposed new model once it was implemented.

In its submission to the Draft Determination, SA Water stated that these savings were not achievable and that the proposed option for the revised ASD model at the time of the RBP was no longer its preferred option. SA Water stated that, based on changes to its operating environment, changes to the proposed service delivery model and the stage at which the review process was at, it could not quantify any anticipated savings. SA Water proposed that any savings achieved through the revised service delivery model be used to achieve business efficiency targets.

The Commission does not accept this proposed approach. A key factor in SA Water's decision to terminate the contract are its rising costs, which have increased 1.5 percent year-on-year (above inflation) since 2012-13. These increases have caused the Allwater Metro Alliance contract to exceed budget each year of the SAW RD16 period. In the 2018-2019 base year, the Allwater Alliance contract exceeded budget by \$9.5 million.

In its analysis to determine a revised service delivery model, SA Water undertook an assessment of its existing model to identify areas for potential improvement. This considered industry insights from leading national water utilities, and a costing analysis and value for money review undertaken in conjunction with industry specialists. Based on this assessment, SA Water identified key areas of improvement to be delivered and selected a preferred, revised service delivery model, which included improved performance management, cost transparency and optimal contracting methodology. This initial preferred service delivery option identified that up to \$16.2 million of potential savings could be achieved.

Nevertheless, as noted above, SA Water has changed its assessment of the preferred service delivery approach and no longer anticipates that these savings can be realised.

SA Water submitted that changes to its operating environment and revisions to the preferred service delivery model mean there are no identified financial savings from the change in contract model. It stated that *'the anticipated efficiencies and cost savings will not be known until the evaluation of tender responses is undertaken.'*³⁴⁵ SA Water plans to use any actual savings identified from the revised service delivery model as an enabler to achieve its year-on-year efficiency targets.³⁴⁶

The Commission has assessed this further evidence from SA Water on its revised service delivery model and its response to the Draft Determination. The Commission does not accept that SA Water's operating environment has changed significantly from the initial contract review assessment, or that no

³⁴⁵ SA Water submission, p. 30.

³⁴⁶ SA Water submission, p. 30.

savings can be identified at this stage. Further, on the basis that there are key functions of the current service delivery model where savings should be realised, the Commission expects these to be realised as clear savings for customers and not as business efficiencies.

Several areas for performance improvement were also identified in ACML's independent review of SA Water's approach to water main management. ACML's strategic recommendations include several findings relevant to improving value for money and customer outcomes in SA Water's metro ASD, including:³⁴⁷

- ▶ developing an end-to-end value chain (including supply chain) to minimise disconnects in the business (both within SA Water and the interface with Allwater) and to ensure the 'line of sight' from all activities back to customer needs is visible and effective
- ▶ engendering a more demanding culture that provides internal challenge and ongoing assurance throughout the value chain, and
- ▶ continuing to develop innovative ways of reducing the total community impact of water main breaks through improved processes, work practices and further deployment of SA Water's smart water network.

Further to this, the AMCL report found that there are opportunities for SA Water to improve in the areas of resource management, contract management, maintenance effectiveness, work practices and logistics management.³⁴⁸

Noting that the rising cost of metro service delivery was a key catalyst for undertaking a review of the existing model, a reasonable expectation is that SA Water will implement a revised delivery model that achieves at least some of the opportunities for improvement identified in the initial robust assessment of the current delivery model.

Accordingly, the Commission expects SA Water to drive savings across two areas it identified early as the key drivers for change: improved performance management and optimal contracting methodologies.

The Commission acknowledges that the revised service delivery model will not generate savings of the quantum anticipated in the Draft Determination under the initial preferred option in relation to bringing functions currently outsourced to the Allwater Alliance in-house. However, the Commission notes that this reduction in savings will be partially offset by a reduction in the avoided higher cost of SA Water's internal labour.

On this basis, and absent any projected savings identified by SA Water, the Commission has carried out its own analysis, utilising the detailed procurement/contract information that has been provided to it, to project a reasonable level of future savings. The Commission expects SA Water to achieve an accumulative two percent saving each year on ASD operational expenditure from 2021-2022 onwards. This represents a continued expectation of some scope for savings in procurement costs, contract performance management and administration costs, as identified in SA Water's initial robust options assessment, partially offset by limited anticipated increases in internal labour and contract management costs, also identified in SA Water's initial robust options assessment.

Recognising that transitional costs will be incurred by SA Water in the first year of SAW RD20 as it prepares to implement the revised ASD model beginning July 2021,³⁴⁹ the Commission has taken a

³⁴⁷ ACML report, p. 31.

³⁴⁸ ACML report, pp. 20-21.

³⁴⁹ SA Water advised the Commission that due to the early stage of the procurement process no estimate of transition costs were available for the Commission to consider in its analysis of ASD costs over SAW RD20.

conservative approach in its analysis of ASD costs over SAW RD20 and not set a savings target for 2020-21.

As shown in Table 6.16, the final decision to set a two percent per year challenge on ASD operational expenditure from 2021-2022 onwards. This will see the base year operational expenditure forecast for ASD decrease from \$97.5 million in 2020-21 to \$91.6 million in 2023-24. The final decision allows \$378.2 million for ASD over SAW RD20, which is \$11 million more than proposed in the Draft Determination, but \$17.4 million less than if the Commission had accepted SA Water's proposed ASD efficient base year without applying an efficiency target over SAW RD20.

Table 6.16: ASD SAW RD20 savings target

Year	Total (\$m)	Efficiency	Savings (\$m)
2020-21	97.5		
2021-22	95.5	2%	-1.9
2022-23	93.6	4%	-3.9
2023-24	91.6	6%	-5.8
Total	378.2		-11.7

6.14.4 SA Water should also be able to achieve ongoing efficiency in line with the wider Australian economy

The Final Determination adopts a continuing efficiency target of 0.5 percent per annum for SA Water's capital and operating expenditure across the SAW RD20 period. This is based on a conservative view of the reasonable range for productivity improvements using multi-factor productivity (MFP) estimates for the Australian economy, with an expectation that SA Water should be able to become more efficient at least as quickly as the Australian economy has achieved in recent years.

However, as MFP is a measure that captures the effect of capital productivity as well as labour productivity, the continuing efficiency target has been applied only to operating expenditure excluding labour costs, which the Commission is proposing to cap at CPI across the SAW RD20 period (refer section 6.10.7), to avoid any double count of efficiencies. Further, those operating expenditure items specified in the section 6 directions have also been excluded from the application of the continuing efficiency factor.

Cardno put the view that a continuing efficiency target of 0.8 percent per annum be applied to both operating and capital expenditure for SAW RD20. This was based on long-term analysis of MFP estimates for the whole-economy indicators, which produced a range of productivity increases from 0.7 percent to 1.0 percent per annum. Cardno also considered recent analysis by Europe Economics, on behalf of the Economic Regulatory of the water sector in England and Wales (Ofwat), of the potential for 'Frontier Shift' for the England and Wales water industry over the five year period from 2020-2025. The recommended frontier shift range was 0.6 percent to 1.4 percent per annum, with a 1.1 percent per annum efficiency applied in the final determination.³⁵⁰

Drawing on Cardno's suggestion, the Commission has further considered MFP in Australia over time, based on published Australian Bureau of Statistics data.³⁵¹

³⁵⁰ Cardno, pp. 61-62.

³⁵¹ Australian Bureau of Statistics, 5260.0.55.002 Estimates of Industry Multifactor Productivity, Australia, released 2 December 2019, available at <https://www.abs.gov.au/ausstats/abs@.nsf/mf/5260.0.55.002>.

The Australian Bureau of Statistics publishes data for the '*Electricity, Gas, Water and Waste Services*' sector. The Commission notes that this data shows negative productivity growth since the late 1990s. This is due to the effects of materially increased inputs in this sector outstripping output growth over this period (for example, the construction of seawater desalination plants, and the investments in renewable power generation).

The Commission has also looked at the nation-wide measure of MFP, which measures productivity growth across the Australian economy. This has averaged +0.5 percent per annum in the period from 2012. Prior to this, strong growth was observed in the 1990s as micro-economic reforms took effect, followed by low growth in the 2000s, which some attribute to high capital investment in mining.

Taking account of the above, and recognising the level of uncertainty that exists over future productivity, particularly in light of the impacts of COVID-19, the Commission has taken a conservative view that SA Water should be able to become more efficient at least as quickly as the Australian economy has achieved in recent years.

7 The cost of funding and using assets

Final decision – rate of return

The Commission's final decision is that the rate of return to apply for the purposes of calculating the revenue caps for SAW RD20 is:³⁵²

- ▶ 2.96 percent (real, post-tax) for 2020-21.
- ▶ 2.75 percent (real, post-tax) for 2021-22.
- ▶ 2.59 percent (real, post-tax) for 2022-23.
- ▶ 2.42 percent (real, post-tax) for 2023-24.

The rates of return outlined above represent the Commission's estimates of the real, post-tax costs of capital required to provide drinking water and sewerage services. The decline over the regulatory period reflects the use of a 10-year trailing average cost of debt over a period in which interest rates have declined.

The Commission's final decision is that the regulatory rates of return will be calculated as the WACC, using the capital asset pricing model (**CAPM**) to determine the cost of equity. The methodology for calculating the rate of return is to:

- ▶ use a 10-year trailing average of the yield on 10-year BBB corporate bonds to measure the cost of debt
- ▶ calculate the cost of equity based on a 60-day average of the yield on 10-year Commonwealth Government Securities (CGS), a market risk premium of 6 percent, and an equity beta of 0.67, and
- ▶ adopt a 'glide path' approach to estimating long-term inflation expectations (calculating a geometric 10-year average using two years of RBA forecasts for trimmed mean inflation, a linear glide to the midpoint of the inflation target band in 2026-27 and 2.5 percent thereafter).

The rates of return are fixed during the four-year regulatory period, consistent with the requirements of the Pricing Order. This is different to the Draft Determination, which proposed annual updates to the rate of return.

Final decision – the value of the RAB and regulatory depreciation

The Commission has updated SA Water's drinking water asset value to reflect the requirements of the Pricing Order, which specifies a value at 1 July 2013 of \$7,250 million (in dollars of December 2012). That value is \$520 million lower than the value specified in the Pricing Order for SAW RD16, of \$7,770 million at 1 July 2013 (in dollars of December 2012). The Pricing Order did not change the value of SA Water's sewerage asset base.

The drinking water asset value and sewerage asset values have been updated to reflect efficient capital additions, disposals and depreciation in the SAW RD16 period. The Commission has projected those values forward to the SAW RD20 period based on forecast efficient capital additions,

³⁵² The rate of return to apply in the Final Determination has increased compared with the Draft Determination. This reflects that the impact of a lower estimate of long-term inflation expectations, a higher estimate of the cost of debt and a higher equity beta parameter have combined to more than offset the impact from the use of a lower risk-free rate.

disposals and depreciation. It has adopted the RAB 'roll forward' methodology consistent with the requirements of the Pricing Order and NWI Pricing Principles.

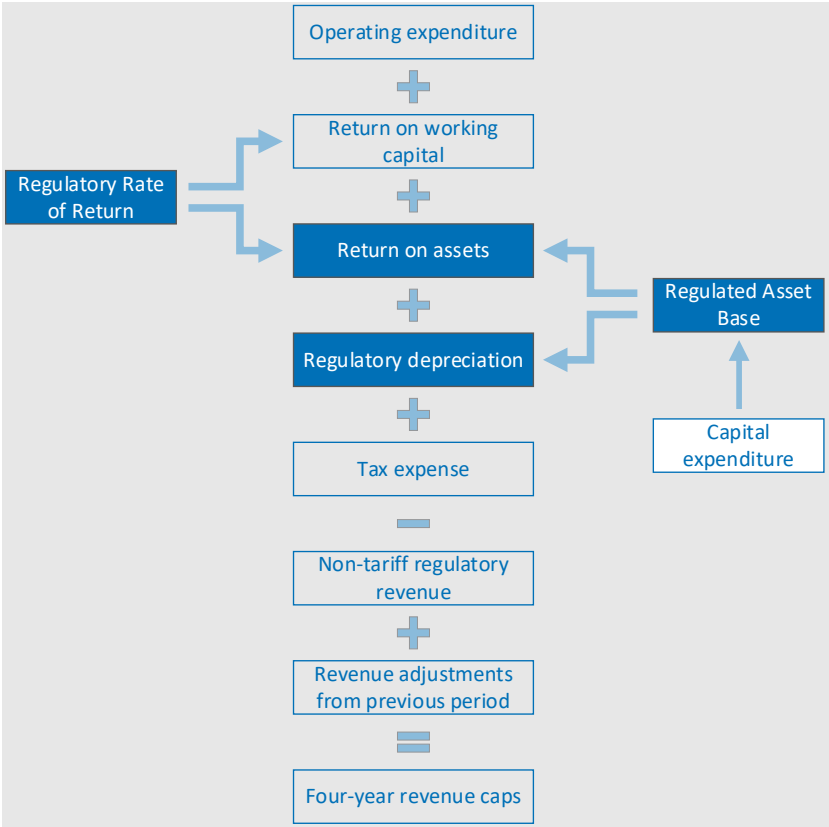
The Commission’s proposed RABs are as follows:

- ▶ for drinking water, the value of the RAB at 1 July 2020 (\$Dec18) will be \$8,107 million, and
- ▶ for sewerage, the value of the RAB at 1 July 2020 (\$Dec18) will be \$4,178 million.

7.1 Introduction

Investment in drinking water and sewerage infrastructure benefits customers over many decades and, accordingly, the infrastructure investment costs are shared between customers of today and tomorrow. The two main costs of providing drinking water and sewerage services are: the cost of financing new and existing infrastructure (the return on regulated assets) and the expected wear and tear over the life of the infrastructure (regulatory depreciation) (Figure 7.1).³⁵³ Approximately 40 percent of SA Water’s total costs are made up by the return on regulated assets and 20 percent by regulatory depreciation. Both the return on assets and regulatory depreciation are dependent in part on the value of the RAB.

Figure 7.1: Regulatory rate of return, return on assets, regulatory depreciation and the RAB



A key determinant of SA Water’s return on regulated assets is the regulatory rate of return. It represents the efficient cost of financing new and existing regulated assets and is intended to reflect the return expected by investors in a drinking water and sewerage business with a similar degree of risk.

³⁵³ In addition, there are two relatively small costs related to the cost of funding and using water and sewerage assets. These costs relate to the return on working capital, which is the return on short-term assets that SA Water needs to cover its day-to-day expenses, and SA Water’s tax expense, which is the amount of tax that is payable on profits from drinking water and sewerage services. These two costs are discussed in Chapter 8 – the determination of total revenue caps.

Movements in the regulatory rate of return—known to result from changes in economic and market conditions—can have a large impact on allowed revenues, given the return on assets accounts for a large share of SA Water’s total costs.

This chapter deals with the return on regulated assets and regulatory depreciation. It outlines the Commission’s final decision in relation to all inputs into the calculation of regulatory depreciation and the regulatory rates of return to apply for SAW RD20. The decision considers responses and information provided by SA Water and other stakeholders, available economic and regulatory research, and analysis and information presented in the Commission’s Guidance Papers issued over 2018 and 2019. The chapter should be read in conjunction with Guidance Papers 2, 5, 6, 7 and 9. An important feature of economic regulation is the balancing of risks. Guidance Paper 2 explained, in detail, the risks faced by SA Water and its customers, and where those risks should lie in terms of management and mitigation.³⁵⁴

7.2 Summary of SA Water’s rate of return proposal and the Commission’s final decision

For the most part, SA Water’s proposed rate of return parameters match those outlined in both the Commission’s Guidance Papers and Draft Determination. However, SA Water has proposed amendments to the averaging period of the risk-free rate and the method for estimating long-term inflation expectations. It selected an equity beta parameter at the upper end of the range provided by the Commission. Table 7.1 compares the rate of return parameters proposed by SA Water and the Commission’s draft and final decisions.

Table 7.1: Selection of parameters and assumptions in the regulatory rate of return calculation

	SA Water proposal (including RBP and submission to Draft Determination)	Commission’s draft decision	Commission’s final decision
Rate of return calculation	No annual update (RBP) Supports an annual update (submission ³⁵⁵) Real, post-tax WACC	Annual update Real, post-tax WACC	Annual update precluded by Pricing Order Real, post-tax WACC
Cost of debt			
Cost of debt (asset and term to maturity)	Yield on 10-year BBB corporate security	Yield on 10-year BBB corporate security	Yield on 10-year BBB corporate security
Averaging period of cost of debt	10 years	10 years	10 years
Approach to forecast underlying data	60-day average (not proposed in the RBP)	Latest available month of data	Latest available month of data
Debt raising costs (ppt)	0.125	0.125	0.125

³⁵⁴ Commission, Guidance paper 2, pp. 13-14, available at <https://www.escosa.sa.gov.au/ArticleDocuments/1200/20181101-Water-SAWRD20-GuidancePaper2-DeterminingDrinkingWaterAndSewerageRevenues.pdf.aspx?Embed=Y>.

³⁵⁵ SA Water’s submission to the Draft Determination supported the use of an annual update to the rate of return. In contrast, SA Water’s submission to Guidance Paper 9 did not support the use of annual updates.

	SA Water proposal (including RBP and submission to Draft Determination)	Commission's draft decision	Commission's final decision
Cost of equity			
Risk-free rate (asset and term to maturity)	10-year CGS	10-year CGS	10-year CGS
Averaging period of risk-free rate	60 days	60 days	60 days
Market risk premium (%)	6.0	6.0	6.0
Equity beta (%)	0.7 (RBP) 0.68 (submission)	0.65	0.67
Other			
Measure of long-term inflation expectations	One-year RBA forecast; inflation estimate capped at inputted risk-free rate minus 0.15% (RBP) Proposal for retrospective adjustment for inflation as part of annual updates (submission)	10-year average: RBA forecast for 2 years; linear glide path to IMF medium-term projection of consumer price inflation in Australia; midpoint of RBA inflation targeting band thereafter.	10-year average: RBA forecast for 2 years; linear glide path to midpoint of RBA inflation targeting band in 2026-27 and remains at 2.5 percent thereafter.
Credit rating	BBB	BBB	BBB
Gearing (%)	60	60	60

7.2.1.1 The main difference between SA Water's proposed rate of return and the Commission's final decision reflects the measure of long-term inflation expectations

Table 7.2 shows SA Water's proposal (top row) and the Commission's final decision (bottom row). Of the proposed amendments, SA Water's proposal to modify the method for estimating long-term inflation expectations would, if accepted by the Commission, have a significant impact. SA Water's proposal for an equity beta of 0.7 would have a relatively modest impact on the difference between the allowed and proposed rates of return; the impact is smaller if SA Water's submission to the Draft Determination of an equity beta of 0.68 is used.

Table 7.2: Summary of SA Water's proposed rates of return compared with the Commission's final decision*

	2020-21	2021-22	2022-23	2023-24
SA Water proposal (%)	4.38	4.16	4.00	3.83
Difference due to SA Water's proposed inflation amendment* (%)	1.34	1.34	1.34	1.34
Difference due to SA Water's proposed equity beta of 0.7 (%)	0.07	0.07	0.07	0.07
Commission's final decision (%)	2.96	2.75	2.59	2.42

* SA Water's measure of long-term inflation expectations has been estimated based on a 60-day average of nominal yields on 10-year CGS minus 0.15 percentage points as of 24 April 2020

7.2.2 The value of the RAB and regulatory depreciation

SA Water has proposed 1 July 2020 RAB values of \$8,678 million and \$4,049 million for drinking water and sewerage, respectively. However, the Commission's final decision is for lower drinking water RAB values than SA Water's proposal, and for higher sewerage RAB values than SA Water's proposal. These outcomes reflect the results of the capital expenditure review (as discussed in earlier chapters) and the Pricing Order. The RAB values were calculated by applying a roll-forward methodology, consistent with the requirements of the Pricing Order. The RAB roll-forward methodology incorporates adjustments to the RAB value for capital expenditure, disposals and depreciation. The RAB value is re-indexed for inflation at the commencement of each new regulatory period.

Relative to SA Water's proposed regulatory depreciation, the Commission's decision on regulatory depreciation is lower for drinking water, but slightly higher for sewerage. The lower regulatory depreciation for drinking water reflects the impact of the drinking water RAB reduction and the exclusion of ZCEF assets. However, this has been partly offset by the Commission's final decision to update the weighted average asset lives in the RAB to reflect the composition of capital expenditure during the SAW RD16 period, where the weighted average asset lives have been shorter than forecast and, all else constant, increase the value of depreciation.

7.3 Discussion

7.3.1 Discussion – rate of return

The regulatory rate of return is set by the Commission with reference to that which could be expected to apply, in the open market, for a benchmark efficient entity facing similar risks to SA Water. The Commission has previously outlined the characteristics of a benchmark efficient entity in the principles for setting SA Water's regulatory rate of return (see Appendix 3). Those rate of return principles are consistent with and give effect to the requirements of the ESC Act and the WI Act in the determination of the lowest sustainable cost of delivering drinking water and sewerage services.

The Commission's methodology for, and assessment of, the regulatory rate of return needs to be viewed in the context of low nominal and real risk-free rates in Australia and globally. The cost of funding new and existing regulated water and sewerage assets in Australia is expected to be low and allowed regulatory rates of return in Australia have been declining over recent years.

A low (or high, as has been the case in the past) regulatory rate of return is not a reason by itself to change the methodology for calculating the rate of return. Nor are short-term fluctuations in economic and financial conditions. In response to SA Water's RBP, stakeholders cautioned against changing the

rate of return methodology merely because rates of return are currently low.³⁵⁶ Importantly, as outlined in earlier chapters of the Draft Determination, the Commission's primary objective is for the protection of the long-term interests of South Australian consumers with respect to the price, quality and reliability of essential services.

As a matter of principle, the adverse shock associated with the outbreak of COVID-19 and related containment measures is not necessarily a reason to abandon the Commission's real rate of return methodology. Nonetheless, the immediate economic outlook and the nature and path of the economic recovery is highly uncertain. The Commission has considered this economic context when determining parameters for use in calculating the rate of return.

Several stakeholders, namely Consumers SA, Uniting Communities and Business SA, highlighted the importance of considering the adverse economic circumstances associated with the outbreak of COVID-19.³⁵⁷

In the context of the rate of return methodology, Consumers SA stated that:³⁵⁸

'... [a] complicating factor that was not considered in either the SAW 2020-24 RBP or the Draft Determination released by ESCOSA in March in considering that submission, is that of the effect of COVID-19. At present the economy has virtually shut down and for how long is not yet known.

People who never thought they would lose their jobs now find they are on welfare. SAW will likely have many more customers who cannot pay their water bills and will need to go onto hardship programs. After a final determination is made, if SAW cannot obtain the revenue they expect from their customers they will likely need to borrow more, or even abandon some of their proposed CAPEX programs.'

Uniting Communities stated that:³⁵⁹

[o]ur expectations are that financial stress ... will only increase for households, agricultural producers and businesses over the coming months, maybe years. It is consequently more important than ever that essential services are very affordable through the pandemic and recovery periods.'

In its submission to the Draft Determination, SA Water acknowledged that low interest rates should be passed through to customers, but highlighted concern about financial viability.

SA Water stated that:³⁶⁰

'[s]avings from lower global interest rates and financing costs should be passed through to customers, but the burden of a loss-making corporation arising from an inappropriate regulatory methodology must not be passed to taxpayers.'

It further argued that:³⁶¹

'[l]ong standing errors in the methodology have been exposed by unprecedentedly low rates of return. To ensure the ongoing financial viability of SA Water, the methodology must change.'

³⁵⁶ Uniting Communities, Submission to SA Water Regulatory Proposal, 2020-24 January 2020, p. 28; and Report of Independent Chair of the CNC, 2019, p. 83.

³⁵⁷ Consumers SA, Re: SA Water Regulatory Draft Determination, pp. 2-3; Uniting Communities, SA Water Regulatory Proposal 2020-24 Draft Determination, p.4; and Business SA, Submission to Draft Determination, p.1

³⁵⁸ Consumers SA, Re: SA Water Regulatory Draft Determination, pp. 2-3.

³⁵⁹ Uniting Communities, SA Water Regulatory Proposal 2020-24 Draft Determination, p.4.

³⁶⁰ SA Water, Regulatory determination 2020 – SA Water response, p. 9.

³⁶¹ SA Water, Regulatory determination 2020 – SA Water response, p. 8.

And it argued that in the face of the outbreak of COVID-19:³⁶²

'[p]roposed expenditure and financing cost reductions in the Draft Determination will restrict SA Water from providing the assistance the state needs at this time and SA Water requests that this is taken into consideration in the final determination.'

If there were temporarily insufficient cash flows resulting from the application of the Commission’s real rate of return methodology, the Commission noted in its Draft Determination that it would consider adopting a NPV neutral cash flow adjustment. Business SA (via a submission from Isle Utilities) supported this position.³⁶³ However, SA Water did not propose a cash flow adjustment mechanism in its submission to the Draft Determination. Furthermore, and as highlighted by the Commission in the Draft Determination, even if there were temporary cash flow issues, it is unclear why consumers in South Australia should have lower prices deferred when they, too, may be experiencing cash flow pressures in the current economic environment. Lower water prices can support economic activity in South Australia.

A real, post-tax rate of return methodology will be adopted.

As noted in Chapter 3, a Pricing Order for the regulatory period 1 July 2020 – 30 June 2024 has been issued in accordance with section 35(4) of the WI Act. Under the Pricing Order, the Commission must adopt or apply the NWI Pricing Principles to the extent that those, or any of those, principles are relevant to the determination in question.³⁶⁴

The NWI Pricing Principles outline, among other things, that:

- ▶ the regulatory rate of return should be calculated in a manner consistent with an approach that uses a weighted average of the return on debt and equity, including that the cost of equity is derived from the CAPM; and
- ▶ the regulatory rate of return methodology should be consistent with the form of asset valuation used.

In line with requirements under the Pricing Order, the Commission’s final decision is that it will use a real, post-tax framework for developing SA Water’s allowed revenues, calculated as:

$$WACC_{real}^{post-tax} = \frac{1 + (k_e \frac{E}{V} + k_d \frac{D}{V})}{(1 + i_{exp})} - 1$$

Where:

- k_e = nominal cost of equity
- k_d = nominal cost of debt
- i_{exp} = adjustment for expected long-term inflation
- E = market value of equity
- D = market value of debt
- V = market value of the firm ($V = E + D$)

³⁶² SA Water, Regulatory determination 2020 – SA Water response, p. 64.

³⁶³ Business SA, Submission to Draft Determination, pp. 8-9.

³⁶⁴ The Pricing Order for SAW RD20, section 4, p. 2.

The real rate of return approach provides a constant investment return over the lives of the assets

Consistent with general economic regulatory practice, the Commission sets an expected real rate of return on SA Water's drinking water sewerage assets. This is a rate of return that is adjusted for the effects of inflation. Under this approach, SA Water can recover the costs of inflation, including the inflationary component of nominal borrowing costs, although the inflation return is split between:

- ▶ annual price adjustments during the regulatory period, which incorporate changes in actual CPI inflation, and
- ▶ indexation of the RAB as part of each regulatory determination, to account for movements in actual CPI inflation over the past four years. This effectively capitalises part of the inflation return in the RAB, which is recovered over the life of the assets.

The real rate of return approach is considered appropriate as it leads to customers paying for assets in an even manner over their life, consistent with the benefits that customers receive from those assets. In contrast, setting revenues to recover a nominal rate of return results in customers paying more for assets in the early years of the investment and less in the later years. Since water and sewerage assets can have lives of more than 100 years, this would result in some generations of customers paying more than other generations. As highlighted in the Draft Determination, the real rate of return approach is in line with the requirements of the ESC Act, which provides that the Commission's primary statutory objective is the '*protection of the long term interests of South Australian consumers with respect to the price, quality and reliability of essential services*'. (emphasis added)

The real rate of return approach is generally used by regulators in Australia; the Commission is not aware of any Australian regulators using a nominal rate of return approach as opposed to a real rate of return approach. For example, while the AER is required under the national energy rules to use a post-tax nominal rate of return, it uses an indexed RAB and a negative revenue adjustment (to correct for inflation being counted in both the WACC and RAB), such that revenues deliver a target real rate of return.³⁶⁵

The real rate of return approach does not have to lead to a cash shortfall

As noted in SA Water's submission to the Draft Determination (via the report prepared by Frontier Economics), the real rate of return approach can in some instances create a mismatch between the charges customers pay and the cash costs of the regulated business.³⁶⁶ Repayment of debt will involve a nominal interest rate applied to a non-indexed principal, whereas the business will receive revenues based on a real rate of return applied to a real asset value. However, even in the absence of the use of inflation-indexed products (which can help to manage inflation risk), because inflation indexation increases the value of the nominal asset base, a benchmark efficient firm can increase debt while maintaining the fixed 60 percent gearing ratio. The increase in debt generates cash flow that is equivalent to a nominal return. This can insulate against cash flow issues and is a known feature of the real rate of return approach used by regulators in Australia and New Zealand.³⁶⁷ Neither SA Water nor Frontier Economics discussed this feature of the real rate of return approach.

³⁶⁵ AER, Rate of return instrument: Explanatory Statement, December 2018, p. 356, available at <https://www.aer.gov.au/system/files/Rate%20of%20Return%20Instrument%20-%20Explanatory%20Statement.pdf>.

³⁶⁶ Frontier Economics, Assessment of ESCOSA's treatment of inflation when setting SA Water's allowed rate of return, April 2020, pp. 1-2.

³⁶⁷ For example, see New Zealand Commerce Commission, Input Methodologies (Electricity Distribution and Gas Pipeline Services) – Reasons paper, 22 December 2010, p. vii, available at https://comcom.govt.nz/_data/assets/pdf_file/0019/62704/EDB-GPB-Input-Methodologies-Reasons-Paper-Dec-2010.pdf.

The key risk in the real rate of return approach is about the ex-post outcome. The estimate used to convert the nominal return into an expected real return plays a significant role. If this is based on a forecast of long-term inflation expectations, then the real rate of return is fixed over the period and the company takes the risk that this return reflects the opportunity cost of capital. Over-estimating long-term inflation expectations may result in a real rate of return over the regulatory period which is lower than the opportunity cost of capital; the opposite is true if regulators under-estimate long-term inflation expectations.

Provided that errors over the long-term are symmetric then inflation risk may be shared by the regulated business and consumers. Inflation outcomes in Australia had been relatively symmetrically distributed around the RBA's target band of two to three percent, but over recent years inflation outcomes have been skewed towards the bottom end of the target band. While those inflation outcomes can indicate a risk that long-term inflation expectations could de-anchor away from the RBA's target band, provided that the flexible inflation targeting regime in Australia remains credible those outcomes do not in and of themselves imply large and/or asymmetrical inflation outcomes over the longer term.

Alternative proposals were not supported by evidence

Frontier Economics advocated for a nominal rate of return approach.³⁶⁸ It argued that the real rate of return approach will guarantee a cash shortfall and that the use of long-term inflation expectations was inconsistent with indexation of the RAB by actual inflation. It used examples of large forecast errors (between actual inflation and long-term inflation expectations) to illustrate the cash flow risk that can arise when using a real rate of return methodology.³⁶⁹

Frontier Economics proposed a change to the rate of return methodology: (1) index the RAB using outturn inflation and use a forecast of inflation over a four-year horizon; or (2) index the RAB using long-term inflation expectations.³⁷⁰ There are, however, several limitations in those proposals.

In terms of proposal (1), a forecast of inflation for a four-year horizon would not be an appropriate approach to estimating the expected annual average inflation embedded within a 10-year CGS. The submissions by Frontier Economics did not acknowledge the Commission's selection of a 10-year CGS as the basis for selecting a 10-year period for calculating inflation expectations.

In terms of proposal (2), this would raise complications that were not addressed by Frontier Economics in its submission. This may shift risk on to consumers and may no longer preserve the real value of the investments over time. As discussed in the Draft Determination, the inflation risk under the real rate of return approach is arguably symmetric between SA Water and consumers. Unlike businesses, and as was highlighted by Frontier Economics in its submission to the RBP, consumers do not have available financial products to mitigate inflation risk. However, the degree of risk for individual consumers is small when scaled against household income and the prices of other household goods and services that can be volatile (such as fuel and food).

A move away from the real rate of return approach to a nominal rate of return approach would shift the balance of risks toward consumers now, rather than spreading the cost over consumers in the longer term. As noted earlier, the Commission's statutory objective is the long-term protection of consumers, and a nominal approach that front-ends returns would not be consistent with that objective.

³⁶⁸ Frontier Economics, Assessment of ESCOSA's treatment of inflation when setting SA Water's allowed rate of return, April 2020, pp. 1-6.

³⁶⁹ Frontier Economics, Assessment of ESCOSA's treatment of inflation when setting SA Water's allowed rate of return, April 2020, pp. 7-19.

³⁷⁰ Frontier Economics, Assessment of ESCOSA's treatment of inflation when setting SA Water's allowed rate of return, April 2020, pp. 7-19.

For these reasons, and as discussed later, the Commission has put together its best estimate of long-term inflation expectations, to provide a regulated business with a reasonable opportunity of earning the resulting real rate of return. To adjust the real rate of return to compensate the business for any difference between the long-term inflation expectation and actual inflation would deliver something akin to a nominal rate of return.

The financial implications of the final decision are discussed in full in Chapter 9.

7.3.1.1 The real post-tax rate of return will be fixed for the four-year regulatory period

The Commission proposed annual updates to the rate of return in the Draft Determination. Stakeholders, namely SA Water, Business SA, Consumers SA and Uniting Communities, supported the proposal.³⁷¹ However, the Pricing Order sets out that the Commission must set the regulatory rate of return for the four-year regulatory period as part of the Final Determination.

7.3.1.2 A gearing ratio of 60 percent and a credit rating of BBB will be adopted for the benchmark-efficient entity

The Commission's final decision is that a gearing ratio of 60 percent debt and 40 percent equity be maintained throughout the SAW RD20 period. The assumption is consistent with general regulatory practice in Australia and is consistent with the Commission's practice in SAW RD13 and SAW RD16.

None of the submissions to SA Water's RBP and the Commission's Draft Determination raised concerns in relation to the gearing assumption of 60 percent.

Credit ratings are used as part of the process of calculating the benchmark cost of debt. The Commission's final decision is to adopt a credit rating within the BBB investment grade band (for example, BBB+, BBB or BBB-).³⁷² The decision to use BBB investment grade reflects, first, that the gearing assumption (of 60 percent) points to a credit rating in this band and, second, that data are publicly available for this particular investment band (as noted further below, estimates of the cost of debt for BBB corporate securities are published by the RBA).

Submissions to both SA Water's RBP and the Commission's Draft Determination did not raise concerns in relation to the credit rating assumption. However, in its submission to the draft SAW RD20 Framework and Approach paper, Uniting Communities rejected the principle of assuming that a prudent financing strategy should not depend on the ownership of the regulated business.³⁷³

As discussed in Guidance Paper 5,³⁷⁴ there are two reasons that ownership is not relevant in determining the rate of return for use in SAW RD20. First, the use of the benchmark efficient entity means that the regulatory framework operates regardless of whether or not any change of ownership

³⁷¹ Consumers SA, Re: SA Water Regulatory Draft Determination, pp. 2-3; Uniting Communities, SA Water Regulatory Proposal 2020-24 Draft Determination, p.4; and Business SA, Submission to Draft Determination, p1, and SA Water, Regulatory determination 2020 – SA Water response, p. 59.

³⁷² Each ratings agency uses a slightly different labelling and classification system of credit ratings. The Commission and other regulators have adopted the Standard and Poor's classification of BBB-category to reflect the minimum investment grade.

³⁷³ Uniting Communities, Submission to: Essential Services Commission of South Australia, RD20 Draft Framework and Approach, February 2018, p. 13, available at <https://www.escosa.sa.gov.au/ArticleDocuments/1171/20180216-Water-SAWRD2020-FA-Draft-Submission-UnitingCommunities.pdf.aspx?Embed=Y>.

³⁷⁴ Commission, Guidance Paper 5, November 2018, p.31, available at <https://www.escosa.sa.gov.au/ArticleDocuments/1200/20181101-Water-SAWRD20-GuidancePaper5-CostOfFundingAndUsingAssets.pdf.aspx?Embed=Y>.

takes place during the regulatory period. Second, SA Water is provided with an incentive to outperform the cost of capital awarded to a benchmark efficient entity.

7.3.1.3 A 10-year trailing average of the yield on 10-year BBB corporate bonds will be adopted to measure the cost of debt. Debt raising costs are to be added to the cost of debt.

The Commission's final decision is to estimate the cost of debt using the yield on 10-year BBB corporate bonds.³⁷⁵ This selection reflects two considerations. First, the 10-year bond term reflects the long-lived nature of the infrastructure assets being regulated (and there is limited liquidity of corporate bonds in Australia beyond a 10-year maturity).³⁷⁶ Second, investment practitioners, academics, and regulators and government agencies tend to use, or commonly refer to, the 10-year term as the benchmark for both the risk-free rate and the cost of debt.³⁷⁷

Accordingly, the Commission's final decision is to adopt a 10-year trailing average of the yield on 10-year BBB corporate bonds to calculate the cost of debt. The trailing average approach recognises that the business may not finance all of its debt around the same time, so holding a portfolio of debt with staggered maturity dates and the possibility to use derivative products to hedge interest rate exposure is likely to be an efficient debt financing approach.³⁷⁸ The trailing average approach aims to be reflective of the actual debt management approaches of an efficient benchmark entity. Consistent with this, several regulators in Australia use the 10-year trailing average to calculate the cost of debt.³⁷⁹ In its RBP, SA Water supported the 10-year trailing average approach to calculating the cost of debt, and in its submission to the Draft Determination, SA Water did not raise concern with the trailing average approach.³⁸⁰

The Commission will adopt an estimate of 12.5 basis points per annum to reflect the efficient transaction costs associated with raising debt financing in the bond market (for example, the direct costs of underwriting fees, legal and registry fees and company credit rating fees). These direct financing costs could be expected for any prudent and efficient utility that issues corporate securities as part of its portfolio of debt. There can be divergence in estimates of debt-raising costs; according to the Economic Regulation Authority Western Australia (ERA (WA)), estimates used by regulators between 2014 and 2018 tended to lie between 8.4 basis points and 12.5 basis points.³⁸¹ An estimate of

³⁷⁵ As published by the RBA in statistical table F3, available at <https://www.rba.gov.au/statistics/tables/#interest-rates>.

³⁷⁶ Davis, The Debt Maturity Issue in Access Pricing, 11 December 2013, p. 2, available at <http://www.kevindavis.com.au/secondpages/acadpubs/2014/The%20Debt%20Maturity%20Issue%20in%20Access%20Pricing-v2.pdf>.

³⁷⁷ RBA, Box B: Why are Long-term Bond Yields So Low, May 2019 RBA SMP, available at <https://rba.gov.au/publications/smp/2019/may/box-b-why-are-long-term-bond-yields-so-low.html>; and AER, Rate of return instrument: Explanatory Statement, p. 126.

³⁷⁸ AER, 2013 Explanatory Statement – rate of return guideline, December 2013, pp. 107-109, available at <https://www.aer.gov.au/system/files/AER%20Explanatory%20statement%20-%20rate%20of%20return%20guideline%20-%20December%202013.pdf>.

³⁷⁹ AER, Rate of return instrument: Explanatory statement, p. 276; and ICRC, Final report: Regulated water and sewerage services price 2018-23, 2018, p. 18, available at https://www.icrc.act.gov.au/_data/assets/pdf_file/0019/1250236/Report-1-of-2018-Final-Report-Water-Sewerage-Services-2018-23.pdf.

³⁸⁰ SA Water's actual cost of debt has historically been lower than the regulatory benchmark cost of debt calculated based on the trailing average approach. The difference reflects that SA Water's actual debt management practices can differ to that assumed for a benchmark entity.

³⁸¹ ERA (WA), Final Gas Rate of Return Guidelines Explanatory Statement, December 2018, p. 240, available at <https://www.erawa.com.au/cproot/19969/2/2018%20Final%20Gas%20Rate%20of%20Return%20Guidelines%20Explanatory%20Statement.PDF>.

12.5 basis points was considered appropriate when viewed in the context of interstate regulatory decisions.³⁸²

As was the case in SAW RD16, the cost of debt is calculated, in practice, by holding the latest available observation constant for the four-year regulatory horizon and calculating a rolling 10-year average. While SA Water supported the use of a trailing average approach to the underlying cost of debt data, it proposed to forecast the underlying yield on 10-year BBB corporate bonds using a 60-day average.³⁸³ SA Water stated that:³⁸⁴

'[a] 60-day average (previous two periods) should be used as the forecast for the future years to reduce the adverse impact any volatility of market rates can have on the forecast.'

There are several limitations in SA Water's proposal that make it inappropriate for use in the Final Determination. First, there was no evidence presented that the proposal would improve forecast accuracy. A cost of debt forecast involves the outlook for the yield on 10-year CGS and the debt risk margin (also known as a credit spread). Second, the RBA's cost of debt data is not published daily. This limits the accurate calculation of a 60-day averaging period. Assuming the last two or three months of monthly RBA data were averaged (as a proxy for a 60-day average), SA Water's proposal would be lower than the allowed cost of debt in the Final Determination.

7.3.1.4 The cost of equity will be based on a 60-day average of the yield on 10-year CGS, a market risk premium of six percent, and an equity beta of 0.67

Consistent with requirements under the NWI Pricing Principles, the nominal cost of equity is calculated using the CAPM.³⁸⁵ In the CAPM, the cost of equity is defined as the sum of the returns on a risk-free asset (the expected rate of return on an asset with practically no risk of default) and a risk premium to accept the risks associated with equity. The CAPM formula is as follows:

$$k_e = r_f + (\beta_L \times \text{MRP})$$

Where

k_e = nominal cost of equity

r_f = nominal risk-free rate

β_L = the levered or equity beta (which reflects the systematic risk of an equity)

MRP = market risk premium, which is calculated as the total market return less the risk-free rate.

³⁸² ICRC, p. 95; ERA (WA), Final Gas Rate of Return Guidelines Explanatory Statement, p. 240; and IPART, Review of our WACC method, 2018, p. 24, available at <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-legislative-requirements-sea-wacc-methodology-2017/final-report-review-of-our-wacc-method-february-2018.pdf>.

³⁸³ SA Water, Regulatory determination 2020 – SA Water response, pp. 58-59.

³⁸⁴ SA Water, Regulatory determination 2020 – SA Water response, pp. 56-60.

³⁸⁵ See NWI Pricing Principles – Principle 1: Cost recovery for new capital expenditure. While strictly speaking, this principle applies to new capital expenditure, it is not practicable to split the cost of capital into more than one method; the Commission uses CAPM consistently across new and existing capital expenditure.

Risk-free rate – term to maturity to be 10 years

The Commission's final decision is to use the annualised yield³⁸⁶ on 10-year CGS as a measure of the risk-free rate, as government default risk is low in Australia and CGS provide an objective comparison of investment in other assets.³⁸⁷ As with the cost of debt, the 10-year term to maturity approximates the long-lived nature of the infrastructure assets being regulated. It is also in line with the term used by regulators and investment practitioners,³⁸⁸ and accommodates for the relatively limited liquidity of CGS that are well beyond a 10-year term to maturity.³⁸⁹

Two submissions indirectly questioned the value in using a 10-year CGS.

First, the SACES submission to SA Water's RBP highlighted the presence of time-varying inflation risk premiums inherent in yields on 10-year CGS. It proposed that the risk-free rate should exclude this type of premium.³⁹⁰ The Commission considers that it would be inappropriate to remove the inflation risk premium, as proposed by SACES, without simultaneously removing the real risk premium. The technical limitations in removing the inflation and real risk premium are discussed in Appendix 3.

Second, Frontier Economics proposed that inflation expectations be estimated over the length of the regulatory period (a four-year horizon), rather than over a 10-year horizon. The implication of this proposal, as also stated by the Commission in the Draft Determination, is that the term to maturity of the risk-free rate would need to be set at the length of the regulatory horizon (4 years). However, in neither of the submissions did Frontier Economics address this implication. For instance, if the short-term outlook for inflation were low, the proposal would underestimate long-term inflation expectations. Alternatively, if the short-term outlook for inflation were high, the proposal would over-estimate long-term inflation expectations. In both situations the proposal does not consider that inflation would, over the longer term (for example, a 10-year horizon), be expected to return to the RBA's two to three percent target band.

Risk-free rate – averaging period at 60-days

The Commission's final decision is to use a 60-day averaging period of CGS to calculate the risk-free rate. The 60-day average was calculated based on data up to and including 24 April 2020.

Research suggests that few, if any, forecast approaches for financial variables, including the yields on CGS, have been able to consistently improve upon the so-called 'random walk' model. The random walk model assumes that increases and decreases are equally likely over the forecast horizon and therefore the latest observation is likely to be the best predictor of the short to medium-term outlook. Accordingly, many regulators, including the Commission, use a short-term averaging period of recent observations, in order to recognise the advantage of a no-change assumption while at the same time recognising that pricing anomalies on any particular day might affect the calculation used in the regulatory determination.³⁹¹

³⁸⁶ In Australia, government bond yields are typically derived from semi-annual rates of return. To accommodate for the compounding of investment returns, the Commission converts the published yields into annualised yields. The annualised yield = $(1+Y_s/2)^2 - 1$, where Y_s is the published semi-annual yield.

³⁸⁷ Hon Josh Frydenberg MP, Australia's AAA credit rating reaffirmed by Fitch, media release 28 October 2019, available at <https://ministers.treasury.gov.au/ministers/josh-frydenberg-2018/media-releases/australias-aaa-credit-rating-reaffirmed-fitch>.

³⁸⁸ AER, Rate of return instrument: Explanatory statement, p. 131.

³⁸⁹ Clunies-Ross, Tough times, easy task, speech delivered by Ian Clunies-Ross, Head of Investor Relations, on behalf of Rob Nicholl, CEO, to the Australian Business Economists Luncheon, available at <https://www.aofm.gov.au/publications/speeches/tough-times-easy-task-sydney>.

³⁹⁰ SACES, pp. 1-5.

³⁹¹ Commission, Guidance paper 7, pp. 7-12.

The use of a 60-day averaging period is a change from the 20-day averaging period used in SAW RD16 and SAW RD13. However, in Guidance Paper 7, the Commission assessed that there was likely to be little difference in forecast accuracy between 20-day and 60-day averaging periods.³⁹² None of the submissions to that Guidance Paper raised concern with the Commission's finding.

It was partly in the context of Guidance Paper 7 that SA Water proposed to use a 60-day averaging period, stating that:

*'... a 60-day averaging period... would, to some extent, smooth the volatility of interest rates while ensuring the risk-free rate is still a fair representation of current market rates which is deemed to be the best estimate of future interest rates.'*³⁹³

It is worth noting that the AER currently adopts an averaging period of up to 60 days.³⁹⁴

The CNC had no objection to the use of a 60-day averaging period.³⁹⁵ Isle Utilities (on behalf of Business SA) supported the 60-day average, arguing in both its submission to SA Water's RBP and to the Commission's Draft Determination that the 60-day average was reasonable, given the guidance provided by the Commission and the regulatory practice of the AER.³⁹⁶

In contrast, in its response to both SA Water's RBP and the Commission's Draft Determination, SACOSS argued against the use of a 60-day averaging period. It noted that SA Water may select a favourable averaging period and that longer averaging periods could lead to a higher rate of return.³⁹⁷ SACOSS argued in its submission to the Draft Determination that near-term interest rate movements were reasonably predictable and that there were few good reasons to prefer 60 over 20 days.³⁹⁸ It pointed to commentary by the RBA and market economists in late 2019 and linked that commentary to interest rate reductions in March and April 2020.³⁹⁹

As highlighted in the Draft Determination, the Commission notes that the risk of any 'gaming' of the averaging period is low. It is inherently difficult to predict the outlook for bond yields and the nomination of the averaging period occurred in November 2019, more than six months from the commencement of the regulatory period. The RBA Board has stated that the reductions in interest rates in March and April 2020 were to support the economy as it responds to the outbreak of COVID-19.⁴⁰⁰

Overall, while there is likely to be limited improvement in forecast accuracy between the use of a 20-day and 60-day average, the Commission has accepted SA Water's proposal as there is no compelling evidence against the proposal. Most submissions to the Commission's Draft Determination did not raise concern about the use of a 60-day average.

³⁹² Commission, Guidance paper 7, p. 9.

³⁹³ SA Water, RBP, Appendix E, p. 3.

³⁹⁴ AER, Rate of return instrument: Explanatory statement, p. 131.

³⁹⁵ Report of Independent Chair of the CNC, p. 82.

³⁹⁶ Business SA, Submission to Draft Determination, p.6.

³⁹⁷ SACOSS, Submission to the Essential Services Commission of South Australia on SA Water Regulatory Determination 2020 - Draft Determination, p. 27.

³⁹⁸ SACOSS, Submission to the Essential Services Commission of South Australia on SA Water Regulatory Determination 2020 - Draft Determination, p. 27.

³⁹⁹ SACOSS, Submission to the Essential Services Commission of South Australia on SA Water Regulatory Determination 2020 - Draft Determination, p. 22-25.

⁴⁰⁰ RBA, Statement by Phillip Lowe, Governor: Monetary Policy Decision, March 2020, available <https://www.rba.gov.au/media-releases/2020/mr-20-06.html>. RBA, Statement by Phillip Lowe, Governor: Monetary Policy Decision, available <https://www.rba.gov.au/media-releases/2020/mr-20-11.html>.

Real risk-free rates

The discussion above has considered the *nominal* risk-free rate rather than the *implied real* risk-free rate in the regulatory determination. A real risk-free rate is an unobserved variable. It represents the nominal risk-free rate adjusted for some measure of inflation expectations. The real risk-free rate can fluctuate according to market conditions, and the presence of a negative real risk-free rate would still provide a comparison of investments in assets and is not inconsistent with economic theory. The real risk-free rate is discussed further in Appendix 3.

Market risk premium

The Commission's final decision is for an estimate of the market risk premium of six percent. This is consistent with the estimate used in SAW RD16 and SAW RD13. SA Water supported the use of a market risk premium of 6 percent in its RBP.⁴⁰¹

The market risk premium represents the expected return on equities over CGS. It is a measure of investors' expectations about how much risk there is in the market and the price that investors place on that risk.⁴⁰² The Commission estimates a single 6 percent figure for the market risk premium based on long-run data, to be used as a forecast for the regulatory horizon, and applies as a premium over the 10-year CGS.

There is debate among academics and regulators about the level of the market risk premium and its relationship with the risk-free rate. The view among many regulators in Australia, including the AER, Independent Competition and Regulatory Commission (ICRC) and the ERA (WA), is that it is difficult to improve upon a long-run average of past returns when making forecasts for the long-term horizon of the additional return investors expect to receive from equities relative to that returned from CGS.⁴⁰³

The Commission supports this position. The long-run average method was reviewed by the AER in 2018⁴⁰⁴ and was considered reasonable given there are few robust alternative methods.⁴⁰⁵

The IPART⁴⁰⁶ and Frontier Economics argue that there is an inverse relationship between the risk-free rate and the market risk premium.⁴⁰⁷ IPART argues that market-based measures of the market risk premium have been above six percent for more than a decade.⁴⁰⁸ Frontier Economics cites general commentary from the RBA regarding risk premiums and research on stable hurdle rates of return.⁴⁰⁹ The implication from these submissions is that the market premium should be higher in a low interest rate environment.

⁴⁰¹ SA Water, RBP, Appendix E, p. 1-4.

⁴⁰² The market risk premium does not relate to specific risks associated with investing in a water utility. Any non-diversifiable risks associated with investing in the benchmark efficient water utility are captured through the equity beta parameter.

⁴⁰³ A summary of regulator approaches can be found in: IPART, Review of our WACC method, 2018, p. 86-91.

⁴⁰⁴ AER, Discussion paper – market risk premium, risk-free rate averaging period and automatic application of the rate of return, March 2018, p. 11, available at: <https://www.aer.gov.au/system/files/AER%20-%20MRP%20Risk%20Free%20Rate%20Averaging%20Period%20and%20Automatic%20Application%20Discussion%20Paper%20-%20March%202018.pdf>.

⁴⁰⁵ AER, Rate of return instrument: Explanatory Statement, p. 220.

⁴⁰⁶ IPART, Submission on Draft Report, SA Water Regulatory Determination 2020, April 2020, pp.1-2, available at <https://www.escosa.sa.gov.au/ArticleDocuments/21479/20200430-Water-SAWRD20-DraftDecisionSubmission-IPART.pdf.aspx?Embed=Y>.

⁴⁰⁷ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 4.

⁴⁰⁸ IPART, Review of our WACC method, February 2018, p. 51.

⁴⁰⁹ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 42-51.

One way to consider the argument for the inverse relationship between the market risk premium and the risk-free rate is to consider the trend in the neutral real interest rate (the neutral real interest rate is the real policy interest rate required to bring about full employment and stable inflation over the medium term). Given there has likely been a fall in the neutral real interest rate in Australia over the 2000s, investors may be applying a smaller discount rate to the future earnings of companies in the equity market. This may suggest a higher market risk premium.

The Commission's current assessment is, however, that while there may be evidence of an inverse relationship, particularly in the data observed in the 2000s, the magnitude and timing of that relationship is ambiguous.

The commentary and research from the RBA – cited by Frontier Economics – does not specify the exact level of the market risk premium; the comments and research imply only that the market premium may have fluctuated over time and risen recently. Furthermore, there are reasons to think that the market risk premium used in SAW RD16 and SAW RD13, of six percent, is on the higher side of long-run estimates. For instance, research from the RBA in 2019 suggested that the long-run average of historical data could, after taking account of some potential downward bias from the use of geometric averaging, be closer to five percent than six percent.⁴¹⁰

The Commission acknowledges that the use of an historical approach to estimating the market risk premium may generate some error. However, there are various forms of model and estimation risk that must be considered and balanced and, to the best of the Commission's knowledge, all available options can be expected to generate some degree of error. For instance, dividend growth models (market-based measures of the market risk premium) have known limitations, surveys of investors' expectations have limitations, and econometric models of the market risk premium have limitations. Ultimately, the Commission must balance the likely errors under various possible approaches. As noted earlier, SA Water proposed a market risk premium of 6 percent and there has not been compelling evidence presented to suggest that should not be accepted for the Final Determination. Appendix 3 provides further discussion and supporting evidence in relation to a market risk premium of six percent.

Most other submissions to the Commission's Draft Determination did not raise concern with the Commission's current approach to estimating the market risk premium.

Equity beta

The Commission's final decision is for an equity beta of 0.67. It recognises that the selection of 0.65 in the Draft Determination was predicated on the adoption of annual updates to the rate of return, which is now precluded under the Pricing Order, but also an equity beta of 0.7 would not appropriately reflect SA Water's firm-level risk. The selection of 0.67 was derived after consideration of equity beta decisions for regulated water businesses in other Australian jurisdictions (Table 7.3).

⁴¹⁰ Mathews, A History of Australian Equities, RBA Research Discussion Paper – RDP 2019-04, June 2019, p. 10, available at <https://www.rba.gov.au/publications/rdp/2019/2019-04/full.html>.

Table 7.3: Equity beta decisions across jurisdictions, adjusted for gearing assumptions

Regulator	Equity β in latest guidance
ESCOSA	0.67
IPART	0.70 ⁴¹¹
ERA (WA)	0.77 ⁴¹² (energy)
AER	0.60 ⁴¹³ (energy)
ESCV	0.65 ⁴¹⁴
OTTER	0.65 ⁴¹⁵
ICRC	0.70 ⁴¹⁶
QCA	0.65 ⁴¹⁷
Average	0.68

SA Water proposed an equity beta of 0.7 in its RBP, and proposed 0.68 in its submission to the Draft Determination.⁴¹⁸

Equity beta measures the ‘riskiness’ of a firm’s returns compared with that of the market.⁴¹⁹ The higher the equity beta, the more exposure to undiversifiable risk. While there is unanimous agreement among regulators in Australia that equity beta for regulated utilities is less than one (for example, regulated companies are perceived as being less risky than the average of companies that make up the share market), there is uncertainty regarding the exact level of beta. Further, equity beta for SA Water cannot be directly estimated, as SA Water is not a publicly listed company.

The Commission’s starting position for SAW RD20 was that the upper bound estimate for equity beta among utilities in Australia is around 0.7. An estimate of 0.7 was used in SAW RD16.⁴²⁰ Some overseas water companies have an equity beta higher than 0.7 (including as reported in recent research from IPART).⁴²¹ At the other end of the range for equity beta is the AER’s estimate for energy companies of 0.6.

⁴¹¹ See IPART, Estimating Equity Beta, 1 April 2019, p. 2, available at <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-legislative-requirements-sea-wacc-methodology-2017/fact-sheet-estimate-equity-beta-1-april-2019.pdf>.

⁴¹² ERA (WA), p. 236. The ERA (WA) decision assumes a benchmark gearing assumption of 55 percent rather than the usual 60 percent. When equity beta is adjusted to be on the same gearing basis it moves from 0.7 to 0.77.

⁴¹³ AER, Rate of return instrument: Explanatory Statement, December 2018, p. 142.

⁴¹⁴ ESCV, Melbourne Water 2016 Price Review, 2016, p. 28, available at <https://www.esc.vic.gov.au/sites/default/files/documents/3216479e-fa62-4b8b-8ad7-a1ea3542f76e.pdf>.

⁴¹⁵ OTTER, 2018 Water & Sewerage Price Determination Investigation - Final Report, 2018, p. 10, available at <https://www.economicregulator.tas.gov.au/Documents/2018%20Water%20and%20Sewerage%20Price%20Determination%20Investigation%20Final%20Report.pdf>.

⁴¹⁶ ICRC, p. 87.

⁴¹⁷ QCA, Long-term framework for SEQ water retailers – WACC, August 2014, p. 21, available at <https://www.qca.org.au/getattachment/a61eda28-464f-4bdc-b99a-df55a0593e9a/WACC-Paper.aspx>.

⁴¹⁸ SA Water, Regulatory determination 2020 – SA Water response, p. 62.

⁴¹⁹ Specifically, equity beta measures the standardised correlation between the returns on an individual risky asset or firm with that of the overall market.

⁴²⁰ Commission, SAW RD16, p. 125.

⁴²¹ Ofwat, PR19 final determinations: Allowed return on capital technical appendix, 2019, p. 5, available at <https://www.ofwat.gov.uk/publication/pr19-final-determinations-allowed-return-on-capital-technical-appendix/>.

SACOSS has argued that equity beta for a water and sewerage business should be at the lower end of the range. It stated that:⁴²²

'SACOSS agrees with the Commission's view that equity betas for water businesses would be likely to be below those of electricity distribution companies, more particularly due to the disruptions in the electricity industry which have flattened the upward trajectory of demand in electricity since 2010 or so. ... the latest AER equity beta is 0.6 for energy businesses, suggesting an equity beta for water businesses under 0.6. The AER work has been well supported by extensive industry studies. This would suggest an equity beta of no more than 0.6 for SA Water. SACOSS would also reiterate the reasons stated in its submission on the regulatory proposal for an equity beta of 0.6, namely that it sits closer to the midpoint of the range of equity betas observed in regulated industries in the Henry report and later updates'

Business SA (via a report by Isle Utilities) has argued that if there was an annual update of the rate of return then an equity beta of 0.65 was reasonable.⁴²³ However, the Pricing Order precludes such annual updates.

There is therefore a prima facie case for an equity beta above 0.65 (which was partially selected based on the proposal for annual updates of the rate of return, which would have lowered forecast risk for SA Water). At the same time, the revenue cap form of regulation applied to SA Water, as opposed to the price cap form of regulation, may be a reason to think that equity beta for a monopoly water supplier would likely be lower than for an electricity distribution company.⁴²⁴

Given equity beta selections across jurisdictions in Australia, including for energy companies, this suggests that an equity beta below 0.7 may be reasonable for SAW RD20. The recent decline in demand in the Australian economy associated with the outbreak of COVID-19 and related containment measures provides a reminder that SA Water is, for the most part, protected from demand risk.

In its RBP, SA Water argued that the risk of underestimating the required return on equity is substantially greater if an equity beta at the bottom of its range is adopted as opposed to choosing a point estimate at the top of its range.⁴²⁵ However, the Commission's final decision for equity beta is not derived from estimates from the bottom of the range of academic estimates. SACOSS has suggested that the bottom end of the range for equity betas for the energy sector may be as low as 0.4.⁴²⁶

7.3.1.5 A 'glide path' approach to estimating long-term inflation expectations will be adopted

The Commission's final decision is to adopt a 'glide path' approach to estimating long-term inflation expectations for SAW RD20. The Commission's draft decision for estimating long-term inflation expectations was premised on a slow, gradual recovery path for inflation in Australia, and the Commission considers that this premise still holds. A slow recovery in inflation is consistent with the views of professional forecasters (for example, as published in the Consensus Economics quarterly survey in April 2020, republished in the RBA's May 2020 Statement on Monetary Policy (SMP)).⁴²⁷

⁴²² SACOSS, Submission to the Essential Services Commission of South Australia on SA Water Regulatory Determination 2020 - Draft Determination, p.p. 25-29.

⁴²³ Business SA, Submission to Draft Determination, p.1.

⁴²⁴ Commission, Guidance paper 5, pp. 22-25, available at <https://www.escosa.sa.gov.au/ArticleDocuments/1200/20181101-Water-SAWRD20-GuidancePaper5-CostOfFundingAndUsingAssets.pdf.aspx?Embed=Y>.

⁴²⁵ SA Water, RBP, Appendix E, p. 6.

⁴²⁶ SACOSS, Submission to the Essential Services Commission of South Australia on SA Water's 2020-2024 Regulatory Business Proposal: 'Our Plan' 2020 19 December 2019, p.25.

⁴²⁷ RBA, May 2019 SMP, p. 82.

The glide path approach recognises there is a degree of uncertainty over the timing of the recovery path for inflation, which may currently be affecting household, firm and investor long-term expectations about inflation. At the same time, the glide path approach recognises that most available evidence suggests that the flexible inflation targeting framework pursued by the RBA has anchored long-term inflation expectations within the RBA's two to three percent target band.⁴²⁸

There are no legislative requirements that specify the exact measure of long-term inflation expectations to be applied in the determination.⁴²⁹ The Commission has considered the expected long-term inflation rate that can facilitate the determination of the lowest sustainable cost of drinking water and sewerage services.

The Commission considered a range of approaches to estimating long-term inflation expectations including:

- ▶ SA Water's proposal, which, in effect, proposes to use the lower number of either the RBA's one-year inflation forecast, or the 60-day average of nominal yields on the 10-year government bond rate minus 0.15 percentage points
- ▶ market-based approaches: the 10-year bond breakeven rate, calculated as the difference in yields between nominal and inflation-indexed bonds; and, the 10-year inflation swaps rate, which is a type of financial derivative product
- ▶ surveys of professional forecasters' long-term inflation expectations
- ▶ medium-term projections of inflation from the International Monetary Fund (IMF), and
- ▶ the Commission's approach in SAW RD16 (outlined in Guidance Paper 5), which takes the RBA's one-year inflation forecast and assumes an inflation expectation of 2.5 percent for the nine years thereafter, and then calculates a geometric average of the 10 observations.

Selection of the most appropriate approach involves some compromise, balancing the theoretical and practical advantages and disadvantages of each approach. The supporting discussion, information and evidence informing the Commission's considerations of each of these approaches, including submissions, can be found in Appendix 3.

In particular, the Commission does not accept SA Water's proposed method for estimating long-term inflation expectations: the proposed method has major limitations. As discussed in Appendix 3, there are conceptual and measurement problems in the method proposed by SA Water. For instance, without appropriately accounting for the various components of the yield on a 10-year CGS (including the real yield, long-term inflation expectations and the term premium), the use of the nominal yield as an indicator of investors' long-term inflation expectations would be inappropriate. The proposal implies a long-term inflation expectation of 0.76 percent, an estimate below most available indicators of short-term and long-term inflation expectations.

Several stakeholders raised concerns regarding the conceptual and measurement problems in SA Water's proposal. In its submission to the RBP, SACOSS highlighted the low level of long-term inflation expectations implied under SA Water's proposal part 1.⁴³⁰ Isle Utilities, on behalf of Business SA, argued in its submission to the RBP that the short-term nature of the RBA's one-year inflation

⁴²⁸ Debelle, 'Twenty five years of Inflation Targeting in Australia', in RBA, Central Bank Frameworks: Evolution or Revolution, proceedings of RBA conference, edited by John Simon and Maxwell Sutton, 2018, pp. 53-71, available at <http://www.rba.gov.au/publications/confs/2018/pdf/rba-conference-volume-2018.pdf>.

⁴²⁹ Including under the Pricing Orders for SAW RD20.

⁴³⁰ SACOSS, Submission to the Essential Services Commission of South Australia on SA Water's 2020-2024 Regulatory Business Proposal: 'Our Plan' 2020 19 December 2019, pp. 28-29.

forecast is unreasonable as a measure of long-term inflation expectations in the context of long-term investments and funding requirements.⁴³¹

Frontier Economics and SACES supported the use of market-based approaches to estimating long-term inflation expectations.⁴³² Frontier Economics claimed that *'there is overwhelming evidence from a variety of sources that current market expectations of inflation are well below 2 percent'*.⁴³³ However, as explained in Appendix 3, and outlined below, there are limitations with the propositions put forward by SACES and Frontier Economics. For example, both submissions rely on observed data for inflation swaps and bond breakeven rates, yet neither of the submissions provided empirical evidence addressing liquidity and risk premiums (which were discussed in Guidance Paper 6 and are discussed in Appendix 3).

Frontier Economics claimed that market-based measures outperform alternative options in terms of forecast accuracy.⁴³⁴ However, its evidence was based on a chart that uses data from only 2010.⁴³⁵ The chart merely shows, as was explained in Guidance Paper 6, that actual inflation has been low over recent years at the same time that bond breakeven rates and inflation swaps rates have been low; Frontier Economics has not provided a full forecast assessment. When viewed over the inflation targeting period, the 10-year bond breakeven rate is more variable and appears to have a higher forecast error (see Appendix 3).

Frontier Economics cited both short-term forecasts of, and commentary from, the RBA about low inflation.⁴³⁶ But these forecasts and commentary are not about long-term inflation expectations. Those forecasts and commentary are, as noted above, an indicator that there is a degree of uncertainty over the timing of the recovery path for actual inflation.

Frontier Economics cited comments from several market economists/analysts as to the outlook for low inflation.⁴³⁷ However, the submission also showed that surveys of professional forecasters are for inflation of around 2.4 percent in five to ten years' time. This survey evidence presented by Frontier Economics stands in contrast to Frontier Economics' other citation of remarks from market analysts and the proposition that *'there is overwhelming evidence from a variety of sources that current market expectations of inflation are well below 2 percent'*.⁴³⁸

Frontier Economics proposed that the Commission estimates long-term inflation expectations over the length of the regulatory period, rather than over a 10-year horizon. However, as explained in Appendix 3, the nominal yield on 10-year CGS includes, among other things, an unobserved inflation expectation over the term to maturity. The implication of Frontier Economics' proposal, although not stated, is that the term to maturity of the risk-free rate would also need to be set at the length of the regulatory horizon. However, in both submissions made by Frontier Economics, it did not consider or address this implication. The use of a four-year estimate of inflation expectations would be expected to under- or over-estimate the inflation expectations embedded in the yield on a CGS with a term to maturity of 10 years.

⁴³¹ Business SA, Submission SA Water 2020-24 Regulatory Business Proposal January 2020, p. 18.

⁴³² Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 24-51, and SACES, pp. 1-7.

⁴³³ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 24.

⁴³⁴ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 28-29.

⁴³⁵ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 36-37.

⁴³⁶ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 24-27.

⁴³⁷ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 24-41.

⁴³⁸ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 34.

As mentioned earlier, the Commission considered the term to maturity for the risk-free rate, and decided that the 10-year term to maturity approximates the long-lived nature of the water and sewerage infrastructure assets being regulated, and that the term was also in line with the term used by regulators and investment practitioners.

The Commission's glide path approach is, ultimately, underpinned by the argument that inflation targeting remains credible over the longer term

The Commission's previous approach in SAW RD16 (and the approach outlined in the Guidance Papers) was underpinned by the credibility of the inflation targeting regime in Australia. There are three reasons to think that the flexible inflation targeting regime remains credible and inflation will over time be sustainably within the RBA's two to three percent target band (this is the guiding principle underpinning the selection of the midpoint of the RBA's target).

First, the flexible inflation targeting framework is underpinned by an agreement between the Federal Treasurer and the RBA Governor, and that agreement was renewed in November 2019.^{439,440}

Second, while market-based indicators of long-term inflation expectations are currently low and outside of the target band, surveys of professional forecasters' long-term inflation expectations remain within the band.⁴⁴¹ As stated by the RBA in May 2020: '*Long-term survey-based measures of inflation expectations are little changed around 2-2½ per cent and remain consistent with the Bank's medium-term inflation target.*'⁴⁴²

Third, international experience, namely in the United States, Europe and the United Kingdom, suggests that low interest rates and, in some cases unconventional monetary policy, helped to maintain long-term inflation expectations, despite actual inflation in those countries deviating from target ranges for some years.⁴⁴³ In drawing on that overseas experience for his expert advice to the AER's review of

⁴³⁹ The flexible inflation targeting framework is set out in an agreement between the RBA and the Australian Government. See Statement on the Conduct of Monetary Policy: The Treasurer and the Governor of the Reserve Bank, 19 September 2016, available at <https://www.rba.gov.au/monetary-policy/framework/stmt-conduct-mp-7-2016-09-19.html>. While the latest published agreement was made on 19 September 2016, the Commonwealth Treasurer has recently (as of 5 November 2019) released a public statement indicating that the existing agreement would continue and remain unchanged. The Treasurer stated that '[w]hile inflation has been below the 2-3 percent band for some time, I recognise that Australia is not alone in experiencing an extended period of low inflation, low unemployment and low interest rates. Over the medium term, inflation is expected to return to the band, consistent with the Statement'. See Hon. Josh Frydenberg MP, Media release: Statement of conduct of monetary policy, 5 November 2019, available at <https://joshfrydenberg.com.au/wp-content/uploads/2019/11/Media-Release-Treasurer-Statement-on-the-Conduct-of-Monetary-Policy.pdf>.

⁴⁴⁰ Debelle, Twenty five years of Inflation Targeting in Australia, pp. 53-71.

⁴⁴¹ RBA, SMP – February 2020, 2020, p. 67, available at <https://www.rba.gov.au/publications/smp/2020/feb/pdf/statement-on-monetary-policy-2020-02.pdf>.

⁴⁴² RBA, May 2020 SMP, p. 82.

⁴⁴³ Vlieghe, The yield curve and QE, speech given by Gertjan Vlieghe External MPC Member Bank of England, Imperial College Business School, Tuesday 25 September 2018, available at <https://www.bankofengland.co.uk/-/media/boe/files/speech/2018/the-yield-curve-and-qe-speech-by-gertjan-vlieghe.pdf?la=en&hash=B7E9AF612B5DB7EFBAADEBCBD0A1FAA87FB1CF90>; Carney, A framework for all seasons, speech given by Mark Carney Governor of the Bank of England, Bank of England Research Workshop on The Future of Inflation Targeting, p. 26, available at <https://www.bankofengland.co.uk/-/media/boe/files/speech/2020/a-framework-for-all-seasons-speech-by-mark-carney.pdf?la=en&hash=EA36470F17CF3EC86AD9A08108FC295348BD5680>; and Vahey, Report to the AER on estimating expected inflation, 2017, p. 10, available at <https://www.aer.gov.au/system/files/Prof%20Shaun%20P%20Vahey%20-%20Report%20to%20the%20AER%20on%20estimating%20expected%20inflation%20-%2015%20September%202017.PDF>.

inflation expectations in 2017, Professor Shaun Vahey noted that *'[t]here are good reasons ... to suspect that RBA credibility would survive a prolonged period of low nominal interest rates, associated with perhaps negative real interest rates.'*⁴⁴⁴

The Commission's glide path is based on a slow, gradual recovery in inflation toward the middle of the RBA's two to three percent target band

The adverse shock associated with the outbreak of COVID-19 and related containment measures has come at a time when inflationary pressures in the Australian economy were already subdued. While the RBA's flexible inflation targeting framework in Australia remains credible, there is a high degree of uncertainty about the speed in which inflation might sustainably return to within the RBA's two to three percent target band. This reflects: (i) the large adverse shock associated with the outbreak of COVID-19 and the uncertainty regarding the pace of economic recovery; and (ii) monetary policy may take longer than the normal horizon to get the inflation rate back to its target level, given the historic low levels of interest rates, high debt levels and high housing prices.

The glide path approach proposed in the Commission's Draft Determination used a 10-year geometric average, incorporating two years of RBA forecasts for inflation, a linear glide path to the IMF's medium-term projection for consumer price inflation in Australia, and then used the midpoint of the RBA's two to three percent target band thereafter. On 17 April 2020, however, the IMF released the April 2020 World Economic Outlook publication with forecasts only through to 2021. The IMF's website stated that:⁴⁴⁵

'[d]ue to the high level of uncertainty in current global economic conditions, the April 2020 WEO [World Economic outlook] database and statistical tables contain only these indicators: real GDP growth, consumer price index, current account balance, unemployment, per capita GDP growth, and fiscal balance. Projections for these indicators are provided only through 2021. (emphasis added)'

Given that the IMF has, at least temporarily, suspended publishing medium-term projections of inflation including for Australia, the Commission's final decision is for a glide path that assumes that inflation returns to the midpoint of the RBA's target band by 2026-27.

The Commission's glide path approach has two elements:

- ▶ RBA forecasts of trimmed mean inflation for the next two years (released in the RBA's May 2020 SMP), and
- ▶ a return to the midpoint of the RBA's two to three percent target in 2026-27.

The first element in the glide path is based on the approach adopted by the AER for estimating long-term inflation expectations, which uses two years of RBA forecasts of CPI inflation, with the midpoint of the inflation target band assumed for the remainder of the 10-year period. The use of two years of RBA forecasts was previously supported by SA Water in its RBP in 2016.⁴⁴⁶ The RBA's forecasts can be considered a subjective assessment of the most likely inflation path, implicitly weighting many indicators, including various inflation models as well as surveys and market-based measures of inflation expectations.⁴⁴⁷ The Commission's approach is, therefore, considering market conditions (as was advocated by Frontier Economics in its submission to SA Water's RBP).⁴⁴⁸

⁴⁴⁴ Vahey, Report to the AER on estimating expected inflation, 2017, p. 10.

⁴⁴⁵ See IMF website <https://www.imf.org/external/pubs/ft/weo/2020/01/weodata/index.aspx>.

⁴⁴⁶ SA Water, Regulatory Business Proposal 2016-2020, 2016, p. 45, available at https://www.sawater.com.au/_data/assets/pdf_file/0020/26921/RBP-2016.pdf.

⁴⁴⁷ Vahey, Report to the AER on estimating expected inflation, p. 7.

⁴⁴⁸ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 60.

The RBA currently (as of May 2020) forecasts under a baseline scenario that annual trimmed mean inflation will be 1.25 percent over the year to the June 2021 and 1.5 percent over the year to June 2022, largely reflecting the amount of spare capacity expected to remain in the Australian labour market over the forecast period.⁴⁴⁹ This contrasts with the inflation expectation of 2.5 percent for financial year 2021-22 that the Commission used in SAW RD16 (which was based on the argument that monetary policy would take one or two years to get the inflation rate back to its target band).⁴⁵⁰

The use of trimmed mean inflation is different to the Commission's Draft Determination (which involved using the RBA's forecasts of CPI inflation, known as 'headline inflation'). Trimmed mean inflation is, effectively, a trend measure that removes noise and provides an underlying read on the economy and inflation. Its use in SAW RD20 provides a way of mitigating the impact that can arise from the practical timing difference between the bond yields used in SAW RD20 (taken as of March and April 2020) and the RBA's forecasts for annual inflation from 1 July 2020 (which do not include the June quarter 2020). This would normally be an inconsequential issue when inflation is relatively stable between quarters. However, the temporary introduction of free childcare in the June quarter 2020 is expected to place downward pressure on year-ended inflation in the June quarter of 2020, and subsequently contribute to a sharp rise in inflation in the year-ended rate in June 2021.

Ultimately, selection of the forecasts for trimmed mean inflation or for headline inflation must balance the risk of error under each choice. The use of trimmed mean inflation is a simple and replicable way of dealing with the impact of the practical inconsistency between the timing of bond yields used in the determination and the RBA's forecasts for annual inflation. As noted above, the Commission's selection of the trimmed mean is in direct response to the impact associated with the outbreak of COVID-19 and related containment measures. Its use does not mean the Commission will continue to use the trimmed mean for estimating long-term inflation expectations in future determinations.

The Commission is not the only regulator selecting to use trimmed mean inflation in the current economic circumstances. On 22 May 2020, the AER announced that it would adopt the trimmed mean inflation forecasts from the RBA when estimating long-term inflation expectations as part of the 2020-2025 network revenue determinations.⁴⁵¹

The second element of the proposal is to adopt a linear glide path from the second-year RBA forecast of trimmed mean inflation to the midpoint of the RBA's two to three percent target band.

The Commission's Draft Determination highlighted that surveys of forecasters could serve as a cross-check on the IMF's medium-term projection for inflation. As shown by the RBA in the May 2020 SMP, the Consensus Economics survey suggests that professional forecasters expect annual inflation to return to the midpoint of the RBA's target range by 2026 to 2030.⁴⁵² The RBA's survey of market economists shows expectations of average annual inflation over the next five to ten years to be a little below 2.5 percent (between 2.2 percent to 2.5 percent).⁴⁵³

Surveys can have limitations: the data are proprietary and may not be made public (so the distribution and performance of individual forecasters is unable to be tested), and samples may vary over time (so different surveys can show different results). The difference between the Consensus Economics survey and the RBA survey likely reflects differences in forecast timeframes and samples. More generally,

⁴⁴⁹ RBA, May 2020 SMP, p. 89.

⁴⁵⁰ Commission, Guidance Paper 6, pp. 1-14 available at <https://www.escosa.sa.gov.au/ArticleDocuments/11293/20190606-SAWRD20-GuidancePaper6-InflationForecastingMethodology.pdf.aspx?Embed=Y>.

⁴⁵¹ AER, AER provides update on 2020-25 network revenue determinations, 22 May 2020, available at <https://www.aer.gov.au/communication/aer-provides-update-on-2020-25-network-revenue-determinations>.

⁴⁵² RBA, May 2020 SMP, p. 82.

⁴⁵³ RBA, May 2020 SMP, p. 82.

some argue that ‘markets can lead people’, suggesting that survey results of professional forecasters may lag movements in financial markets.⁴⁵⁴

Nevertheless, while surveys of professional forecasters have limitations, they can act as an external guide on the timing of the expected recovery in inflation. The Commission’s glide path reaches 2.5 percent by 2026-27, in line with the Consensus Economics projection (as published in the RBA’s chart in the SMP).⁴⁵⁵ Given the gradual recovery in inflation, the slightly lower result in the RBA survey (relative to Consensus Economics) likely reflects that it has one less year included in the forecast horizon.

The challenge with any glide path is maintaining objectivity.⁴⁵⁶ The Commission’s final decision will use a linear approach because it is simple, neutral and transparent. As highlighted in the Draft Determination, various glide paths could be used.

The extension of the glide path relative to the Draft Determination reflects that there is significant uncertainty about the nature and speed of the economic recovery from the outbreak of COVID-19 and the adverse shock has come at a time when inflationary pressures in the Australian economy were already subdued. Because the short-run outlook for inflation is lower than at the time of the Commission’s Draft Determination, and the glide path has been extended by two years, the Commission’s final estimate for long-term inflation expectations to be used in SAW RD20 is lower than in the Commission’s Draft Determination (Table 7.4).

Table 7.4: Path for long-term inflation expectations

Financial year	Draft Determination (%)	Final Determination (%)
2020-21	1.90 (RBA forecast headline inflation) ⁴⁵⁷	1.25 (RBA forecast trimmed mean inflation) ⁴⁵⁸
2021-22	2.00 (RBA forecast headline inflation)	1.50 (RBA forecast trimmed mean inflation)
2022-23	2.17 (linear glide path)	1.70 (linear glide path)
2023-24	2.33 (linear glide path)	1.90 (linear glide path)
2024-25	2.5 (IMF projection for 2024)	2.10 (linear glide path)
2025-26	2.5	2.30 (linear glide path)
2026-27	2.5	2.50 (midpoint of RBA band)
2027-28	2.5	2.5
2028-29	2.5	2.5
2029-30	2.5	2.5
Geometric average (%)	2.33	2.07

Sources: RBA; Commission

⁴⁵⁴ Reis R, The anchoring of long-run inflation expectations today, pp. 15-16.

⁴⁵⁵ RBA, May 2020 SMP, p. 82.

⁴⁵⁶ There are many feasible glide paths; see Vahey, pp. 14-15.

⁴⁵⁷ RBA, February 2020 SMP, p. 72.

⁴⁵⁸ RBA, May 2020 SMP, p. 89.

There are risks to the long-term inflation outlook

There are risks to the long-term inflation outlook, but these risks are not the most likely scenario. Example risks include, one of persistently depressed demand and therefore very low inflation⁴⁵⁹ (or even medium-term deflation), particularly if restrictions remain in place for a long period or must be re-introduced which may delay and interrupt the economic recovery⁴⁶⁰; one of rebounding demand once social distancing is lifted, particularly in light of the large fiscal and monetary support that is in place, which may trigger a period of higher spending and inflation; or one of supply-side frictions including rationing and increased trade barriers leading to a return to upward price pressures.⁴⁶¹ While these risk scenarios, among others, cannot be dismissed, there is not sufficient evidence underpinning their use as the most likely scenario for use in SAW RD20. No submissions advocated that these scenarios would be the most likely scenario.

The risks surrounding the inflation outlook can be seen in financial markets. For example, as of late April 2020, market-based measures of long-term inflation expectations, namely from 10-year inflation-indexed bonds and 10-year inflation swaps, imply average annual rates of inflation of about 0.7 percent and 1.0 percent over the next 10 years. As highlighted in the Draft Determination, and as discussed in more detail in Appendix 3, these measures can suffer from: liquidity biases (which in the case of inflation-indexed bonds are likely to bias the estimate downwards in the current environment); and inflation risk premiums (which may be negative in the current environment and therefore bias the measures downwards). This was discussed earlier and is discussed further in Appendix 3.

When the RBA Governor Dr Phillip Lowe was asked about inflation over the medium term, on 21 April 2020 he stated:⁴⁶²

'Well, I don't think we're going to have deflation over the medium-term...'

He went on to comment on the short-run outlook by stating that:

'[i]n [the] next quarter we've got some very specific and unusual events which are going to drive inflation rate into negative territory probably. And that's the big decline in oil prices and the introduction of free child care immediately. So they're events that are unlikely to be repeated. I think at some point oil prices will probably rise again and the government won't keep cutting childcare prices. So I think inflation will after a period, normalise. But I also think that we're going to have low interest rates for a very long period of time...'

Most submissions to the Draft Determination did not specifically comment on glide paths. In its submission to the Draft Determination, SA Water stated:

'While the inflation forecast improves with the adoption of a glide path, the chosen glide path still has a significant weighting towards the midpoint of the RBA target band. This results in an inflation estimate of 2.33 per cent which is significantly different to the current market expectation in the current un-precedented economic times. This variance has significant impact on the dividend returned to the government which is used to fund the delivery of essential public services for the community.'

⁴⁵⁹ Blanchard, High inflation is unlikely but not impossible in advanced economies, available at <https://www.piie.com/blogs/realtime-economic-issues-watch/high-inflation-unlikely-not-impossible-advanced-economies>.

⁴⁶⁰ In this scenario precautionary savings (that is, weak growth in household consumption) may play a lasting role, net immigration may remain low (dragging down population growth, which has been a supporting factor for economic growth in recent years), and high levels of uncertainty may weigh on business investment.

⁴⁶¹ Goodhart and Pradham, Future imperfect after coronavirus, 2020, available at <https://voxeu.org/article/future-imperfect-after-coronavirus>.

⁴⁶² Lowe, An economic and financial update, speech and Q&A, available at <https://www.rba.gov.au/speeches/2020/sp-gov-2020-04-21.html>.

While Frontier Economics discuss a glide path approach in their report (included in Our Plan), they conclude it is unlikely the glide path approach would address substantively the problems identified in the inflation estimate. Therefore it should not be interpreted that Frontier Economics has put forward a glide path approach as a suitable alternative to estimating inflation.'

Neither SA Water nor Frontier Economics provide economic research or evidence to suggest that inflation targeting in Australia is not credible in the long term. Neither of the submissions recognise that long-term inflation expectations are an unobserved latent variable embedded within a 10-year CGS. Frontier Economics questioned if the outcome of the Commission's draft approach was reasonable, noting the IMF's temporary suspension of data, and highlighting that market-based measures of 4-year inflation expectations were low in light of the adverse shock from COVID-19. However, when pointing to the market-based measures of long-term inflation expectations, Frontier Economics did not suggest ways to overcome liquidity and inflation risk premiums.

SACOSS and Business SA supported the Commission's glide path approach to estimating long-term inflation expectations in the draft decision.⁴⁶³

Appendix 3 discusses the glide path approaches suggested by Frontier Economics in its submission to the RBP.

7.3.1.6 Summary of the final decision

The rate of return parameters are set out in the table below.

Table 7.5: Summary of regulated rate of return parameters

	2020-21	2021-22	2022-23	2023-24
Nominal risk-free rate (%)	0.91	0.91	0.91	0.91
Market risk premium (%)	6.0	6.0	6.0	6.0
Equity beta	0.67	0.67	0.67	0.67
Post-tax, nominal cost of equity (%)	4.93	4.93	4.93	4.93
Nominal cost of debt (excluding debt raising costs) (%)	5.09	4.72	4.45	4.16
Debt raising costs (%)	0.125	0.125	0.125	0.125
Gearing %	60	60	60	60
Post-tax, nominal WACC (%)	5.10	4.88	4.72	4.55
Long-term inflation expectations (%)	2.07	2.07	2.07	2.07
Post-tax, real WACC (%)	2.96	2.75	2.59	2.42

⁴⁶³ SACOSS, Submission to the Essential Services Commission of South Australia on SA Water Regulatory Determination 2020 - Draft Determination, p.p. 25-29; and Business SA, Submission to Draft Determination, pp. 1-9.

7.3.2 Discussion – the value of the RAB and regulatory depreciation

Two important and closely interrelated components of the regulated revenue allowance are the RAB (the assets) and depreciation (the return of assets). The RAB value combines with the rate of return *on* assets in the calculation of a major component of allowed revenues.

As outlined in Chapter 4, the Commission's final decision is that the assets related to ZCEF should not form part of the RAB and that no depreciation and return on assets allowance relating to ZCEF should be allowed. This does not mean that SA Water would not recover those costs; they would be recovered through commercial charges in the energy market, and lower energy purchases, rather than paid by drinking water and sewerage customers. This is a major reason why the RAB and its allowed depreciation for SAW RD20 is lower than those proposed by SA Water in its RBP.

As mentioned in the introduction, the Commission allows for the wear and tear of assets (regulatory depreciation) over their economic lives to be recovered from customers. The regulatory depreciation allowance considers the standard useful lives of assets and provides a cash flow for the return of money spent on assets.

Regulatory depreciation is also directly affected by the value of the RAB which is, in turn, affected by the way its value is rolled forward over time to reflect remaining asset lives, new capital expenditure and asset disposals. The Commission has determined the value of the RAB based on the initial value in the Pricing Order and by rolling forward the value for each regulatory period using CPI inflation (consistent with Principle 5 of the NWI Pricing Principles).⁴⁶⁴

An important principle of the RAB roll-forward in the NWI Pricing Principles⁴⁶⁵ is that customers only fund prudent and efficient capital expenditure. In accordance with this principle, the Commission has, with the support of Cardno, reviewed capital expenditure over SAW RD16 and recommends some adjustments. Capital expenditure expected over SAW RD20 has also been tested for prudence and efficiency.

Key assumptions used by the Commission in the calculation of the RAB roll forward include:

- ▶ Depreciation reflects the allowed depreciation (converted to an end of year value) from the RD16 determination.
- ▶ New capital expenditure is recognised in the year it is incurred, rather than on the date that the asset is commissioned.
- ▶ The timing of capital expenditure and asset disposals is assumed to occur evenly throughout the year which, for modelling purposes, is the same as assuming that all annual capital expenditure is incurred at the midpoint of that year.
- ▶ Customer contributions and gifted assets associated with capital expenditure are not added to the RAB to reflect that they are funded directly by specific customers and government. This is consistent with the requirements of the NWI Pricing Principles.

7.3.2.1 Changes since the Draft Determination

There have been several changes since the release of the Draft Determination.

- ▶ In May 2020, the Treasurer issued a Pricing Order to reduce the value of SA Water's drinking water regulated assets.

⁴⁶⁴ Principle 5 of the NWI Pricing Principles refers procedures for rolling forward the RAB.

⁴⁶⁵ The NWI Pricing Principles formula for RAB roll-forward calculations, Principle 5, specifies only 'prudent capital expenditure.'

- ▶ In May 2020, the Minister for Environment and Water issued a direction to SA Water, pursuant to section 6 of the *Public Corporations Act 1993*, requiring it to undertake specified activities during the coming four-year period.
- ▶ The values of average asset useful lives for use in SAW RD20 have been updated, to reflect information on the composition of capital expenditure during the SAW RD16 period.
- ▶ The allocation of IT capital expenditure between drinking water and sewerage revenue caps has been amended.
- ▶ The roll-forward of both RABs were recalculated given the change in value of the assets, a shift to a December CPI indexation adjustment for capital expenditure, the ex-post review of capital expenditure, the use of end-of year depreciation rather than the use of mid-year depreciation values and the adoption of a nominal roll-forward methodology.

Pricing Order

Since publication of the Draft Determination, a Pricing Order has been issued and requires: the application of a RAB value of \$7,250 million at 1 July 2013 for drinking water assets in December 2012 dollars.

The RAB reduction translates to \$582 million (\$Dec18). The Pricing Order did not specify the apportionment of the RAB reduction across different types of water assets. The Commission's final decision is for the RAB reductions to apply 67 percent to water pipes and 33 percent to water non-pipes (based on the current shares of pipes and non-pipes).

The Commission has not sought to revalue the tax asset base on a similar basis to the change in the Pricing Order.

Update of average asset useful lives

The Commission's final decision accepts SA Water's proposal in its submission to the Draft Determination to update weighted average asset lives in the RAB. The Commission's modelling incorporates the composition of capital expenditure during the SAW RD16 period to estimate the weighted average asset lives to be used in revenue modelling for the SAW RD20 period. The original estimates were based on information provided for SAW RD13 when the portfolio mix of assets was based on the period leading up to 2013. The use of up to date estimates more accurately reflects the nature of the capitalisation of assets undertaken since 2016.

Amendment to allocation of IT capital expenditure

For the Draft Determination, IT capital expenditure was allocated between the drinking water and sewerage revenue caps on a 67:33 basis for drinking water and sewerage services respectively, based on the ratio of revenue earned by each service.

Having regard to the evidence provided by SA Water in its submission to the Draft Determination, the Commission has amended that allocation to 50:50, on the basis that this better reflects the benefits that drinking water and sewerage services gain from IT corporate assets (such as billing and business support systems), and that both services need to invest in those systems irrespective of the level of revenue generated.

Further, the 50:50 allocation is consistent with that used in previous Determinations.

When compared to the Draft Determination, this has the effect of moving \$22.8 million of capital expenditure from the drinking water revenue cap into the sewerage revenue cap.

Amendment to inflation used to roll-forward the RAB

In its submission to the Draft Determination, SA Water argued that, to be consistent with previous regulatory determinations, the revenue models should use March to March inflation. In its RBP, SA Water proposed rolling forward the RAB using March to March inflation with the nine-month lag. However, with the Pricing Order issued to apply a RAB value of \$7,250 million at 1 July 2013 for drinking water assets in December 2012 dollars, the Commission has sought to be consistent with the original price basis of the determination in SAW RD13, which was in December 2012 dollars, rather than March 2012 dollars.⁴⁶⁶ Accordingly, the Commission has rolled forward the historical RAB with reference to the ABS December to December CPI.

Amendment to the calculation of depreciation of short-lived assets

In its RBP, SA Water proposed that the roll forward modelling of short-lived assets be restricted from falling below zero. This highlighted a range of methodological shortcomings including the incorrect application of inflation adjustments to capital expenditure and the RAB indexation to the correct price basis, as well as errors in the depreciation module have contributed to over-recovery of depreciation resulting in an asset value that is below zero for 2020-21. The Commission has corrected for these matters. Accordingly, the Commission will allow the value of this asset class to start below zero from 1 July 2020 and this will correct for the over recovery in time as new capital expenditure is incurred over the period and the value of this asset class will revert to a positive value.

7.3.2.2 Asset lives, RAB and depreciation

The weighted average asset lives (by asset category) have been updated in this Final Determination to reflect changes to the composition of assets in each class (Table 7.6). ZCEF assets have been removed.

Table 7.6: Regulatory asset lives for SA Water's assets

Regulatory asset lives (weighted averages in years)	Remaining life (existing assets 1 July 2020)	Standard life (new assets)
Drinking water		
Pipes	57	101
Non-pipes	44	101
ADP	49	57
ADP – short-lived assets	3	7
Corporate	5	8
Sewerage		
Pipes	61	113
Non-pipes	31	50
Corporate	5	8

⁴⁶⁶ Commission, SA Water's water and sewerage services revenues 2013-14 to 2015-16 – Draft Determination – Statement of reasons, p. 111, available at <https://www.escosa.sa.gov.au/ArticleDocuments/484/130206-SAWatersWaterSewerageRevenue.pdf.aspx?Embed=Y>.

The actual and forecast capital expenditure, asset disposals and depreciation are combined to roll-forward the capital value of the assets comprising the RAB which, for SAW RD20, are set out in the table below.

Table 7.7: SA Water's proposed RAB roll-forward over SAW RD20 (million, Dec18\$)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Drinking water								
Opening value	8,678.3	8,649.7	8,708.9	8,788.4	8,948.9	9,203.1	9,267.9	9,329.0
Capital expenditure	161.3	252.0	276.0	358.1	454.9	273.5	275.6	273.1
Disposals	-0.5	0.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Depreciation	-189.4	-192.8	-196.1	-197.3	-200.2	-208.3	-214.1	-219.9
Closing value	8,649.7	8,708.9	8,788.4	8,948.9	9,203.1	9,267.9	9,329.0	9,381.7
Sewerage								
Opening value	4,049.0	4,049.8	4,073.2	4,189.6	4,288.6	4,278.5	4,298.0	4,354.1
Capital expenditure	102.8	128.3	224.9	210.6	100.8	134	174.4	157.9
Disposals	-0.2	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Depreciation	-101.8	-105.0	-108.4	-111.6	-110.9	-114.4	-118.2	-122.3
Closing value	4,049.8	4,073.2	4,189.6	4,288.6	4,278.5	4,298.0	4,354.1	4,389.6

The Commission conducts an ex-post review of capital expenditure incurred during each regulatory period, on a sampling basis, to ensure that consumers fund only prudent and efficient investments.

The ex-post sample tested during this determination process comprised 25 percent of SAW RD16 net capital expenditure. As a result of the ex-post review, one adjustment has been made in the Final Determination, as detailed below. The Western Adelaide Wastewater Network Upgrade project, undertaken as part of the SAW RD16 sewerage mains program, was reviewed to assess whether it was a prudent investment, and that it had been delivered efficiently. The project related to the installation of 2.5km of new sewer mains, to increase the sewer network capacity from the north west of Adelaide CBD, at a budgeted cost of \$11.4 million. The project overspent against the initial budget by \$0.6 million, driven primarily by issues that should have been partially or entirely within the control of SA Water's contractor to manage.⁴⁶⁷ The budgeted cost of the project, rather than the actual costs incurred, better represent the efficient cost of the works, and so the final decision is to not include the \$0.6 million of additional expenditure in the RAB.

Further, in the true-up of the RAB for actual capital expenditure in 2015-16, an adjustment to include an additional \$8.4 million has been made, the result of a decision in the ex-post review of SAW RD13 expenditure, undertaken at the time of setting SAW RD16. That information was not available at the time of making SAW RD16 and is now reflected in the RAB roll-forward.

⁴⁶⁷ Cardno, p. 72 and pp. B16-B18.

The final decision on the value of drinking water and sewerage regulated assets also takes into account the Commission’s assessment of the prudence and efficiency of proposed capital expenditure in SAW RD20 (outlined in Chapter 6), the write-down of the 1 July 2013 drinking water RAB under the Pricing Order and the exclusion of ZCEF assets (Table 7.8).

Compared with SA Water’s RBP for SAW RD20, the RAB for water will be 6.6 percent lower and the RAB for sewer will be 3.2 percent higher. The reduction in the drinking water RAB is mainly driven by the drinking water RAB write-down under the May 2020 Pricing Order and removal of ZCEF assets. The increase in the sewerage RAB reflects the inclusion of sewerage capital expenditure required for the Tea Tree Gully sewerage system, which SA Water will operate pursuant to the directions under section 6 of the *Public Corporations Act 1993*.

Table 7.8: The Commission’s Final RAB roll-forward over from SAW RD16 to SAW RD20 (nominal to 2018/19 and Dec18\$ thereafter)⁴⁶⁸

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Drinking water								
Opening value	7643.5	7733.9	7943.3	8134.0	8106.9	8267.1	8327.6	8404.7
Capital expenditure	159.9	249.3	243.8	173.5	333.1	242.2	264.7	264.8
Disposals	-0.5	-0.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Depreciation	-183.0	-189.9	-196.6	-200.1	-172.5	-181.2	-187.2	-193.4
Indexation	114.0	150.0	143.9					
Closing value	7733.9	7943.3	8134.0	8106.9	8267.1	8327.6	8404.7	8475.7
Sewerage								
Opening value	3820.4	3876.6	3978.4	4140.0	4178.3	4141.4	4165.4	4219.7
Capital expenditure	97.6	129.9	197.6	150.1	77.3	141.9	177.2	143.2
Disposals	-0.2	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Depreciation	-98.4	-103.4	-108.7	-111.9	-114.1	-117.9	-122.8	-127.9
Indexation	57.1	75.2	72.7					
Closing value	3876.6	3978.4	4140.0	4178.3	4141.4	4165.4	4219.7	4,235.0

Straight-line depreciation over the weighted asset life is applied to the RABs to reflect consistent depreciation throughout an asset’s life. SA Water’s proposed depreciation by asset class for SAW RD20 is in Table 7.9.

⁴⁶⁸ The write-down of the drinking water RAB under the Pricing Order is based on the value at 1 July 2013 and is rolled forward from that date to arrive at the drinking water RAB values in this table.

Table 7.9: Proposed depreciation by asset class over SAW RD20 - Dec18\$

Return of RAB (Dec18\$)	Water				Sewerage				TOTAL
	2020-21	2021-22	2022-23	2023-24	2020-21	2021-22	2022-23	2023-24	
SA Water's RBP 20									
Pipes	80.0	80.8	81.7	82.7	39.8	39.9	40.4	40.8	486.1
Non-pipes	63.5	66.8	69.0	71.2	52.0	53.4	55.3	57.4	488.6
ADP	30.3	30.3	30.3	30.3	-	-	-	-	121.2
ADP short-lived assets	0.3	0.9	1.5	2.1	-	-	-	-	4.8
Energy assets	10.3	11.9	11.9	11.9	4.4	5.1	5.1	5.1	65.7
Corporate depreciable	15.9	17.7	19.7	21.7	14.7	15.9	17.5	19.1	142.2
Total mid-year value	200.2	208.3	214.1	219.9	110.9	114.4	118.2	122.3	1308.3
Final decision									
Pipes	71.1	71.9	73.0	73.9	38.2	38.5	38.9	39.2	444.7
Non-pipes	47.2	48.9	50.2	51.6	51.7	53.0	54.9	57.0	414.5
ADP	29.6	29.7	29.7	29.8	-	-	-	-	118.9
ADP short-lived assets	-2.4	0.7	1.1	1.5	-	-	-	-	0.9
Energy assets	-	-	-	-	-	-	-	-	-
Corporate depreciable	24.5	27.6	30.9	34.3	22.6	24.7	27.4	30.1	222.1
Total mid-year value	170.0	178.8	184.9	191.1	112.5	116.3	121.2	126.4	1201.0

8 Determination of total revenue caps

Final decision

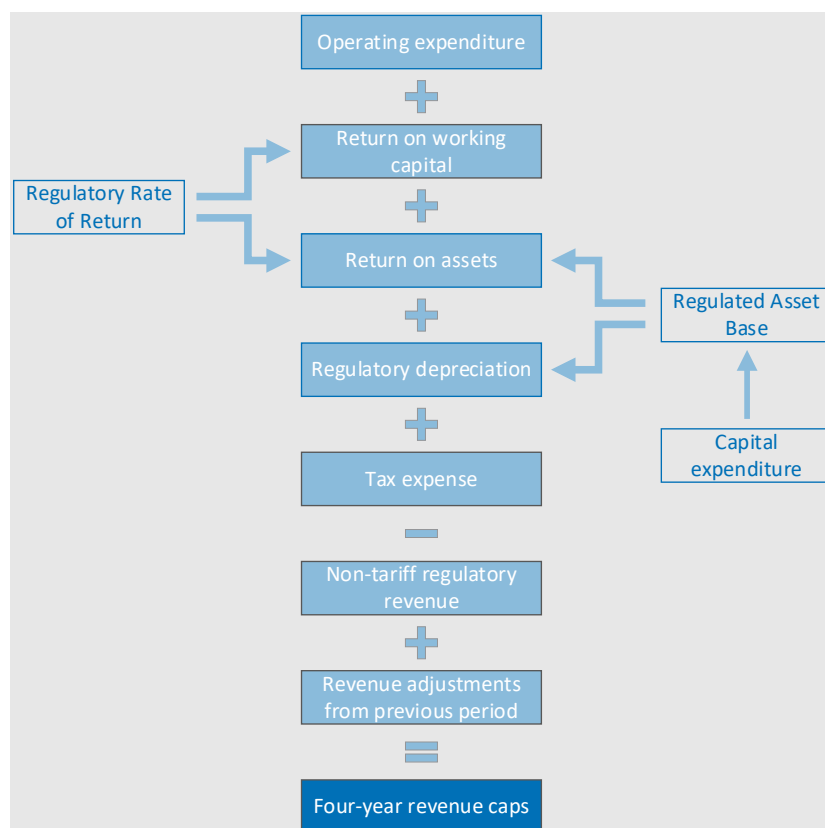
The Commission's final decision is that the total revenue caps for the four-year period commencing 1 July 2020, in present value terms, are:

- ▶ for drinking water, \$2,541 million (\$Dec18), and
- ▶ for sewerage, \$1,215 million (\$Dec18).

8.1 Introduction

The Commission has determined SA Water's total allowable four-year revenue cap using the building block approach. The approach calculates allowed revenues as the sum of key cost components ('building blocks'). It aims to provide SA Water with the efficient economic costs of providing drinking water and sewerage services. In particular, the building block approach sums together each building block (operating expenditure, return on working capital, return on assets, regulatory depreciation, tax allowance and any revenue adjustments from previous periods) and adjusts for non-tariff regulatory revenues (such as payments for CSOs) (Figure 8.1).

Figure 8.1: The building block approach is used to determine allowable four-year revenues, for drinking water and sewer businesses



As discussed earlier, separate revenue caps are calculated for SA Water's drinking water and sewerage services, with those revenues to be fixed for the duration of the four-year regulatory period. Any costs that are common to both drinking water and sewerage services are allocated between services based

on relevant cost drivers. From these total costs, revenues that are not recovered through drinking water and sewerage charges, such as recycled water charges or CSO payments received from the South Australian Government, are removed.

Revenue caps set through the building block process are not sensitive to changes in demand, unless they are substantial enough to trigger the demand adjustment mechanism. Table 8.1 (below) shows historical forecasts compared with actual outcomes. SA Water expects demand for drinking water to rise marginally throughout the SAW RD20 period at rates below increases in population.

Table 8.1: Historical forecasts of drinking water demand versus actual outcomes, GL

	Actual (GL)	Forecast ⁴⁶⁹ (GL)	Variation (GL)
2012-13	193.2		
2013-14	184.2	190.0	-5.8
2014-15	190.9	190.0	0.9
2015-16	200.1	190.0	10.1
2016-17	177.1	190.1	-13.0
2017-18	197.7	191.4	6.3
2018-19	207.8	192.9	14.9
2019-20	203.0 ⁴⁷⁰	194.5	8.5
2020-21		194.0	
2021-22		194.5	
2020-21		195.0	
2021-22		195.5	

This chapter sets out the Commission's final decision on the combination of the building block components required to determine the total revenue caps for the drinking water and sewerage businesses for SAW RD20.

8.2 What has SA Water proposed?

The annual allowable revenues (unsmoothed) proposed by SA Water in its RBP are summarised in Table 8.2. The breakdown of proposed building block components are discussed later in this chapter.

⁴⁶⁹ Forecasts for 2020-21 onward are based on SA Water's RBP.

⁴⁷⁰ Based on an estimate from March 2020 provided by SA Water.

Table 8.2: SA Water's proposed annual revenue allowance (present value in Dec18\$m)

	2020-21	2021-22	2022-23	2023-24	Total
RBP					
Drinking water	805.6	779.0	747.7	714.3	3046.7
Sewerage	351.8	335.2	323.3	312.4	1322.6
Total RBP	1157.7	1114.2	1071	1026.7	4369.3

Overall, in present value terms, SA Water's proposed total revenue caps for SAW RD20 for drinking water and sewerage were as follows:

- ▶ for drinking water, \$3,046.7 million, and
- ▶ for sewerage, \$1,322.6 million.

8.3 Discussion

As specified in the Pricing Order, the Commission has used the building block approach to determine total revenues in the Final Determination.⁴⁷¹ The building block approach is an established approach that provides SA Water with revenue to recover the efficient economic costs of providing drinking water and sewerage services. SA Water applied the building block approach in its RBP.

8.3.1 The four-year revenue caps for drinking water and sewerage services are 16 percent and four percent below those allowed in SAW RD16, respectively

The Commission's final decision is that the present value of the revenue caps for SAW RD20 are (calculated using a discount factor to determine the expected present value of cash flows over the four-year period):

- ▶ for drinking water, \$2,541 million (an estimated 16 percent reduction from SAW RD16), and
- ▶ for sewerage, \$1,215 million (an estimated four percent reduction from SAW RD16).

The calculation of the SAW RD20 revenue caps is summarised in Table 8.3 and Table 8.4.

Table 8.3: Calculation of SAW RD20 revenue caps (Dec18 \$m)⁴⁷²

	2020-21	2021-22	2022-23	2023-24	Revenue cap
Pre-tax real WACC (%)	3.30	3.09	2.93	2.76	
Discount factor	0.98390	0.95344	0.92558	0.89997	
Drinking water					
Annual revenue amounts	656.3	686.9	683.0	676.1	
PV of annual revenue amounts	645.7	654.9	632.2	608.4	2,541.2

⁴⁷¹ The Pricing Order for SAW RD20, section 6, p. 4.

⁴⁷² The discount factors are calculated based on cumulative pre-tax WACC rates, assuming mid-year discounting. The pre-tax WACC is used for discounting allowed revenues because allowed revenues includes an allowance for taxation.

	2020-21	2021-22	2022-23	2023-24	Revenue cap
Sewerage					
Annual revenue amounts	326.5	320.7	323.1	321.1	
PV of annual revenue amounts	321.2	305.7	299.0	289.0	1,215.0

Table 8.4: Final Determination of drinking water and sewerage four-year revenue caps, compared to SAW RD16 and SA Water's RBP (Dec18 \$m, present value of revenue amounts)

	Final Determination for SAW RD20	SA Water's proposal for SAW RD20	SAW RD16
Total Drinking water	2,541.2	3,046.7	3,035.4
Operating expenditure	1324.8	1229.4	1266.8
Return on assets	838.4	1206.3	1304.2
Depreciation	680.8	776.7	709.0
Tax allowance	10.5	71.7	29.0
Non-tariff regulatory revenue	-317.1	-242.1	-279.2
Return on working capital	3.9	4.8	5.6
Total sewerage	1,215.0	1,322.6	1,269.3
Operating expenditure	510.8	478.5	482.6
Return on assets	423.0	563.8	609.4
Depreciation	447.4	429.4	388.6
Tax allowance	5.9	25.8	2.0
Non-tariff regulatory revenue	-173.7	-176.7	-211.5
Return on working capital	1.5	1.9	2.2

The reductions in the revenue caps mainly reflect the lower return on assets to be applied in SAW RD20 compared with the return applied in SAW RD16. The drinking water revenue reductions are greater than the sewerage revenue reductions due to the reduction in drinking water assets through the Pricing Order, impacts of the new direction under section 6 of the *Public Corporations Act 1993* and revenue reductions that arise from SAW RD16 (such as the demand variation adjustment mechanism, which impacts drinking water revenues). The reductions in the drinking water and sewerage revenue caps are illustrated in Figure 8.2 and Figure 8.3.

There were various factors that led to the total drinking water and sewerage revenue caps changing between the Draft Determination and Final Determination. Those factors include:

- ▶ The real regulatory rate of return has increased between the Draft Determination and Final Determination, mainly due to an increase in the cost of debt and lower long-term inflation expectations.
- ▶ The Minister for Environment and Water has issued new directions under the *Public Corporations Act 1993*, requiring SA Water to undertake certain activities over the coming four years. The directions increase SA Water's forecast capital and operating expenditure (net of Government contributions).
- ▶ The Commission's final decision provides for increased operating expenditure (excluding the impacts of the new directions from the Minister for Environment and Water), compared to the Draft Determination, as a result of incorporating better evidence of SA Water's base level operating expenditure requirements and forecast variations, including electricity purchase costs.
- ▶ Depreciation costs have increased to reflect changes in the weighted average lives of regulated assets, updated to reflect capital expenditure during the current regulatory period. The increase mainly reflects the addition of corporate (short-life) drinking water and sewerage assets and the addition of non-pipe (long-life) drinking water assets.

The Commission has also incorporated the following changes, which have created downward pressure on SA Water's revenues compared to the Draft Determination:

- ▶ In May 2020, the Treasurer issued a Pricing Order under the WI Act, reducing the regulatory value of SA Water's drinking water assets from \$7.77 billion to \$7.25 billion (as at 1 July 2013, in December 2012 dollars).
- ▶ A downward adjustment to drinking water revenues was made to reflect the increased revenue that resulted from actual drinking water demand exceeding forecast demand in the current regulatory period, leading to drinking water revenue exceeding the revenue cap. This adjustment was made in accordance with the demand variation adjustment mechanism under the current determination.
- ▶ There have been changes in revenue from other sources, namely non-tariff revenue (i.e. Community Service Obligations (CSOs)) and other adjustments included in revenue modelling.

Figure 8.2: Changes in the drinking water PV revenue cap from SAW RD16 to SAW RD20 (Dec18\$m)

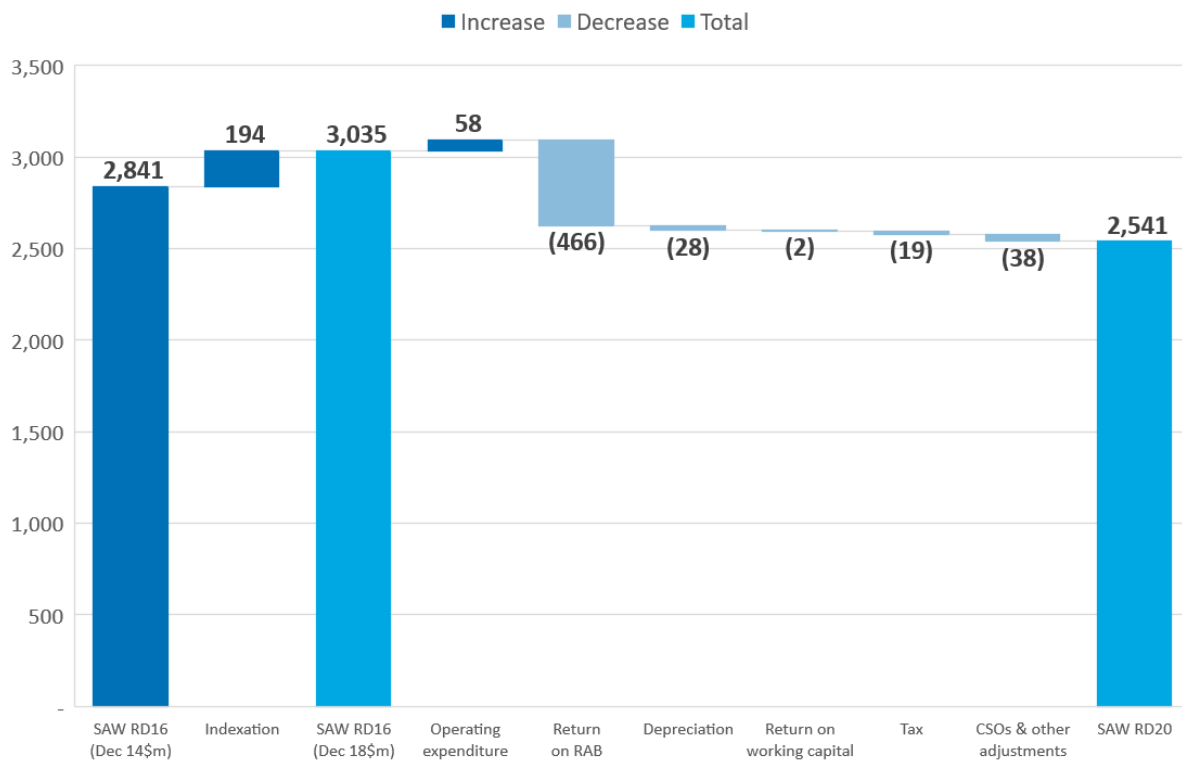
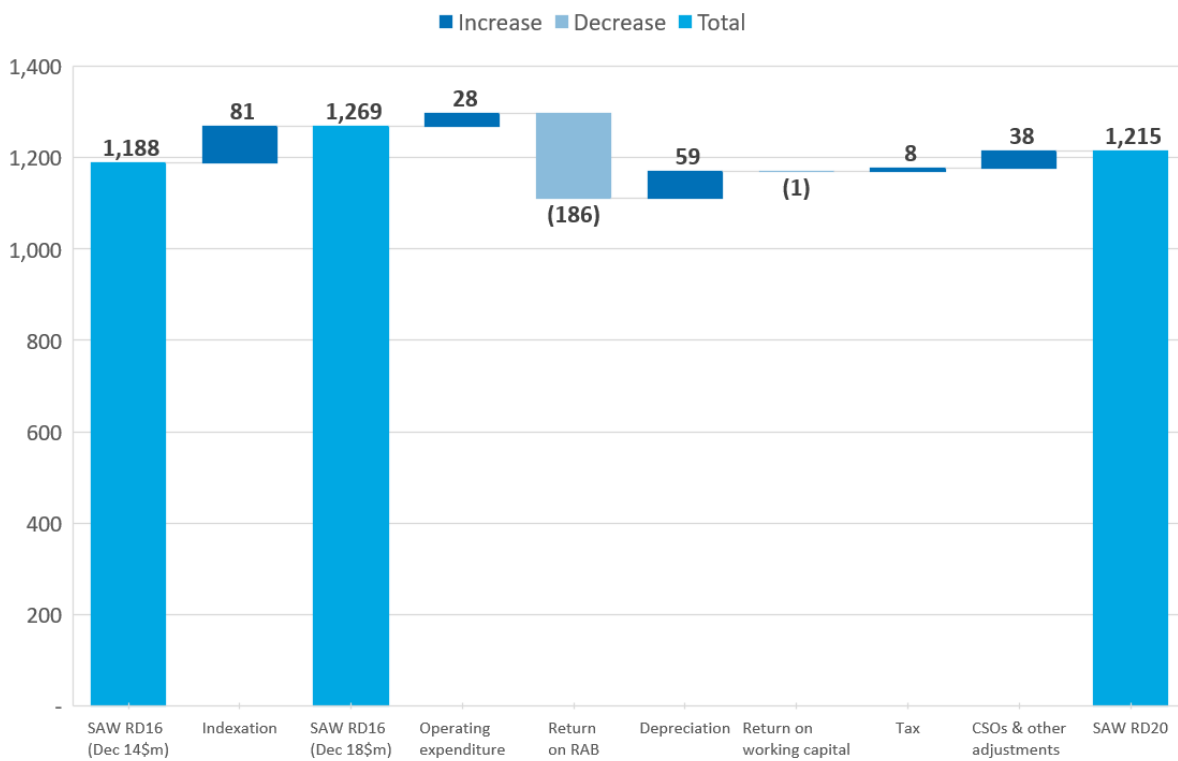


Figure 8.3: Changes in the sewerage PV revenue cap from SAW RD16 to SAW RD20 (Dec18\$m)



8.3.2 The Commission’s allowance for prudent and efficient operating expenditure is lower than proposed by SA Water

The Commission’s allowance for prudent and efficient operating expenditure is lower than proposed by SA Water, but is \$33 million above the \$1,918 million in operating expenditure amount included in SAW RD16 (\$Dec18). The Commission’s discussion in relation to prudent and efficient operating expenditure is set out in Chapter 6. Below is a summary of SA Water’s expenditure proposal compared with the Commission’s final decision (Table 8.5).

Table 8.5: Summary of operating expenditure (Dec18\$m)

	2020-21	2021-22	2022-23	2023-24	Total
Drinking water (excl. ZCEF)	353.7	366.2	372.6	375.5	1468.0
Sewerage (excl. ZCEF)	137.6	142.4	144.9	146.0	570.9
Total – RBP20	491.3	508.6	517.5	521.5	2038.9
Drinking water	352.7	352.4	352.8	350.4	1408.2
Sewerage	135.6	134.4	136.3	136.9	543.0
Total – Final Decision	488.3	486.7	489.0	487.2	1951.2

8.3.3 The Commission’s final decision is to treat working capital the same as was the case in SAW RD16

The return on working capital is a product of the post-tax WACC and the assumed investment in working capital. It is calculated according to the following formula:

$$Working\ Capital = \left(\frac{Lag(Days) - Lead(Days)}{365} \right) \times Operating\ Expenditure$$

Where:

- ▶ ‘lag’ is the delay by which revenue is received relative to when it is generated (assumed to be evenly throughout the year). SA Water has estimated the revenue lag to be 70 days, which incorporates half of the three-month billing cycle, plus the estimated average period between meter reading and customer payment
- ▶ ‘lead’ is the delay by which operating expenditures are paid relative to when they are incurred (which is assumed to be evenly throughout the year). SA Water has estimated the operating expenditure lead to be 30 days, and
- ▶ ‘operating expenditure’ reflects the annual operating expenditure, as allowed by the Commission.

The Commission’s final decision on the return on working capital for SAW RD20 is in Table 8.6. As can be seen below, return on working capital is a relatively small amount.

Table 8.6: Return on working capital (Dec18\$m)

	2020-21	2021-22	2022-23	2023-24	Total
RBP					
Drinking water	1.4	1.3	1.3	1.2	5.2
Sewerage	0.5	0.5	0.5	0.5	2.0
Total RBP	1.9	1.8	1.8	1.7	7.2
Final Decision – Drinking water					
Return on working capital	1.1	1.1	1.0	0.9	4.1
Final Decision – Sewerage					
Return on working capital	0.4	0.4	0.4	0.4	1.6
Final Decision – Total (drinking water and sewerage) return on working capital	1.6	1.4	1.4	1.3	5.6

8.3.4 Relative to SA Water’s proposal, the Commission’s allowance for regulatory depreciation is lower for drinking water but slightly higher for sewerage

Table 8.7 sets out the Commission’s final decision with respect to regulatory depreciation. The allowance is lower for drinking water than was proposed by SA Water in its RBP, but the allowance for sewerage is slightly higher.

Table 8.7: Regulatory depreciation (Dec18\$m)

	2020-21	2021-22	2022-23	2023-24	Total
RBP					
Drinking water	200.2	208.3	214.1	219.9	842.5
Sewerage	110.9	114.4	118.2	122.3	465.8
Total – RBP	311.1	322.7	332.3	342.2	1308.3
Final decision					
Drinking water	170.0	178.8	184.9	191.1	724.7
Sewerage	112.5	116.3	121.2	126.4	476.3
Total – Final Decision	282.4	295.1	306.1	317.4	1201.0

The lower regulatory depreciation for drinking water reflects the impact of the RAB reduction and the exclusion of ZCEF assets. However, as noted earlier, this has been partly offset by the Commission’s final decision to use updated estimates of average asset useful lives based on the composition of capital expenditure during the SAW RD16 period. For instance, updated estimates allow for more accurate calculation, as it better captures the shorter asset lives of corporate assets, namely IT assets, which are seeing increased amounts of capital expenditure, and this has placed upward pressure on the calculation of regulatory depreciation. All useful life assumptions are summarised in Table 8.8.

The slightly higher allowance for regulatory depreciation for sewerage reflects the impact of using the updated estimates of average useful asset lives based on information from the SAW RD16 period.

Table 8.8: Useful lives of assets (years)

Regulatory asset lives (weighted averages in years)	Remaining life (existing assets 1 July 2020)	Standard life (new assets)
Drinking water		
Pipes	57.4	100.9
Non-pipes	44.1	101.0
ADP	48.6	57.0
ADP - short lived assets	3.0	7.0
Corporate	5.4	8.2
Sewerage		
Pipes	60.8	113.0
Non-pipes	30.7	50.0
Corporate	5.2	8.2

It is worth noting that the regulatory depreciation calculations proposed by SA Water are based on depreciation at the end of each financial year. As revenues are recovered on a continual basis throughout the year, revenue from regulatory depreciation is adjusted back to the midpoint of the year. This was discussed in Chapter 7.

8.3.5 The Commission’s allowance for the return on assets is much lower than SA Water’s proposal

The annual return on the RAB is calculated as the product of the estimated post-tax rate of return (calculated and presented in Chapter 7) and the opening RAB for that year (plus 50 percent capital additions and minus 50 percent asset disposals), to derive a return on assets. This is then discounted by six months, to recognise that revenue is generated consistently throughout the year, rather than at year end. The mid-year timing assumption is the reason why only half of the capital expenditure and asset disposal items are included in the calculation of the annual return on the RAB.

This approach differs from the approach used by SA Water, which used the average of the opening and closing values of the annual RAB balances in combination with a year-end calculation of regulatory depreciation. SA Water’s approach is not consistent with the timing assumptions used in determining revenues.

Table 8.9 sets out the Commission’s final decision with respect to the return on the RAB. The allowed real rate of return is an important driver of the difference between the Commission’s final decision and SA Water’s proposal in the RBP. The reduction in the drinking water RAB as a result of the Pricing Order has also contributed.

Table 8.9: Return on RAB (Dec18\$m)

	2020-21	2021-22	2022-23	2023-24	Total
RBP					
Drinking water	348.1	332.9	319.0	303.8	1,303.8
Sewerage	164.3	154.6	148.4	141.9	609.2
Total – RBP	512.4	487.5	467.4	445.7	1,913.0
Final Decision					
WACC (%)	2.96	2.75	2.59	2.42	
Drinking water					
Opening RAB	8106.9	8267.1	8327.6	8404.7	
Capital expenditure	333.1	242.2	264.7	264.8	
Disposals	0.4	0.4	0.4	0.4	
Opening RAB + 50% capex minus 50% disposals	8273.2	8388.0	8459.8	8536.9	
Return on RAB	241.3	227.6	216.3	204.1	889.4
Sewerage					
Opening RAB	4178.3	4141.4	4165.4	4219.7	
Capital expenditure	77.4	141.9	177.2	143.2	
Disposals	0.1	0.1	0.1	0.1	
Opening RAB + 50% capex minus 50% disposals	4216.9	4212.3	4253.9	4291.3	
Return on RAB	123.0	114.3	108.8	102.6	448.7
Total – Final Decision	364.4	341.8	325.1	306.8	1338.0

8.3.6 Reflecting the low cost of equity driven by a low risk-free interest rate, the tax allowance in the Commission's final decision is lower than that proposed by SA Water

The regulatory building block model adopted by the Commission incorporates an allowance for tax as one of the cost building blocks. This is because the Commission uses a post-tax real rate of return.

The methodology used to calculate the tax allowances for SAW RD20 is based on the Australian corporate taxation regime, adjusted to reflect the estimated value to equity holders of associated imputation credits.

The following methodology was used by SA Water to arrive at its estimation of the benchmark regulatory tax allowances.

- ▶ The nominal taxable income for each of the drinking water and sewerage services was estimated based on inflating real forecasts by estimated annual inflation rates for each year (based on SA Water's proposal for long-term inflation expectations). All revenues were treated as taxable, including CSO and contributed assets. Tax depreciation deductions were estimated by applying tax useful life estimates to the opening tax written down values of existing assets, and the costs of new assets acquired during the SAW RD20 period.
- ▶ The tax allowance was calculated by applying the corporate tax rate of 30 percent, reduced by the estimated value ascribed to imputation credits (using a value of 0.50 for gamma) to the estimated annual taxable incomes of the drinking water and sewerage businesses. The Commission accepts SA Water's proposal for the use of a value of 0.5 for gamma.

The regulatory building block model is based on real forecasts for capital and operating expenditure and leads to revenue caps expressed in real terms. To reflect the underlying tax regime, these forecasts must be converted to nominal terms to calculate tax allowances.

The allowances made for tax within SA Water's RBP are small in the case of drinking water and sewerage. The Commission has reviewed the tax allowance, and is generally satisfied that the methodology and assumptions used by SA Water to determine the tax allowances are appropriate (although the Commission has used assumptions for inflation to be consistent with the treatment of long-term inflation expectations).⁴⁷³

The final decision is to use the method used in SAW RD16, which allowed for tax losses within a segment provided the overall business did not make a tax loss. The tax allowance in the Commission's final decision is substantially lower than that proposed by SA Water in its RBP (Table 8.10). This is largely due to materially lower returns to equity reflecting lower risk-free rates of interest.

⁴⁷³ It is important to distinguish between the use of the best estimate of the annual rate of long-term inflation expectation that is embedded in a 10-year bond yield, used to convert the nominal rate of return into a real rate of return, from the Commission's best estimate of the path of inflation over the four-year regulatory period (which applies in the case of adjusting for the tax allowance and CSO payments). The tax calculations require conversion from an estimate of real to nominal, and the nominal CSO revenues for the four-year regulatory period are converted into real terms. Under both approaches, the inflator is calculated using RBA forecasts for year-ended inflation over the year to December 2021 and December 2022, followed by the first two observations of a linear glide path to the mid-point of the RBA's target band by 2026. This approach is used so as to be as consistent as possible with the treatment of long-term inflation expectations in the regulatory rate of return (discussed in Chapter 7). In this instance, however, the use of year-ended December forecasts, rather than June-ended forecasts, are used for consistency with the mid-year discounting of revenues used in the modelling.

Table 8.10: Tax allowances (Dec18\$m)

	2020-21	2021-22	2022-23	2023-24	Total
RBP16					
Drinking water	19.6	19.1	19.2	19.8	77.7
Sewerage	8.0	7.0	6.5	6.4	27.9
Total - RBP16	27.6	26.1	25.7	26.2	105.6
Final Decision					
Drinking water	4.8	1.9	2.0	2.4	11.0
Sewerage	2.7	1.0	1.8	0.7	6.2
Total – Final Decision	7.4	2.9	3.8	3.1	17.3

8.3.7 The removal of non-tariff regulatory revenues is consistent with the SAW RD16 methodology

The sum of the regulatory building blocks is used to determine the total regulatory revenue caps for SA Water. An important step of the process is to subtract the regulated revenue streams that SA Water generates outside of its retail tariffs, as these revenue streams exist to offset operating costs or carry out non-commercial functions. These revenue streams include reimbursements for CSOs made by the South Australian Government (in relation to both drinking water and sewerage) and revenues from the sale of recycled water (sewerage only).

The majority of the CSO revenue is set in advance (in nominal terms) and is published in the South Australian Government Gazette. The remaining CSO revenue represents reimbursements made in relation to the provision of drinking water and sewerage retail services to bodies that have been exempted by the South Australian Government from being required to pay for those services. SA Water estimated these adjustments on the basis that CSO payment amounts for the SAW RD20 period had not been set by the South Australian Government.

As those payment amounts are now determined, this Final Determination has incorporated CSO payments based on those specified in the directions under section 6 of the *Public Corporations Act 1993*, as discussed previously. The CSO amounts are different to those set for the SAW RD16 period. In particular, drinking water CSOs have increased to reflect South Australian Government contributions towards the cost of new activities specified in the section 6 directions. Sewerage CSOs have decreased relative to SAW RD16 largely due to the removal of the exemptions and concessions which are now treated outside of the building block model.

The Commission has accepted SA Water's proposal to deduct the community concessions CSO payment (and associated administration cost) from the revenue caps before setting prices for drinking water and sewerage rates and sales each year, rather than deduct a forecast payment through the building block model.

8.3.8 SAW RD16 period adjustments

SAW RD16 allows for adjustments to be made to revenue caps to reflect the costs of any material unforeseen events or legislative changes over the previous regulatory period. There are four forms of potential adjustments to the SAW RD20 revenue caps that relate to the SAW RD16 period:

- ▶ revenue compliance
- ▶ demand variation adjustment mechanism
- ▶ cost pass-through event, and
- ▶ sales of temporary allocations of water.

The Commission's Final Determination for SAW RD20 includes: a revenue adjustment for sales of temporary allocations of River Murray water and a revenue adjustment for over-recovery in the SAW RD16 period.

Under SAW RD16, a River Murray Water Licence Adjustment mechanism exists, as it is not possible to make a reasonable estimate of the sales of temporary water allocations prior to the commencement of a regulatory period. The Commission accepts that the regulatory adjustment for the sale of temporary water allocations is \$18.0 million, which reflects the net benefit to SA Water of those sales and should be deducted from drinking water revenues for SAW RD20.

Since the Draft Determination, SA Water has reported to the Commission a net \$19 million (\$Dec18) adjustment for the SAW RD20 period, reflecting half of the over recovery of revenues in the SAW RD16 period (determined in accordance with the demand variation adjustment mechanism that applied under SAW RD16). This additional net revenue has been deducted from SAW RD20 revenues.

9 The financial implications of the determination

Final decision

The Commission has considered the financial implications of the Final Determination on SA Water, taking into account the proposed reduction in drinking water and sewerage revenues and having regard to the need to ensure that SA Water can continue to provide regulated services to customers in the long term. There has not been compelling evidence provided to demonstrate that the regulatory settings would lead to cash flow deficiencies.

9.1 Introduction

SA Water and its customers face various risks. A critical feature of economic regulation is the balancing of those risks and the consideration of the financial implications of regulatory decisions. The Commission explained, in detail, the risks faced by SA Water and its customers, and where those risks should lie in terms of management and mitigation, in Guidance Paper 2.⁴⁷⁴ As explained later in this chapter, the risks faced by SA Water are generally considered by the Commission to be low, given the nature of SA Water's monopoly business, together with the design of the cost-based revenue caps (with cost pass-through arrangements).

The ESC Act requires the Commission to have regard to the financial implications of its regulatory determination,⁴⁷⁵ and, in performing its functions, to have regard to the need to facilitate maintenance of the financial viability of regulated industries and the incentive for long term investment.⁴⁷⁶ It is in customers' long-term interests that the Commission considers the impact of its regulatory determinations on SA Water's financial position, as persistent deficiencies in its financial position could make it difficult to maintain customer service levels and make necessary capital investments in future. This chapter discusses the Commission's consideration of the financial viability risks facing SA Water.

9.2 What has SA Water proposed?

In its RBP, SA Water proposed that, for what it considers to be financial viability reasons, a minimum threshold for the rate of return should be set in order to meet indicators of an investment grade (BBB) issuers' credit quality.⁴⁷⁷

The proposed indicators of credit quality are: the interest coverage ratio (measures the ability to service debts through available cash flow), funds from operations (**FFO**) to net debt (measures ability to repay debts when they are due), and the gearing ratio (measures leverage as a proportion to the capital invested on which the company is allowed to earn a return) (see below).

The aim of those purely indicative quantitative assessments is to compare the actual and projected levels of cash flow and debt against target levels that are consistent with those that credit rating agencies (and hence capital markets) may consider are needed for a credit rating within the BBB

⁴⁷⁴ Commission, Guidance paper 2, pp. 13-14.

⁴⁷⁵ ESC Act 2002, section 25(4)(f).

⁴⁷⁶ ESC Act 2002, section 6(b)(vi).

⁴⁷⁷ A BBB (BBB+, BBB or BBB-) rating is generally known to indicate that the company has adequate capacity to meet its financial commitments, though adverse economic conditions or changing circumstances may weaken its capacity to meet financial commitments. A BBB- or above rating is generally considered investment grade. In contrast, a BB+ rating is generally known to indicate that the company faces ongoing uncertainties and exposure to adverse business, financial or economic conditions, which could limit the company's capacity to meet its financial commitments.

investment grade range. The use of those indicators is known by some regulators as ‘financeability assessments’⁴⁷⁸ or ‘financial viability tests’.⁴⁷⁹

$$\text{Interest coverage} = \frac{\text{Funds from operations} + \text{net interest expense}}{\text{net interest expense}}$$

$$\text{FFO / Net debt} = \frac{\text{Funds from operations}}{\text{net debt}}$$

$$\text{Debt gearing} = \frac{\text{net debt}}{\text{RAB}}$$

The context for SA Water’s proposal is that it expects the ratio for FFO over net debt (FFO-to-net debt) to be below the benchmark ratios used by credit rating agencies over the regulatory period, and it has concerns about the expected decline in the ratios of both FFO over net debt and interest cover over the regulatory period. In its submission to the Draft Determination SA Water stated:

[o]ther than being significantly lower than the target level, the real FFO/net debt ratio deteriorates throughout the regulatory period (similar trend to the real interest coverage ratio) and in 2023-24 is approximately half the value of the target level. While it is not known how credit rating agencies will account for low interest rates, SA Water does not believe this ratio should be easily dismissed as they have been widely used as an assessment of financial viability in the past’

It further stated:

[t]he Draft Determination indicates a near \$nil profit from the consolidated business when excluding non-cash gifted assets and contributed assets (table 10 below). This is despite South Australian taxpayer’s approximately \$13 billion investment in the business, and SA Water’s actual gearing ratio of 53 per cent being much lower than the regulatory benchmark of 60 per cent’

It then argued:

[t]o ensure the ongoing financial viability of SA Water, the [rate of return] methodology (sic) must change. Without a change in methodology the reliable, cost effective provision of essential water and sewerage services that protect public health, enable modern lifestyles and contribute to economic recovery and growth is at risk.’

Frontier Economics (on behalf of SA Water) stated:

[t]he regulatory allowances in the draft determination fail the financeability test. The allowed revenues in the draft determination are insufficient to support the investment grade credit rating that is used to derive those allowed revenues; and the regulatory allowances in the draft determination consign SA Water’s regulated business to incur losses in the order of \$40 million in every year of the forthcoming regulatory period. In our view, these outcomes do not ‘facilitate maintenance of the financial viability of regulated industries and the incentive for long term investment. This would represent a failure of one of ESCOSA’s statutory obligations under the ESC Act.’

⁴⁷⁸ IPART, Review of financeability test 2018, 2018, p. 82, available at: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/investigation-administrative-review-of-financeability-test-2018/legislative-requirements-review-of-financeability-test-2018/final-report-review-of-our-financeability-test-november-2018.pdf>.

⁴⁷⁹ ESCV, Assessing the financial viability of Victorian water businesses: Summary of views and proposed new indicator, June 2014, p. 5, available at: <https://www.esc.vic.gov.au/water/inquiries-studies-and-reviews/financial-viability-victorias-water-industry-review-2014#tabs-container2>.

9.3 Discussion

The Commission has considered the financial implications on customers and SA Water of the maximum revenues determined in the Final Determination. The Final Determination:

- ▶ Proposes a 16 percent and 4 percent reduction in SA Water’s drinking water and sewerage revenues (respectively) from 1 July 2020, while proposing service standards that would maintain existing levels of services.
- ▶ Finds that the evidence submitted by stakeholders did not demonstrate that the regulatory settings unambiguously lead to cash flow deficiencies.
 - The evidence presented by SA Water and Frontier Economics did not indicate a cash flow deficiency resulting from the regulatory settings. The claims can be explained by: SA Water having a different view to the Commission about forecast assumptions for its actual cost of debt and actual electricity expenses, and for the inclusion of income from gifted and contributed assets in the profit calculation; and Frontier Economics’ claim regarding negative profit was inaccurate, as its analysis of benchmark profit used assumptions that are inconsistent with the real rate of return methodology.
 - SA Water’s FFO over net debt ratio on a benchmark basis is only slightly below the target ratios published by credit rating agencies. However, this is not in and of itself sufficient evidence of a cash flow deficiency resulting from regulatory settings. The FFO over net debt measure seeks to assess the longer-term capacity of the business’s cash flows to service and refinance debt, hence is a longer-term measure used to assess default risk. Other measures, such as the interest coverage ratio, indicate a firm’s ability to meet debt repayments and may provide an arguably better indication of cash flow risk. SA Water’s interest cover ratio on a benchmark basis meets the targets set by credit rating agencies.
 - SA Water will generate a return through indexation of the RAB. While this return is achieved over the life of the assets, this longer-term source of return is an important feature of the real rate of return approach used by regulators in Australia. As explained earlier, because inflation indexation increases the value of the asset base, a benchmark efficient firm can increase debt while maintaining the fixed 60 percent gearing ratio. The increase in debt generates cash flow that is equivalent to a nominal return. This can in principle insulate against cash flow issues.

9.3.1 Financial viability is difficult to define and measure

There are several potential sources of a financial viability problem under a binding rate of return framework. Timing mismatches between revenue and costs can possibly arise due to regulatory settings, weaker-than-expected demand and/or higher-than-expected expenses (for example, from project cost overruns, lower productivity or mistimed capital expenditure). Also, a deficient level of cash could arise due to higher-than-expected borrowing costs (for which limited or no hedging protection exists).

SA Water and Frontier Economics have, effectively, argued that interest cover, FFO over net debt, gearing, and net profit are measures of financial viability. However, as explained in the Draft Determination, there is no single measure for assessing a benchmark efficient firm’s required level of cash flow, to both deliver essential services and impart a degree of resilience to unanticipated financial events. Accordingly, the measurement of financial viability involves judgement. Indeed, some regulators, namely the ERA (WA) and AER, do not explicitly use financeability tests in the setting of allowed revenues.⁴⁸⁰

⁴⁸⁰ IPART, Review of financeability test 2018, 2018, p. 23.

Furthermore, determining causation of a cash flow deficiency can be difficult. Consistent with the Commission's approach to incentivising regulated businesses to achieve efficiencies in controllable costs and to bear the risk of underperformance, the Commission's approach is for the owner and management to determine how to best finance the investment program and to take the risk and rewards around that approach. Accordingly, any financial viability issue needs to be assessed in that context.

The Commission has estimated the benchmark financial viability indicators proposed by SA Water in its RBP (interest cover, FFO-to-net debt and gearing). Those indicators aim to consider the ability of a benchmark efficient firm to raise funds from investors to manage its activities. In addition, the Commission has reviewed forecast budget data submitted to the Commission by SA Water for the SAW RD20 regulatory period. In their submissions to SA Water's RBP, SACOSS and Isle Utilities (submitted through Business SA), argued that rate of return settings already account for risks and should therefore provide theoretical certainty over a financially viable outcome.⁴⁸¹ In that context SACOSS argued that:

*'... using the [financeability] measures provides a gaming opportunity as it provides the firm with an incentive to increase debt to very high levels, and thus 'require' the regulator to provide a high rate of return to allow the firm to meet its financial viability measures.'*⁴⁸²

Isle Utilities (submitted through Business SA) in its submission to SA Water's RBP recommended that the Commission give consideration to the financial viability implications of the decision. In particular, it supported the adoption of three principles for the assessment:

- ▶ that maintaining an investment grade credit rating over time is an appropriate objective for a financeability assessment of a regulated water service provider
- ▶ if a financeability constraint is identified, then a cash flow adjustment should be made only if the constraint is not a result of poor management practices, such as excessive gearing or poor financial decisions, and
- ▶ any financeability assessment should be undertaken on the basis of competitive neutrality.

The Commission agrees with the intent of those principles having regard to the terms of the statutory framework under which this determination is being made.

9.3.2 When viewed in isolation, any individual quantitative indicator can understate or overstate risk. Credit rating agencies' metrics tend to have a focus on credit risk rather than on immediate cash flow sufficiency

Selection of financial target ratios involves discretion. The credit rating agencies use a range of quantitative and qualitative indicators to assess an issuer's credit quality.⁴⁸³ Key quantitative indicators include the three measures that are noted in SA Water's RBP. Those indicators are also used by some Australian⁴⁸⁴ and international⁴⁸⁵ regulators. However, the exact level of the ratios used by credit rating agencies can differ, and the prioritisation of individual indicators varies across credit rating agencies and regulators. As noted in the Draft Determination, the wide range of estimates used by credit rating agencies reflects the difficulty in trying to estimate the reasons for, and hence indicators of, a company's probability of default. While some financial indicators have particular relevance in the

⁴⁸¹ SACOSS, pp. 29-30, and Business SA, pp. 15-16.

⁴⁸² SACOSS, pp. 29-30.

⁴⁸³ Moody's Investors Service (MIS), Exhibit 2 – Procedures and Methodologies Used to Determine Credit Ratings, 2019, p.6, available at: <https://www.sec.gov/Archives/edgar/data/1698547/000119312519091962/d721318dex99e2nrsro.pdf>.

⁴⁸⁴ IPART, Review of financeability test 2018, November 2018, p. 82.

⁴⁸⁵ IPART, Review of financeability test 2018, November 2018, p. 82.

short-term, such as the interest coverage ratio, other measures, such as FFO over net debt, assess the longer-term capacity of the business's cash flows to service and refinance debt.

Generally speaking, when assessed in nominal terms, such as when relying on statutory accounts, an interest coverage ratio above 1.8, debt gearing below 70 percent and a FFO to net debt level above six percent are close or within the ranges set by credit rating agencies. If the assessment is made in real terms, two of the target ratios increase: the interest coverage target ratio becomes 2.2 and FFO to net debt becomes seven percent. The debt gearing does not change. Those particular nominal and real ratios cited are in line with those used by IPART.⁴⁸⁶

The target financial ratios serve as a trigger for further consideration of the system as a whole (including existing risk mitigation mechanisms and qualitative factors). Qualitative factors are considered by credit rating agencies and are given substantial weight in their analysis. Factors include the regulatory and legal regime, quality of the company's management, the macroeconomic environment, the firm's ownership model, operational characteristics, and the treatment of debt (including hedging, to the extent that it is not captured in the quantitative ratios).⁴⁸⁷

9.3.3 Financial indicators do not unambiguously point to a cash flow deficiency

Table 9.1 calculates the forward-looking benchmark ratios based on the final decision for SAW RD20 (assuming a gearing ratio of 60 percent). SA Water's current and projected interest coverage ratio meets the investment grade credit rating criteria for each year of the regulatory period. However, the FFO-to-net debt ratio is below the standard ratio for an investment grade company. The Commission has re-estimated benchmark ratios since the release of the Draft Determination. There was an error in the calculations presented in the Draft Determination. The latest estimates include all the updated revenue and rate of return data. The table below presents the estimates in a transparent way. While there can be differences in the methodologies applied by regulators, the Commission estimates real FFO and real debt, and adjusts these for a forecast of inflation for the four years of the regulatory determination.

The Commission, as do some other regulators, tends to prioritise interest cover in assessments of financial viability, as it gives an indication of a business' ability to service finance and other payment obligations.⁴⁸⁸

As mentioned above, the FFO over net debt ratio assesses the longer-term capacity of the business's cash flows to service and refinance debt, hence is a longer-term measure used to assess default risk. The FFO-to-net debt ratio can, on a benchmark basis, be thought of as being driven primarily by the real return on equity (as shown by IPART⁴⁸⁹). As a result, a low real risk-free rate, and hence a low real return on equity, will on a benchmark basis likely result in a lower outcome for this ratio.

⁴⁸⁶ IPART, Review of financeability test 2018, November 2018, p. 53.

⁴⁸⁷ Moody's Investors Service, Exhibit 2 – Procedures and Methodologies Used to Determine Credit Ratings, p.6.

⁴⁸⁸ ESCV, Assessing the financial viability of Victorian water businesses: Summary of views and proposed new indicator, p. 5, and NERA, Assessing the financeability of regulated water service providers, 30 October 2013, p. 35, available at <https://www.esc.vic.gov.au/sites/default/files/documents/9460b29d-8e62-46aa-8eb4-ff3091683fde.pdf>.

⁴⁸⁹ IPART, Review of financeability test 2018, November 2018, p. 76. Assuming 60 percent gearing and a RAB normalised to 1, IPART show that the real FFO over net debt ratio can be thought of as: $\text{FFO-to-net debt} = [(1/\text{weighted average asset life}) + 0.4 \times \text{real cost of equity}] / 0.6$.

Table 9.1: Estimated financial ratios: benchmark ratios anticipated for the SAW RD20 period⁴⁹⁰

		Calculation	2020-21	2021-22	2022-23	2023-24
Allowed real return on equity (%)	A	= A	2.80	2.80	2.80	2.80
Allowed real return on debt (%)	B	= B	3.07	2.71	2.45	2.17
RAB (average of opening closing) ⁴⁹¹ (\$m)	C	= C	12346.8	12450.8	12558.7	12667.5
Real return on equity (\$m)	D	= A*(1-0.6)*C	138.3	139.4	140.7	141.9
Real return on debt (\$m)	E	= B*(1-0.4)*C	227.4	202.4	184.6	164.9
Real depreciation (\$m)	F	= F	282.4	295.1	306.1	317.4
FFO (\$m)	G	= D+F	420.7	434.5	446.7	459.3
Inflation forecast (in line with glide path used in Chapter 7) (%) ⁴⁹²	H	= H	1.25	1.5	1.7	1.9
FFO converted from real to nominal	I	= D*(1+H)	426.0	441.0	454.3	468.0
Debt (converted real to nominal)	J	= 0.6*C*(1+H)	7500.7	7582.5	7663.3	7744.3
Interest coverage ratio (target is 2.2)	K	= (I + E) / E	2.9	3.2	3.5	3.8
FFO over net debt ratio (target is 7.0)	L	= I / J	5.7	5.8	5.9	6.0
Benchmark gearing (%)	M	= M	60%	60%	60%	60%

⁴⁹⁰ In this benchmark calculation, interest paid is assumed to be zero. As a result, net interest expense is calculated as the return on debt. FFO can be computed on a benchmark basis as return on equity plus regulatory depreciation. The following expression outlines the relationship. Allowed revenue = Opex (operating expenditure) + Dep (depreciation) + RoD (return on debt) + RoE (return on equity) + TA (tax allowance) [Equation 1]. Cash flow from operations = Allowed revenue – Opex – TA – changes in working capital [Equation 2]. FFO = cash flow from operations + changes in working capital – RoD [Equation 3]. Substituting [2] into [3] gives FFO = RoE + Dep.

⁴⁹¹ In this benchmark calculation the average of the opening and closing RAB balances is used. If, instead, RAB balances are calculated as the opening balance plus 50 percent of capital expenditure minus 50 percent of disposals, any difference in the estimated financial ratios is relatively immaterial.

⁴⁹² Sensitivity analysis indicated that the inflation estimate used has an immaterial impact on the ratios.

Frontier Economics, in its submission to the Draft Determination, argued that the FFO over net debt ratio is violated due to a low return on equity caused by a negative real risk-free rate. It stated that *'[i]t would benefit all stakeholders for ESCOSA to explain whether it considers -1.14% to be the best available estimate of the real risk-free rate in light of the above evidence'*.

However, in the Draft Determination (and in this Final Determination), the Commission explained that a real risk-free rate is an unobserved variable that can fluctuate according to market conditions, and that the presence of a negative real risk-free rate would still enable a comparison of investments in assets and is not inconsistent with economic theory. Furthermore, as mentioned above, the FFO over net debt ratio is a longer-term measure and does not necessarily indicate SA Water has a cash flow deficiency.

An FFO over net debt ratio below credit rating agency thresholds was recently observed in IPART's latest Draft Review of Prices for Sydney Water.⁴⁹³ IPART argued that the FFO over debt ratio is dynamic (for example, can fluctuate due to movements in the permitted return on equity) and that the target ratios make standard assumptions that did not strictly apply to its present water utility price reviews.

9.3.4 The Final Determination delivers a low after-tax profit on a benchmark basis, in line with the low risks faced by a regulated monopoly business

The Commission's building block methodology results in the Final Determination delivering an allowed real return on equity of more than \$550 million over the four-year period. This low return on a benchmark basis is commensurate with the low risks faced by a monopoly business.

Frontier Economics claimed the Commission's building block methodology under a real rate of return approach results in a negative profit. In the context of the Draft Determination it stated that:

'[t]he regulatory allowances in the draft determination consign SA Water's regulated business to incur losses in the order of \$40 million in every year of the forthcoming regulatory period.'

However, Frontier Economics uses a nominal return on debt (which directly includes compensation for inflation), rather than a real return on debt (which does not include compensation for inflation) in its calculation. It applied the nominal return on debt to the real calculations in the Draft Determination (real revenues and expenses). This led to the negative \$40 million net profit after tax result. Using a real return on debt results in the low return on equity set out in the building block model. An example of this calculation is set out in Appendix 3.

9.3.5 SA Water's claim of a negative pre-tax profit is assumption-driven

In its submission to the Draft Determination, SA Water raised concern about insufficient pre-tax profit based on its forecast budget data for its entire business (regulated and non-regulated income and expenses). It used this evidence to argue that the regulatory rate of return methodology is in error and should be changed. But there are several limitations to the claims made.

First, SA Water's forecast of actual interest expense is a key contributing factor to the profit result. Its forecast of actual debt costs is only slightly below the Commission's nominal benchmark cost of debt. SA Water is projecting the actual cost of debt to gradually approach the nominal benchmark rate.

However, SA Water has borrowed historically at a much lower rate than the benchmark cost of debt. For instance, SA Water's statutory accounts indicate that its actual cost of debt was estimated to be on average more than 100 basis points below the nominal benchmark rate over the SAW RD13 and

⁴⁹³ IPART, Review of Prices for Sydney Water – Draft report from 1 July 2020, pp. 142-143, available at <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/pricing-reviews-water-services-metro-water-prices-for-sydney-water-corporation-from-1-july-2020/legislative-requirements-prices-for-sydney-water-corporation-from-1-july-2020/draft-report-review-of-prices-for-sydney-water-march-2020.pdf>.

SAW RD16 periods. SA Water provided no evidence to explain why, on an actual basis, its management of the cost of debt is expected to change. Ultimately, how a private firm forecasts its own cost of debt is up to the individual firm and will likely reflect the maturity of existing debt and other risk factors. However, it is not clear from the evidence provided by SA Water that the regulatory settings are the reason for the large interest expense that is contributing to the projected budget profit result.

Second, SA Water's forecast of electricity costs is a contributing factor to the profit result, especially in 2020-21. SA Water presents electricity expenses for the whole business (regulatory and non-regulatory). Its estimates show data for 2020-21 that is between approximately 40 percent and 50 percent higher than each of the annual figures for the next three years. Moreover, SA Water's forecasts of electricity expenses appear above the Commission's regulatory allowance. Higher electricity expenses may reflect non-regulated activities that involve energy purchases.

Third, it is unclear why income from non-cash gifted assets and contributed assets should be removed, provided that the amount of income can be reliably measured. After all, the pre-tax profit result presented by SA Water in the submission includes income and expenses associated with its regulatory and non-regulatory businesses. SA Water did not provide compelling evidence to remove this component of profit.

Taken together, the Commission considers that the evidence provided by SA Water does not indicate insufficient profit for the business resulting from the regulatory settings. Rather, it indicates that the Commission has a different view to SA Water about the forecast assumptions for the actual cost of debt and actual electricity expenses, and for the inclusion of income from gifted and contributed assets in the profit calculation. Moreover, as noted earlier, the regulatory settings deliver a low after-tax profit result as part of the regulatory building block model, in line with the low risks faced by a regulated monopoly business.

10 Monitoring, evaluating and reporting the outcomes achieved in SAW RD20

Final decision

The monitoring, evaluating and reporting framework does not need to form a part of the formal revenue controls for SAW RD20. However, as there was widespread interest from stakeholders on ensuring SA Water is held to account for delivering on the requirements set through this regulatory determination, the Commission's final decision on these matters will benefit from further input from stakeholders. The Commission will commence public consultation on the final form of the framework in the next few months, to be finalised by December 2020.

The Commission's final decision is that for the next regulatory period SA Water is to provide public reports on:

- ▶ its performance against the service standards in the Code, on a quarterly basis
- ▶ its performance in delivering on network reliability and water aesthetics improvements
- ▶ its performance during major service interruptions or significant performance events, shortly after those events, and
- ▶ its progress in achieving the outcomes it has committed to deliver in its final regulatory business plan, on an annual basis.

SA Water will also be required to develop, and publicly report on, its longer-term asset management plans and expected expenditure profile, on a rolling annual basis.

This enhanced public reporting suite will be supported by quarterly reports to the Commission, and the other members of the Regulators Working Group, on key financial and service delivery performance measures.

10.1 Introduction

This chapter sets out the regulatory arrangements which will apply for the monitoring and reporting of SA Water's performance.

These arrangements will require SA Water to account (to the Commission and publicly) for the commitments that it has made to customers under its RBP and for delivering the outcomes required under the consumer protections established through this regulatory determination. The objectives of those arrangements are to:

- ▶ provide all stakeholders with timely information about the levels of customer service and network reliability that SA Water is providing
- ▶ enable the Commission and other regulators of SA Water to understand the extent to which SA Water is meeting its regulatory obligations and take action where it is not
- ▶ provide stakeholders with annual updates on SA Water's progress in delivering the activities, projects, programs and outcomes that were proposed by SA Water in its RBP and accepted through this regulatory determination, and
- ▶ provide a comprehensive and longer-term view of SA Water's financial and operational performance that can be used as the foundation for the 2024 and subsequent regulatory determinations.

It is expected that reporting of this nature is already available to SA Water's management and board (in some form) to ensure that they have a clear and long term view of how the business is performing.

Nevertheless, as the particular mechanisms that will be used do not need to form a part of the formal revenue controls for SA Water, and noting the wider stakeholder interest in this issue, the Commission will consult further on the specifics of those mechanisms during the second half of calendar year 2020. The Commission's public consultation process, to commence shortly, will determine how this information should be made more transparently available for stakeholders, including frequency of reporting.

10.2 Monitoring and reporting on service standards

SA Water will be required to publicly report each quarter on its performance against each of the service standards established under the Code, consistent with SA Water's commitment in its RBP.⁴⁹⁴ The final form of the reporting and monitoring should be developed by SA Water, in consultation with relevant stakeholders (to ensure that the information is meaningful and useful to those stakeholders), but it should include at least:

- ▶ time-series performance data, where available, to show trends in performance over time
- ▶ information on outcomes achieved for different customer groups, where data is available, to show differences in service levels received by different customer groups
- ▶ benchmarking of performance against other utilities, where performance data is comparable, and
- ▶ information about the health of SA Water's assets, to provide lead indicators of performance and demonstrate the effectiveness of SA Water's asset management system.

The Commission will continue to collect the underlying time series data to assist with verification of SA Water's performance self-assessments. Where the Commission is not satisfied that SA Water's public reporting fairly reflects its actual performance (short and long-term), it may require SA Water to restate information or revise the systems, processes and controls which underpin its reporting. In an extreme case, the Commission may resume its own reporting of SA Water performance data in the event that SA Water fails to satisfy either the Commission or stakeholders that it is doing so adequately.

Further consultation is not required on the Commission's ongoing reporting requirements, as this is an existing obligation with the final set of service standards contained in the Code.

However, SA Water should finalise its approach to public reporting in this area by December 2020.

10.3 Monitoring and reporting on network reliability, water aesthetics improvements and environmental overflows

There are at least three key areas where additional scrutiny is required to give customers and other stakeholders confidence that SA Water's significant investments are achieving the outcomes expected: network reliability, water quality improvements, and overflows of sewage to the environment.

10.3.1 Network reliability

While the Commission has decided not to set performance targets for network reliability or the water aesthetic improvement programs as part of the service standard schedule to the Code, an additional level of scrutiny of these areas will be implemented in the SAW RD20 period.

⁴⁹⁴ SA Water, RBP, p.13.

The reliability of water and sewerage services is important to customers and it is core business for SA Water to make sure it is meeting community and owner expectations in this area.

The importance of water network reliability has been confirmed by SA Water's owner through the inclusion of expenditure for the water mains program in a direction issued under section 6 of the *Public Corporations Act 1993* (as described in section 2.2.9).

While there has been more public scrutiny of water reliability outcomes in recent years, transparent and meaningful monitoring, evaluation and reporting is important for both water and sewerage reliability, so that the community and SA Water's owner can have confidence that SA Water is meeting their expectations.

Where SA Water ultimately chooses to direct its expenditure to maintain water network reliability to meet community and owner expectations about reliability will depend, in part, on its understanding of customers' preferences for various aspects of reliability (for example, levels of service for worst served customers, overall incidence of interruptions, duration of interruptions and restoration times, or impacts on disruptions to traffic).

The Commission will therefore enhance its monitoring, evaluation and reporting on these core programs by taking a more holistic approach to assessing SA Water's performance. It will provide greater public transparency between the levels of service provided, the management of various risks in providing that service and the expenditure ultimately required. This reporting will include assessment of performance against a combination of lead and lag indicators, covering both technical levels of service and customer reliability outcomes.

Given the complex interplay between these factors, the Commission will continue to work with SA Water and the Technical Regulator during the SAW RD20 period to establish the appropriate technical levels of service required to support the reliability outcomes expected by SA Water's customers and owner over the longer-term. The Commission's reliability monitoring will be developed (through a public consultation process) to complement the work undertaken by the Technical Regulator under SA Water's Safety, Reliability, Maintenance and Technical Management Plan.

The development of this part of the framework will be finalised by December 2020.

10.3.2 Water quality improvements

SA Water has also proposed significant investments to improve water quality. As discussed in section 6.11, the Commission has worked with SA Water to better understand how it monitors water aesthetics using scientific characteristics set out in the ADWG. SA Water has demonstrated to the Commission that it understands how its proposed water quality improvement projects will change performance against each characteristic. It has also provided a more comprehensive explanation of the customer research it conducts to understand how each scientific characteristic contributes to customer perception of water quality.

This data will assist in establishing the transparent and publicly reportable baseline from which performance improvements will be measured and monitored. However, further work is required to finalise the measures that will suitably convey the improvements made to water aesthetics as a result of the significant investments in water quality over SAW RD20.

The Commission will publicly consult further with stakeholders on this matter. It will also continue to explore opportunities to work more closely with SA Health in finalising appropriate water aesthetic measures.

The development of this part of the framework will be finalised by December 2020.

10.3.3 Reducing sewage overflows to the environment

The Commission will also have a particular focus on the effectiveness of the additional amount to be spent on the sewerage network cleaning program in reducing the number of sewage overflows to the environment. The additional expenditure on additional inspections and pipe cleaning activities is expected to drive material improvements in environmental overflow performance.

The Commission will publicly consult further with stakeholders on this matter. It will also continue to explore opportunities to work more closely with the EPA to determine the appropriate way of accurately measuring the reducing in environmental overflows resulting from this additional expenditure.

The development of this part of the framework will be finalised by December 2020.

10.4 Assessments of performance during major service interruptions or other significant events

The Commission will also continue to apply the current Significant Performance Event reporting requirements in the SAW RD20 period.⁴⁹⁵

The Significant Performance Event requirements were developed to ensure there was timely reporting on events that occur during the year that warrant special ad hoc reporting. The Commission has regard to the following criteria when determining whether an event constitutes a Significant Performance Event:

- ▶ A significant number of customers are affected for a lengthy duration, or there is reason to believe that a significant number of customers may have been affected for a lengthy duration.
- ▶ The event is likely to seriously impact on the licensed entity's ability to meet one of more of its annual service standards(s).
- ▶ The Commission needs to undertake a review to be confident that the licensed entity has complied with its obligations under the relevant industry Code(s).
- ▶ There is strong stakeholder interest, or there is anticipated to be strong stakeholder interest.

The criteria recognise that a balance needs to be struck between reporting on every event and the resources it entails, and meeting stakeholder expectations on the provision of information in such situations.

Further consultation is not required on this part of the framework, as it is an existing obligation that has not changed.

10.5 Introducing greater accountability through monitoring and reporting on expenditure and service commitments

A clear message that emerged through the review from consumers and stakeholders was a desire for increased public transparency and accountability on SA Water in relation to its expenditure and the extent to which that expenditure delivers the outcomes promised. While SA Water currently reports on its achievement (or otherwise) of service standards over time, there is not a process by which stakeholders can see and understand the extent to which major expenditure and investment by SA Water over time is successful, in terms of both efficiency and effectiveness.

⁴⁹⁵ Refer <https://www.escosa.sa.gov.au/industry/water/regulatory-reporting/significant-performance-event-reporting-framework>

As set out in Chapter 6, this review has highlighted several areas of concern with SA Water's asset management system, as well as its investment planning and prioritisation processes. The intention of the monitoring and reporting framework is to provide appropriate focus on some of the key areas where improvements are required.

SA Water needs to be able to demonstrate a clearer 'line of sight' between objectives, inputs, outputs and outcomes; that was missing in many areas of SA Water's RBP. It is also important for SA Water to be able to more clearly publicly demonstrate how it has learned from and responded to the root causes of issues that arose in the past.

SA Water has been able to provide examples of the comprehensive internal monitoring and reporting tools it already uses to track its performance and respond to issues as they arise. However, many of the current reports appear to be largely descriptive and diffuse rather than analytical and evaluative. There appears to be scope for SA Water to draw better links between how the various areas of its operations interact with one another, to support more efficient and effective operations.

There is also some concern that expenditure monitoring and tracking is not undertaken in a way that easily allows progress in delivering on all of the objectives of the plan in a timely and cohesive manner. SA Water has been able to produce the expenditure data required for this review; however, those requests were largely satisfied by ad hoc or bespoke reports, rather than simply being extracted from current reporting systems.

More transparent public reporting is also required to enable stakeholders to understand the extent to which SA Water is delivering on the intended outcomes of its regulatory business plan and, more generally, serving consumers' long term interests. While reporting on overall progress will be important, particular focus should be expected on key investment priorities, such as maintaining the reliability of services and improvements to water quality.

Given the format used for its RBP, SA Water will need to develop and publish a clear statement of the intended outcomes to be delivered to customers during SAW RD20 to provide a transparent baseline against which performance can be assessed. This part of the framework will be developed by December 2020.

In addition, and acknowledging that the Regulatory Determination process is forward-looking, stakeholders have also sought assurance that, where significant projects do not proceed as originally proposed in the RBP (for example, through reprioritisation), there is a public and transparent process surrounding those events. Such a process should provide for an explanation (by SA Water) of the reasons for the change, what new work is being done for the money paid by consumers and give indicators of success for the intended (and actual) outcomes of that new work. It should also include provision for stakeholders and the Commission to review and comment on relevant issues – both prior to any work being done and in the planning stages.

Through more transparent monitoring and reporting during the regulatory period, including reporting on long-term trends, there should be fewer surprises when SA Water submits its regulatory proposal for SAW RD24. It will provide a greater understanding of how its four-year plan relates to historical performance and SA Water's long-term plans.

These program evaluation and reporting requirements will hold SA Water accountable for its expenditure and outcomes over time, which will also increase transparency around projects and expenditure when those matters come to be reviewed in future Regulatory Determinations.

Appendix 1 About SA Water

The *South Australian Water Corporation Act 1994* establishes SA Water as a statutory corporation, wholly owned by the South Australian Government. It is a public corporation subject to the *Public Corporations Act 1993*. SA Water's primary functions are to provide services for the:

- ▶ supply of water by means of reticulated systems
- ▶ storage, treatment and supply of bulk water, and
- ▶ removal and treatment of sewage by means of sewerage systems.

It also has other functions, including:

- ▶ carrying out research and works to improve water quality and sewage disposal and treatment methods
- ▶ commercial development and marketing of its products, processes and intellectual property produced or created in the course of the SA Water's operations, and
- ▶ encourage and facilitate private or public sector investment and participation, whether from within or outside the State, in the provision of water and sewerage services and facilities.

In addition, SA Water is also responsible for acting as the agent of the Minister:

- ▶ in the Minister's capacity as Constructing Authority under the *Murray-Darling Basin Act 2008*, and
- ▶ for the purpose of purchasing water entitlements under the *River Murray Act 2003*, for and on behalf of and as instructed by the Minister from time to time.

As a statutory corporation, wholly owned by the South Australian Government, SA Water must comply with various South Australian Government requirements. As a result, SA Water:

- ▶ has a Board that is accountable to the Minister and the Treasurer for the sound management and stewardship of SA Water and its assets for and on behalf of its owners
- ▶ must undertake its commercial operations in accordance with prudent commercial principles and use its best endeavours to achieve a level of profit consistent with its functions
- ▶ must undertake its non-commercial operations in an efficient and effective manner, consistent with the requirements of its charter, which are:
 - subject to a CSO agreement between SA Water and a purchasing Minister
 - subject to a direction under section 6 of the *Public Corporations Act*⁴⁹⁶
 - related to the operational responsibility of water and wastewater facilities for identified Aboriginal communities, or
 - agreed by the Minister and the Treasurer to be non-commercial
- ▶ must comply with South Australian Government policies and relevant Treasurer's Instructions on dividend and tax equivalent payments; including paying all rates, duties and taxes that would apply if SA Water were not a government-owned entity.⁴⁹⁷

⁴⁹⁶ Pursuant to section 6 of the *Public Corporations Act 1993* and sections 6 and 7(2)(f) of the *South Australian Water Corporation Act 1994*.

⁴⁹⁷ Refer section 29 and section 30 of the *Public Corporations Act 1993*.

Appendix 2 How has this Regulatory Determination met the legal requirements?

Table A2.1 lists the legal requirements that relate to SAW RD20, under the *Essential Services Commission Act 2002*, the *Water Industry Act 2012*, and the Pricing Order, made by the Treasurer on 28 October 2018 and varied in May 2020, pursuant to section 35(4) of the *Water Industry Act 2012*.

Those requirements are binding on the Commission in making SAW RD20. The manner in which the Commission has taken those requirements into account is summarised in Table A2.1. Where relevant, it refers to chapters of this Final Determination that provide further detail on how those requirements were taken into account.

Table A2: Legal requirements for SAW RD20

Legal requirement	How the requirement is met in this Draft Determination	Where to find further information
<p>ESC Act, s.6(a):</p> <p><i>In performing the Commission's functions, the Commission must have as its primary objective protection of the long term interests of South Australian consumers with respect to the price, quality and reliability of essential services</i></p>	<p>This regulatory determination is consistent with the Commission's primary objective and factors under section 6(b) of the ESC Act as it:</p> <ul style="list-style-type: none"> ▶ sets service standards that are based on consumers' preferences, reflecting the service levels that customers are willing to pay for, and ▶ sets drinking water and sewerage revenues to reflect the lowest sustainable cost of providing those services at the determined standards and in accordance with the obligations set by other regulators of SA Water. <p>It seeks to achieve the outcome under which SA Water has sufficient revenue to efficiently deliver the services valued by customers, in the long term. The Commission is not seeking to deliver low prices in the short-term at the expense of long-term service delivery. That would be inconsistent with the Commission's requirement to protect the long-term interests of SA Water's customers.⁴⁹⁸ Nor is the Commission seeking to set revenues above the efficient cost of service delivery, as that would deliver excessive profits to SA Water, be economically inefficient and be inconsistent with the long-term interests of consumers.</p>	<p>Chapter 5</p> <p>Chapters 6, 7 and 8</p>

⁴⁹⁸ See section 6(1) of the ESC Act.

Legal requirement	How the requirement is met in this Draft Determination	Where to find further information
<p>ESC Act, s.6(b):</p> <p><i>In performing the Commission's functions, the Commission must at the same time, have regard to the need to –</i></p> <ul style="list-style-type: none"> <i>(i) promote competitive and fair market conduct; and</i> <i>(ii) prevent misuse of monopoly or market power; and</i> <i>(iii) facilitate entry into relevant markets; and</i> <i>(iv) promote economic efficiency; and</i> <i>(v) ensure consumers benefit from competition and efficiency; and</i> <i>(vi) facilitate maintenance of the financial viability of regulated industries and the incentive for long term investment; and</i> <i>(vii) promote consistency in regulation with other jurisdictions</i> 	<p>This regulatory determination sets service standards that are based on consumers' preferences and maximum revenues to reflect the lowest sustainable cost of providing those services, which is consistent with:</p> <ul style="list-style-type: none"> ▶ the outcomes of a competitive market (s.6(b)(i)) ▶ the prevention of the misuse of market power by SA Water (s.6(b)(ii)), and ▶ promoting economic efficiency (s.6(b)(iv)) <p>Setting revenues that reflect efficient costs promotes entry into related markets that rely on SA Water's services, as it promotes efficient use of water and sewerage services (s.6(b)(iii)).</p> <p>SA Water will be subject to binding service standards and maximum revenues, in order to ensure that consumers receive the benefits of the determination (s.6(b)(v))</p> <p>The regulatory determination sets revenues that recover efficient costs, including a reasonable return on assets. This facilitates the financial viability of SA Water and promotes long-term investment (s.6(b)(vi))</p> <p>This regulatory determination establishes regulation that is considered to be in the long-term interests of South Australian consumers. Where that objective can be achieved, options that may promote consistency in regulation with other jurisdictions have been considered by the Commission (s.6(b)(vii)).</p>	<p>Chapter 5</p> <p>Chapters 6, 7 and 8</p> <p>Chapter 5</p> <p>Chapters 6, 7 and 8</p> <p>Chapters 4, 5, 6, 7 and 8</p>

Legal requirement	How the requirement is met in this Draft Determination	Where to find further information
<p>ESC Act, s.25(3):</p> <p><i>a price determination may regulate prices, conditions relating to prices, or price fixing factors in any manner the Commission considers appropriate, including:</i></p> <ul style="list-style-type: none"> <i>a) fixing a price or the rate of increase, or decrease, in a price</i> <i>b) fixing a maximum price, or maximum rate of increase, or minimum rate of decrease, in a maximum price</i> <i>c) fixing an average price for specified goods or services, or an average rate of increase or decrease in an average price</i> <i>d) specifying pricing policies or principles</i> <i>e) specifying an amount determined by reference to a general price index, the cost of production, a rate of return on assets employed, or any other specified factor</i> <i>f) specifying an amount determined by reference to quantity, location, period or other specified factor relevant to the supply of goods or services</i> <i>g) fixing a maximum average revenue, or maximum rate of increase, or minimum rate of decrease in maximum average revenue, in relation to specified goods or services, or</i> <i>h) monitoring the price levels of specified goods and services</i> 	<p>This regulatory determination sets drinking water and sewerage revenue caps, subject to a demand adjustment mechanism, which is a hybrid form of revenue cap and average revenue cap (s.25(3)(g)). It is also consistent with the requirements of the Pricing Order.</p> <p>This regulatory determination sets pricing principles for excluded services, including recycled water, which is consistent with the ESC Act, section 25(3)(d) and meets the requirements of the Pricing Order.</p>	<p>Chapters 4 and 8</p> <p>Chapter 4</p>

Legal requirement	How the requirement is met in this Draft Determination	Where to find further information
<p>ESC Act, section 25(4):</p> <p><i>In making a price determination, the Commission must (in addition to having regard to the general factors specified in Part 2) have regard to—</i></p> <ul style="list-style-type: none"> a) <i>the particular circumstances of the regulated industry and the goods and services for which the determination is being made</i> b) <i>the costs of making, producing or supplying the goods or services</i> c) <i>the costs of complying with the laws or regulatory requirements</i> d) <i>the return on assets in the regulated industry</i> e) <i>any relevant interstate and international benchmarks for prices, costs and return on assets on comparable industries</i> f) <i>the financial implications of the determination</i> g) <i>any factors specified by a relevant industry regulation Act, or by regulation under the Act, and</i> h) <i>any other factors that the Commission considers relevant</i> 	<p>The price determination:</p> <ul style="list-style-type: none"> ▶ takes into account SA Water’s expected operating environment when considering its efficient forecast costs (s.25(4)(a)) ▶ sets maximum revenues to recover the efficient cost of providing drinking water and sewerage services (s.25(4)(b)). ▶ considers the efficient cost of providing drinking water and sewerage services taking into account the cost of complying with laws or regulatory requirements that are relevant to those services (s.25(4)(c)). ▶ considers an efficient return on assets, having regard to returns earned by comparable regulated businesses (s.25(4)(d)) ▶ considers benchmarks for costs and return on assets, where robust and comparable interstate and international benchmarks are available (s.25(4)(e)) ▶ contains analysis of the financial impacts of the final determination on customers and SA Water (s.25(4)(f)) 	<p>Chapter 6</p> <p>Chapter 8</p> <p>Chapter 6</p> <p>Chapter 7</p> <p>Chapters 6 and 7</p> <p>Chapter 9</p>
<p>ESC Act, section 25(5):</p> <p>In making a price determination under this section, the Commission must ensure that:</p> <ul style="list-style-type: none"> a) wherever possible, the costs of regulation do not exceed the benefits, and b) <i>the decision takes into account and clearly articulates any trade off between costs and service standards.</i> 	<p>The benefits of making a price determination, in promoting economically efficient behaviour by SA Water and ensuring that consumers benefit from efficiencies, are significant and well exceed the cost of regulation. Since, the Commission’s first SA Water Regulatory Determination in 2013, the annual drinking water bill for a typical residential customer has decreased, in real terms (using 2018-19 prices), from \$1,008 in 2013-14 to \$851 in 2016-17 (a 16 percent reduction), with the corresponding annual residential sewerage bill reducing from \$581 in 2013-14 to \$450 in 2016-17 (a 22 percent reduction). In 2020, SA Water’s drinking water and sewerage revenues are now approximately \$110 million per annum lower than the annual revenue outcomes in 2012, in real terms.</p>	

Legal requirement	How the requirement is met in this Draft Determination	Where to find further information
	<p>To ensure that those revenue and bill reductions are not achieved at the expense of service levels, the Commission’s regulatory framework requires SA Water to maintain service levels over time. Since 2013, SA Water has maintained its service levels to customers while also delivering consistently on the broader consumer protections provided for under the Code.</p> <p>This regulatory determination establishes further revenue reductions, while maintaining service levels.</p>	<p>Chapter 5</p> <p>Chapter 8</p>
<p>ESC Act, section 28(3):</p> <p><i>The Commission must, before making, varying or revoking a code or rules, consult with the industry Minister and such representative bodies and participants in the regulated industry as the Commission considers appropriate</i></p>	<p>The Commission has undertaken extensive public consultation during SAW RD20.</p>	<p>Chapter 2</p>
<p>ESC Act, section 28(5):</p> <p><i>The Commission must—</i></p> <p><i>a) give notice of the making, variation or revocation of a code or rules—</i></p> <p><i>(i) to the Minister and the industry Minister; and</i></p> <p><i>(ii) to each regulated entity to which the code or rules apply; and</i></p> <p><i>b) ensure that copies of the code or rules (as in force from time to time) are available for inspection and purchase by members of the public.</i></p>	<p>The Commission has undertaken public consultation on proposed changes to the Code, through the Draft Regulatory Determination.</p> <p>The final Code will be made available on the Commission’s website.</p>	<p>Chapter 5</p>

Legal requirement	How the requirement is met in this Draft Determination	Where to find further information
<p>Water Industry Act, section 25(5):</p> <p><i>A code or set of rules under subsection (1)(a) must include provisions to assist customers who may be suffering specified types of hardship relevant to the supply of any services (being provisions that comply with any direction of the Minister and that will apply under the code or rules despite any provision made by the Essential Services Commission Act 2002).</i></p> <p>This provision operates in conjunction with section 37(1) of the <i>Water Industry Act</i> which requires the Minister to develop and publish a customer hardship policy in respect of residential customers of water industry entities</p>	<p>The Code includes provisions to assist customers experiencing payment difficulties.</p>	<p>Chapter 5</p>
<p>Pricing Order Cl.4.1:</p> <p><i>Subject to Parts 5 and 6 of this Order, the Commission must adopt or apply the NWI Pricing Principles (other than the Principles for Recovering the Costs of Water Planning and Management Activities) when making a determination, to the extent that those, or any of those, principles are relevant to the determination in question.</i></p>	<p>This regulatory determination adopts the relevant NWI Pricing Principles in determining SA Water's maximum revenue caps and adopts the NWI Pricing Principles that are relevant to SA Water's excluded retail services.</p>	<p>Chapters 4, 6 and 7</p>
<p>The determination must adopt a four-year regulatory period (commencing 1 July 2020) using a revenue cap form of control</p>	<p>This regulatory determination adopts a four-year regulatory period and revenue cap form of control.</p>	<p>Chapter 4</p>
<p>The determination must adopt separate total revenue cap controls for drinking water and sewerage services, but not apply revenue caps based on customer class or location. Each revenue cap must fix a single revenue value to apply during the regulatory period, subject to the operation of the demand variation adjustment mechanism (section 5.5 of the October 2018 Pricing Order), cost pass-through mechanism (section 5.6 of the October 2018 Pricing Order), or a new or further direction issued by the Minister for Environment and Water, under section 6 of the <i>Public Corporations Act 1993</i>.</p>	<p>This regulatory determination adopts separate total revenue cap controls for drinking water and sewerage services. Each revenue cap is fixed during the regulatory period and would only vary due to a new or further direction issued by the Minister for Environment and Water, under section 6 of the <i>Public Corporations Act 1993</i>. The determination implements a demand variation adjustment mechanism, cost pass-through mechanism and intra-period project review mechanism that, if triggered, would affect revenues in the subsequent regulatory period.</p>	<p>Chapter 4</p>

Legal requirement	How the requirement is met in this Draft Determination	Where to find further information
<p>The determination must include a mechanism to adjust the total revenue cap if there is any over or under recovery of revenue due to variations between actual and forecast water consumption or sewerage connections (such mechanism to operate on the basis of efficient costs associated with variations in demand, and so as to promote a stable price path)</p>	<p>This regulatory determination adopts a demand variation adjustment mechanism that provides a 50/50 sharing between SA Water and customers of the revenue impact of any material difference between forecast and actual demand. Any revenue adjustments under the mechanism would affect revenues in the 2024-2028 regulatory period.</p>	<p>Chapter 4</p>
<p>The determination must include an appropriate mechanism that allows for the adjustment of the total revenue cap where there is an event beyond the control of SA Water which has, or will, have a material impact of the cost of provision of a retail service (such mechanism to operate on the basis of efficient costs associated with the event, and so as to promote a stable price path)</p>	<p>This regulatory determination adopts a cost pass-through mechanism that would adjust revenue caps if SA Water's costs materially change due to an event outside its control. Any revenue adjustments under the mechanism would affect revenues in the 2024-2028 regulatory period.</p>	<p>Chapter 4</p>
<p>The determination must adopt \$7.25 billion (as at 1 July 2013, in December 2012 dollars) as the value of SA Water's drinking water assets.</p>	<p>This regulatory determination has adopted \$7.25 billion (as at 1 July 2013, in December 2012 dollars) as the value of SA Water's drinking water assets.</p>	<p>Chapter 7</p>
<p>The determination must allow SA Water to recover the efficient costs of assets acquired (or to be acquired) after 1 July 2013 which are required to support activities that SA Water is required to provide in accordance with a direction under section 6 of the <i>Public Corporations Act 1993</i></p>	<p>This regulatory determination allows for the relevant assets required to support activities as directed under section 6 of the <i>Public Corporations Act 1993</i>, to be included in the RAB.</p>	<p>Chapters 6 and 7</p>
<p>The determination must, in relation to costs relating to externalities (including water planning and management), allow SA Water to recover such costs as are attributable to and payable by SA Water in accordance with the law, including a direction under section 6 of the <i>Public Corporations Act 1993</i></p>	<p>This regulatory determination allows for the recovery of costs relating to externalities where payable by SA Water in accordance with the law.</p>	<p>Chapter 6</p>

Legal requirement	How the requirement is met in this Draft Determination	Where to find further information
<p>The determination must allow SA Water to recover such costs (less any relevant contributions to such costs that it receives) that are attributable to activities that SA Water is required to provide in accordance with a direction under section 6 of the <i>Public Corporations Act 1993</i>, and either specified in that direction, or, if not specified, determined by the Commission to be efficient</p>	<p>This regulatory determination allows for the recovery of costs relating to directions under section 6 of the <i>Public Corporations Act 1993</i>.</p>	<p>Chapter 6</p>
<p>The determination must be based on a 'building blocks' approach and must set out all assumptions, methods and values assigned to the various building block components</p>	<p>This regulatory determination adopts a cost-based, building block, approach.</p>	<p>Chapters 4, 6, 7 and 8</p>
<p>The draft determination must identify any areas where a forecast cost is likely to change materially between draft and final determination, including the cause and likely magnitude of the variation</p>	<p>The draft determination highlighted that the only forecast cost that is likely to change between draft and final determination is the regulatory rate of return. Other forecast costs may change, subject to Government directions and the Commission's consideration of submissions and further evidence received in response to this draft determination.</p>	<p>Chapters 6, 7 and 8</p>

Appendix 3 The cost of funding and using assets

This attachment provides supporting information and analysis in relation to several issues:

- ▶ risk-free rates
- ▶ long-term inflation expectations
- ▶ the market risk premium, and
- ▶ profit and revenue.

The sections below include detailed and technical responses to various submissions.

A3.1 Structure of this technical appendix

- ▶ Section A3.2 outlines the Commission's rate of return principles.
- ▶ Section A3.3 explains negative real risk-free rates.
- ▶ Section A3.4 discusses rate of returns methodologies across jurisdictions.
- ▶ Section A3.5 reviews SA Water's proposal for long-term inflation expectations.
- ▶ Section A3.6 discusses market and survey based approaches to estimating long-term inflation expectations.
- ▶ Section A3.7 outlines responses to claims regarding the risk-free rate and long-term inflation expectations.
- ▶ Section A3.8 discusses evidence surrounding the market risk premium.
- ▶ Section A3.9 discusses the sensitivity of the glide path approach to long-term inflation expectations.
- ▶ Section A3.10 explains that the Draft Determination did not lead to a negative after-tax profit on a benchmark basis

A3.2 Rate of return principles

In making SAW RD16, the Commission developed the following principles for determining the regulatory rate of return for a benchmark efficient firm.

- ▶ General principle: The rate of return should reflect the prudent and efficient financing strategy of an incumbent large water utility, which minimises expected costs in the long term, on a risk-adjusted basis.
- ▶ Supporting principle 1: The rate of return should reflect a long-term obligation on the utility to provide reliable and secure water and sewerage services to consumers. It should not solely reflect the new entrant cost of capital.
- ▶ Supporting principle 2: The rate of return should provide an incentive for SA Water to incur prudent and efficient investment in regulated assets and financing costs.
- ▶ Supporting principle 3: The approach to setting the regulatory rate of return should be based on consistent principles over time and should be predictable. It should change only to reflect material changes in evidence or regulatory practice.

- ▶ Supporting principle 4: The assumed prudent financing strategy should not depend on the ownership of the regulated business (that is, the approach is indifferent to whether the entity is in Government or private ownership).

The principles are consistent with and give effect to the requirements of the ESC Act and the WI Act in the determination of the lowest sustainable cost of delivering drinking water and sewerage services and protecting consumers' long-term interests.

A3.3 Negative real risk-free rates are not unprecedented

SA Water claimed in its RBP that a negative real risk-free rate (calculated based on market rates and a measure of long-term inflation expectations within the RBA's two to three percent range) is illogical and that it is inappropriate for use in a regulatory determination. SA Water stated that:

*'The market rate of the 10-year CGB (nominal) was 1.32 per cent as at June 2019 (Figure E.3) and using an inflation estimate of 2.45 per cent (current ESCOSA inflation estimation method) implies the real (excluding inflation) risk-free interest rate for the 2020-24 regulatory period is negative 1.10 per cent which is not logical.'*⁴⁹⁹

Similar claims regarding a negative real risk-free rate have been made by regulated water businesses in the United Kingdom.⁵⁰⁰ In its submission to the Draft Determination, Frontier Economics challenged the use of a negative real risk-free rate in the regulatory determination.⁵⁰¹

A real risk-free rate is an unobserved variable. It represents the nominal risk-free rate adjusted for inflation expectations.

Over the long-term, a real risk-free rate may be argued to approximate the long-term potential growth rate of the economy.⁵⁰² However, this is a theoretical long-run proposition with an abstract timeframe; it is not commonly applied in regulatory determinations.⁵⁰³ International studies as well as some international regulators have found that a negative real risk-free rate is not inconsistent with economic theory.⁵⁰⁴

⁴⁹⁹ SA Water, RBP, Appendix E, p. 5.

⁵⁰⁰ Ofwat, PR19 final determinations: Allowed return on capital technical appendix, December 2019, p. 34, available at <https://www.ofwat.gov.uk/wp-content/uploads/2019/12/PR19-final-determinations-Allowed-return-on-capital-technical-appendix.pdf>.

⁵⁰¹ Frontier Economics, Assessment of ESCOSA's treatment of inflation when setting SA Water's allowed rate of return, April 2020, pp. 40-41.

⁵⁰² d'Arvisenet, The dynamics of real interest rates, monetary policy and its limits, Economic Research BNP Paribas, May 2016, p. 11, available at <https://economic-research.bnpparibas.com/Views/DisplayPublication.aspx?type=document&IdPdf=28823>. As stated by the Deputy Governor of the RBA Dr Guy Debelle in 2015, '[u]ltimately the risk-free yield should be something that approximates the growth rate of the economy'; see Debelle, Bond Market Liquidity, Long-term Rates and China, Actuaries Institute Banking on Change seminar, 2015, available at <https://www.rba.gov.au/speeches/2015/sp-ag-2015-09-16.html>.

⁵⁰³ There have been exceptions. For example, a few economic regulators in overseas economies have used estimates of an equilibrium interest rate to measure the risk-free rate. See Europe Economics, The cost of capital for the water sector at PR19, footnote 14, pp. 21-22, 17 July 2019, available at <https://www.ofwat.gov.uk/wp-content/uploads/2019/07/Europe-Economics-The-Cost-of-Capital-for-the-Water-Sector-at-PR19.pdf>.

⁵⁰⁴ Ofwat, pp. 34-35; Europe Economics, The allowed return on capital for the water sector at PR19, December 2019, pp. 11-16, available at <https://www.ofwat.gov.uk/wp-content/uploads/2019/12/Europe-Economics-%E2%80%93-The-Allowed-Return-on-Capital-for-the-Water-Sector-at-PR19-%E2%80%93-Final-Advice-December-2019.pdf>; and Wright, Burns, Mason and Pickford, Estimating the cost of capital for

The yield on 10-year CGS is typically considered a proxy for the nominal risk-free rate by regulators,⁵⁰⁵ investment practitioners⁵⁰⁶ and public sector agencies in Australia.⁵⁰⁷ It provides an observed price signal for comparison investments regardless of whether that signal is positive or negative.

The presence of negative nominal and real yields on government and corporate securities in economies in Europe is further evidence counter to the claim that negative real yields are an impossibility.⁵⁰⁸ So, too, is the fact that the real yield observed on 10-year inflation-indexed CGS was negative over the second half of 2019 (as shown by SA Water in its RBP, and by Frontier Economics in its submission to the RBP).⁵⁰⁹

The use of a negative real risk-free rate in a regulatory determination is not unprecedented. Negative real yields have recently been included (or implied) in regulatory determinations in some Australian and overseas jurisdictions. For example, the AER used an implied real risk-free rate of -1.18 percent in its October 2019 draft decision on SA Power Networks' rate of return.⁵¹⁰ Ofwat's December 2019 final price determination used an implied real risk-free rate of -1.39 to -2.35 percent to calculate ranges for the regulatory rate of return.⁵¹¹

While the current period for nominal yields on government securities may be unusual in nominal terms, it is not necessarily unusual in real terms.⁵¹² For instance, real yields on government securities have been estimated to be negative in Australia and other advanced economies in various historical periods including the 1920s to 1930s, 1960s and 1970s (Figure A3.1).⁵¹³

implementation of price controls by UK regulators, March 2018, pp. 35-36, available at <http://www.bbk.ac.uk/ems/faculty/wright/wrightburnsmasonpickford2018.pdf>.

⁵⁰⁵ Commission, Guidance paper 5, p. 15.

⁵⁰⁶ AER, Rate of return instrument – explanatory statement, p. 88.

⁵⁰⁷ RBA, Why are long-term bond yields so low?, pp. 27-31.

⁵⁰⁸ Europe Economics p. 16, and RBA, Why are long-term bond yields so low?, pp. 27-31.

⁵⁰⁹ SA Water, RBP, Appendix E, pp. 1-6, and Frontier Economics, p. 62.

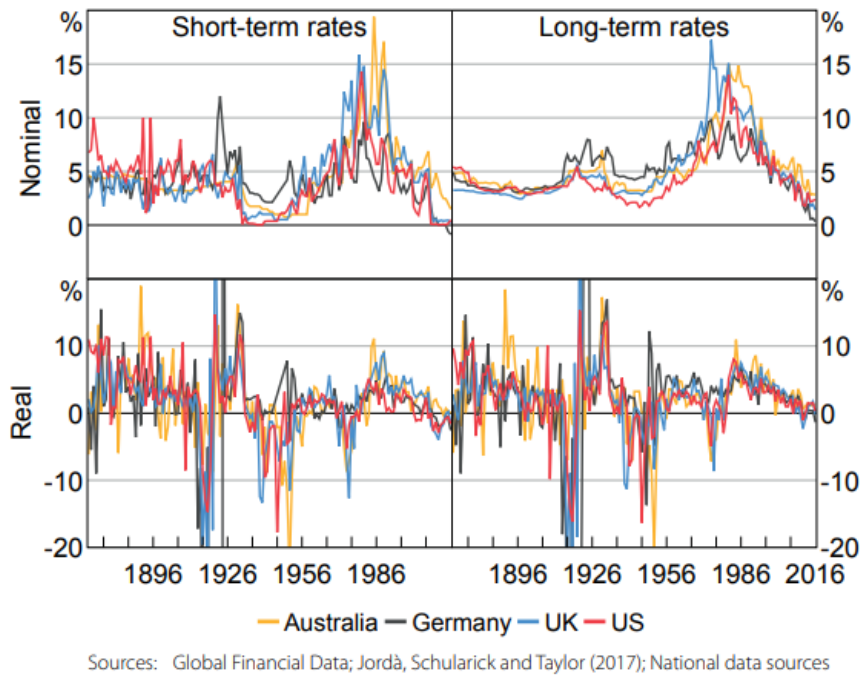
⁵¹⁰ AER, SA Power Networks – Determinations 2020-25 Draft Determination, October 2019, available at <https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/sa-power-networks-determination-2020-25>.

⁵¹¹ Ofwat, p.4.

⁵¹² Lowe, Some Echoes of Melville, Sir Leslie Melville Lecture, Canberra, 29 October 2019, available at <https://www.rba.gov.au/speeches/2019/sp-gov-2019-10-29.html>.

⁵¹³ Borio and Hofmann, 'Is Monetary Policy Effective When Interest Rates Are Persistently Low?', in Monetary Policy and Financial Stability in a World of Low Interest Rates, Proceedings of a Conference Held in Sydney, 2017, p. 60, available at <https://www.rba.gov.au/publications/confs/2017/pdf/rba-conference-volume-2017.pdf>.

Figure A3.1: Estimated real risk-free rates, research from the Bank of International Settlements⁵¹⁴



SA Water claimed in its RBP that an assumption of a negative real risk-free rate is not supported by the relationship between the nominal yield on 10-year CGS and actual CPI inflation since 2009, and the current level of inflation expectations embedded in inflation-indexed bonds.

However, it is unclear what theoretical or empirical relationship between the nominal yield on a 10-year CGS and actual CPI inflation SA Water is referring to. Indeed, SACOSS, in its submission to the RBP, questioned the extent of any relationship between the nominal yield on 10-year CGS and actual CPI inflation since 2009. SACOSS stated that:

'... there is little long-term relationship between inflation rates and bond rates. Figure E.5 in Appendix E of SA Water's Our Plan clearly shows the lack of a relationship between the risk-free rate (green line) and actual inflation (blue line) over the ten years from 2009 to 2019. Examining Figure E.5, inflation has generally been below the risk-free rate, but the gap has been closing, and currently inflation is higher than the risk-free rate as at the end of 2019.'

As explained later in the Appendix, a 10-year CGS is commonly understood as being composed of several unobserved time-varying components, such as expected short-term real yields, expected long-term inflation, and a term premium. The extent of the relationship between nominal 10-year CGS and long-term inflation expectations is ambiguous and depends on various economic and risk factors. The known limitations of inflation-indexed bonds are also discussed later in this Appendix.

In summary, the Commission considers that:

- ▶ a real risk-free rate provides an observed price signal for comparison investments regardless of whether it is positive or negative, and
- ▶ real risk-free rates fluctuate with market conditions and can sometimes be negative.

⁵¹⁴ Borio and Hofmann, p. 60.

A3.4 Jurisdictions select rate of return methodologies to suit their own requirements and circumstances

There are limitations and risks in cross-jurisdictional comparisons. Comparisons require assumptions (including the time frame and parameters selected) and can introduce risk (from placing unequal weight on certain jurisdictions and industries and from having to assume how regulators may respond to the outbreak of COVID-19).

These limitations were noted, directly and indirectly, by SA Water⁵¹⁵ and Frontier Economics⁵¹⁶ in submissions to the Draft Determination. However, those same limitations apply to SA Water's⁵¹⁷ and Frontier's suggestion for comparisons with actual decisions in certain jurisdictions and of a comparison of return on equity across certain jurisdictions.⁵¹⁸

As a matter of law, regulators must use rate of return methodologies that meet their legislative requirements and objectives. Those requirements and objectives differ by jurisdiction and by industry. For example, some regulators are required by legislation (under the national energy rules) to use a post-tax nominal rate of return while others are not. Further, regulators select parameters based on assessments of, among other things, market risk, firm-level risk and the risk-free rate of return.⁵¹⁹ Accordingly, rates of return should not necessarily be the same across jurisdictions.

As well as this, there can be different underlying methodologies followed by regulators. For example, the ESCV makes regulatory determinations under its PREMO methodology.⁵²⁰ Under PREMO, a higher level of ambition in terms of delivering customer value results in a higher return on equity. SA Water has acknowledged that the ESCV uses a different rate of return methodology to the one followed by the Commission.⁵²¹

In its submission to the Draft Determination, IPART explained that the key difference between its calculation of the rate of return and the Commission's calculation is the method employed to calculate the cost of equity. IPART stated:

*'[f]or the cost of equity, the issue is that we consider that the time frame used to estimate the risk-free rate should be consistent with the time frame used to estimate the Market Risk Premium (MRP), as explained in the next section... The difference between ESCOSA's cost of equity and ours arises from differences in methodology. We are making this submission because we feel there is public benefit in an open and transparent discussion of the underlying facts and theories.'*⁵²²

⁵¹⁵ SA Water, Regulatory determination 2020 – SA Water response, pp. 59-62.

⁵¹⁶ Frontier Economics, Assessment of ESCOSA's treatment of inflation when setting SA Water's allowed rate of return, pp. 21-34.

⁵¹⁷ SA Water, Regulatory determination 2020 – SA Water response, pp. 59-62.

⁵¹⁸ SA Water, Regulatory determination 2020 – SA Water response, pp. 59-62, and Frontier Economics, Assessment of ESCOSA's treatment of inflation when setting SA Water's allowed rate of return, April 2020, pp. 21-34.

⁵¹⁹ There can be reasonable differences in regulators' assessments of risks. For example, the choice of the equity beta parameter could vary across industries and regulatory methodologies.

⁵²⁰ PREMO stands for Performance, Risk, Engagement, Management and Outcomes. PREMO links the return on equity allowed in the revenue requirement to the value delivered by a water corporation to its customers. For example, see ESCV, City West Water final decision, 2018 Water Price Review, 19 June 2018, p. 3, available at <https://www.esc.vic.gov.au/sites/default/files/documents/2018-water-price-review-city-west-water-final-decision-20180619.pdf>.

⁵²¹ SA Water, Submission on Guidance Papers 6 and 7, p. 5.

⁵²² IPART, Submission on Draft Report – SA Water Regulatory Determination 2020, pp.1-2, available at <https://www.escosa.sa.gov.au/ArticleDocuments/21479/20200430-Water-SAWRD20-DraftDecisionSubmission-IPART.pdf.aspx?Embed=Y>.

Notwithstanding the limitations noted above, the Commission's Draft Determination highlighted that the Commission's real rate of return would be in line with many other jurisdictions in Australia if parameter selections from other jurisdictions were used to estimate indicative post-tax real rates of return. For instance, the Commission's Draft Determination estimate was 2.71 percent compared with indicative estimates of 2.74 percent, 2.74 percent, 1.91 percent, 2.8 percent and 2.56 percent for jurisdictions AER, ERA (WA), QCA, OTTER and ICRC, respectively.⁵²³ This position in the Draft Determination was supported by the QCA's analysis of regulators' rate of return decisions (expressed in nominal terms), which produced a result similar to the Commission's.⁵²⁴

Recent examples of actual determinations from across water regulators include, a real post-tax rate of return of 3.2 percent in the 2020 Draft Price Review for Sydney Water 1 July 2020,⁵²⁵ a nominal rate of return of 4.57 percent in the QCA's draft report for the Gladstone Area Board price monitoring 2020-2025,⁵²⁶ and a real post-tax rate of return of 4 percent for the Goulburn-Murray Water Draft Decision 2020.⁵²⁷

Overall, the Commission's final decision is that rates of return across jurisdictions should be viewed in the appropriate context and interpreted with caution. While the Commission considered the rate of return methodologies adopted in other jurisdictions, it selected the real rate of return methodology for use in SAW RD20, as it is in line with the requirements of the ESC Act and Pricing Order.

A3.5 SA Water's proposal for long-term inflation expectations has significant limitations

The Commission's final decision is to not change its methodology to that proposed by SA Water in relation to estimating long-term inflation expectations. SA Water's proposal has significant limitations and, if implemented, may lead to price and service outcomes that are not in the long-term interests of customers. Below are the Commission's considerations.

A3.5.1 What was SA Water's proposal?⁵²⁸

SA Water's proposed measure of long-term inflation expectations has two components.

- ▶ Part 1 (cap): the 60-day average of nominal yields on 10-year CGS minus 0.15 percentage points is proposed as a 'cap' on long-term inflation expectations. Based on data as of 6 February 2020, that cap is binding. This means that the long-term inflation expectation would be estimated as 0.76 percent (calculated as a risk-free rate of 0.91 percent minus 0.15 percent).
- ▶ Part 2: SA Water proposes to use the RBA's forecast for inflation one year ahead when the cap (outlined above) is non-binding. There is no specific rationale provided for the use of a one-year ahead forecast of inflation as an indicator of long-term expectations. As noted in Chapter 7, the proposal supported the RBA's forecasts of CPI inflation rather than specifying forecasts of the RBA's trimmed mean inflation.

⁵²³ See Commission, Draft Determination – statement of reasons, March 2020, p. 305. As noted in the Draft Determination, rates of return were estimated using each regulator's methodology from its recent determination, which may change in future periods. Where regulators use proprietary information in their WACC estimates, the Commission has substituted that information for publicly available information. The estimates may therefore differ to the calculations of each regulator.

⁵²⁴ QCA, Gladstone Area Board Price Monitoring 2020-2025, p. 85, available at <https://www.qca.org.au/wp-content/uploads/2020/02/qca-draft-report-part-a-gawb-price-monitoring-2020-25.pdf>.

⁵²⁵ IPART, Review of Prices for Sydney Water – Draft report from 1 July 2020, p. 49.

⁵²⁶ QCA, Gladstone Area Board Price Monitoring 2020-2025, pp. 83-85.

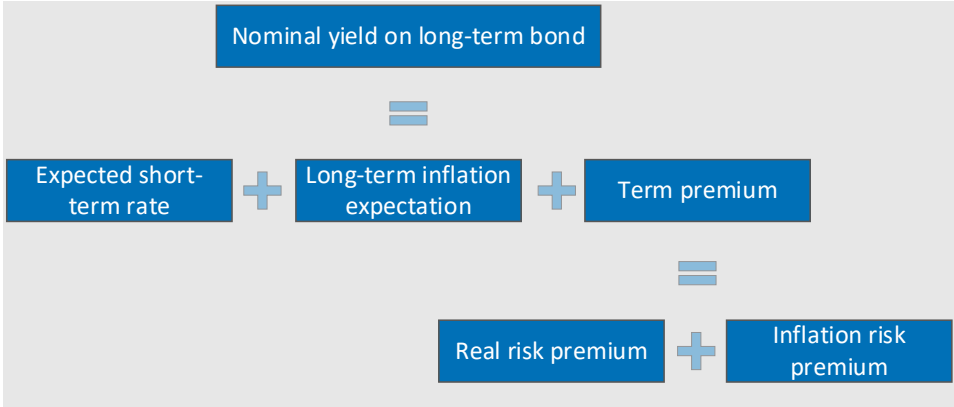
⁵²⁷ ESCV, Goulburn-Murray Water Draft Decision 2020, available at <https://www.esc.vic.gov.au/water/water-prices-tariffs-and-special-drainage/water-price-reviews/goulburn-murray-water-price-review-2020>.

⁵²⁸ SA Water, RBP, Appendix E, pp. 4-6.

A3.5.2 The Commission’s response to proposal part 1 (cap on long-term inflation expectations)

A conceptual weakness of proposal part 1 is that the yield on 10-year CGS is commonly understood as being composed of several unobserved time-varying components, such as expected short-term real yields, expected long-term inflation, and a term premium (the return that investors require to hold a longer-term bond instead of investing in a series of short-term bonds) (see Figure A3.2). Without appropriately accounting for the real yield and term premium, the use of nominal yields as an indicator of investors’ long-term inflation expectations would be inappropriate.

Figure A3.2: Stylised decomposition of a nominal yield on a 10-year government bond⁵²⁹



Source: adapted from Vlieghe 2018

The conceptual limitation of proposal part 1 is borne out in two empirical observations.

- ▶ The level of nominal yields on 10-year CGS has differed markedly to commonly available indicators of long-term inflation expectations over the past two decades. The difference partly reflects that risk premia in nominal yields are considered large and time-varying. The trend decline in nominal yields since 2009 partly reflects that financial markets expect short-term real rates to be much lower on average in the future than they have been in earlier decades.⁵³⁰ This reflects the trend decline in estimates of the neutral rate of interest in Australia. This, in turn, reflects a decline in the economy’s potential growth rate and an increase in risk aversion of households and firms.⁵³¹ SA Water’s proposal part 1 does not explicitly account for the various components in yields. It places weight on the period between 2014 and 2018 when nominal yields were within the RBA’s two to three percent target band. While, in theory, the various components in nominal yields (the real yield and term premium) could be completely offsetting, thereby leaving the nominal yield to

⁵²⁹ This conceptual framework for understanding nominal bond yields has been explained in various publications. For example, RBA, *Why are long-term bond yields so low?*, pp. 27-31; Clarida, *Monetary Policy, Price Stability, and Equilibrium Bond Yields: Success and Consequences*, speech at the High-Level Conference on Global Risk, Uncertainty, and Volatility, co-sponsored by the Bank for International Settlements, the Board of Governors of the Federal Reserve System, and the Swiss National Bank, Zurich, Switzerland, available at <https://www.federalreserve.gov/newsevents/speech/clarida20191112a.htm>; Kim, Walsh and Wei, *Tips from TIPS: Updates and Discussions*, US Board of Governors of the Federal Reserve System, FEDS Notes, May 21 2019, available at <https://www.federalreserve.gov/econres/notes/feds-notes/tips-from-tips-update-and-discussions-20190521.htm>; and Vlieghe, *The yield curve and QE*. Liquidity risk is not included in the diagram. Investors may demand a liquidity premium to compensate for the risk of market prices moving against them in a substantial way if they try to sell their position. Liquidity premiums are commonly known to exist in inflation-indexed CGS.

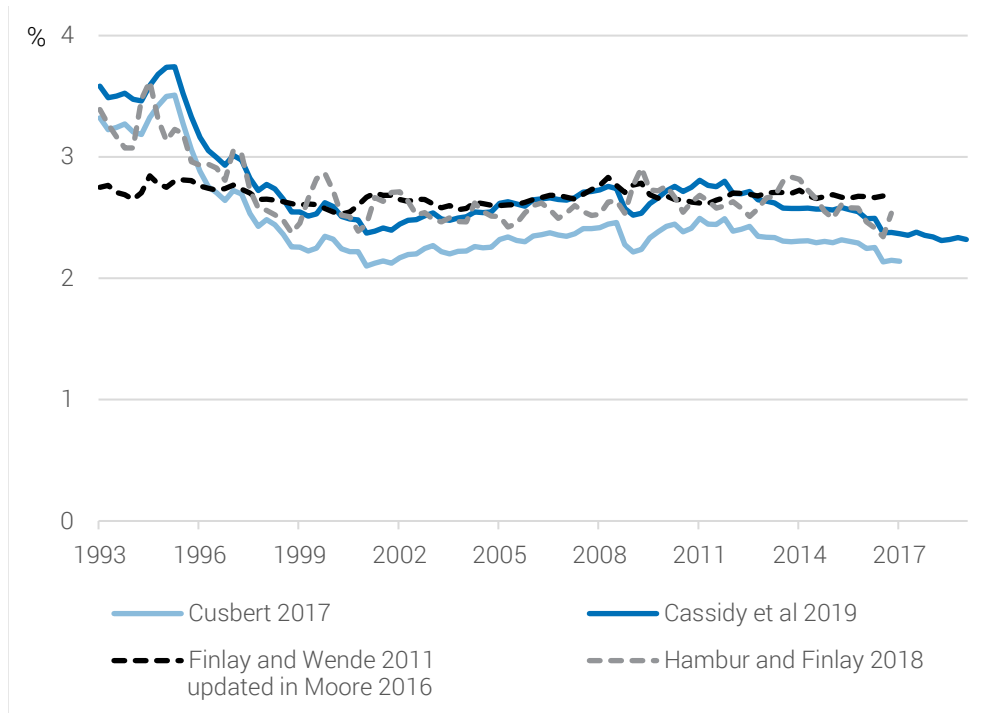
⁵³⁰ Commission, *Guidance Paper 7*, p. 10.

⁵³¹ Commission, *Guidance Paper 7*, p. 10.

approximate long-term inflation expectations, there is no guarantee that this would be the case at any point in time.

- ▶ Estimates of long-term inflation expectations in Australia derived in various research studies have tended to lie within the RBA’s two to three percent inflation target band (Figure A3.3). When viewed over a historical period, those research estimates of long-term inflation expectations are different to SA Water’s proposal part 1.

Figure A3.3: Long-term inflation expectations in Australia, derived from research studies⁵³²



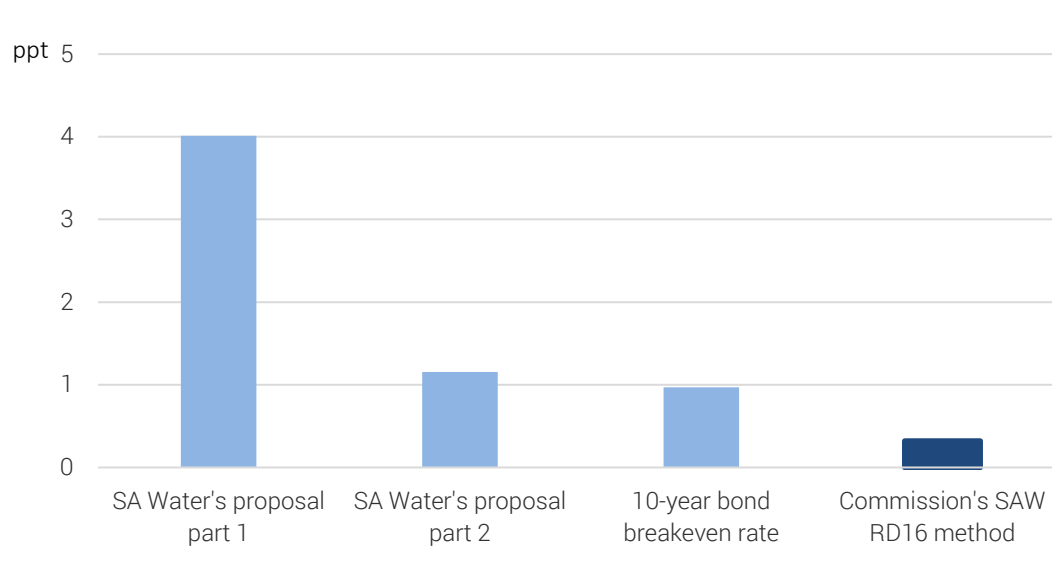
Sources: Commission; RBA

Based on data since 1994 (around the time when inflation targeting was introduced), SA Water’s proposal part 1 would have led to an average forecast error well above those errors observed under other measures of long-term inflation expectations (namely the Commission’s SAW RD16 method, the bond breakeven method and proposal part 2; see Figure A3.4). These types of forecast tests have various limitations,⁵³³ but may be used by investors when forming expectations about the long-term economic outlook.

⁵³² Hambur and Finlay p. 15; Moore p.26; Cassidy, Rankin, Read and Seibold p. 153; and Cusbert p. 18.

⁵³³ Limitations include the sample and time period assessed.

Figure A3.4: Forecast error by approach, measured as root mean squared error, 1994 to 2009⁵³⁴



Source: Commission

Proposal part 1 implies a long-term inflation expectation of 0.76 percent (see bottom row of Table A3.1 below). In its submission to the RBP, SACOSS noted the very low level of long-term inflation expectations implied under SA Water’s proposal part 1.⁵³⁵ Consistent with that comment, even in the face of the adverse shock associated with the outbreak of COVID-19, SA Water’s proposal is below available indicators of short-term and long-term inflation expectations. Such an estimate is below the expectations of professional forecasters (who put significant resources into understanding the likely trajectory of inflation) and of the expectations of households and union officials (which are known to provide information on the expectations embedded within wage negotiations, and thereby can influence the actual rate of inflation in the medium to longer term).⁵³⁶ The proposal would imply that the RBA has limited, if any, inflation-forecasting credibility.

⁵³⁴ Data calculated as the root mean squared error of the implied forecast under each method in time (t), compared with the annual average year-ended CPI inflation outcome over the period time t-40 to t. For example, the 10-year bond breakeven rate in the March quarter 1994 would be compared with the annual average CPI outcome over the ten years ending in the December quarter of 2003. The data in the chart is based on data up to September 2019.

⁵³⁵ SACOSS, Submission to the Essential Services Commission of South Australia on SA Water’s 2020-2024 Regulatory Business Proposal: ‘Our Plan’ 2020, pp. 28-29.

⁵³⁶ Ballantyne, Gillitzer, Jacobs and Rankin, Disagreement about Inflation Expectations, Research Discussion Paper RDP 2016-02, p. 2, available at <https://www.rba.gov.au/publications/rdp/2016/pdf/rdp2016-02.pdf>.

Table A3.1: Available estimates of short-term and long-term inflation expectations are above current estimates from proposal part 1⁵³⁷

Observed measures of inflation expectations (the date of publication is in brackets)			
Long-term measures, percent		Short-term measures, percent	
RBA target band	2 - 3	Professional forecasters' expectations 1 year in future (June quarter)	1.8
10 year bond breakeven (late April 2020 estimate)	~0.6-0.7	Professional forecasters' expectations 2 years in future (June 2020)	2.1
10 year inflation swap (late April 2020 estimate)	~1.0	Survey of union officials' expectations 1 year in future (June 2020)	1.4
Professional forecasters' expectations 6-10 years in future (April/May 2020)	~2.3-2.5	Survey of union officials' expectations 2 years in future (June 2020)	1.6
Union survey of expectations 5-10 years in future (April/May 2020)	~2	Westpac consumer survey of price expectations 1 year ahead (March 2020)	4.0
SA Water's proposal for long-term inflation expectations as of February 2020 is 0.76 percent			

A3.5.3 Response to proposal part 2 (RBA one-year inflation forecast)

Based on the RBA's May 2020 forecasts, SA Water's proposal part 2 would be for a long-term inflation expectation estimate of 2.75 percent.⁵³⁸ This is based on the RBA's forecast for CPI inflation for the year-ended June 2021. The figure is higher than most estimates of long-term inflation expectations. This partly reflects large falls in oil prices and the introduction of free childcare in June 2020, which leads to forecasts of low inflation in year-ended terms in June 2020, but subsequent increases in the year-ended rate of inflation forecast for June 2021.⁵³⁹

In the Draft Determination, the Commission pointed to previous examples of policy change, namely the years surrounding the introduction of the GST in the late 1990s, as an example of a temporary event that can impact inflation. This is a key limitation of relying on proposal part 2 as an estimate of long-term inflation expectations.

The RBA's approach to forecasting inflation in the short term incorporates various economic factors that are known to determine actual inflation. This includes spare capacity in the economy, the prices of imported goods, the cost of labour, and any known policy impacts. These factors do not necessarily determine long-term inflation expectations. The RBA's one-year ahead forecasts of inflation are not used by the RBA itself as an indicator of long-term inflation expectation.⁵⁴⁰

⁵³⁷ Data for 10-year inflation swaps and the 10-year bond breakeven rate were sourced from the South Australian Financing Authority. The information on professional forecasters' expectations and the union survey of expectations 5-10 years in future, are estimated from RBA, May 2019 SMP, p. 82. The rest of the data is from RBA statistical table G3, available at <https://www.rba.gov.au/statistics/tables/#inflation-expectations>.

⁵³⁸ RBA, May 2020 SMP, p. 82.

⁵³⁹ RBA, May 2020 SMP, p. 82.

⁵⁴⁰ RBA, May 2020 SMP, pp. 4-6.

In its submission to the RBP, Frontier Economics suggested that the use of a one-year ahead inflation forecast (using outturn inflation from the previous year, akin to a 'random walk' approach to forecasting inflation) could be used to estimate long-term inflation expectations.⁵⁴¹ However, in its submission to the RBP, Frontier Economics presented no evidence to support the proposition that investors or consumers would form long-term inflation expectations based on the latest CPI inflation outcome. As highlighted above, this approach could raise the risk of a temporary event, unrelated to long-term expectations, being included in the regulatory determination.

Overall, the use of SA Water's proposal part 2 would increase the risk of measurement and conceptual error in the regulatory determination and, if implemented, would reduce the revenues allowed to SA Water in the Final Determination. The Commission does not accept the proposal.

A3.5.4 Response to the proposal as a whole (viewing parts 1 and 2 in combination)

In addition to the matters outlined above, the Commission also notes limitations when viewing SA Water's proposal as a whole. First, there is a practical inconsistency between proposals part 1 and 2: the low level of inflation expectations implied in part 1 (currently 0.76 percent) is significantly different the long-term inflation expectations implied in part 2 (2.75 percent). Second, there is a conceptual inconsistency between part 1 and part 2: the low level of long-term inflation expectations in part 1 implies that the RBA has limited, if any, inflation-forecasting credibility, yet at the same time, in proposal part 2, SA Water expressly relies on the RBA's inflation forecasting credibility, as it assumes that investors' long-term inflation expectations are informed by the RBA's one-year forecast.

A3.5.5 Summary of the Commission's response to SA Water's proposal

As noted above, the Commission's final decision is to not accept SA Water's proposed method for estimating long-term inflation expectations: the proposed method has significant limitations and, if implemented, may lead to price and service outcomes that are not in the long-term interests of customers.

Submissions to the Draft Determination from SACOSS and Business SA supported the Commission's assessment of SA Water's proposal for long-term inflation expectations.⁵⁴²

A3.6 Alternative approaches to estimating long-term inflation expectations

A3.6.1 The long-term bond breakeven rate is not appropriate as a measure of long-term inflation expectations

The Commission's final decision is that, while the long-term bond breakeven approach is a plausible methodology in certain circumstances, in the Commission's view the time-varying premiums and biases inherent within it mean that it is not appropriate for use as a measure of long-term inflation expectations in SAW RD20.

The 10-year bond breakeven rate is a market-based measure of long-term inflation expectations. It is calculated as the difference in yields between nominal and inflation-indexed CGS. The key argument in favour of using the bond breakeven rate is based on the notion that investors have large financial resources at stake and strong incentives to form accurate expectations of inflation. However, as

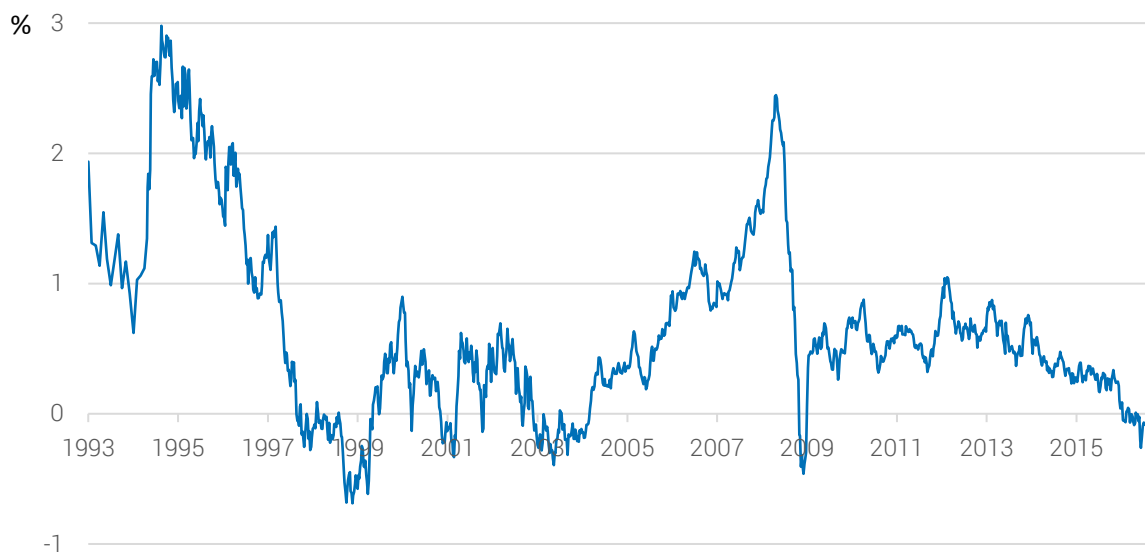
⁵⁴¹ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 55-56.

⁵⁴² SACOSS, Submission to the Essential Services Commission of South Australia on SA Water Regulatory Determination 2020 - Draft Determination, p. 25, and Business SA, Submission to Draft Determination, pp.8-9.

highlighted in the Commission’s Guidance Paper 6, two aspects of CGS markets can impede the use of the bond breakeven rate as a pure measure of inflation expectations.

First, the yield on nominal CGS includes an inflation risk premium, which is compensation for bearing inflation risk (that is, higher or lower than long-term expected inflation).⁵⁴³ Research suggests that the premium can be large, time-varying and at longer-term horizons can account for much of the variation in the bond breakeven rate (Figure A3.6).⁵⁴⁴ This makes it difficult to distinguish between movements due to pure changes in long-term inflation expectations and those associated with the risk premium.

Figure A3.6: Example estimates of long-term inflation risk premiums in Australia in the bond breakeven rate⁵⁴⁵



Source: Finlay and Wende 2011 updated in Moore 2016

The known time-varying nature of the inflation risk premium is at odds with the claim made by Frontier Economics in its submission to the RBP that the inflation risk premium overestimates the bond breakeven rate.⁵⁴⁶ This may have been the case – on average and in the past. However, as shown in Guidance Paper 6, there have been periods, in the late 1990s and early 2000s, where inflation risk premiums were estimated to be negative.⁵⁴⁷ And, given the outbreak of COVID-19, inflation risk premiums may be low or negative. For instance, to the extent that investors fear low inflation (or even deflation), then inflation risk premiums may have declined as investors insure against a higher perceived risk of a ‘low inflation’ state of the world. In its submission to the Draft Determination, Frontier Economics did not address the issues outlined above regarding the presence of inflation risk premiums.

Second, the market for inflation-indexed CGS is relatively small. In 2017-18, annual turnover of nominal CGS was more than twenty times as large as turnover for inflation-indexed CGS.⁵⁴⁸ Investors may

⁵⁴³ Finlay and Wende, Estimating Inflation with a Limited Number of Inflation-indexed Bonds, 2011, RBA Research Discussion Paper 2011-01, pp. 1-39, available at <https://www.rba.gov.au/publications/rdp/2011/pdf/rdp2011-01.pdf>.

⁵⁴⁴ Finlay and Wende, pp. 15-16. The authors note that their estimates of risk premiums may include liquidity premiums.

⁵⁴⁵ The data in Figure 3 are up to August 2016.

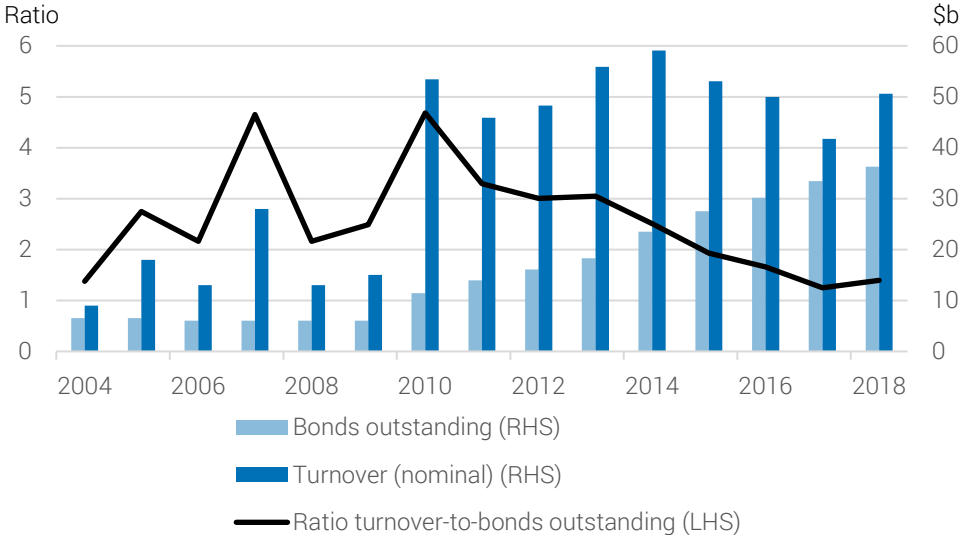
⁵⁴⁶ Frontier Economics, Review of ESCOSA’s approach to estimating inflation and the return on equity, p. 57.

⁵⁴⁷ Finlay and Wende, pp. 15-16, and Hambur and Finlay pp. 19-21.

⁵⁴⁸ Turnover is calculated in value terms and includes all tenors. Data available from the AOFM, available at <https://aofm.gov.au/statistics/historical-data/secondary-market-turnover/>.

therefore demand a liquidity premium (a higher yield on inflation-indexed CGS) to compensate for the risk of market prices moving against them in a substantial way if they try to sell their position. This can downwardly bias the bond breakeven inflation rate.^{549,550} In line with this, some quantity-based metrics suggest that market liquidity for inflation-indexed CGS is relatively low.⁵⁵¹ In particular, while issuance of inflation-indexed CGS has increased in recent years, traded volume (turnover) has not kept pace with the expansion, suggesting that liquidity in the secondary market may have fallen (Figure A3.7).⁵⁵²

Figure A3.7: Stock of outstanding inflation-indexed CGS and annual turnover, all available tenors included



Sources: Australian Office of Financial Management; Commission; RBA

The effect of a lack of liquidity in inflation-indexed CGS markets can be most pronounced in times of uncertainty. A number of regulators, including the AER, discontinued the use of the bond breakeven approach following the onset of the global financial crisis.⁵⁵³ To the extent that there is more than usual uncertainty about the outlook for inflation then, as noted in Chapter 7, this could increase the liquidity premium. That is, the risk of low inflation may mean that there is reduced need for the use of inflation-indexed CGS. This situation would be in conflict to the claim made by Frontier Economics in its

⁵⁴⁹ Moore pp.27-28.
⁵⁵⁰ The presence of liquidity premiums in inflation-indexed government securities is also evident in international securities markets in the United States. See Christensen and Gilan TIPS liquidity, breakeven inflation, and inflation expectations, FRBFS Economic Letter, 20 June 2011, available at <https://www.frbsf.org/economic-research/publications/economic-letter/2011/june/tips-liquidity-breakeven-inflation-expectations/>.
⁵⁵¹ It should be noted that measuring liquidity is not straight-forward, particularly in Australian fixed income markets where secondary activity is not always conducted on electronic markets. See Debelle, Liquidity in Australian Fixed Income Markets, address to the 4th Australian Regulatory Summit, 2016, Sydney, 21 June, available at <https://www.rba.gov.au/speeches/2016/sp-ag-2016-06-21.html>.
⁵⁵² The turnover to bonds outstanding ratio is around half the same ratio calculated for nominal CGS in Australia, further reinforcing the risk that liquidity of inflation-indexed CGS could be low; for instance, in 2017-18, the ratio of turnover to bonds outstanding for nominal CGS was approximately 2.5 compared to 1.5 for inflation-indexed CGS.
⁵⁵³ AER, Regulatory treatment of inflation, 2017, p. 58, available at <https://www.aer.gov.au/system/files/AER%20-%20Final%20position%20paper%20-%20Regulatory%20treatment%20of%20inflation%20-%20December%202017%20-%20Web%20upload.PDF>.

submission to the RBP that *'if anything, the premiums set out above are likely to result in an overestimate of expected inflation'*.⁵⁵⁴

The adverse shock from the outbreak of COVID-19 appears to have had some impact on market functioning. The RBA reported in May 2020 that *'[b]oth short- and long-term market-based measures of inflation expectations have declined since the widespread outbreak of COVID-19 in early 2020; however, it is difficult to interpret the magnitude of these declines because functioning in these markets has been significantly impaired recently.'*⁵⁵⁵ The liquidity premium could, therefore, bias the bond breakeven rate downward.

The SACES report did not provide empirical evidence on quantity- (for example the ratio of turnover to bonds outstanding) and price- (bid-ask spread or market depth) based measures of market liquidity of inflation-indexed CGS. Nor does Frontier Economics' submissions to the RBP and the Draft Determination.

In its submission to the RBP, Frontier Economics stated that the liquidity premium is small, citing claims made by other regulated business to the AER's 2017 review of inflation⁵⁵⁶ and a statement from IPART regarding liquidity of inflation-indexed bonds of a term to maturity of three to five years.⁵⁵⁷ However, Frontier Economics did not explain and demonstrate the evidence of small liquidity premiums. Further, the term to maturity of the inflation-indexed bonds cited in Frontier Economics' report is not in line with the Commission's final decision to use a 10-year term to maturity. It is also worth noting that between 1999 and 2019 the liquidity premium on 10-year inflation-indexed bonds in the United States was estimated to have fluctuated between minus 0.5 percentage points and 3 percentage points.⁵⁵⁸ This international evidence of the liquidity premium does not appear to be small. In its submission to the Draft Determination Frontier Economics did not address this evidence regarding the size of risk premiums.

The presence of premiums and biases is likely to be a key reason why the bond breakeven rate has displayed more variability than other measures of long-term inflation expectations, namely inflation swaps and surveys of professional forecasters, and, as shown earlier, would have led to greater forecast error than the Commission's SAW RD16 approach. At present, most utility regulators do not use the bond breakeven rate as a measure of long-term inflation expectations.⁵⁵⁹ Frontier Economics placed weight on the low level of the 10-year bond breakeven rate since 2010,⁵⁶⁰ yet its submission to the RBP does not address the low forecast accuracy of the bond breakeven rate that was observed prior to 2010. In its submission to the Draft Determination Frontier Economics did not address the issue of forecast accuracy.

SACES submitted that:

- ▶ the bond breakeven rate has fallen over recent years primarily due to lower inflation risk premiums (this is inferred because inflation swap rates, defined below, and bond breakeven rates have fallen by similar magnitudes since 2013), and

⁵⁵⁴ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 59.

⁵⁵⁵ RBA, May 2020 SMP, p. 81.

⁵⁵⁶ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 56-59.

⁵⁵⁷ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 59.

⁵⁵⁸ Kim, Walsh and Wei.

⁵⁵⁹ Commission, Guidance Paper 6, pp. 1-14. The current exception is the ERA (WA).

⁵⁶⁰ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 56-62.

- ▶ the inflation risk premium should be incorporated into the measure of long-term inflation expectations (because SA Water should be insured against the inflation risk premium in CGS).⁵⁶¹

Even if SACES's first statement is correct (that the bond breakeven rate has fallen over recent years due to inflation risk premiums), this is not supporting evidence for the use of the bond breakeven approach in SAW RD20. Moreover, as discussed below, and as highlighted in Guidance Paper 6, inflation swaps may have time-varying liquidity premiums due to practical liquidity constraints caused by financial regulations binding the users of inflation swaps.⁵⁶² There is, therefore, likely to be no guarantee that the liquidity premiums and inflation risk premiums inherent in these two separately traded financial products (inflation-indexed CGS and inflation swaps) would co-move in a predictable and simultaneous manner.

SACES's second proposition is equivalent to the argument that the risk-free rate should be free of the inflation risk premium. This issue is discussed in section A3.7.1.

In its submission to the Draft Determination, SA Water argues that the Commission's approach to estimating long-term inflation expectations (outlined in Chapter 7) is out of step with market-based measures of long-term inflation expectations. It stated:

'[t]he Draft Determination proposes a glide path approach that is out of step with market expectations. While the inflation forecast improves with the adoption of a glide path, the chosen glide path still has a significant weighting towards the midpoint of the RBA target band. This results in an inflation estimate of 2.33 per cent which is significantly different to the current market expectation in the current un-precedented economic times. This variance has significant impact on the dividend returned to the government which is used to fund the delivery of essential public services for the community....'

However, SA Water's submission did not address the evidence (outlined above) that the calculation of the bond breakeven rate can be impacted by liquidity and inflation risk premiums. Furthermore, as noted earlier, there are reasons to think that the current inflation targeting regime in Australia remains, for the time being, credible and that long-term inflation expectations remain anchored within the RBA's two to three percent target band. First, the Federal Treasurer and the RBA Governor renewed the agreement that underpins the framework in November 2019. Second, surveys of professional forecasters suggest that long-term inflation expectations remain near the midpoint of the target band. Third, international experience suggests that low interest rates and unconventional monetary policy helped to support long-term inflation expectations, despite actual inflation deviating from target ranges for some years.

In summary, the Commission considers that:

- ▶ premiums and biases mean that the bond breakeven rate is not appropriate for use in SAW RD20, and
- ▶ submissions to the RBP and the Draft Determination did not adequately address the known limitations in the bond breakeven rate.

⁵⁶¹ SACES, pp. 3-5.

⁵⁶² SACES, pp. 3-5.

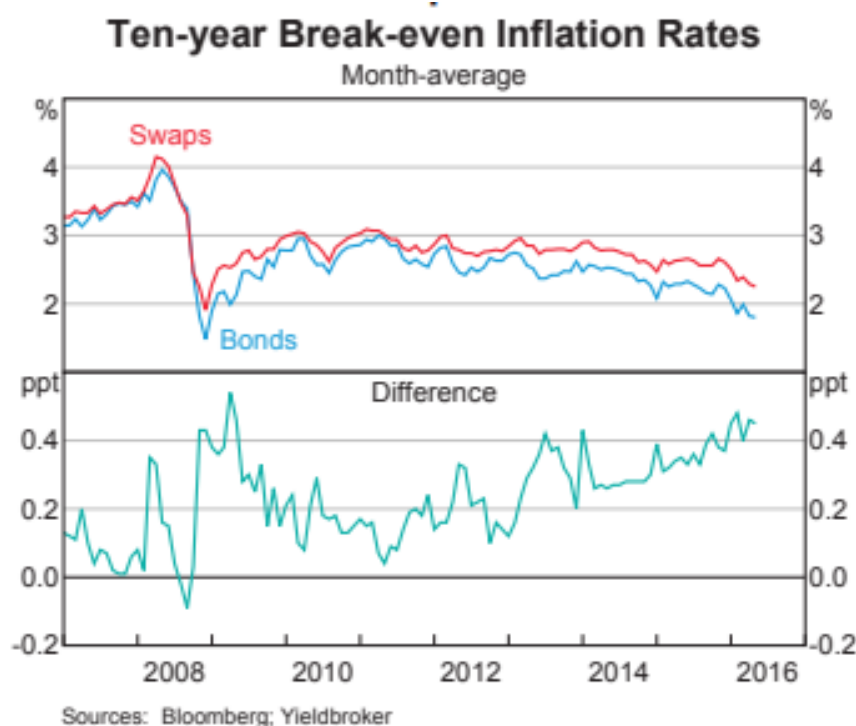
A3.6.2 Long-term inflation swaps are not appropriate as a measure of long-term inflation expectations

The Commission's final decision is that the fixed rate of 10-year inflation swaps is not appropriate for use as a measure of long-term inflation expectations in SAW RD20.

The fixed rate on inflation swaps, which is a type of financial derivative product, is another measure of long-term inflation expectations. In an inflation swap, one party receives a payment indexed to inflation in exchange for a payment determined by a fixed rate, which is agreed at initiation of the contract but paid at the end.⁵⁶³ Users of inflation swaps include pension funds (who use them to hedge long-dated inflation-linked obligations) and infrastructure project providers (who use them to hedge their inflation-linked assets or revenues).⁵⁶⁴

As with the bond breakeven approach, the key advantage of inflation swaps is that their pricing is determined by markets (where investors should have strong incentives to form accurate expectations for inflation). Also, the supply of inflation swaps is not constrained, so in theory they should be less affected by liquidity premiums.⁵⁶⁵ Figure A3.8 illustrates that the long-term rate of inflation expectations implied from inflation swaps in Australia has tended to be consistently higher than the rate implied by the bond breakeven approach.⁵⁶⁶

Figure A3.8: Gap between market-based measures of long-term inflation expectations⁵⁶⁷



⁵⁶³ Moore, pp. 24-25.

⁵⁶⁴ Moore, pp. 24-25.

⁵⁶⁵ Finlay and Olivan, Extracting information from financial markets, RBA Bulletin, March quarter 2012, pp. 50-51, available at <https://www.rba.gov.au/publications/bulletin/2012/mar/pdf/bu-0312-6.pdf>.

⁵⁶⁶ The difference between the bond breakeven and swaps measures is sometimes thought of as the upper bound estimate of the liquidity premium present in that particular inflation-indexed bond market; see Christensen and Gilan.

⁵⁶⁷ Moore, p.28.

Nonetheless, there are disadvantages in the use of long-term inflation swaps. The market for swaps can lack transparency (with prices and quantities not publicly available)⁵⁶⁸ and, like the bond breakeven rate, includes inflation risk premia that can bias the measure.⁵⁶⁹ Also, as mentioned above, the users of swaps (for example, financial institutions) are subject to various financial regulations and the RBA has reported that this can act as a practical liquidity constraint.⁵⁷⁰ In May 2020, the RBA reported that the functioning of financial markets that price long-term inflation had '*been significantly impaired recently*'. This suggests a risk of liquidity premiums being embedded in the swaps measure.

In addition, the market for inflation swaps has only been in operation in Australia since 2008 and so there is uncertainty about the size of potential biases and further research may be needed to resolve that uncertainty.⁵⁷¹ In its 2017 review of inflation, the AER noted some of the advantages of the swaps approach but expressed caution about deriving inflation expectations from inflation swap products.⁵⁷² No Australian utility regulator currently uses this approach.

SACES has noted the advantages of the swaps measure.⁵⁷³ So, too, has Frontier Economics.⁵⁷⁴ However, neither of the SACES or Frontier reports to the RBP address the key limitations of using inflation swaps; discussed both above and in Guidance Paper 6.⁵⁷⁵ The time-varying nature of the inflation risk premium in inflation swaps is also at odds with the statement made by Frontier Economics that the inflation risk premium overestimates the swaps measure.⁵⁷⁶ As noted earlier, there is more than usual uncertainty about the speed with which inflation may recover. This could suggest that inflation risk premiums are low or even negative. This may, in effect, bias the swaps measure downward

One argument put forward in international economic research to explain low rates of market-based measures of long-term inflation expectations – outside of compensation for inflation or liquidity risk (discussed above) – is that there may be a noticeable difference between the expectations of the marginal trader (whose view the market price reflects) and the expectations of the average or median trader. This could show up in the skewness of the distribution of the survey of inflation expectations among market participants.⁵⁷⁷ This could potentially explain the sharp fall in market-based measures despite, for example, surveys of professional forecasters that have continued to point to estimates of long-term inflation expectations within or near inflation targets. Nonetheless, at this stage, there is insufficient evidence to know if this can explain any divergent views and data in Australia. None of the submissions to the Draft Determination put forward economic evidence to suggest that this is the case for the inflation swaps market in Australia.

In summary, the Commission considers that there is a risk that premiums and biases impact the swaps-based measure and so there is currently insufficient evidence to support use of inflation swaps to estimate long-term inflation expectations. None of the submissions to the RBP and the Draft Determination provided sufficient evidence to justify the adoption of the approach.

⁵⁶⁸ Moore, pp. 28-30.

⁵⁶⁹ Finlay and Olivan, pp. 50-52.

⁵⁷⁰ Moore, pp. 28-30.

⁵⁷¹ Moore, pp. 28-30.

⁵⁷² AER, Regulatory treatment of inflation, pp. 55-56.

⁵⁷³ SACES, pp. 1-7.

⁵⁷⁴ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 24-41.

⁵⁷⁵ Commission, Guidance paper 6, pp. 13-14.

⁵⁷⁶ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 57.

⁵⁷⁷ Reis R, The anchoring of long-run inflation expectations today, Keynote speech at conference 'Inflation dynamics in Asia and the Pacific', 19-20 August 2019, Bank for International Settlements Paper No 111, pp. 15-16, available at https://www.bis.org/publ/bppdf/bispap111_keynote.pdf.

A3.6.3 Surveys of professional forecasters are used to inform the recovery path of inflation towards the RBA's target band

The Commission's final decision uses surveys of professional forecasters' expectations of long-term inflation to inform the time period over which inflation is expected to recover to the midpoint of the RBA's target band. Inflation is expected to return to the midpoint by financial year 2026-27. Its use as a cross-check on the glide path was highlighted in the Draft Determination.

The use of surveys of market economists' expectations of average annual inflation are considered in central bank research as a useful way to gauge long-term inflation expectations, as they should be less influenced by temporary economic factors or financial market developments, and because professional forecasters are well informed.⁵⁷⁸ The surveys should react to any de-anchoring of inflation expectations (that is, the measure should capture if long-term inflation expectations were to shift materially for a sustained period).^{579,580}

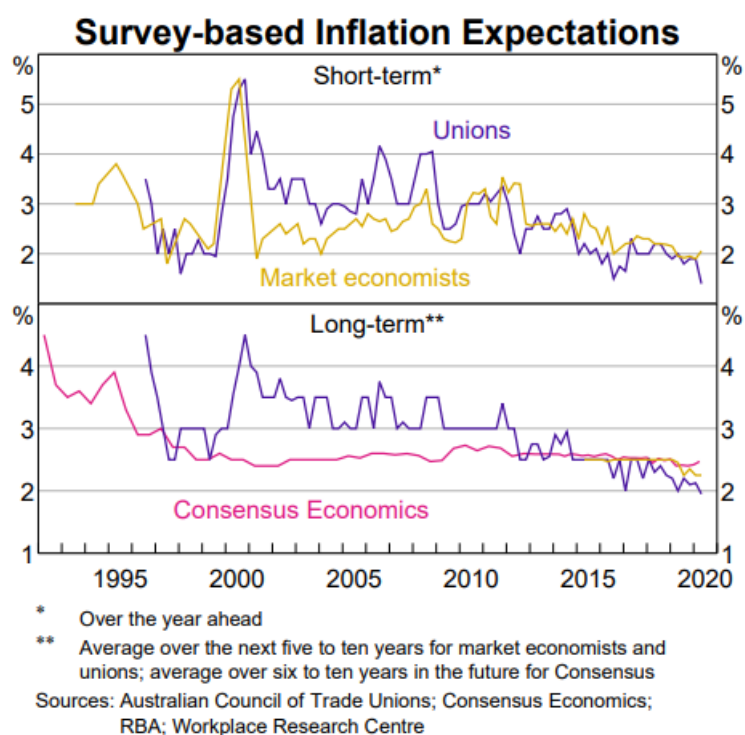
The latest survey data (Figure A3.9, bottom panel) shows that professional forecasters, as reported by Consensus Economics (and published in the RBA's May SMP), expect average annual inflation over the next six to ten years to be 2.5 percent. The RBA's survey of market economists shows expectations of average annual inflation over the next five to ten years to be a little below 2.5 percent (between 2.2 percent to 2.5 percent). The difference between the two surveys likely reflects the extra year included in the Consensus Economics forecast timeframe and differences in samples (for example, the Consensus Economics survey sample may have more international firms than the RBA's survey).

⁵⁷⁸ Ellis, Re: Regulatory treatment of inflation – inflation expectations, 5 July 2017, pp. 1-2, available at <https://www.aer.gov.au/system/files/Letter%20from%20the%20RBA%20to%20AER%20-%2025%20July%202017.pdf>.

⁵⁷⁹ Ellis, pp. 1-2.

⁵⁸⁰ Research by the AER indicates that following an event that leads to a shift of professional forecasters' long-term inflation expectations, these expectations have tended to return to the mid-point of the target band within two to three years; see AER, Regulatory treatment of inflation, p.111-112.

Figure A3.9: Surveys of professional forecasters long-term inflation expectations⁵⁸¹



In its submission to the RBP Frontier Economics has highlighted that those survey expectations have been highly persistent.⁵⁸² Yet the persistence of those survey numbers, at around the midpoint of the target band, arguably indicates that inflation expectations may be well anchored.

Additionally, in its submission to the RBP Frontier Economics has stated that the survey *has '...consistently over estimated outturn inflation over the last five years'*.⁵⁸³ However, Frontier did not provide a forecast assessment over the period of inflation targeting in Australia.

In summary, while surveys have limitations, they serve as an external guide on the timing of the expected recovery in inflation (as explained in Chapter 7). The Commission's glide path reaches 2.5 percent in 2026-27, in line with the Consensus Economics projection (as shown above, and published in the RBA's May 2020 SMP). On the basis that there is an expectation of a slow and gradual economic recovery, the slightly lower result in the RBA survey of forecasters (relative to Consensus) may reflect that it has one less year included in its forecast horizon.

A3.7 Response to claims made regarding the risk-free rate and long-term inflation expectations

The SACES submission and the Frontier Economics submission to the RBP made claims regarding the measurement of the risk-free rate, the relationship between long-term inflation expectations and the risk-free rate, and the appropriate manner in which regulators should manage uncertainty about the risk-free rate and long-term inflation expectations. Below are the Commission's considerations of these propositions.

⁵⁸¹ RBA, May 2020 SMP, p. 82.

⁵⁸² Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 34.

⁵⁸³ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 34.

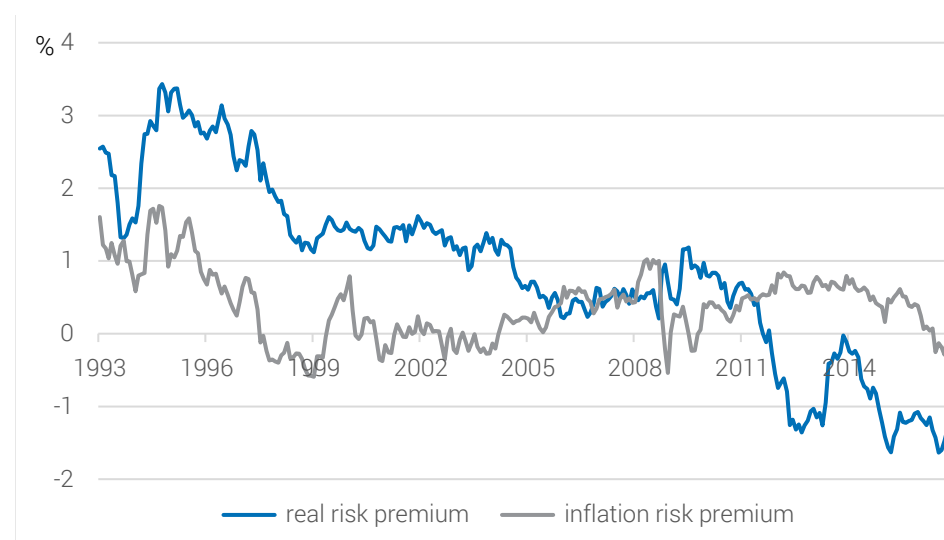
A3.7.1 Measurement of the risk-free rate

SACES argued that the inflation risk premium should be removed when calculating the risk-free rate for the regulatory determination,⁵⁸⁴ as the premium may distort the underlying rate of return from a level that would be appropriate. The proposal was made in the context of the bond breakeven approach.

In theory, a risk-free rate would be free of all risk premiums. As a matter of practice, however, investors, governments and regulators tend to adopt the yield on government securities as a measure of the risk-free rate. As noted earlier, those yields are commonly understood as being composed of several unobserved time-varying components, such as expected short-term real yields, expected long-term inflation, and a term premium.⁵⁸⁵ This term premium can be thought of as being made up of a real risk premium and an inflation risk premium.⁵⁸⁶ Estimates from the Australian Office of Financial Management suggest that at the end of April 2020 the term premium in Australia was somewhere between 0.47 percent and -1.0 percent.⁵⁸⁷

The real risk premium and the inflation risk premium may at times be offsetting. As a result, adjusting for one premium but not the other, as proposed by SACES, could in fact add risk. Indeed, research estimates suggest that these two premiums can move in large offsetting directions (Figure A3.10).⁵⁸⁸

Figure A3.10: Estimates of the real risk premium and inflation risk premium in 10-year CGS⁵⁸⁹



Source: RBA

⁵⁸⁴ SACES, pp. 3-4.

⁵⁸⁵ This conceptual framework for understanding nominal bond yields has been explained in various publications. For example, RBA, *Why are long-term bond yields so low?*, pp. 27-31; Clarida, *Monetary Policy, Price Stability, and Equilibrium Bond Yields: Success and Consequences*, speech at the High-Level Conference on Global Risk, Uncertainty, and Volatility, co-sponsored by the Bank for International Settlements, the Board of Governors of the Federal Reserve System, and the Swiss National Bank, Zurich, Switzerland, available at <https://www.federalreserve.gov/newsevents/speech/clarida20191112a.htm>; Kim, Walsh and Wei, *Tips from TIPS: Updates and Discussions*, US Board of Governors of the Federal Reserve System, FEDS Notes, May 21 2019, available at <https://www.federalreserve.gov/econres/notes/feds-notes/tips-from-tips-update-and-discussions-20190521.htm>; and Vlieghe, *The yield curve and QE*.

⁵⁸⁶ Cohen, Hordahl and Xia, *Term premia: models and some stylised facts*, Bank for International Settlements Quarterly Review, September 2018, p. 82, available at https://www.bis.org/publ/qtrpdf/r_qt1809h.pdf.

⁵⁸⁷ AOFM term premium estimates are available at: <https://www.aofm.gov.au/data-hub>.

⁵⁸⁸ Hambur and Finlay, *Affine Endeavour: Estimating a Joint Model of the Nominal and Real Term Structures of Interest Rates in Australia*, 2018, Research Discussion Paper – RDP 2018-02, pp. 19-21, available at <https://www.rba.gov.au/publications/rdp/2018/pdf/rdp2018-02.pdf>.

⁵⁸⁹ Hambur and Finlay pp. 19-21.

There are also general limitations in any approach that attempts to remove the unobserved term premium from the risk-free rate.

- ▶ By removing the term premium, the rate of return no longer reflects what would, in practice, be available to those private investors considering the purchase of a government bond.
- ▶ The Commission's approach to the market risk premium (measured as the return on equities over government securities) uses a long-run average that includes historical term premiums. It may be inconsistent to remove the term premium from the risk-free rate but include the term premium when estimating the market risk premium.
- ▶ Estimating the term premium (for subsequent removal from the risk-free rate) requires the use of detailed econometric models. Those models bring their own set of model and estimation risks,⁵⁹⁰ and would lower transparency and replicability of the overall approach to estimating the risk-free rate.

When estimates of the term premium were positive, and therefore increased the risk-free rate and lead to a higher nominal return on equity for SA Water, the presence of the premium was not raised nor challenged by SA Water. Stakeholders, such as Uniting Communities,⁵⁹¹ and the CNC,⁵⁹² cautioned against changing the definition of parameters merely because they now generate a low rate of return.

In summary, the Commission considers that:

- ▶ it would be inappropriate to remove the inflation risk premium from the risk-free rate without simultaneously removing the real risk premium, and
- ▶ there would be limitations that arise in attempting to exclude the term premium from the risk-free rate for use in SAW RD20.

A3.7.2 The extent of the relationship between the risk-free rate and long-term inflation expectations

SACES stated that *[m]ainstream economic theory suggests that there is a positive correlation between inflation expectations and the nominal bond yield*.⁵⁹³ The claim is accompanied by correlation analysis and is used to suggest that the use of the midpoint of the RBA's two to three percent target leads to: (1) an estimate of long-term inflation expectations that is currently too high; and (2) volatility of the real regulatory rate of return.

In its submission to the RBP Frontier Economics made a similar suggestion that: *'in the current market conditions, nominal government bond yields are very low. One reason for that is very low inflation expectations'*.⁵⁹⁴

There is a range of relevant theoretical and empirical research on inflation expectations and bond yields. This includes research on the term structure of interest rates, including academic term structure of interest rate models that decompose yields into the various components thought to account for its movements,⁵⁹⁵ and research about how inflation expectations adjust under monetary policy regimes (including research on the credibility of inflation targeting and central banks' ability to anchor inflation expectations around some target).⁵⁹⁶ It is unclear which theory/s and evidence from economic

⁵⁹⁰ Cohen, Hordahl and Xia, p. 80-82.

⁵⁹¹ Uniting Communities, p. 28.

⁵⁹² Report of Independent Chair of the CNC, pp. 83-84.

⁵⁹³ SACES p. 4.

⁵⁹⁴ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 15.

⁵⁹⁵ For example, see Hambur and Finlay pp. 1-42.

⁵⁹⁶ Debelle, Twenty five years of Inflation Targeting in Australia, pp. 53-71.

literature SACES and Frontier Economics were referring to. No supporting evidence and literature were provided by either of the parties.

SACES's argument relies on: (1) the correlation between nominal 10-year CGS and 10-year bond breakeven rates (the latter calculated as the difference in yields between nominal and inflation-indexed CGS); and (2) long-term inflation expectations being an unobserved component in 10-year nominal and inflation-indexed CGS. SACES appears to have applied an ordinary least squares regression of the bond breakeven rate on nominal 10-year CGS and, as of September 2019, states that the regression results imply a bond breakeven rate of 1.7.⁵⁹⁷

There are, however, limitations in the analysis presented by SACES. While there is some degree of correlation between 10-year CGS and the 10-year bond breakeven rate, the analysis does not disentangle whether or not the correlation reflects movements in inflation risk premiums, liquidity premiums and/or long-term inflation expectations. Nor does the correlation analysis appear to make adjustment for any structural trends that may be observed in the yields. SACES's regression model specification and the data used (for instance, the sample of data and model output) have not been presented in the submission.

In the context of the SACES proposition, in its submission to the RBP Frontier Economics stated that:

'... nominal government bond yields are not the only determinant of inflation expectations, in which case the SACES approach disregards relevant information about inflation expectations in the prevailing market conditions'.⁵⁹⁸

This statement by Frontier Economics in its submission to the RBP appears inconsistent with its earlier statement that a very low long-term inflation expectation was a reason for the very low nominal government bond yields.⁵⁹⁹

In addition, there are more general sources of evidence which stand at odds to the statements made by SACES and Frontier Economics. First, survey-based measures of long-term inflation expectations, namely surveys of the long-term inflation expectations of professional forecasters, have remained stable near the midpoint of the RBA's two to three percent target band.⁶⁰⁰ As stated by the RBA in May 2020: *[l]ong-term survey-based measures of inflation expectations are little changed around 2-2½ per cent and remain consistent with the Bank's medium-term inflation target.*⁶⁰¹ Second, estimates of long-term inflation expectations in Australia from various studies have remained within the RBA's two to three percent target band over the past 20 years, despite the structural decline in the yield on nominal 10-year CGS.⁶⁰² Third, research and survey measures in the United States, Europe and the United Kingdom suggests that measures of long-term inflation expectations remained relatively well anchored around inflation targets, despite short-term fluctuations in economic conditions and large movements in nominal bond yields.⁶⁰³

⁵⁹⁷ SACES, p. 4.

⁵⁹⁸ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 60.

⁵⁹⁹ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 15.

⁶⁰⁰ RBA, May 2020 SMP, p. 82.

⁶⁰¹ RBA, May 2020 SMP, p. 82.

⁶⁰² Hambur and Finlay, p. 16; Cassidy, Rankin, Read and Seibold, Explaining Low Inflation Using Models, RBA Bulletin, p. 153, available at <https://www.rba.gov.au/publications/bulletin/2019/jun/pdf/explaining-low-inflation-using-models.pdf>; Moore, Measures of Inflation Expectations in Australia, 2016, RBA Bulletin, p. 27, available at <https://www.rba.gov.au/publications/bulletin/2016/dec/pdf/rba-bulletin-2016-12-measures-of-inflation-expectations-in-australia.pdf>; and Cusbert, Estimating the NAIRU and the unemployment gap, RBA Bulletin, June 2017, p. 18, available at <https://www.rba.gov.au/publications/bulletin/2017/jun/2.html>.

⁶⁰³ Clarida; Vlieghe, p. 8; Vahey, Report to the AER on estimating expected inflation, 2017, p. 10; and Carney, p. 26.

While there is uncertainty regarding what the adverse shock associated with the outbreak of COVID-19 might mean for the economic outlook and financial markets, and the Commission considered this when reviewing rate of return parameters, none of the submissions to the Draft Determination provided evidence contrary to the evidence provided above.

In summary, the Commission considers that the extent of the relationship between nominal 10-year CGS and long-term inflation expectations is ambiguous and depends on various economic and risk factors.

A3.7.3 Regulators' approach to managing uncertainty

SACES stated that consumers of drinking water and sewerage services are likely to be averse to price volatility from the re-setting of the rate of return from one regulatory period to another. It put forward the proposition that regulators should select rate of return parameters to smooth revenues and prices. SACES stated:

*[c]hanges in the real WACC cause the cost-of-capital building block to increase and decrease in real terms and are potentially a significant source of price volatility... Smoothing the real WACC can contribute tangibly to smoothing the trajectory of water prices.'*⁶⁰⁴

SACES further claimed that: (1) regulators tend to smooth parameters when faced with uncertainty about concepts that can't be measured directly; and (2) a smoothing process is unlikely to be at odds with having cost-reflective revenues.

In the Commission's view, there are several limitations in these propositions.

First, cost-reflective revenues are an important element of economic regulation. Provided that real returns are cost-reflective, then any move away from this approach would impose some costs on consumers. SACES provided no evidence to support its proposition that consumers would value price stability in all circumstances. As the CNC stated: *'[i]t seems highly likely to the Committee that customers would prefer price stability to further price increases, but that is not the same as saying they would prefer price stability under all circumstances.'*⁶⁰⁵

Second, it is not necessarily the case that regulators must smooth parameters to deal with forms of uncertainty. In the face of uncertainty about concepts that cannot be measured directly, economic agencies are known to: (1) rely on multiple sources of information and indicators of the concept; (2) use available empirical economic models to estimate the concept; and (3) be alert to structural forces that can impact on the measurement and estimation of the concept.⁶⁰⁶ In addition, economic agencies are known to deal with forecast uncertainty by evaluating forecast approaches and, where possible, using multiple forecast models to estimate key variables.⁶⁰⁷

The Commission has considered and applied these approaches when estimating long-term inflation expectations and assessing forecasts for the risk-free rate. For example, the Commission considered: a range of available indicators of long-term inflation expectations and the risk-free rate; the results of both academic studies and forecast assessments; and possible structural forces that may be impacting on expectations and the risk-free rate.

⁶⁰⁴ SACES, p.5.

⁶⁰⁵ Report of Independent Chair of the CNC, p. 83.

⁶⁰⁶ Debelle, Uncertainty, 7th Warren Hogan Memorial lecture Sydney 26 October 2017, available at <https://www.rba.gov.au/speeches/2017/sp-dg-2017-10-26.html>.

⁶⁰⁷ Debelle, Uncertainty.

Third, much of the recent movement in the real rate of return reflects a fall in the nominal risk-free rate. SACES argued that:

*'... the cost recovery concept at hand is of a long-run nature and it is not clear that short run volatility in these prices provides useful price signals to water customers. The Commission should be wary of allowing 'outlier' pricing observations to be built into the maximum allowable revenue calculation.'*⁶⁰⁸

However, it did not provide to the Commission any alternative methodologies for estimating and forecasting the nominal risk-free rate for use in SAW RD20. Guidance Paper 7 highlighted that the latest observations of yields on CGS are likely to be a better predictor of future yields than the use of a long-term average of yields.⁶⁰⁹ Notably, SA Water acknowledged in its RBP that the latest market data was likely to be a better predictor of yields.⁶¹⁰

In summary, the Commission considers that:

- ▶ there is no evidence to suggest that consumers prefer price stability under all circumstances and any move away from the use of cost-reflective returns would impose costs on consumers, and
- ▶ there are various ways to deal with uncertainty; relying on the smoothing of parameters is not necessarily a common or appropriate approach.

A3.8 A long-run average approach is a reasonable method of estimating the market risk premium

The market risk premium represents the expected return on equities over CGS. It is effectively a measure of investors' expectations about how much risk there is in the market and of the price that investors place on that risk.⁶¹¹ The Commission estimates a single figure for the market risk premium based on long-run data, to be used as a forecast for the regulatory horizon. That approach assumes that it is difficult to improve upon a long-run average of past returns when making forecasts for the long-term horizon of the additional return investors expect to receive from equities relative to that returned from CGS. The long-run average method was reviewed by the AER in 2018⁶¹² and was considered reasonable given that there are few robust alternative methods.⁶¹³ Several other regulators supported the finding.⁶¹⁴

While estimates of the market risk premium used by regulators in Australia are of a broadly similar magnitude, reflecting the similar methods and historical data that tend to be applied, there are some differences. Those differences largely reflect the underlying data sources and averaging methods used, the time periods selected, and any differences in methodologies for estimating the risk-free rate of interest. The Commission's selection of 6 percent reflects a consideration of the longest available arithmetic and geometric averages (Table A3.2).

⁶⁰⁸ SACES, p. ii.

⁶⁰⁹ Commission, Guidance Paper 7, pp. 1-13.

⁶¹⁰ SA Water, RBP, Appendix E, p. 3.

⁶¹¹ The market risk premium does not relate to specific risks associated with investing in a water utility. Any non-diversifiable risks associated with investing in the benchmark efficient water utility is captured through the equity beta parameter.

⁶¹² AER, Discussion paper – market risk premium, risk-free rate averaging period and automatic application of the rate of return, March 2018, available at <https://www.aer.gov.au/system/files/AER%20-%20MRP%20Risk%20Free%20Rate%20Averaging%20Period%20and%20Automatic%20Application%20Discussion%20Paper%20-%20March%202018.pdf>;

⁶¹³ AER, Rate of return instrument: Explanatory statement, pp. 220-275.

⁶¹⁴ ERA (WA), pp. 178-179, and ICRC, Final report: regulated water and sewerage services price 2018-2023, pp. 105-106, available at https://www.icrc.act.gov.au/_data/assets/pdf_file/0006/1374522/Report-8-of-2019-Water-and-Sewerage-Services-Prices-201920.pdf.

Table A3.2: Long-run estimates of the market risk premium⁶¹⁵

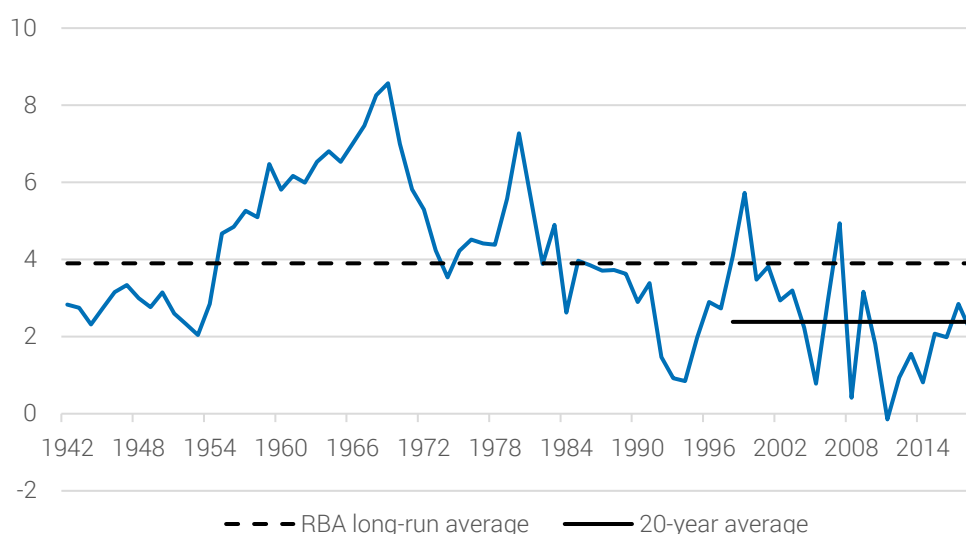
	Arithmetic average			Geometric average			
	Brailsford, Handley and Maheswaran (2008) (percent)	NERA (2013) (percent)	Average (percent)	Brailsford, Handley and Maheswaran (2008) (percent)	NERA (2013) (percent)	Average (percent)	RBA (2009) dataset (percent)
1883-2017	6.82	6.47	6.65	5.47	5.12	5.29	n/a
1917-2018	n/a	n/a	n/a	n/a	n/a	n/a	3.9

It is worth noting that, in June 2019, the RBA released a new dataset of historical realised equity returns.⁶¹⁶ The 3.9 percent estimate from the RBA dataset (shown in Table A3.) is lower than other estimates for Australia, due in part to the fact that the RBA dataset implies lower dividend payments in the first half of the 20th century than do other sources. Nonetheless, there are risks in favouring one historical data source over another (given the limitations in constructing historical data series), and placing too much weight on a new dataset that may not yet have been fully reviewed by regulators and regulated businesses. However, as the new dataset is examined over time, regulators' confidence in and information about the dataset will increase, and the data therein may be useful for consideration in future regulatory determinations. The RBA dataset, taken at face value, and after taking into account some potential downward bias from the use of geometric averaging, suggests that the long-run average of historical data could be closer to 5 percent than 6 percent (A3.11).

⁶¹⁵ ERA (WA), p.180; and Mathews, A History of Australian Equities, p. 10.

⁶¹⁶ Production of the dataset was motivated by the known limitations of available historical data; see Mathews, p. 10. The dataset is based on collected and appropriately weighted data on dividend yields, rather than relying on adjustments to historical yield data, as was the case in the BHM and NERA datasets.

Figure A3.11: RBA estimates of realised market risk premiums in Australia based on cumulative 25 year returns, annualised⁶¹⁷



Sources: Commission; RBA

Limitations of long-run estimates of the market risk premium

The long-run average method has two limitations: (i) estimates may be biased upwards due to structural factors (for example, due to technology change and the liberalisation of financial markets)⁶¹⁸ and may be highly volatile (limiting credibility⁶¹⁹ and use in forecasting⁶²⁰); and (ii) the nature of the method is *backward-looking* – yet the market risk premium is an expectations-based concept and there appears to be limited empirical evidence (or theory) to suggest the long-run average of historical realised premiums is the best estimate of the market risk premium.⁶²¹

Alternative methods for calculating the market risk premium were considered

The Commission considered two cross-checks to the estimate of the market risk premium: (1) surveys of investor expectations and (2) market-implied estimates.

First, surveys of investors are supportive of a market risk premium of 6 percent. Since release of the Draft Determination, KPMG has published its 2019 survey of investor valuation practices in Australia.

⁶¹⁷ The RBA's calculation in Figure 1 uses 25-year cumulative returns to reflect the long time horizon of an investor. Other research in Australia uses 20-year cumulative returns when calculating the market risk premium and that particular research shows a similar trend to the RBA calculation; see Bianchi, Drew and Walk, *The (un)Predictable Equity Risk Premium*, Challenger Limited, 2015, p. 16, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2694373.

⁶¹⁸ This may be due to survivorship bias and structural changes in financial markets (because of high transaction costs and limited opportunities for diversification); see ERA (WA), p.174.

⁶¹⁹ This is based on the finding that the realised market risk premium has historically been estimated to be large and volatile, in the context of standard economic models that describe investor behaviour; see Mehra and Prescott, 'The Equity Premium: A puzzle', *Journal of Monetary Economics*, 15, 1985, pp 145–161.

⁶²⁰ High volatility can limit the ability to extrapolate the latest observation for use in forecasting over the regulatory horizon.

⁶²¹ Some international research supports the long-run average approach. For example, see Duarte and Rosa, *The equity risk premium: a review of models*, Federal Reserve Bank of New York, Staff Report No 714, February 2015, available at <https://www.newyorkfed.org/research/economists/duarte/medialibrary/8ec5369d89ae45a69752df198f0113f0.ashx>.

The survey stated that: *'[m]ost respondents adopted a market risk premium of 6% or more for valuations completed for a perpetual life Australian asset at 30 June 2019. The average market risk premium was 5.9%, up from an average of 5.5% in 2018, with more than a quarter of respondents adopting a market risk premium of more than 6%.'*⁶²² The result was broadly similar to the previous year. The 2019 survey stated that: *'[i]n line with the previous year's results, eight in ten (80%) respondents have not changed their market risk premium.'*⁶²³ As highlighted in the Draft Determination, survey results are generally in line with the Commission's current estimate (though it is acknowledged that this is one survey of limited size and there are well-known limitations in survey approaches).⁶²⁴

Second, the AER's 2019 annual update for the rate of return publication presents market-implied risk premiums with sensitivity of the results lying between 6 percent and 9½ percent.⁶²⁵ The wide range of market-implied estimates largely reflects varying assumptions about real dividend growth in future. Importantly, it highlights the high degree of sensitivity to whatever inputs are used. For that reason, many regulators, including the Commission, use the long-run average of historical realised premiums to be, at any point in time, the best estimate of the market risk premium.

As noted earlier, Frontier Economics (in its submission to the RBP) and IPART (in its submission to the Draft Determination) have argued that there is an inconsistency between the use of the historical average of the market risk premium and the latest observation of the yields on CGS. However, alternative market-implied approaches to estimating the market risk premium have known limitations including that the estimates are highly variable and dependent on assumptions regarding future dividend yields. Furthermore, as noted above, the latest observation of the yield on CGS is likely to be the best predictor of future yields over the four-year horizon,⁶²⁶ and the Commission considers that it is difficult to improve upon a long-run average of past returns when making forecasts for the long-term horizon of the additional return investors expect to receive from equities relative to that returned from CGS. IPART's method aims to capture the inverse relationship, but this method for calculating the return on equity was not proposed by SA Water in its RBP.⁶²⁷ It is, therefore, not necessarily inconsistent for the Commission to use the latest observation of the yield on CGS and a long-run average of the market risk premium.

The relationship between the market risk premium and the risk-free rate was considered

A key question is whether or not the estimate of the market risk premium is likely to be fixed irrespective of changes in the risk-free rate. Frontier Economics has argued that there is an inverse relationship between the market risk premium and the risk-free rate and that the Commission should *'adopt an approach to estimating the required return on equity that pairs the risk-free rate consistently with the MRP'*.⁶²⁸ The suggestion is that the market premium should be higher in a low interest rate

⁶²² KPMG, What's it worth?, KPMG Valuation Practices Survey 2019, p. 11, available at <https://assets.kpmg/content/dam/kpmg/au/pdf/2020/valuation-practices-survey-2019.pdf>.

⁶²³ KPMG, What's it worth?, p. 11.

⁶²⁴ Surveyed premiums are known to be sensitive not only to whom the question is directed (including the sample size and type of practitioner) but how it is directed. International studies suggest that surveys have limited predictive power; see Damodoran, Equity Risk Premiums: Determinants, Estimations and Implications – The 2019 Edition, April 2019, Stern School of Business, pp. 23-26, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3378246.

⁶²⁵ AER, Rate of return – annual update, December 2019, pp. 13-16, available at <https://www.aer.gov.au/system/files/Rate%20of%20return%20annual%20update%20E2%80%93%20December%202019.pdf>.

⁶²⁶ Commission, Guidance paper 7, pp. 1-12.

⁶²⁷ IPART, Submission on Draft Report – SA Water Regulatory Determination 2020, pp.1-2.

⁶²⁸ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, p. 4.

environment. IPART supports this relationship and its approach to estimate return on equity is based on this.⁶²⁹

The Commission’s current assessment is that the magnitude and timing of the relationship between the risk-free rate and the market risk premium is ambiguous. While there is some evidence of an inverse relationship, including a negative correlation between market-based measures of the market risk premium and the risk-free rate since the early 2000s, it is unclear if the relationship is as strong if viewed over a longer time horizon. Alternative evidence, namely in investor surveys, suggests that the evidence may be more mixed.

Several regulated businesses in Australia (and regulators, namely IPART) have advocated that there is a negative relationship between the market risk premium and the risk-free rate, particularly since the early 2000s.⁶³⁰ And some international academic research appears to find some relationship in recent years.⁶³¹ IPART places weight on evidence of the relationship in the 2000s, arguing that market-based measures of the market risk premium have been above 6 percent for more than a decade.⁶³²

However, a review by the AER in 2018 argued that there was no consensus in the academic literature on the direction, magnitude and stability of the relationship.⁶³³ The AER’s conclusion drew from academic work that suggested that there was no theoretical relationship and that any relationship that may exist is not well enough established over extended periods to form the basis for any regulatory adjustment.⁶³⁴ Estimates of realised market risk premiums in Australia do not appear to have a clear negative relationship with the risk-free rate (as shown in A3.11). Also, the same international academic research that found an inverse relationship between the market risk premium and the risk-free rate in recent years, also found that the relationship is time-varying, with a positive relationship in the 1990s.⁶³⁵

Despite a noticeable decline in the yield on 10-year CGS between 2013 and 2018, there was not an apparent material change in the share of respondents in KPMG’s survey of investors that were using a market risk premium greater than 6.5 percent.⁶³⁶ Moreover, KPMG’s 2019 investor survey suggested that most respondents hadn’t changed the market risk premium over the prior year.⁶³⁷

⁶²⁹ IPART, Submission on Draft Report – SA Water Regulatory Determination 2020, pp.1-2.

⁶³⁰ AER, Discussion paper – market risk premium, risk-free rate averaging period and automatic application of the rate of return, p. 11.

⁶³¹ See Clarida; and see Borio, Disyata and Rungcharoenkitkul, Why so low for so long: a long-term view of real interest rates, paper presented to the American Economists Association conference, 1 December 2019, available at

https://www.aeaweb.org/conference/2020/preliminary?q=eNqrVipOTSxKzIcyqgayiosz8_NCKgtSkbhKVkqGSrU6SonFxfnJQI6SjlJ.JalEukOWUX5SZD-SmJFZCxTNzUyGssszUcpAZRQUFOAFTA6Xa2lpcMFKGIT8%2C.

Also, some behavioural finance research suggests that so long as higher or lower risk-free rates are used to discount the value of future earnings of shares, then those resulting higher share prices can sometimes reinforce optimistic (higher) investor expectations of returns, and likewise lower share prices can reinforce pessimistic (lower) investor expectations of returns. See Gunn, Are investors chronically pessimistic? Chicago Booth Review, Summer 2009, available at

<https://review.chicagobooth.edu/finance/2019/article/are-investors-chronically-pessimistic>.

⁶³² IPART, Review of our WACC method, February 2018, p. 51.

⁶³³ AER, Discussion paper – market risk premium, risk-free rate averaging period and automatic application of the rate of return, p. 11.

⁶³⁴ AER, Discussion paper – market risk premium, risk-free rate averaging period and automatic application of the rate of return, p. 11.

⁶³⁵ Clarida; and see Borio, Disyata and Rungcharoenkitkul.

⁶³⁶ KPMG, It’s worth taking note, KPMG valuation practices survey 2018, p. 11, available at <https://assets.kpmg/content/dam/kpmg/au/pdf/2018/valuation-practices-survey-2018.pdf>, and KPMG, Valuation Practices Survey 2013, p. 16.

⁶³⁷ KPMG, What’s it worth?, p. 11.

The Commission considered the underlying factors that might cause changes in the market risk premium and, accordingly, reviewed related indicators looking for signs of any increase or decrease that might be related to macroeconomic uncertainty or investor risk aversion. The market risk premium is known to depend on the level of certainty about future returns and the degree of investors' dislike towards any uncertainty.⁶³⁸ For example, when macroeconomic uncertainty, and hence uncertainty about future equity returns, is elevated, the premium may need to be higher in order to compensate the investor for holding these assets.⁶³⁹

The adverse shock from the outbreak of COVID-19 has been accompanied by a significant rise in measures of economic uncertainty, volatility in financial markets, and in a rise in credit spreads (the spread between the yield on 10-year investment grade corporate bonds and the yield on 10-year CGS, which is known as an indicator of investor risk appetite with the higher the spread, the higher the perceived risk aversion).⁶⁴⁰ Investors may therefore be demanding compensation for uncertainty through a higher market risk premium. However, while there may be a case for increasing the market risk premium in light of the adverse shock and the resulting uncertainty, there is limited evidence to know the exact magnitude of what that increase should be and, even before the onset of the shock, there was much uncertainty surrounding the exact level of the market risk premium.

In summary, the Commission, having considered the above matters, has formed the view that the evidence of a relationship between risk-free rates and the market risk premium does not currently appear of sufficient weight to support a move away from the current historical average method. There has not been compelling evidence put forward to apply a market risk premium that is different to the proposal of 6 percent put forward by SA Water.

A3.9 The glide path approach to long-term inflation expectations necessarily involves judgement

As explained in Chapter 7, the Commission's final decision is to introduce a glide path to estimating long-term inflation expectations. The glide path approach recognises that there is a degree of uncertainty over the timing of the recovery path for inflation, which may currently be affecting household, business and investor expectations about inflation, while at the same time, the glide path approach recognises that the majority of available evidence suggests that inflation targeting has anchored long-term inflation expectations within the RBA's two to three percent target band.

The Commission's glide path approach has two elements:

- ▶ using the RBA forecasts of trimmed mean inflation for the next two years (released in May 2020), and
- ▶ a return to the midpoint of the RBA's two to three percent target by 2026-27.

For simplicity, the Commission proposes a linear glide path from the RBA year two forecast to the midpoint of the RBA's target band by 2026-27. To test the sensitivity of the approach, alternative approaches were considered (Table A3.3). Those alternative approaches include a 'slow recovery', where the RBA inflation forecast is extended to the medium-term anchor point, or a 'fast recovery', moving in year three to the medium-term anchor point.

⁶³⁸ Dison and Rattan, An improved model for understanding equity prices, 2017, Bank of England Quarterly Bulletin 2017 Q2, p. 93, available at <https://www.bankofengland.co.uk/quarterly-bulletin/2017/q2/an-improved-model-for-understanding-equity-prices>.

⁶³⁹ Elevated macroeconomic uncertainty is estimated to have been one factor behind the rise in the premium during the global financial crisis. So, too, was increased investor risk aversion. See Dison and Rattan, p. 93.

⁶⁴⁰ RBA, April 2020 Financial Stability Review, pp. 9-10, available at <https://www.rba.gov.au/publications/fsr/2020/apr/pdf/financial-stability-review-2020-04.pdf>.

Table A3.3: Sensitivity analysis of the glide path for long-term inflation expectations

Financial year	Sensitivity analysis: two examples		
	Final position Glide path (percent)	Slow recovery (percent)	Fast recovery (percent)
2020-21	1.25	1.25	1.25
2021-22	1.5	1.5	1.5
2022-23	1.7	1.5	2.5
2023-24	1.9	1.5	2.5
2024-25	2.1	1.5	2.5
2025-26	2.3	1.5	2.5
2026-27	2.5	2.5	2.5
2026-27 to 2029-30	Based on 2.5. RBA midpoint of target band thereafter	Based on 2.5. RBA midpoint of target band thereafter	Based on 2.5. RBA midpoint of target band thereafter
Geometric average (percent)	2.07	1.87	2.27

Sources: RBA; IMF; Commission

The 'slow recovery' scenario assumes the inflation outlook remains at 1.5 percent. Arguably, the slow recovery presents a situation where demand in the economy remains depressed. The 'fast recovery' assumes a quick reversion to the inflation target. Arguably, the fast recovery presents a situation where large fiscal and monetary policy is highly effective in stimulating the economy. The maximum difference under the two scenarios is approximately 40 basis points.

Various glide paths could be used.⁶⁴¹ The Commission's final decision for a linear path is made for reasons of simplicity, transparency and replicability.

In its submission to the RBP Frontier Economics presented five alternative glide paths. Each has advantages and disadvantages. These are listed below (see Table A4.4).

Table A3.4: Glide path options

Glide path proposed	Length and speed of glide path	Anchor point to glide path	Advantages and limitations
Final decision - RBA two years of inflation forecasts, linear glide path to midpoint of RBA's 2 to 3 percent target band	7 years	Midpoint of RBA target band. Consistent with professional forecasters.	Simple, transparent and replicable. Professional forecasters' expectations are published by the RBA in chart form. Forecasters have incentives to be well informed. A key downside is that survey information does not reveal the distribution of long-term forecasts

⁶⁴¹ Frontier Economics, Review of ESCOSA's approach to estimating inflation and the return on equity, pp. 62-64.

Glide path proposed	Length and speed of glide path	Anchor point to glide path	Advantages and limitations
Draft decision - RBA two years of inflation forecasts, linear glide path to IMF medium-term projection; midpoint of the RBA's 2 to 3 percent target band thereafter	5 years	IMF medium-term projection	Simple, transparent and replicable. IMF is an independent and credible institution and the projection would be publicly available
Frontier's suggestions			
3-year glide path	3 years	Midpoint of RBA target band	Simple approach, but the reason for the speed of recovery is unclear
Use the trend between the RBA's one-year ahead forecast and two-year ahead forecast to extrapolate out to the midpoint of the RBA inflation target range.	10 years	Midpoint of RBA target band	Differences in forecasts do not indicate a long-term trend. Reason for 10-year path to recovery is unclear
Specify some bounds around the midpoint of the inflation target range, and then apply a glide path only if the two-year ahead RBA forecast lies outside these bounds.	Unclear from proposal	Midpoint of RBA target band	Use of bands adds complexity with limited demonstrated value
Undertake statistical analysis to estimate how quickly actual inflation reverts to the midpoint of the RBA inflation target range, and then use this estimate to determine the length of the glide path.	(Implied) 2 years – based on available RBA research ⁶⁴²	Midpoint of RBA target band	Would arguably be equivalent to the approach used by the Commission in SAW RD16
Use the bond breakeven approach to estimate expected inflation over the next one year, two years, three years, and so on.	10 years	Midpoint of RBA target band	Premiums and biases limit interpretation from market-based measures. Limited replicability

In most instances, Frontier Economics has suggested that the glide path should revert to the midpoint of the RBA's two to three percent target band over a 10-year period. While the Commission accepts as the most likely scenario that inflation may recover slowly toward the mid-point of the inflation target, a 10-year recovery path appears more likely to be a downside risk scenario rather than the most likely scenario.

In its submission to the Draft Determination, SA Water stated that *'[w]hile Frontier Economics discuss a glide path approach in their report (included in Our Plan), they conclude it is unlikely the glide path approach would address substantively the problems identified in the inflation estimate. Therefore it should not be interpreted that Frontier Economics has put forward a glide path approach as a suitable alternative to estimating inflation.'*⁶⁴³ The Commission does not interpret Frontier Economics as supporting the glide

⁶⁴² Tulip and Wallace, Estimates of Uncertainty around the RBA's Forecasts, 2012, pp.1-12, available at <https://www.rba.gov.au/publications/rdp/2012/pdf/rdp2012-07.pdf>.

⁶⁴³ SA Water, Regulatory determination 2020 – SA Water response, pp. 58.

path approach. As noted above, Frontier Economics did not provide evidence that the glide path would have larger limitations than those of alternative measures.

Furthermore, while Frontier Economics claimed that the RBA would not produce forecasts in the current environment, in May 2020 the RBA released baseline forecasts for the economy and inflation.⁶⁴⁴ While there are wide error bands around those forecasts in light of the adverse shock associated with the outbreak of COVID-19 and related containment measures, particularly if restrictions remain in place for a long period or have to be re-introduced which may delay and interrupt the economic recovery, the presence of an adverse shock is not of itself a rationale to change the rate of return methodology or not adopt the RBA's baseline forecasts.

Rather, as highlighted earlier, the Commission manages uncertainty about economic concepts and forecasts, by relying on multiple sources of information and indicators of the economic concepts; using, where available, available empirical relationships; being alert to structural forces influencing the economy and rate of return parameters; and evaluating forecast approaches and, where possible, using multiple forecast models to estimate key variables. These approaches have been used in the Commission's Final Determination including in the assessment of SA Water's proposal for a measure of long-term inflation expectations.

A3.10 The Draft Determination did not lead to a negative after-tax profit on a benchmark basis as claimed by one stakeholder

Frontier Economics put forward several claims regarding measures of profitability. These claims have significant limitations. Frontier Economics estimated net profit after tax from the Draft Determination and claimed that it would result in a net loss. It stated that:⁶⁴⁵

'[t]he regulatory allowances in the draft determination consign SA Water's regulated business to incur losses in the order of \$40 million in every year of the forthcoming regulatory period.'

It further noted that:⁶⁴⁶

'None of the calculations ... are hypothetical and none are stylised. We have used the revenues that ESCOSA proposes to allow to SA Water, the depreciation and opex allowances for SA Water, and the interest rate that ESCOSA has allowed in its draft determination for SA Water. The revenues that ESCOSA proposes to allow for SA Water are insufficient to cover the efficient expenses that ESCOSA has estimated for SA Water.'

However, as the table below shows, Frontier Economics uses a nominal return on debt (which directly includes compensation for inflation), rather than a real return on debt (which does not include compensation for inflation), and it applied the nominal return on debt to the real calculations in the Draft Determination. This led to the negative \$40 million net profit after tax result. As explained in Chapter 7, under the real rate of return approach, real values are used, as SA Water receives an inflationary return through the indexation of the RAB. Using a real return on debt results in a small positive after-tax profit result, in line with the low real return on equity allowed.

⁶⁴⁴ Frontier Economics, Assessment of ESCOSA's treatment of inflation when setting SA Water's allowed rate of return, pp. 24-25.

⁶⁴⁵ Frontier Economics, Assessment of ESCOSA's treatment of inflation when setting SA Water's allowed rate of return, pp. 50-53

⁶⁴⁶ Frontier Economics, Assessment of ESCOSA's treatment of inflation when setting SA Water's allowed rate of return, pp. 50-53.

Table A3.5: The Draft Determination did not imply a negative net profit after tax

		2020-21	2021-22	2022-23	2023-24
Draft decision Real revenue (water plus sewer)	A	1098.3	1068.3	1055.2	1038.4
Draft decision Real depreciation (water plus sewer)	B	296.1	-303.9	-312.3	-321.1
Draft decision Real operating expense (water plus sewer)	C	453.4	-448.3	-450.5	-450.2
Draft decision Nominal return on debt	D	5.1%	4.7%	4.4%	4.0%
RAB Draft decision	E	12933.9	12976.4	13039.3	13114.7
Real return on debt	F	2.7%	2.3%	2.0%	1.6%
Frontier's calculation of interest expense (water and sewer)	G = 0.6*E*D	-388.3	-356.9	-333.2	-308.6
Draft decision real interest expense (water and sewer)	H = 0.6*E*F	-212.2	-179.6	-154.6	-128.1
Frontier's calculation of profit after tax	=A-B-C-G	-39.5	-40.8	-40.8	-41.5
Draft decision calculation of profit after tax	=A-B-C-H	136.6	136.5	137.8	139.0
Long-term inflation expectations	I	2.33%	2.33%	2.33%	2.33%
Calculation of real return on debt (F)		$F = (1+D)/(1+I)-1$			



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