

CUSTOMER NEGOTIATION COMMITTEE



**Report of
Independent
Chair**

SA Water Regulatory Determination 2020

TABLE OF CONTENTS

Table of contents	1
Preface	2
Key issues	3
Introduction	7
Chapter One: Introduction	7
Background	9
Chapter Two: Framework and Approach	9
Chapter Three: The Process.....	11
Chapter Four: ESCOSA Methodology	14
Chapter Five: State-wide Pricing	23
Community Engagement	25
Chapter Six: Community Engagement.....	25
The Business Plan 2020 - 2024.....	38
Chapter Seven: Context.....	38
Chapter Eight: Service Standards	42
Chapter Nine: Ex Post Reviews.....	46
Chapter Ten: Operating Expenditure	53
Chapter Eleven: Overview of Capital Expenditure	60
Chapter Twelve: Water Infrastructure	61
Chapter Thirteen: Wastewater Infrastructure	72
Chapter Fourteen: Information Technology.....	77
Chapter Fifteen: Return on Capital and Depreciation	81
Reflections	86
Chapter Sixteen: Comments on the process	86
Chapter Seventeen: Possibilities for the Future.....	90

PREFACE

I would like to thank my former colleagues from the Essential Services Commission of South Australia for the opportunity to make a contribution towards the important task of formulating their regulatory determination for the South Australian Water Corporation for the 2020-2024 period. This is the first time customers have had an opportunity to challenge SA Water's business plan in any depth and the process was something of an experiment. There are a number of lessons to be learnt and I have endeavoured to spell them out in the pages which follow. Chief amongst them is that an exercise such as this must be done thoroughly if it is to be worthwhile and therefore requires much earlier involvement by those representing customer interests.

I would like to express my thanks to my colleagues on the Customer Negotiation Committee, Meg Clarke and Mark Henley, for their dedication to the task we were set. Both of them committed many, many unpaid hours of work and went far beyond any reasonable expectation in attempting to achieve a satisfactory outcome for customers.

I would also like to thank the former CEO of SA Water, Roch Cheroux, and his senior executives, Anne Westley and Kerry Rowlands, for the very considerable effort which went into presenting their case to the Customer Negotiation Forum, and the many staff members of SA Water, most notably Richard Cawley, who took pains to explain the details and respond to requests for information. There was a willingness to engage with the Committee which reflects well on the culture of the organisation.

Staff of the Commission were most generous in making themselves available for briefings on technical issues and in finding space in which the Committee could hold its numerous meetings.

I have made some observations which push the bounds of my brief but have done so because they relate to matters which affect outcomes for customers. I hope those observations will at least give food for thought.

For the sake of absolute clarity, I stress that this report is mine and not a report from the Committee. Members of the Committee were agreed on most things but there were differences between us on questions of emphasis. Had the report been written by either of my colleagues, I have no doubt different components would have received different emphasis.

KEY ISSUES

In this section I have summarised the key issues relating to both process and content which the Committee would like to see the Commission address for the forthcoming revenue determination and for the future.

Methodology

The Committee suggests the Commission consider allowing SA Water to retain the benefits of savings in operating expenditure for a longer period than the regulatory period in which the savings are achieved. This would provide a stronger incentive to achieve such savings and benefit the customer in the longer term through a more efficient service provider. The approach adopted by the Australian Energy Regulator provides one model.

The Committee suggests that, in considering whether or not a proposal is efficient, the Commission consider using shadow pricing for damage to the environment in appropriate cases. This would appear to be consistent with customer preferences.

The Committee considers that the present arrangements governing the locations in which SA Water is obliged to supply a customer as opposed to merely making an offer to supply, are untidy and need clarification. There would also seem to be an opportunity to clarify the basis on which SA Water should make an offer to make it clear that the offer should not disadvantage other customers.

The Committee considers the present approach to determining if a proposal is prudent on the grounds that customers want it and are prepared to pay for it, is unsatisfactory. Specifically, the Committee suggests that only direct utility benefits should be counted and that, in assessing those benefits, SA Water should engage extensively with the customers affected and their communities and limit the use of such tools as willingness to pay surveys, which we consider unreliable.

The Committee suggests that the Commission examine ways to insulate customers from the market risk associated with such projects as Zero Cost Energy Future and the Northern Adelaide Irrigation Scheme, or at least reduce their exposure. In a competitive market, it is the owner of the business, not the customer, who carries these risks.

SA Water has argued that the Commission's present method of estimating inflation produces a systematic downwards bias in WACC which acts to the detriment of SA Water and to the benefit of customers. The Committee does not support a method of calculation which would produce systematic bias and has no objection to the Commission exploring other methods of forecasting inflation and introducing a better one if such a method can be found. It is in the long term interests of customers for SA Water to have the proper incentives to invest in the business. At the same time, the Committee does not consider a change should be made unless there is a conclusive argument in favour of such a change. The mere fact that the present method produces a low rate of return is not such an argument.

The Committee suggests the Commission consider annual resets of the rate of return on capital to reduce the potential for price shocks at the commencement of a new regulatory period.

State-wide Pricing

The Committee suggests that the Commission draw to the attention of Government the fact that State-wide pricing is now achieved by some customers cross-subsidising others and not by virtue of the Government grant, which merely serves to hold down prices overall. A much more transparent arrangement would be for SA Water to calculate its costs on a regional basis and for the Government to determine which regions should receive subsidies in accordance with some policy framework.

Community Engagement

The Committee considers that effective community engagement is likely to be achieved only if the community is involved in important questions like the future strategic directions for SA Water. This would require a different form of community engagement than has been tried in the past in relation to SA Water, one in which a representative body of a range of community interests worked with SA Water from the outset on the development of its business plan and helped shape the processes by which SA Water engaged with customers and stakeholders in developing the plan.

The Committee considers the model employed in Scotland to arrive at the revenue determination for Scottish Water provides a useful framework. Before going down that path, however, the Commission and SA Water would need to settle with the Government the critical issue of whether the process was intended to produce a formal agreement between SA Water and customers about the business plan or something less, such as a report to guide the Commission in making its revenue determination.

Whatever the precise nature of the process for community engagement in the future, a decision needs to be taken about whether or not customers will have a voice in overseeing the process, there needs to be clarity about the objectives and enough time needs to be allowed for the process to be thorough.

In developing its business plan for the 2020-24 regulatory period, SA Water conducted quite a significant program of community engagement. The link between that activity and the subsequent business plan, however, was not always easy to detect. It was perhaps closest in the development of service standards and in certain expenditure proposals, but otherwise was confined to reaching agreement on half a dozen or so high level customer priorities. These priorities (for example, safe water) were soundly based but so broad that they could be used to justify whatever projects SA Water decided to undertake.

Once a project has been decided upon, SA Water has a thorough template for engaging with the local community affected by the project but there is not much evidence of community involvement in making the prior decisions about what needs to be done.

Despite these reservations about the community engagement process, the Committee considers the business plan to be broadly aligned with our impressions of community priorities and preferences, with a few exceptions and subject to the final impact on prices.

[The Business Plan 2020-24](#)

The Committee was not presented with settled information about the implications of the proposed business plan for the two revenue caps to be determined by the Commission. This information was made available to the Chair at his request in October 2019, as this report was being finalised. Numbers were presented which suggested that average annual water and sewerage revenues would both fall significantly in the new regulatory period if the Commission retained its present method of calculating the Weighted Average Cost of Capital (WACC), fall slightly if SA Water's proposed changes to the method of calculating WACC were adopted, and increase by more than inflation if WACC remained unchanged in absolute terms from the current regulatory period. The lateness of this advice denied the Committee the opportunity to discuss with SA Water the possibility of deferring projects in order to contain price impacts.

The Committee notes that the information made available in October 2019 suggests that SA Water's business plan, stripped of the influence of changes in the allowable rate of return, would result in revenue increases greater than inflation for both water and wastewater services. The Committee doubts that this is in line with customer expectations and suggests the Commission discuss with SA Water the possibility of eliminating projects from the regulatory proposal to the extent necessary to produce an outcome more in line with inflation, disregarding the influence of changes in the allowable rate of return.

The Committee is supportive of the service standards proposed by SA Water and offers a few suggestions for others. The Committee would like to see the Commission monitor the means by which SA Water recompenses customers whose premises are flooded by breaks in water mains to ensure that they are fully compensated.

The only explicit expenditure savings offered by SA Water for the next regulatory period are those foreshadowed to arise from the Zero Cost Energy Future (ZCEF) project. The Committee's support for ZCEF hinges on customers benefiting and we urge the Commission to consider ways of locking in an estimate of the savings for the future benefit of customers and leaving the market risk (both upside and downside) with SA Water.

The Committee notes that SA Water has not offered any savings target for efficiencies in delivering capital projects comparable with the five per cent offered and exceeded in the current regulatory period. The Commission should consider requiring such savings.

The Committee notes that the only savings target for operating expenditure is an amount derived from efficiencies expected to flow from IT innovations. Since these efficiencies are offset by higher support costs for the IT innovations, they disappear like the magician's rabbit. The Commission should consider setting SA Water a target for efficiency savings in operating expenditure.

The Committee's support for the proposal to bring forward the Kangaroo Island Desalination Plant from 2030 to provide water to the planned golf course and resort is conditional upon a convincing demonstration that the net cost to SA Water and to customers would be less under this proposal than under the default proposal to wait until the plant is otherwise needed.

The Committee is not convinced that the case has yet been made for an increase in expenditure on water mains renewal to reduce the number of mains breaks, but is supportive of expenditure on new technology to detect weaknesses in the network and on more valves to reduce the impact of breaks when they occur. The Committee notes that a consultant's report on SA Water's procedures for maintaining the water supply network will be available soon and suggests that a decision on the appropriate level of expenditure await that report and further consultation with customers.

The Committee is strongly opposed to the proposal to supply potable water to a small number of customers currently receiving non-potable water. The proposal is prohibitively expensive and the benefits are very small in comparison.

More importantly, the proposal raises important strategic questions for the supply of water to people living in remote areas which extend beyond those few customers presently served by SA Water. Those questions need to be discussed first with the Government and important policy questions resolved before SA Water proceeds unilaterally to improve the quality of service to a small number of people at great cost.

INTRODUCTION

Chapter One: Introduction

The South Australian Water Corporation (SA Water) is a statutory body established under the South Australian Water Corporation Act 1994. The principal functions of SA Water are to provide services

- For the supply of water by means of reticulated systems
- For the storage, treatment and supply of bulk water
- For the removal and treatment of wastewater by means of sewerage systems.

Under the Water Industry Act 2012, SA Water is entitled by right to hold a non-transferable licence to provide services in those areas of the State in which services were provided immediately before receipt of the licence. The conditions of that licence also provide that SA Water may offer to provide services outside those areas.

The Essential Services Commission of South Australia (the Commission) is responsible for independent economic regulation of SA Water. The Commission regulates SA Water's retail operations because SA Water holds what is virtually a monopoly provider position and, in the absence of competition, the potential exists for SA Water to exploit that position.

The Commission is able to set binding consumer protection obligations and make determinations on the amount of revenue SA Water is permitted to raise within a regulatory period. The Commission's primary objective is to protect the long-term interests of consumers with respect to the price, quality and reliability of these services.

The Commission's first determination (RD13) covered the period 1 July 2013 to 30 June 2016. Its second determination (RD16) covered the period 1 July 2016 to 30 June 2020. The determination currently under development (RD20) will cover the period from 1 July 2020 to 30 June 2024. These determinations are based upon a business plan for the relevant regulatory period prepared and submitted by SA Water.

The Commission has issued the Water Retail Code – Major Retailers which specifies in considerable detail the obligations of SA Water (and any prospective major water retailer) to its customers. As a condition of its licence, SA Water is required to use its best endeavours to achieve various service standards determined by the Commission and given effect through clause 17 of the Code.

Two revenue caps are established, one for drinking water retail services and one for wastewater retail services. The Commission uses the standard building blocks approach employed by other regulators, based on a judgement about the costs that would be incurred by a notional prudent and efficient service provider.

SA Water also provides a number of “excluded services” which fall outside its drinking water and wastewater retail operations. The Commission does not cap the revenues which these services can generate but rather seeks to ensure that certain principles are applied in arriving at the relevant prices, such that they reflect the efficient cost of delivering the service.

BACKGROUND

Chapter Two: Framework and Approach

In preparation for RD20, the Commission circulated a draft Framework and Approach paper. Responses to that paper questioned whether the proposed process was likely to be sufficiently open and inclusive. Reflecting on those comments, the Commission designed a stakeholder engagement approach aimed at enhancing the role of stakeholders in influencing both the processes used and the outcomes achieved in RD20. Specifically, stakeholders were provided with more opportunities to offer feedback to SA Water as it developed its business plan, rather than waiting to comment on the fully developed draft plan.

A key element of this strategy was the early publication of a series of Guidance Papers setting out the Commission's preliminary positions on the methodology, parameters and expectations which would govern the RD20 process. This was in contrast to prior practice where such guidance was given only after SA Water had submitted its draft business plan.

The Commission also sought to encourage SA Water to work more closely and more formally with its customers by requiring SA Water to convene a Customer Negotiation Forum (the Forum) to assist in the development of its business plan, within the guidelines provided by the Commission.

The Commission supported additional forums for customers and their representatives to debate and discuss their needs, preferences and priorities, including hosting a series of workshops with its Consumer Experts Panel (the Panel), resulting in the production of a Priorities Report for consideration and debate in the Forum.

Finally, the Commission facilitated greater coordination between the technical, safety, environmental and public health regulators to assist SA Water understand the obligations and expectations likely to govern its activities during the regulatory period.

Customer Negotiation Forum

The Customer Negotiation Forum comprised

- Three representatives of SA Water, sourced from and supported by the highest levels of SA Water management
- A three member Customer Negotiation Committee (the Committee) led by an independent Chair appointed by the Commission, along with a customer representative from SA Water's Customer Working Group and a customer representative from the Panel
- An independent Probity Advisor appointed by the Commission.

SA Water led the meetings of the Forum and provided the secretarial support to ensure that SA Water maintained ownership of the development and delivery of its business plan.

Secretarial support for the Committee was provided by the Commission.

Consumer Experts Panel

Members of the Panel were drawn from the Commission's Consumer Advisory Committee and SA Water's Customer Advisory Groups. The Panel was intended to provide a more structured way for customer representatives and advocates to influence the negotiation process, to challenge SA Water and to reflect consumer views more broadly.

Regulators Working Group

The Commission took steps during RD16 to coordinate its approach with other regulators of SA Water. Stakeholders expressed support for even greater coordination to ensure that regulatory requirements could be met in the most efficient way and for the costs of regulation to be made transparent.

The Group undertook to ensure that any minimum service standards or requirements were clearly communicated to SA Water and the Negotiation Forum, prior to its discussions.

Chapter Three: The Process

Members of the Committee and the Probity Advisor were appointed in September and October 2018. The Chair attended meetings of the Panel and SA Water's Customer Working Group in October and the Chair and the Probity Advisor met the Chief Executives of the Commission and SA Water in November. Subsequently the Committee held its first meeting at which members received a briefing on the proposed negotiation process from the CEO of the Commission.

Five guidance papers were released by the Commission early in November covering the following topics

- Overview of SA Water Regulatory Determination 2020
- SA Water's Revenue and Prices
- Service Standards
- Prudent and Efficient Expenditure
- The Cost of Funding and Using Assets

These papers were key background documents for the negotiation process. The Committee sought briefings from the Commission in late November and early December in order to understand the guidance papers and specifically the methodology to be employed in determining SA Water's revenue caps for the 2020-2024 regulatory period.

Three further guidance papers were released by the Commission, two in May 2019 and one in July 2019, following requests from the Committee for clarification of certain technical issues.

SA Water delivered a series of five briefings on its operations for members of the Committee, commencing early in November and concluding in mid-December, covering the following matters

- SA Water's Vision and Strategy
- SA Water's Customer Engagement Process
- SA Water's Planning Process
- SA Water's Operational Performance
- SA Water's Regulatory Framework.

These briefings provided important context for the Committee's consideration of SA Water's business plan.

The Priorities Report prepared by the Panel was released late in December. The report had two main purposes

- To describe the key issues that members of the Panel expected SA Water to consider and respond to as it developed its proposed business plan for the regulatory period
- To provide guidance to the Committee on matters it might wish to consider in testing SA Water's draft business plan as part of the negotiation process.

The Panel indicated that it would judge the success of the regulatory process for the 2020-2024 period not only on the outcomes achieved for SA Water customers but also on the extent to which it was judged to be open, transparent and inclusive. The Panel expected SA Water to model best practice customer and community engagement, seeking the perspectives of the wider community as well as those of its customers throughout the process. SA Water should also provide more, earlier and more transparent information about its operations and plans, particularly its longer-term plans, instead of the limited details currently available publicly about its corporate strategy.

There were fifteen members of the Panel and each member was invited by the Commission to identify three issues they wished to see tested during the negotiation process. Ultimately, 44 issues were put forward. About one-third of these related to a diverse range of community expectations such as maintaining adequate water pressure, improved methods of communication with and for customers and closer collaboration with developers and local authorities over supply to new property developments. The others can be grouped into four broad categories

- Concerns over price
- A wish to see greater community involvement in planning SA Water activities
- Concerns over those struggling to pay their water bills
- A wish to see SA Water play a more active role in developing policy for the future use of water, for example, for environmental and farming purposes.

The Chair met subsequently with the Panel as a whole to clarify the expectations of members and then with those individual members who wished to discuss in more detail their particular priorities.

On 25 February 2019 the Committee met with a representative of the Department for Environment and Water to gain an understanding of the interaction between the Department and SA Water over access by SA Water to the State's scarce water resource. On 10 May 2019 the Committee met with a representative of SA Health to discuss several proposals by SA Water to improve water quality, and gained valuable guidance on technical issues and the Department's policies. On 24 May 2019 the Committee met with representatives of the Environmental Protection Authority to discuss several proposals by SA Water to meet its obligations in relation to wastewater discharge into the environment. This meeting also provided valuable guidance on technical issues and on the Authority's hierarchy of preferences for dealing with wastewater.

The Forum met formally for the first time on 13 February 2019 and for the last time on 14 June 2019. There were 20 meetings in all. At the request of the Committee, SA Water provided two additional presentations which were not official meetings of the Forum.

During this period the Committee met separately on 24 occasions.

SA Water's business plan for the regulatory period was released to the Committee at the third meeting of the Forum on 26 February 2019.

Initially, the format for the Forum meetings was a presentation by SA Water of subject matter relevant to its business plan. The Committee then had approximately one week to respond with its questions and observations, to which SA Water issued a written rejoinder. This proved to be unsatisfactory to the Committee in that members had no opportunity to familiarise themselves with issues before the presentations and therefore had very limited opportunity for interaction and discussion with the SA Water subject matter experts providing the presentations. By the time the Committee had studied the presentations and formulated questions, the focus of the Forum had moved on to other presentations and other issues.

When the Committee raised objections to the process, SA Water agreed to a change of format which required the material in the presentations to be available to the Committee prior to Forum meetings. Committee members were then able to enter into better informed discussion with the SA Water subject matter experts and resolve some of their questions during the presentations. Answers to outstanding questions were provided to the Committee subsequently. The revised format was more effective but still allowed insufficient time for Committee members to study proposals and discuss them amongst themselves with a view to formulating a joint position, nor did it fully resolve the problem of insufficient time to follow up on outstanding questions.

The final three meetings of the Forum were different in nature and format. For those meetings, the Committee provided its preliminary responses to the key aspects of SA Water's business plan in advance of the meeting and indicated whether or not it would support the proposals for inclusion in SA Water's regulatory business plan, whether it would oppose them or whether it would suggest that SA Water undertake further analysis. The Chair of the Committee briefly introduced each issue, which was then discussed.

A brief record of each Forum meeting was prepared and circulated by SA Water.

Due to pressure of time, meetings of the Committee were informal and no record was kept. They were based round the subject matter for the forthcoming Forum meeting, but discussion ranged widely, frequently returning to issues previously discussed as new insights emerged. Considerable discussion also took place around the extent and effectiveness of the customer engagement undertaken by SA Water in framing the business plan and individual aspects of it.

Chapter Four: ESCOSA Methodology

Establishing the Revenue Caps

The cost components which make up the two revenue caps calculated by the Commission are

- Operating expenditure, which reflects the day-to-day costs of operating the water and wastewater businesses
- The cost of providing capital to fund SA Water's very considerable investments in infrastructure and its working capital (return on capital)
- Depreciation, which enables SA Water to recover over time the funds it has invested in infrastructure (return of capital)
- A tax allowance which reflects the company tax payable on profits.

Of the two revenue caps combined, operating expenditure has historically comprised about 38%, return on capital about 39%, depreciation about 22% and the tax allowance about 1%.

Before each regulatory period, the Treasurer issues a Pricing Order to the Commission which contains a number of principles to be followed in establishing the revenue caps. One of those principles reads as follows

"The determination must not establish, or require the establishment of, a revenue control for a drinking water retail service or a sewerage retail service based on customer class or location."

The Commission is therefore not able to set different caps for different parts of the State to reflect the fact that some parts of the State are more costly to supply than others.

Operating Expenditure

South Australia is a signatory to the Intergovernmental Agreement on a National Water Initiative. Under this Agreement, SA Water and fourteen other water utilities with more than 100 000 connections provide data to the Bureau of Meteorology (BOM) which produces an annual performance report to assist in benchmarking the performance of the utilities. Notwithstanding the considerable differences between the operating environments of the utilities, comparisons between them over time can be helpful in understanding SA Water's performance relative to its peers.

It has been the Commission's practice to make use of this data to assess the efficiency of SA Water's operating expenditure. Provided it is satisfied that SA Water has been efficient, based on the most recent data, the Commission adopts expenditure in that year (the Efficient Base Year) as the starting point for its assessment and examines proposals from SA Water seeking to justify an increase (or explain a decrease) in that level of expenditure in some or all of the four years of the forthcoming regulatory period.

SA Water's operating costs were reviewed by the Commission prior to the Commission's revenue determinations in 2013 and 2016. In both cases, with minor adjustments, the Commission determined that SA Water's operating costs were efficient.

Some variation between forecast and actual expenditure is to be expected as SA Water changes its priorities throughout a regulatory period to meet changing circumstances, such as unusual weather conditions. Other variations may arise from changes in the way SA Water manages its business in order to achieve efficiencies. However, a decline in operating expenditure can also be achieved by cutting back on maintenance of assets with deleterious long term consequences for customers. The Commission requires SA Water to report annually on its actual expenditure and to provide explanations of material deviations from the amounts allowed in the regulatory determination.

Should SA Water be able to deliver the required services to its customers to the required standard at a level of operating costs below that set by the Commission in its determination, SA Water is able to retain the benefit of the savings until the commencement of the following regulatory period. This approach provides an incentive for SA Water to seek out operating efficiencies.

At the commencement of the following regulatory period, the cost savings achieved in the current regulatory period are passed through to customers because the lower costs achieved by SA Water are used as the starting point of the new revenue determination.

There may be value in the Commission reviewing this approach to the treatment of operating savings with a view to permitting SA Water to keep the benefits of operating efficiencies for a longer time. It is in the interests of customers for SA Water to be improving its efficiency at every opportunity. The incentive to pursue such opportunities is presently relatively weak, since SA Water is able to retain operating savings only briefly before they are passed through to customers.

If SA Water is not able to make much difference to its longer term profitability through savings in operating expenditures, and if demand for water does not increase, it is left with only one way to improve its profitability and that is to boost the regulatory asset base on which it is permitted to achieve a return (see below). This is an incentive which works against the interests of customers since it may result in unnecessary capital expenditure.

The Committee does not suggest that SA Water acts in this way but a different balance between the incentives faced by SA Water may prove beneficial to the customer in the longer term. We note that the Australian Energy Regulator permits the benefits of operating savings to be retained for a further regulatory period.

[Return on Capital and Depreciation](#)

Customers pay for SA Water's assets over the period in which the assets operate, they do not pay for them at the time they are built. This approach recognises that the assets will benefit customers over a number of years and often over many decades.

There are two types of costs which relate to assets

- Return on regulated assets, which reflects the cost of borrowing to finance a proportion of those assets, plus the cost of a fair return to shareholders on the equity they have invested to finance the balance of those assets (in the case of SA Water, this is equity invested by the SA Government)
- Regulatory depreciation, which reflects the cost of recovering the amount initially invested in any particular asset over its expected useful life.

A key input into the calculation of both the return on assets and regulatory depreciation is the regulatory asset base (RAB). The Commission begins with a commencing RAB determined by the Treasurer in a Pricing Order. The value of RAB was set at 1 July 2013 and was determined to be \$7.77 billion for drinking water services and \$3.58 billion for wastewater services. These amounts are then rolled forward by actual inflation and actual prudent and efficient capital expenditure (less depreciation and asset sales) in the two succeeding regulatory periods to determine a starting point for the forthcoming regulatory period. To the amount so calculated is added forecast prudent and efficient capital expenditure (less forecast depreciation and forecast asset sales) for the forthcoming regulatory period.

It is important to note that, as part of this process, the Commission reviews actual capital expenditure incurred in the current regulatory period to ensure that it has been prudent and efficient. Where, as has been the case in the current period, there have been major projects undertaken which were not part of the RAB determined at the beginning of the regulatory period, the Commission conducts an ex post review to satisfy itself that the expenditure on those projects was prudent and efficient.

There has been an independent review of the value of RAB for drinking water services while the Committee has been doing its work. That review has reported and has concluded that the value of \$7.77 billion at 1 July 2013 is overstated and a fairer starting value would be between \$6.9 billion and \$7.1 billion. The review offers several options for reducing the RAB including that a lower value be phased in over several regulatory periods. The Committee notes that should the Treasurer issue a Pricing Order to the Commission to reduce the starting RAB, there will be downward pressure on the revenue cap for drinking water, and on water prices, through the impact on both return on capital and depreciation.

The calculation of regulatory depreciation is a relatively straightforward exercise once the value of the RAB has been determined. Assets are depreciated on a straight line basis over their remaining lives, which are calculated in accordance with normal accounting conventions.

The calculation of the permitted rate of return on the RAB is more complicated and more controversial.

Large infrastructure businesses like SA Water use a combination of debt and equity to fund their capital investments. Since debt is a cheaper form of funding than equity, the rate of return permitted by the regulator is dependent on a decision about the debt-equity ratio appropriate to the particular business being regulated. Utility regulators typically assume that 40 per cent of capital investment is funded through equity and 60 per cent is funded through debt, based on evidence drawn from similar, asset-intensive businesses. Regardless of the actual debt-equity ratio adopted by the Government in funding SA Water, the Commission assumes a 40/60 ratio in determining the appropriate rate of return to apply to SA Water's RAB.

This rate of return is known as the Weighted Average Cost of Capital (WACC).

The Commission's approach to calculating SA Water's cost of debt assumes that SA Water will use the same borrowing practices as other large infrastructure businesses, issuing debt with a maturity of ten years and refinancing 10% of that debt every year. Under this approach, SA Water can manage the risk of interest rates being high at any point in time and deliver a more stable overall cost of debt, thereby delivering more stable pricing to customers. The alternative assumption of assuming a shorter maturity, with all debt being refinanced at the same time, might deliver lower costs in the long term but at the expense of greater volatility in costs and prices. The interest rates adopted are those which would be payable by an entity with a BBB rating from a credit rating agency such as S&P Global Ratings.

The Commission's approach to calculating the cost of equity is very complex and technical and the Committee has not been asked to express a view about the various components of the calculation. Nevertheless, SA Water has made a presentation to us on the matter and we will make some observations about that presentation and the issues raised later in this report. In simplified terms, the cost of equity is calculated by adding to the risk free borrowing rate (taken to be the 10 year Commonwealth bond rate) a premium for risk, calculated as the average premium expected by stock market investors, adjusted for the relative riskiness of the industry in question. Since SA Water is a monopoly business supplying an essential service in a regulated market, its cost of equity is well below that of the market average.

The rate of return is the sum of these two calculations, weighted by the debt/equity ratio.

Prudent and Efficient

One of the Commission's main objectives, as specified in its Act, is to promote economic efficiency. In deciding whether or not to include expenditure proposals in the revenue caps for SA Water, the Commission attempts to determine whether or not the proposed expenditure is prudent and efficient.

The concept of efficiency is relatively straightforward. Expenditure is likely to be considered efficient where it represents the lowest sustainable cost of achieving the intended outcome. There is scope, however, for different views about how the lowest sustainable cost should be calculated.

The Committee notes that customers appear to hold firm views in favour of protecting the environment. Where the costs of recycling wastewater are not much more than discharging it into the environment, for example, is it appropriate for SA Water (and the Commission) to apply shadow pricing for potential damage to the seagrass? More controversially, in considering the proposal by SA Water to source electricity from its own solar panels and batteries, should SA Water and the Commission impose a shadow carbon price? These are value judgements which are presently being made by default. In light of stated customer preferences, perhaps they need explicit consideration.

It is more difficult to determine whether expenditure is prudent. The Commission's guidance paper on the subject states that expenditure is likely to be considered prudent where there is clear justification for the activity, in the sense that it is driven by

- A legislative or regulatory obligation
- An expectation that the activity will deliver benefits to consumers that outweigh the costs
- A clear expectation from customers that an outcome should be achieved, and that they are willing to pay for it.

The first requirement is often straightforward. For example, SA Water must meet regulatory obligations imposed by the Environmental Protection Authority in relation to discharge of wastewater into the environment. A project designed to meet those obligations would be considered prudent and the only question would be whether or not it was also efficient, in that it was the least cost way of meeting the obligation. Similarly, SA Water must meet regulatory obligations imposed by SA Health in relation to the suitability of water for drinking purposes. A project designed to meet those obligations would be considered prudent and would be included in the cap as long as it was considered efficient.

SA Water is subject to direction by its Minister. A direction by the Minister to undertake work within the scope of SA Water's powers would automatically be considered prudent.

The situation is not quite so straightforward when SA Water is relying on its legal obligations to supply water or sewerage services. The non-transferable licence granted to SA Water under subsection 18 (2) of the Water Industry Act appears to entitle it to provide water and sewerage services on a broad basis. Specifically, it must continue to provide services within those areas of the State in which services were provided immediately before the commencement of the Act and, outside those areas, it must make an offer to provide services if requested.

The areas of the State in which SA Water was operating before the passage of the Water Industry Act are nowhere precisely defined. Instead, SA Water interprets these areas to be those supplied by its network of major mains at the time the Act commenced. The practical effect of this is that SA Water considers itself obligated to supply, at State-wide prices, a customer who is willing to meet the cost of connecting his or her property to the existing network. The principle is that the State-wide price covers the customer's share of the network cost and the cost of supplying water and/or wastewater services, and the customer meets the cost of joining the network.

When a number of people request connections and the requests cannot be satisfied by the existing supply network, SA Water applies an augmentation charge. In most cases, the people affected by this policy are developers looking to develop new allotments. For example, if SA Water's supply main or nearby pumping station does not have the capacity to supply the requested number of connections the cost of upgrading the supply main, pumping station and other equipment is covered by the augmentation charge.

It is only when the major mains network would need to be extended that SA Water would regard itself as not obliged to supply services but obliged merely to make an offer to supply services.

There does not appear to be a firmly established principle for arriving at the terms and conditions upon which an offer to supply services outside the existing network should be made. However, it is clear that State-wide pricing must apply and must be assumed to cover the cost of supply via the existing network. One would hope that the principle adopted by the Commission would be that, in order for the proposal to be considered prudent, the net present value of contributions paid by the customer or customers would be no less than the net present value of the costs to SA Water of upgrading the existing network and associated infrastructure.

In summary, it appears that expenditure would be considered prudent under the first requirement if it is work required by the Minister or a regulator, if it is required to maintain existing services or if the extra cost of extending supply is covered by the new customers.

The second requirement is relatively easy to interpret. An example is the proposal by SA Water to reduce its electricity costs by installing solar panels and batteries on a wide scale across the State. This project stands or falls on the associated cost-benefit analysis, both in the sense that the net present value is positive after appropriate allowance for risk (prudent) and that there is no other way to produce the outcome which has a higher positive net present value (efficient).

The third requirement is more problematical. It appears designed to cover the situation where SA Water is seeking to respond to a perceived demand from customers for an improved level of service. The Commission is seeking from SA Water assurance that customers both want the improved level of service and are willing to pay the associated cost.

Economic theory assumes that, in making purchasing decisions, customers seek to maximise their utility, which is to say they spend their money on things such as service improvements which bring them more benefits than disbenefits (cost). In order to make rational decisions they must know the cost of the proposed improvement and be able to estimate the value to them of the improvement.

A popular means of measuring whether customers are willing to pay for goods and services is a willingness to pay survey. Such surveys are commonly used by marketers to establish what potential customers might be prepared to pay for a new product. They have now been taken up by regulators as a way of determining the willingness of customers to pay for improvements in utility services.

For the forthcoming regulatory period, SA Water is proposing to present survey evidence in support of certain proposals which purports to demonstrate that customers are willing to pay for service improvements from which most of them will derive zero benefit. All the benefits will flow to a small number of customers, but the cost will be met by all.

It seems to the Committee that such surveys are not relevant to a decision about utility because they do not pose a question about utility, but rather a question about generosity. Respondents are not expressing a view about their preferences between alternative forms of utility, but a view about whether they are prepared to make a donation to a good cause.

If a willingness to pay survey were to be thought useful, it would seem appropriate to survey only those who will experience some benefit. It is the increase in their utility that needs to be compared with the cost of the proposed initiative.

If it is necessary to rely on the generosity of other customers to justify a project, then the project will detract from total utility, not enhance it.

Some may wish to argue that customers derive a form of utility by being altruistic. This seems to us a very flimsy justification for a project which cannot be justified on the basis of tangible benefits, but supposing for the moment that it is true, what is a business like SA Water doing calling on the generosity of its customers? The number of worthy causes borders on the infinite while the available pool of donations is strictly limited. If SA Water's customers wish to derive some utility by being altruistic, surely there are more worthy causes than service improvements for SA Water customers.

The notion of utility derived from altruism also raises questions of how to value that utility. Daniel Kahneman, the psychologist who won the Nobel Prize for Economic Sciences in 2002 for his work challenging the assumption that consumers act rationally in making purchasing decisions, cites an experiment he conducted where he asked participants how much they were prepared to donate to protect seabirds from oil spills. Unprompted, the answers averaged \$64. Prompted with the question "Would you be prepared to pay \$5?" the answers averaged \$20. Prompted with the question "Would you be prepared to pay \$400?" the answers averaged \$143.

Narrowing the utility value of altruism down to somewhere between \$20 and \$143 does not seem very helpful.

There are important differences between the purchase of a common household item and the purchase of essential services. A potential purchaser of a new product is well-placed to form a judgement about the extra utility it will provide since that utility flows entirely and directly to the purchaser. In the case of SA Water, the proposed benefits (such as fewer failures in water mains) are frequently dispersed over many purchasers and may never eventuate for a large number of them, except as greater peace of mind. The potential purchaser must evaluate the utility from that greater peace of mind.

There is another important difference. A potential purchaser might answer honestly that a new product is worth about \$3 a week to them (for example). However, when confronted with the opportunity to buy the product, the potential purchaser might decide that the product is not appealing and decline to purchase it, notwithstanding the fact that it is priced at \$3. That is to say, the purchaser prefers to save the \$3 per week. Alternatively, the potential purchaser might decide that the item is a lower priority purchase than other items and decline to purchase it on those grounds, even though the \$3 price remains attractive. This situation might vary from week to week, with the potential purchaser buying the product in some weeks but not others.

The important point to note is that the purchaser retains the ability to act differently than indicated in the survey response.

This is not the case in the situation where the customer chooses to purchase more water or sewerage services. Once the supplier has incurred the expenditure and the regulator has included the appropriate amount in the revenue cap, the customer cannot change his or her mind. The extra cost is locked in at least until the useful life of the asset has expired and, more realistically, for all time, since asset replacement decisions are rarely the subject of customer consultation.

Economic circumstances can change. We are presently in an environment where interest rates are at historical lows. Should rates begin to rise, home loan borrowers will face increased interest costs and will find it harder to meet their other commitments, such as utility costs. At the same time, the cost of water and other essential services will rise as the impact on the cost of capital flows through into prices. What might have seemed affordable in a low interest rate environment may look very different when interest rates are higher.

Another reason to be cautious about willingness to pay surveys is the difficulty of framing the questions appropriately. Daniel Kahneman has conclusively demonstrated that the answer to the same fundamental question will vary widely, depending on how the question is framed. Take the following example

- How much are you prepared to pay to reduce the number of customers affected by water mains breaks?
- How much are you prepared to pay to reduce by 350, the number of customers affected by water mains breaks?
- How much are you prepared to pay to reduce by 0.05%, the number of customers affected by water mains breaks?

The research suggests that respondents will give three different answers (in descending order of magnitude) to these questions even though they refer to the same initiative. More surprisingly, they will probably give three different answers even if the questions are asked simultaneously.

Kahneman has postulated that in responding to surveys and in making many day to day decisions, people typically give intuitive answers. They do not engage that part of the brain which weighs up evidence and provides a considered response but rather rely on their recollections and past experiences.

Other than for simple choices, it is better not to rely on surveys but to engage with customers in a way which gives them time to think and ask questions and consider alternatives.

For example, suppose a marketer were to test the willingness of purchasers to pay an extra dollar for a product for which the price had remained at \$5 for four years. The intuitive response is that a one dollar increase in four years is not unreasonable. The considered response is that a 20 per cent increase is outrageous, given rates of inflation and wages growth.

The initial answer might well have been different, of course, if the proposed increase had been from \$500 to \$600 instead of from \$5 to \$6, because the sum involved is much bigger and respondents might be prompted to engage their analytical faculties.

This difference is particularly relevant to SA Water. Many of its projects are quite large and costly and are therefore implemented over more than one regulatory period. If it were thought necessary to test customer willingness to pay, the better approach would be to test the project as a whole rather than break it up into its components and test willingness to pay for each part separately.

There is an interesting case study of the importance of framing the question in SA Water's research for its business case. An unfavourable response was received to a question about whether customers were prepared to pay more for SA Water to employ extra staff to help people struggling with their bills. Had that question been framed differently, so that the focus was not on employing more administrators, the answer might well have been different. For example, had the question been framed as an initiative to provide more assistance to people struggling with their water bills the answer might have been more favourable. It might have been still more favourable if framed as an initiative to help struggling pensioners.

The Committee urges caution in accepting survey results as evidence that customers are willing to pay for an initiative.

Chapter Five: State-wide Pricing

When SA Water was a Government Department (the Engineering and Water Supply Department) the South Australian Government had a policy of charging the same price for water and sewerage services throughout the State. This policy was continued when SA Water was converted into a statutory body, with the Government paying to the Corporation a subsidy calculated annually as the difference between the cost of supplying services in regional areas and the cost of supplying services in the metropolitan area. Effectively, metropolitan customers paid the appropriate price for the services they received and the Government subsidised customers in regional areas.

When SA Water was subjected to economic regulation in 2013, the Treasurer continued to direct SA Water to apply State-wide pricing but fixed the annual amounts of subsidy to be paid to SA Water for drinking water services at \$67.416m and for sewerage services at \$40.163m. This has brought about a fundamental change in the way the cost of State-wide pricing is borne. The nexus between the Government subsidy and the cost to SA Water of applying the metropolitan price to regional areas has been lost. Indeed, we are advised that SA Water no longer calculates the metropolitan cost nor the cost of supplying different regions.

Instead, what happens is that the Commission, in accordance with a direction from the Treasurer in the Pricing Order, calculates a revenue cap for water services and one for sewerage services for the State as a whole and deducts from those caps the amounts of the two Government subsidies. In effect, the two subsidies now act as subsidies to all SA Water customers and serve to keep prices overall below what they would otherwise have been.

An important corollary of this is that some SA Water customers are now subsidising others. As new initiatives are undertaken around the State to maintain or upgrade services the amounts and possibly the direction of these subsidies will change, but because SA Water does not allocate its costs to regions (including the metropolitan region) there is no way of tracking these changes and no way of knowing who is subsidising whom, or by how much.

A graphic example of this effect is provided by the Adelaide Desalination Plant. Before the plant was built, the average cost of supplying metropolitan customers was below the average cost of supplying regional customers (as a whole). Given the enormous cost of the plant, it is no longer obvious that this is the case, although it may be.

Before the community can form sensible views about the various aspects of SA Water's longer-term plans and about the four year business plan for each regulatory period, it needs to have basic cost information and to understand the extent to which there are cross-subsidies between different regions.

This information would also be of critical importance to Government decision making. At the most basic level, a Government should know how much it costs to provide water and wastewater services to its citizens living in regional areas and the impact which growth in the regions might have on these costs.

State-wide pricing applies to businesses as well as individuals. In attracting new businesses to regional areas, Governments need to be transparent about the extent to which the community will be subsidising the water and wastewater services provided to these businesses. In the absence of this sort of information and with customers rather than the Government bearing the cost of the subsidy, decision-making will be distorted.

It would be much better for customers and for the cause of rational decision-making by Governments if SA Water calculated the cost of providing services on a region by region basis and the Government paid explicit subsidies to keep prices to levels which it judged to be appropriate.

Under this approach, the Commission would calculate the two revenue caps as it presently does but not deduct any subsidy. In setting prices, the Government would decide both the extent to which it wished to subsidise customers overall and the particular customers who should benefit.

COMMUNITY ENGAGEMENT

Chapter Six: Community Engagement

In undertaking its responsibilities, the Committee was required by its Charter to understand SA Water's strategic directions and priorities, to elicit the preferences and priorities of customers as evidenced in particular through the Panel's Priorities Report and to challenge the proposals put forward by SA Water for inclusion in its business plan for the forthcoming regulatory period.

The Priorities Report of the Consumer Experts Panel places considerable emphasis on SA Water engaging in best practice customer and community engagement, with its processes being transparent, open and inclusive, but it also calls for SA Water to provide more, earlier and more transparent information about its operations and plans, particularly its longer-term plans.

The significance of this is that the Panel comprises representatives of organisations with which SA Water might have been expected to engage in the period leading up to the formulation of its business plan for the regulatory period beginning in 2020, and yet these representatives had very little idea about SA Water's long term plans and felt the need to urge SA Water to adopt a more open and inclusive process in formulating those plans. As a starting point for its examination of SA Water's community engagement activities, therefore, the Committee sought from SA Water an indication of its longer term directions and was provided with a copy of the Corporate Business Plan to 2028.

SA Water has a vision to provide "World class water services for a better life". In setting out to realise its vision, it aims to

- Know and empower customers
- Adopt innovative business models
- Operate efficiently
- Integrate new technologies
- Create sustainable communities and limit environmental impacts.

Its strategic aims are

- Protecting public health by delivering safe, clean drinking water
- Protecting our water resources and the environment
- Delivering responsive and reliable services to customers
- Maintaining and improving water quality and pressure
- Growing our business and ensuring financial viability
- Ensuring our prices are affordable.

All these seem like worthy aims but what exactly does SA Water propose to do to achieve them?

Buried away in the section on protecting public health is the objective to improve water quality for those customers who currently receive non-drinking water. The Committee has seen references emerging from some of SA Water's customer engagement to an aim of providing the same quality drinking water for all. Is the aim to improve the quality of the water supply in areas where it is poor or is the aim to provide the same quality water to all? What is the likely cost of achieving either aim? Has there been any attempt to weigh up costs and benefits and to engage with the community, particularly those who stand to benefit, on how best to meet their needs?

In the section on protecting our water resources there are references to managing the mix of water taken from reservoirs, the River Murray, groundwater and desalination plants. What is the target or targets for each of these sources, and why? What is the hierarchy of preferences? Is SA Water proposing to move away from climate-dependent sources and if so how quickly? What is the trade-off with price?

The Committee notes that one of the proposals in the business plan is to commence upgrading the Morgan-Whyalla pipeline number one. The eventual cost of the project, spread over many years is broadly estimated at \$686 million. This is clearly a significant initiative. The Committee has been assured that pumping water from the River Murray is still the most economical way to provide water to the northern Spencer Gulf region, but is it the preferred long term strategic approach, given the pressures on the River? South Australia has a long coastline and most of its population lives in close proximity to the coast. Given the scarcity of good quality fresh water, is the best strategy for the State to rely much more in the future on the vast resources of the ocean?

The Committee notes that another proposal in the business plan is to improve the quality of the metropolitan water supply by applying different practices in SA Water's treatment plants and networks, such as greater use of chloramine instead of chlorine, and greater use of granulated activated carbon, ozone and ultraviolet radiation. There is reference to this proposal on page 18 of the Corporate Plan but the Committee has seen no evidence that customers have been taken into SA Water's confidence on the issue. We make the point that, to be effective, customer engagement needs to extend to key strategic issues, not just quality of service issues like the timeliness with which SA Water responds to leaking meters.

There are references to managing planned discharges into the environment and finding opportunities to recycle water. Is the objective merely to comply with EPA requirements or does SA Water aim to reach a more ambitious target?

The section on delivering responsive and reliable services recites a number of initiatives to reduce supply interruptions for both drinking water and sewerage services. Some quite specific targets are set in terms of mains failures and sewer overflows. How have these measures been selected? Are they "world class"? Given Adelaide's reactive soils, are they sensible?

Growing the business and ensuring financial viability are not the same thing, particularly if the business is being grown to support economic development. How aggressively is SA Water “extending the reach of our water, wastewater and recycled water networks”? Given the straitjacket of State-wide pricing, how can customers be assured that regional development is not being undertaken at their expense?

Customers will not take on faith that SA Water is ensuring prices are affordable. Recent price reductions are the product largely of factors beyond the control of SA Water, as are the price reductions foreshadowed for the next regulatory period. Customers need to have an insight into the impact on prices of SA Water’s own initiatives.

The Corporate Business Plan to 2028 provides a sound framework for understanding SA Water’s strategic directions but it is pitched at a high level and gives very little guidance about priorities. Importantly, it is not obviously the product of an active program of customer engagement.

[The IAP2 Spectrum](#)

The International Association for Public Participation has published its Public Participation Spectrum (IAP2) which is widely used as a benchmark against which to gauge levels of public participation in community engagement programs.

The Spectrum contains five escalating levels of involvement

- Inform -- We will keep you informed
- Consult -- We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision
- Involve -- We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision
- Collaborate – We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible
- Empower – We will implement what you decide.

For the future, the Committee considers that much greater clarity around the nature and extent of the community engagement expected of SA Water is required. For the purposes of the current task we can only offer our own value judgements on the adequacy of the process undertaken by SA Water as described to us.

[What SA Water Did](#)

SA Water’s engagement with its customers and other interest groups is ongoing but for the purposes of the 2024 business plan it is convenient to begin with research carried out in June 2017. Prior to undertaking that research, SA Water reviewed the insights it had already collected from customers through previous engagement activities and condensed them into six main outcomes – safe water,

reliable services, supporting the community, great customer service, healthy environment and fair prices. SA Water then conducted six focus groups, four in the metropolitan area and two in Mount Gambier. In those focus groups, participants were asked to indicate what they wanted SA Water to do to achieve the six outcomes. Participants were recruited from residential and small business customers. To complement the focus groups, SA Water conducted eight in-depth interviews with the owners of small to medium sized businesses in Naracoorte, Mount Gambier and Kingston South East.

A set of statements was developed that detailed activities undertaken by SA Water. A survey was conducted with 427 residents and 200 businesses by phone. Respondents were given sets of questions that forced them to select from each set the most important and least important things which SA Water could focus on. The outcomes of that research helped SA Water design its corporate strategy.

Separately from this activity, SA Water organised seven workshops across the State to gauge the needs and expectations of customers when they were directly affected by capital works. Those involved were both non-residential and residential customers.

The workshops were attended by 168 people. High on customers' minds was the need to ensure preventative maintenance was a good investment. They wanted to see replacement rather than patching up of aging infrastructure and were sympathetic to expanding the use of technology such as in-ground sensors to prevent faults occurring. Customers emphasised the importance of good communication in both preventing and responding to faults, particularly information which helps them prepare for service interruptions and informs them on actions they can take to prevent faults.

In regard to the environment, SA Water was urged to use and generate renewable energy and design its infrastructure so it has a low carbon footprint and low emissions from its ongoing operations.

The findings were shared across the business and incorporated into business planning.

A series of drop-in sessions were held for people from culturally and linguistically diverse backgrounds to ask them to share stories about water use and the connection to drinking water. A total of 23 people, predominantly women, from eleven countries participated. It was discovered that there were numerous misconceptions about water quality, particularly its suitability for drinking straight from the tap. Water is valued and customers expect a timely response when problems arise. They prefer to deal by phone. The information collected from the sessions identified opportunities to improve education and communication programs to support new arrivals and migrant communities.

SA Water has a tracking program which has been in place since 2013 to measure customer satisfaction. The results show that customers believe SA Water is underperforming in minimising interruptions, keeping prices low and stable, water security, looking after the environment, great

customer service and support and fairness. Customers would also like to be kept better informed about the progress of their query or complaint.

Research was carried out into customer satisfaction with water aesthetics in regional areas to help establish priorities for SA Water's longer-term planning for improving water aesthetics. The results showed a clear correlation between water quality and usage across regional areas. There was a common theme of issues around water hardness damaging taps and pipes and the make-up of water deterring residents from drinking it and using it for food preparation and other domestic purposes.

A program of research was carried out into customer preferences for responses from the customer contact centre. The research found that customers were prepared to wait a little longer if their issue could be resolved on the first call. A quick response was not valued if a further call was required. Customers preferred phone contact, with email second and webchat third.

SA Water undertook research into the level of interest of customers in smart meters and services that can be delivered using smart meter technology. The research indicated that there was significant interest in services which would help customers reduce water usage, detect leaks, help carers remotely monitor the properties of those they look after and help property owners manage their properties. There were concerns expressed about privacy and security of information and the quality, accuracy and reliability of smart meters, which suggested that good communication would be required before they were introduced.

A choice modelling survey was conducted to measure the monetary values customers place on changes to service levels and the introduction of new services. Respondents were shown bundles of four services and asked to choose their most and least favourite. Price was not included. This was repeated eight times. They were then shown two bundles, each consisting of twelve services together with the cost of each. They chose their favourite bundle and were then asked if they preferred it to their current bill and service offering. This task was repeated six times.

SA Water established a Customer Working Group of 22 members, selected so as to be representative of both residential and business customers. Throughout 2018, SA Water convened a series of workshops with the Group in order to receive detailed input to the planning process for the next regulatory period and to ensure that it was in line with customer needs and expectations. The Group made four recommendations at the end of the fifth session. SA Water has delivered on or is in the process of delivering on two of these and has committed to delivering on the other two.

The Group was also extensively consulted on the "what matters to you?" and the "would you invest in this?" surveys, which underpinned elements of the business plan. Many of the changes suggested by the Group were incorporated in the design of the two surveys.

SA Water expanded its engagement reach for the business planning process late in 2017 by adding on-line engagement (Water Talks) as a tool for speaking and listening to its customers. In this way, engagement opportunities were expanded to groups and individuals who would not normally

engage in traditional ways and diverse groups were brought together. The initiative attracted significant interest and has now been adopted by SA Water as its whole of business on-line tool.

Results from Water Talks are analysed alongside results from other engagement techniques. For example, comments on a discussion forum concerning price, fluoride in drinking water and the need to recycle, reinforced other findings emphasising the importance of keeping prices low and stable, improving water quality and protecting the environment.

SA Water took a roadshow to eleven locations to give customers the opportunity to learn about the “what matters to you” survey and to engage with SA Water staff if they had questions. It also gave those who saw online engagement as a barrier, an opportunity to participate in the survey and the planning process more generally. During regional visits, SA Water staff took the opportunity to speak with local businesses about the importance of their involvement in the survey in order to ensure that responses were representative of the customer base and to listen to their comments and complaints.

In both of the surveys conducted during the planning process, participation by commercial and business customers was lower than expected. To compensate for this, SA Water used an external market research agency to carry out focus groups with small and medium businesses and to conduct four interviews with large business customers. The results of these activities largely confirmed the findings from the surveys, notwithstanding the low participation rates.

The last step in the customer engagement process for the development of the regulatory business proposal was a survey entitled “would you invest in this?” This survey was designed to give customers an opportunity to have their say on whether they would be prepared to pay for five identified changes to services. The initiatives selected were drawn from previous research and engagement which suggested they were valued by customers.

The results of the survey suggested that there was majority support for all five initiatives and they have been included in draft business plan for the forthcoming regulatory period.

Aside from these different forms of engagement with customers, SA Water has a separate stakeholder engagement process which it implements for all major projects to capture the views of local communities and stakeholders as a means of refining the design and delivery of the projects. The engagement plans are tailored for individual projects and identify the stakeholders to be engaged, the project risks and the engagement process most likely to address the specific characteristics of the project. The aims of this process are to improve planning and delivery, minimise negative impacts on the local community and reach mutually agreed outcomes.

One such process was that adopted for the Eyre Peninsula Desalination Plant.

The SA Water long term plan for the Eyre Peninsula was completed in partnership with the Natural Resource Management (NRM) Board in 2008 to ensure Eyre Peninsula has a secure water supply to meet likely demand over the next 25 years. Community engagement was integral to the

development of the plan. The process included nineteen community information sessions, five community forums and the establishment of a Reference Group with representatives of the eleven Eyre Peninsula Councils, the Department for Environment, Water and Natural Resources, NRM and Regional Development Australia.

Following release of the plan, SA Water commenced work on the recommendation to investigate a seawater desalination plant in the lower region of the Peninsula. This resulted in Cathedral Rocks and Sleaford Bay being chosen as locations for further investigation.

In 2011 the project was deferred, due to improved groundwater recharge and marked reductions in customer demand.

A review of the plan was initiated following three successive years of low rainfall. Sleaford Bay remained the preferred location for a desalination plant which would supplement the existing groundwater supply from the Uley Basin.

A Communication and Engagement Plan was developed with the following objectives

- Identify key stakeholders
- Provide opportunities for stakeholders to give feedback within the project parameters
- Ensure consistent communications
- Support the development of communications and engagement materials.

A long list of key stakeholders was identified, including a variety of local community groups, all Eyre Peninsula Councils, other State Government agencies, property owners near the preferred site and local news media.

Before commencing work, SA Water is engaging further with the community on detailed environmental investigations to minimise potential impacts on the environment, and engaging with Traditional Owners to ensure their heritage is protected.

Briefing sessions are being held with Councils, Industry Associations and key community groups to outline the project, answer questions and receive feedback.

Open days are being held in Port Lincoln to provide an opportunity for members of the community to inform themselves, ask questions and provide feedback.

Letters have been sent to Sleaford property owners providing an overview of the project and direct contact details for SA Water's stakeholder engagement representative. Face to face meetings will also be held with Sleaford property owners and residents upon request.

Based on community preference, the Reference Group concept has been replaced by meetings with local property owner groups.

Local media outlets will be contacted to communicate project information, timeframes and community engagement activities and SA Water's social media channels will be used for similar purposes.

Up to date information is currently made available on a dedicated page on the SA Water website.

The Committee notes that a similar process is being followed on Kangaroo Island, which also has a dedicated page on the SA Water website. Engagement with the Kangaroo Island Reference Group has been focused on the development of a long-term water security plan and has identified desalination as the preferred option. There are available on the website in some detail the agendas, presentations and minutes of the meetings held to date.

[The Committee's Observations](#)

The Committee would have preferred to have consulted more widely on SA Water's community engagement activities with those members of the community who were involved. We offer the following comments based on our own observations and responses from those with whom we did consult.

Perhaps most relevant are the comments of two observers with extensive experience of engaging with SA Water on behalf of customers. Both made the observation that SA Water is some way short of best practice in its community engagement but has embarked upon the journey and has made significant investments in the last two regulatory periods. In their view, however, there is still an undue focus on process rather than trying to ensure that customer priorities and preferences are being genuinely reflected in SA Water's business planning. These observers expressed the view that SA Water would benefit from involving experienced community representatives in planning its engagement activities.

They also observed that while SA Water is comfortable sharing information with community representatives about pre-determined plans it is much less comfortable engaging with the community in the development phase. There needs to be a change of mindset from one where SA Water has all the answers pre-determined, to one where it is acceptable not to have all the answers and to explore different approaches and different solutions with those who will be affected by them.

The foundation document for SA Water's business planning process was a report prepared by the market research firm Colmar Brunton in June 2017 entitled "SA Water: What's important to our customers". Copies were made available to Committee members but we could not find it on the SA Water website. Given its significance, we suggest it be made available to customers.

Before the Colmar Brunton work commenced, SA Water developed six main outcomes which it considered of importance to customers, based on its earlier research. They were safe water, reliable services, supporting the community, great customer service, healthy environment and fair prices. Four focus groups, each of 8-10 people, were conducted in the metropolitan area and two focus groups were conducted in Mount Gambier. Participants were asked what they wanted SA Water to

do to achieve these outcomes. To complement the focus groups, SA Water conducted eight in-depth interviews with small to medium businesses in the South-East.

The resulting 35 statements were then presented to 427 residents online and 200 businesses by phone in “sets” of statements from which participants were required to select the most important and least important things that SA Water should focus on. Opportunity was provided for customers to expand on theme development. The results were factor analysed to identify five key themes and six lesser themes. The five key themes were

- Safe water
- Minimal interruptions
- Price and service stability
- Water security
- Consistent, high quality water.

The lesser themes were

- Safe, reliable, invisible sewer services
- Same quality drinking water for all
- Support and fairness
- Protecting the environment with the community
- Great customer service
- Looking after South Australia with and for our customers.

These themes have been adopted by SA Water as the basis for all its business proposals.

Our understanding of factor analysis is that it is a technique used to reduce a large number of variables, in this case responses by participants, to a much smaller, manageable set of factors, in this case the things which respondents believe are important to them. It seems to us unusual to enter upon such an exercise with the key outcomes already determined. The exercise appears to have been one in which SA Water was seeking confirmation of the outcomes it had already decided were important, rather than an exercise in eliciting what was important to customers, unprompted by preconceptions.

This is not to say that the six main outcomes adopted by SA Water are incorrect. They are based on earlier research and, in any case, it would be surprising if SA Water did not by now know its business and have a shrewd idea, based on intuition, of the things valued by its customers. We merely make the point that there is a circularity about the process undertaken in this instance.

The tendency by SA Water to constrain choice was apparent in another aspect of the exercise. One of the conclusions drawn was that “SA Water was urged to use and generate renewable energy and design its infrastructure so it has a low carbon footprint”. Participants’ views about environmental

issues were obtained by asking them to rank the importance of five options for reducing the carbon footprint of SA Water

- Designing our infrastructure to use less embodied carbon
- Using or generating renewable energy
- Reducing greenhouse emissions
- Planting native vegetation
- Buying carbon offsets.

Participants were also asked to identify the most important secondary benefits to be sought by SA Water in designing major capital works from amongst the following options

- Creating jobs in South Australia
- Designing infrastructure to have a low carbon footprint and emissions
- Aesthetics, noise and odour
- Protecting biodiversity and cultural heritage.

The Committee is reticent about relying too heavily on conclusions drawn from choices which are constrained in this way and would urge a more open approach in future.

A member of SA Water's Customer Working Group was appointed to the Committee and has offered the following observations from her experience.

"The Group met on 5 occasions in 2018, initially receiving informative and detailed presentations from SA Water about their operations, governance, infrastructure, inter-agency relationships and the regulatory business proposal process. The presence of the CEO and senior management at these weekend workshops was valued by participants who (overall) felt that the organisation was making a genuine attempt to include consumers in their decision making activities. Presentations were supported by optional field trips to the Happy Valley reservoir and treatment plant, the Adelaide Desalination Plant and Christies Beach Treatment Plant where practical aspects of SA Water operations were demonstrated and discussed. Group member discussions generally reflected their perception that SA Water staff were professional, well-prepared, respectful of all participants and happy to discuss broad ranging questions asked by members about ownership, current media issues, fluoridation and other topics.

The two main areas where SA Water worked with the Group in 2018 were

- In relation to the "What Matters to You " choice modelling study (WMTY)
- providing comment/review of SA Water draft customer service standards

A comparison of the different engagement approaches used in these two situations may be informative in understanding why the latter was generally well received by Group members, whereas the WMTY study was more contentious.

In the customer service standards consultation, participants were involved in small group discussions facilitated by SA Water staff, with subsequent multiple opportunities to endorse (or otherwise) proposed standards. This activity yielded clear recommendations about the broad acceptance of draft water related standards, and identified certain sewerage standards which it was recommended should be the focus of further work by SA Water.

In contrast, for the WMTY study participants acted more as a pilot group for testing the WMTY online survey instrument. When the full results of the community survey were presented to the Group a number of concerns were raised:

- The Group had no opportunity to influence which proposals were selected for inclusion in the survey or to propose alternatives
- Specific feedback which was offered during the rushed and technically plagued 2 hour testing on-line session sometimes appeared to be disregarded
- The top priority given to the 650 regional properties with non-potable water was questioned. The Group felt they lacked sufficient information about these consumers (and the proposed remedial works required) to collectively support the proposition that this was the most important of the proposed projects.
- The Group also questioned the priority of the "650" relative to other potential projects that they felt should be identified, specifically initiatives that would improve basic services for larger numbers of customers in more populated areas
- Price concerns, especially the potential cumulative cost of progressing several initiatives.

SA Water invested heavily in the Customer Working Group in terms of both personnel and resources. They successfully convened a diverse group of residential and business customers, and generally retained high attendance numbers throughout. Participants recognised and valued the information sessions given by SA Water and the opportunity to discuss water/sewerage issues. Perhaps some different facilitation approaches might have yielded more active participation by some members but overall the Group became a functional and committed potential reference/engagement group for SA Water.

The subsequent limiting of the role of this group represents a missed opportunity to fully capitalise on the richness of information that became apparent in private discussions among members outside the formal sessions. There was a clear mismatch between the role of the Group as expressed in the introductory material provided to members and the actual utilisation of that group.

The engagement evident in the customer service standards consultation demonstrates the benefits likely to be obtained from alternative approaches. “

The Committee has expressed its reservations elsewhere in the report about reliance on willingness to pay surveys. These surveys were an important aspect of SA Water’s customer engagement methodology and the Committee wishes to touch on the matter again.

The Nobel Laureate, Daniel Kahneman has demonstrated that, in answering survey questions, respondents call on their intuitions (thinking fast) rather than on the more logical, reasoning part of their brains (thinking slow). Despite his findings, survey responses seem usually to be analysed as if they reflect deliberate, considered views. Where choices are simple, such intuitive responses may be accurate, since our accumulated life experiences are often a good guide to the formulation of simple value judgements, but where something more than a simple value judgement is required, survey responses are unreliable as an indication of true customer preferences.

The Committee has some additional observations to offer about the choice modelling survey. Despite the benefit of a dedicated session with those who conducted the survey, the Committee was left with a number of questions which we did not have time to pursue to our satisfaction.

It appears to be the case that 41% of the time, respondents chose not to change their service offering, indicating that the bundle of service changes offered to them did not appeal. In the other 59% of cases, a bundle of changes was preferred, but no specific service change featured in more than 7% of cases. What conclusion do we draw from this? Presumably, that respondents more frequently placed a positive value on service changes as opposed to the status quo. But do we also conclude that no specific service change attracted much support? Or is it the case that no specific service change appeared often enough to rate very highly? How is this finding relevant to decision-making?

Does the fact that respondents placed a positive value on a service change mean they are willing to pay for it? For example, respondents placed a greater value on supplying free recycled water to all council areas than on supplying it just to those in arid climates. This is entirely rational because more people would benefit, but does it tell us anything about which of the two options respondents would prefer to support, given their desire for low and stable prices? In the case of upgrading non-potable water to potable water for 650 regional properties, respondents placed a value of \$21.06 per annum on the option of doing this over four years and \$14.78 per annum on the option of doing it over eight years. Once again, this seems a rational way to value the two options, but if the same outcome can be achieved by paying less, surely the cheaper option is the one customers would prefer to pay for, especially since they themselves receive zero benefit?

Seventeen of the nineteen proposed service changes attracted a positive value. Is this not evidence that respondents have made rational assessments of the value to them of each of the proposals but are not necessarily indicating a willingness to pay? If respondents thought they were going to have to pay for all these proposals, would they not have been more selective?

How valid is it to compare a precise proposal like providing potable water to 650 regional properties with a vague proposal like improving metropolitan water quality? How valid is it to compare a big step change with a small one? A big change almost inevitably will be valued more highly.

How have the survey results been incorporated into SA Water's decision-making? Customers have been asked subsequently if they are willing to pay for some of the proposals, but a number have been incorporated into the business plan with no further consultation, including several which were

not highly valued by respondents. The Committee formed the impression that where SA Water considered a project to be important it was included in the regulatory business plan regardless of the survey results.

The Committee does not wish to imply that SA Water's very considerable customer engagement activities were without merit. They had several positive features.

- They demonstrated a strong commitment to focusing on customer preferences
- They employed a range of methodologies
- They involved a diversity of the customer base
- There was strong, topic specific engagement with local communities on projects of direct relevance to those communities
- They dealt well with service standards
- They included a readiness to participate in the Customer Negotiation Forum process and thereby to expose the organisation to public scrutiny in an unprecedented way.

Our principal reservations about these activities may be summarised as follows.

- Except in relation to project specific engagement, the Committee had difficulty understanding how the various components fitted together
- There appeared to be very little consultation with customers in setting agendas or deciding topics to be discussed
- Language was often value laden and pointed respondents towards preferred outcomes
- The scope for participants to explore issues outside predetermined topics was limited, leading to circularity of process
- There was too much reliance on surveys.
- The tightly controlled nature of the processes were at the "inform" and "consult" end of the IAP 2 spectrum and resulted in limited engagement.

With particular regard to the second of these reservations, involving consumer interests in setting agendas for engagement, the Committee notes that Energy Networks Australia recently announced the winner of its third national consumer engagement award for energy network businesses. The winning organisation, Jemena, won the award in large part for its processes that actively sought input from a diversity of consumers about both the issues and solutions to which customers wanted to contribute. Other finalists also had strong focus on strategies that included consultation with customers and customer groups about issues and topics for further consultation. The Committee offers these as examples of best practice customer engagement in the public utility sector.

In concluding this section on community engagement the Committee would like to make an important point. The reservations expressed above do not invalidate the business plan. Our views on the proposals which make up the plan are expressed below. Our reservations go purely to the question of whether the many proposals in the proposed business plan are the product of a best practice customer engagement process.

THE BUSINESS PLAN 2020 - 2024

Chapter Seven: Context

Some context may be helpful in considering SA Water's business plan for the next regulatory period. In the year 2000/01, SA Water supplied around 280 gigalitres of water to its customers (including non-revenue water, or water which is lost in one way or another). By the year 2010/11 that quantity had declined to around 200 gigalitres, a fall of over 28%. The main reason for this very significant fall in consumption was the imposition of restrictions on the use of water, consequent upon the millennium drought, which lasted for the first decade of the century.

This prolonged period of restrictions prompted the construction of the Adelaide Desalination Plant. Upon completion of the plant, water restrictions were lifted and, other things equal, one might have expected water consumption to rebound to something like the 2000/01 level or even more, given population growth in the intervening years. However, the desalination plant was a very expensive alternative to the inconvenience of water restrictions and broadly doubled the price of water. In the face of this enormous price increase, customers briefly raised their consumption when restrictions were lifted but soon reduced it again to below 200 gigalitres per annum, where it remains. One must be sensitive to climatic differences between years in interpreting these numbers but the magnitude of the change is so large that it overwhelms climatic factors. The combination of years of careful management of water consumption and the huge price increase appears to have made customers very sensitive to the amount of water they use and its cost. The pattern of change was consistent across all three segments of demand – residential, non-residential and commercial.

Over the relevant period, population increased, as did the number of connections to the SA Water system, and the Gross State Product. None of these factors contributed to the decline in demand.

The long term records for water demand in South Australia show that it has always increased. This is the first major downwards shift in demand in the recorded history of SA Water and its predecessor, the Engineering and Water Supply Department.

Surveys and focus groups suggest that customers are concerned about exactly those things one might expect them to be concerned about - the safety and quality of water and minimal interruptions to supply - but there is little evidence that they find the current situation intolerable. Their revealed preference, as demonstrated by their water consumption, is for lower water bills, whatever their stated preferences may be in response to surveys.

An outline of the proposed business plan for the forthcoming regulatory period was presented to the Committee at the third formal meeting of the Forum on 26 February 2019. At subsequent meetings of the Forum a great deal of helpful information about the key aspects of the plan was presented and discussed. The Committee considers that, by the end of the presentations, members had a reasonable grasp of the key drivers of expenditure for the regulatory period.

One of the critical pieces of information provided at the 26 February meeting was that, if the business plan was approved in its entirety, water prices would fall in 2020/21 by 7.5% in nominal terms and sewerage prices would fall by 7.9% in nominal terms. These projected falls were due entirely to the decline in SA Water's rate of return (WACC) as a consequence of falling interest rates and their impact on both SA Water's cost of borrowing and the permissible return on equity. That is to say, revenues were projected to fall due to factors outside of the control of SA Water.

Also provided at that meeting was a projection of prices in 2020/21 if WACC were held constant. This is a measure of the impact of the expenditure proposals being advanced by SA Water for the forthcoming regulatory period. The projections were for an increase of 3.3% in nominal terms for water prices and 3.8% in nominal terms for sewerage prices. Those projections were updated in July 2019 to 3.4% for water prices and 1.7% for sewerage prices.

The Committee notes that this is a slightly different thing from providing information about the revenue caps for each year of the regulatory period implied by the business plan. The two measures are very similar but a comparison of revenues is to be preferred because it compares the impacts on all customers rather than the impacts on a "typical" or median customer, as is necessary for a price comparison.

It is the change in revenues due to SA Water's business plan which is relevant. Eventually, interest rates will stabilise or rise. Customers need to be convinced that the expenditures SA Water proposes to incur are in their long term interests, regardless of what is happening to interest rates and SA Water's regulated rate of return on capital.

In a real negotiation, the Committee and SA Water would have engaged in an iterative process following on from the presentation of the business case, which started with revenue caps which represented increases for inflation only, and explored the implications for the business plan of having to defer or abandon enough projects to produce such revenue caps and no more. In this way, priorities would have been set and agreement reached on activities which were time critical and those which could wait. The final outcome might have been price increases in line with inflation, price increases greater than inflation or even price increases less than inflation.

In reality, this process did not occur. There does not appear to be anything in the Commission's methodology to allow for such a process, but rather the assumption appears to be that the role of the Commission is to adjudicate only on whether individual expenditure proposals are prudent and efficient and it is a matter for SA Water to make the judgement about how many such proposals to include in its business plan and the implications for revenue and prices.

In designing future arrangements for community engagement, the Commission will need to ensure there is scope for such a process to occur. Price is of fundamental importance to customers and they will want to have a say in the aggregate impact of SA Water's business plan on future prices. The ideal situation would be for customer representatives to have before them an estimate of the likely long term price path for water and wastewater, assuming the rate of return remains constant, so

that they are able to work with SA Water on determining appropriate business plans. For example, customers might wish to see more done when the rate of return (and therefore price) was in decline and less done when the rate of return (and price) was increasing. Such a process would produce a smoother price path for customers than if movements in the rate of return were ignored.

Postscript

In commenting on a draft of this report, SA Water advised that the projections of price changes cited above had been superseded, due to further declines in the ten year Commonwealth bond rate and a revision by SA Water of its preferred method of calculating the permitted rate of return on capital (specifically, the method by which future inflation would be estimated). It would appear that SA Water had not settled upon its preferred method of deriving the permitted rate of return until after the period for negotiations with the Committee had concluded. It was therefore never in a position to enter into the sort of iterative process outlined above because it had not arrived at a settled position on the revenue caps it was seeking.

The Committee has reservations about the value of an engagement process where this critical parameter is not available to customer representatives until after the process has concluded.

I requested from SA Water their latest calculations and on 8 October 2019 was provided with the following figures, which represent the changes in the average annual revenue caps between the two regulatory periods beginning in 2016 and 2020, expressed in constant dollars. They are therefore a measure of the real aggregate impact on customers under different assumptions about the rate of return SA Water is permitted to earn in the next regulatory period.

If there were to be no change in the absolute rate of return between the two periods, the average annual revenue from water charges would rise by 2.8% and the average annual revenue from sewerage charges would rise by 5.4% in constant dollars. This is a measure of the impact of SA Water's expenditure proposals with all confounding factors removed.

If the Commission were to retain its current method of calculating the rate of return, the average annual revenue from water charges would fall by 15.7% and the average annual revenue from sewerage charges would fall by 15.3% in constant dollars. This is a measure of the impact of the decline in the ten year Commonwealth bond rate, partly offset by SA Water's expenditure proposals.

If the Commission were to adopt SA Water's preferred method of calculating the rate of return, the average annual revenue from water charges would fall by 2.3% and the average annual revenue from sewerage charges would fall by 0.5%. The difference between these numbers and those in the previous paragraph is a measure of the impact of SA Water's proposal for a different method of estimating future inflation.

The Committee's position described elsewhere in this report is that the Commission should adopt the method of estimating future inflation which it considers will produce the most accurate estimate, regardless of its immediate impact on SA Water revenues and prices. Given the very large

implications for customers of a changed approach, we make the additional observation that the case for such a change would need to be convincing.

The Committee notes also that SA Water is proposing a real increase in outlays both for water supply services and for sewerage services. It is possible that there are longer term factors at work which make it inevitable that prices will need to rise in real terms if SA Water is to meet community expectations about maintaining or improving services. The Committee has been presented with no such evidence and, in its absence, is of the view that real increases in such outlays would not be welcomed by the community, whatever the merits of the individual projects which contribute towards them.

It is against this background that the observations which follow should be considered. The Committee has approached each issue separately and considered it only on its individual merits.

Chapter Eight: Service Standards

Establishing service standards involves an assessment of the trade-off between the quality and reliability of services and the price of those services. In a competitive market customers can choose their preferred mix of service and price from the choices available but since SA Water is a monopoly provider, no such choice is available. Service standards must therefore be regulated.

It is important that the minimum service standards reflect customer preferences. If changes are proposed, evidence should be provided that customers are willing to pay for improvements or to accept lower service levels in return for lower prices.

Clause 17 of the Water Retail Code issued by the Commission specifies that a licensee must use its best endeavours to meet the service standards. The mere fact that performance has deviated from the required standards does not constitute a breach of licence conditions. Over the first five years of regulation, SA Water's average performance against the standards has met or exceeded the benchmark, other than in two instances where SA Water reached its target on 98% of occasions against a benchmark of 99%.

For the current regulatory period, there are eighteen service standards, all of which set a benchmark for the timeliness with which SA Water responds to a problem or a request. There are no standards relating to the reliability of the network (eg incidence and duration of interruptions) or the level of satisfaction with service provision.

Many of the current standards are aggregates of several categories of response. For example, interruptions to the wastewater service are divided into four categories

- those which might have serious consequences such as an impact on a hospital
- those which disrupt businesses
- other full loss of service
- partial loss of service.

Different response times are set for each category. It is possible for SA Water to achieve the aggregated target but not all the category targets.

This is the first time SA Water has had a free hand in proposing service standards for a regulatory period rather than operating within a framework set by the Commission. The Committee was therefore keen to examine the customer engagement underpinning the proposed standards and the extent to which the standards are consistent with the quality and reliability expectations of customers.

In the early stages of planning for the next regulatory period, SA Water sought to explore how its current levels of service affected customers and to understand more about the customer experience and customer satisfaction. Journey maps were created to illustrate core customer interactions with

SA Water in order to identify “pain points” in what is an inherently unpleasant experience (a fault in the service).

Initially the maps were created internally and supplemented by desk top research. In consultation with customers, twenty detailed experiences were documented and explored in depth with focus groups to identify the critical issues.

SA Water reviewed the insights from this and other research and settled on six main outcomes – safe water, reliable services, supporting the community, great customer service, healthy environment and fair prices. It then conducted a program of customer engagement, which is described in more detail elsewhere in this report, to inform both its service standards and the expenditure initiatives it should undertake as part of its business plan for the next regulatory period.

Included in this program was a session on service standards with the Customer Working Group. It is relevant to note that this was one of the best received activities presented to that Group, generating substantial discussion and positive feedback. The methodology employed involved small working group discussions of individual standards and opportunities for participants to vote as individuals on each standard. Standards were taken to have been endorsed when 80% of participants voted in favour, subject to a minimum quorum of support. In general, the proposed “reliability” service standards were supported whereas further investigation of proposed standards for wastewater services was recommended.

Emerging from this process were nineteen proposed service standards. When first presented to the Committee they were in a form different from the form in which they were presented to the Customer Working Group and different from the format of the current standards, which made comparison difficult. SA Water accepted the Committee’s suggestion that the form of presentation used for the Customer Working Group be adopted, but this did not overcome the difficulty of making comparison with the current standards.

Rather than attempt the time-consuming task of dissecting each proposal into its constituent parts and comparing it with the constituent parts of the current standards, the Committee sought and was given an assurance from SA Water that, with the exceptions noted below, there had been no downgrading of any standard or its associated performance target.

Telephone responsiveness is an important standard because there are so many contacts of this nature. In the month of April 2018, for example, the Customer Call Centre received 32 442 calls. Of these calls, 27% were repeat callers. Research revealed that SA Water customers want their query or issue resolved on first contact even if it means waiting longer to have their call answered. If the query or issue cannot be resolved on first contact customers would like to be kept up to date on progress but want full resolution rather than quick but incomplete resolution, requiring further contact. The current standard measures the speed with which a call is answered but not the quality of the conversation.

SA Water has responded by proposing to relax from 30 seconds to 50 seconds the requirement to answer calls about faults on 85% of occasions, and by abandoning a formal target for other calls in favour of monitoring performance and customer satisfaction. The cost savings expected from this change will be redirected to improving the skills of front-line staff and empowering them to resolve customer issues on the first call.

Customer research identified some dissatisfaction with response times and accuracy of communication where the issue is a “boundary” issue, occurring at the boundary between the SA Water network and the customer’s water meter.

In response, SA Water is proposing to introduce a new standard which will place a higher priority on those boundary issues which are causing customers serious problems, but permit longer response times for low and medium impact boundary issues. Where a customer does not require attendance within the timeframe diagnosed by the standard, SA Water will endeavour to make an appointment to attend at a time convenient to the customer.

SA Water is confident it can introduce these changes at no extra cost to the customer. It will monitor closely the impact of the changes on customer satisfaction.

Based on the insights gained from customer engagement, SA Water is also proposing a number of new standards, mainly relating to reliability and customer satisfaction. They are

- The number of annual sewer overflows inside the house (fewer than 220)
- The number of customers experiencing more than one internal overflow in a five year period (fewer than 29)
- The number of customers experiencing three or more unplanned water interruptions in a year (fewer than 1975)
- The percentage of low and medium impacting water issues attended within the required time frames (95%)
- The level of customer satisfaction with a recent service experience (93%)
- The percentage of calls resolved first time (85%)
- The percentage of complaints escalated to the Ombudsman (fewer than 15%)
- The volume of water leakage from infrastructure (less than 2.06 kilolitres per kilometre per day).

The Committee 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. There was considerable discussion within the Forum about the proposed new measures and other possible standards.

Customers are sensitive to the amount of water which leaks from the system and so it is important to have a standard relevant to this concern. The proposed measure is almost meaningless to customers, however, and so the Committee sought reassurance that better measures were not available.

SA Water presented data to the Committee which demonstrates that leakage from its network is very low by both national and international standards. The focus, therefore, is not on further reductions across the system but on regions where there are supply constraints, where the cost of production is high or where leakage rates are particularly high. The Committee was satisfied with the response but would suggest regular reporting to the Commission at a greater level of detail.

Safe water was the chief concern of customers but is regulated by SA Health so there seems little point in trying to derive a standard as well. However, since the aesthetic quality of water dominates customer complaints, the Committee remarked upon the fact that the only relevant standard proposed related to the timeliness of SA Water's response. It would seem worthwhile for the Commission to track the absolute number of complaints about water quality, probably on a regional basis, given the wide variations in the underlying quality of water round the State.

The Committee noted that there was no standard relating to the absolute number of water mains failures. Given the public interest in this matter there would seem to be value in exploring possible measures which focus on failures within the control of SA Water and exclude those caused by things such as soil movement.

By way of observation, the Committee noted that the classification of data collected by SA Water about customer complaints was not linked in any obvious way to the standards by which it proposed to measure the quality of its service to customers. It would seem to be worthwhile establishing such a link, if possible.

The issue of guaranteed service level payments for breaches of service standards was discussed. The Committee agrees with the general proposition that payments to some customers, funded by all customers, are not warranted unless the inconvenience suffered is significant.

There are instances where homes are inundated due to a break in a water main. Although SA Water is not obliged by law to reimburse such a customer unless it is found to be negligent, the Committee was assured that the corporation does its best to ensure that customers affected in this way do not suffer financial loss.

The Committee has firm views about this matter. It is not acceptable that a small number of customers suffer large losses because of a failure in a system designed to serve the community as a whole. It is appropriate that those affected are fully recompensed for their losses. The Committee decided not to press for a formal system of guaranteed service level payments on the understanding that SA Water would continue with its present informal policy, but we would like to see payments of this nature reported to the Commission on a regular basis, along with assurances that the customers affected were satisfied with the outcome.

Chapter Nine: Ex Post Reviews

Since 1 July 2016, SA Water has undertaken or is planning to undertake a number of large capital expenditure projects that were not part of its regulatory business proposal for the current regulatory period and consequently did not form part of the expenditure amounts incorporated into the revenue determination. Largely as a result of these projects, SA Water forecasts that it will incur capital expenditure during the current period very substantially greater than the amount incorporated in the determination. SA Water's revenues are fixed for the current regulatory period and customers will not pay higher prices in this period as a result of this additional expenditure. Customers will, however, pay for this additional expenditure in forthcoming regulatory periods if the Commission determines that the relevant expenditure was prudent and efficient.

It is, therefore, important that the Committee form a view about these projects.

Zero Cost Energy Future (ZCEF) (\$390m)

This is a project of major significance to customers and one which carries considerable risk. The Committee conferred with the Commission on several occasions during its consideration of the project and is grateful for the additional guidance provided by the Commission in Guidance Paper number 8.

The initiative may be characterised as a series of discretionary and discrete projects aimed at reducing and managing SA Water's electricity costs (currently around \$60 million per annum) principally by installing solar panels and batteries across up to 90 sites at a cost of up to \$390 million. SA Water has stated that it will consider each project on a site by site basis and each project will be approved only if it delivers benefits greater than costs.

To the extent that sites are brought into operation during the current regulatory period, SA Water will be entitled to no regulatory rate of return on the capital invested but will retain all the savings it achieves in energy purchase costs and all the revenues it receives from exporting energy to the grid. For the purposes of the forthcoming and subsequent regulatory periods, the Commission will assess whether the expenditure to 30 June 2020 is prudent and efficient and, if it is, add that amount to SA Water's RAB so that the revenue cap includes the appropriate regulatory rate of return. To the extent that savings have been achieved in energy costs in the current regulatory period, or revenues derived from exporting energy to the grid, the annual savings and revenues will flow through to customers through a lower revenue cap consequent upon lower net operating expenditure.

It is expected that business cases for certain other ZCEF projects will be finalised and incorporated into SA Water's regulatory business plan by the time it is submitted to the Commission in October 2019. If the proposed expenditure is judged to be prudent and efficient, the appropriate amounts will be added to SA Water's RAB and earn the regulatory rate of return. An estimate of the annual benefits to operating costs will be deducted from the revenue cap.

It is highly likely that a number of business cases will not be finalised in time to be included in the Commission's determination for the next regulatory period. The Commission is proposing a new intra-period review mechanism to deal with these, thereby enabling the revenue cap to be adjusted during the regulatory period to reflect the increased RAB and the expected savings in operating expenditure and revenues from exports to the grid.

The Committee welcomes the new process and the clarification in the Guidance Paper regarding the appropriate discount rate for expected future savings in energy costs. These savings are critical to customers and it is important they not be understated by use of a discount rate which is too high.

Under the Commission's present methodology all the risk inherent in this very ambitious initiative will revert to customers almost as soon as the capital works are completed. The capital cost will be locked into SA Water's RAB and will earn the regulatory rate of return. By contrast, the benefits to customers through savings in energy costs or revenues from energy sold into the grid will be dependent upon future changes in energy prices. If the price of energy falls, for example, the benefit to customers will be eroded.

This is not how things work in a conventional market where there is competition. In such a market, it is the owner of the business, not the customer, who bears the risk of innovations and reaps the rewards. The Committee suggests the Commission investigate ways to reward SA Water for initiatives like ZCEF and to remove some (or even all) of the risk from customers. This could be done either by fixing the expected future benefits from energy savings and leaving SA Water to bear the risk of changing energy prices, or sharing the costs and benefits between SA Water and customers, either indefinitely or for an extra one or two regulatory periods.

[Northern Adelaide Irrigation Scheme \(NAIS\) \(\\$155.6m\)](#)

In response to the decline in health of seagrass beds and reefs off the Adelaide coastline and the change in quality of water caused by an increase in nutrients (primarily nitrogen), suspended solids and coloured dissolved organic matter from discharges to the coast, the Adelaide Coastal Water Quality Improvement Plan was developed in 2013 by the South Australian Environment Protection Authority (the EPA). SA Water's obligations to reduce total nitrogen and suspended solids from Bolivar and Glenelg Wastewater Treatment Plants were formalised in EPA licences issued in 2015. SA Water was required to report to the EPA by 31 December 2018 on potential management options for meeting its obligations.

NAIS is a scheme designed to achieve significant environmental and economic benefits by avoiding the discharge of 12 GL per annum of treated wastewater from the Bolivar Wastewater Treatment Plant into Adelaide's coastal waters, and reusing the wastewater for productive purposes. By the construction of 30 kilometres of trunk main, a reticulation network, a recycling plant, pump stations and water storages, treated wastewater will be delivered to the Northern Adelaide Plains, potentially transforming the region into an intensive, high-tech food production area.

The total cost of the scheme is estimated to be \$155.6 million, of which \$110 million is to be provided by the State Government in the form of an injection of equity and \$45.6 million is to be provided as a grant by the Commonwealth Government. There will be no requirement (initially) to recover the Commonwealth contribution since it is a grant. Of the State Government contribution, \$64.4 million is expected to be recovered through augmentation charges, plus the present value of usage charges to users of the wastewater (an excluded service for regulatory purposes), with the remaining \$45.6 million being added to SA Water's RAB and being recovered from sewerage customers through an increase in the revenue cap.

The scheme has the strong support of the EPA, as the Committee confirmed in its meeting with representatives of that body. Reuse of wastewater is a solution much preferred to the option of a higher level of treatment followed by discharge into the Gulf. It would also seem to be in line with strong customer preferences for reducing SA Water's impact on the environment.

The Committee requested, and was provided with, up to date estimates of the comparison between the cost of treating and discharging the wastewater into the Gulf and the NAIS option. The net present value of the cost of the treatment and discharge option was \$67.6 million. The net present value of the cost of the NAIS option had increased from the \$45.6 million mentioned above to \$60.6 million, due to delays in contracting irrigation customers. This is currently the best estimate of the impact on SA Water's sewerage customers.

The arithmetic still favours NAIS. Given the strong preference for reuse over discharge, it is the Committee's assessment that sewerage customers would tolerate some margin over \$67.6 million in cost before they might wish SA Water to revisit the discharge option. In other words, they would place a "shadow price" on damage to the environment.

NAIS will proceed regardless of cost, because in 2017 the then Minister for Water and the River Murray directed SA Water to deliver the infrastructure necessary for the project. By definition, a project which SA Water is directed to carry out is prudent.

Nevertheless, it seems to the Committee that the Commission has discretion around the amount by which SA Water's RAB is increased to accommodate this project. As has been illustrated by the not insignificant change from an impact of \$45.6 million to \$60.6 million, it is sewerage customers who are bearing the commercial risk of this project, not the owner of SA Water. For the reasons set out in our consideration of ZCEF, we think this is inappropriate.

There is a related consideration. The assets funded from the Commonwealth grant will not form part of the RAB initially nor will they be depreciated. As they are replaced, however, they will be added to the RAB, thereby boosting the revenue cap through both the regulated rate of return and the depreciation charge, thereby forcing up prices.

The Committee suggests that the Commission examine options such as fixing the increase in the RAB attributable to NAIS so that the commercial risk of this project and the consequences of the Minister's direction reside with the appropriate party, the South Australian Government.

Eyre Peninsula Desalination Plant (\$108m)

Since the beginning of the millennium drought, SA Water has been closely monitoring the water supply situation on Eyre Peninsula. Low rainfall and declining groundwater recharge has led to a number of groundwater resources now being unsuitable for use.

The Uley South Basin is the last main groundwater supply remaining. Currently, the Basin provides about 5 GL per annum or 75% of the water to the region, with the other 25% coming from the River Murray. Modelling suggests that a sustainable level of extraction is approximately 3.8 GL per annum and that the reduced level needs to be reached within five years. At current levels of demand, this leaves another 3 to 4 GLs to be found.

The solution proposed is a desalination plant at Sleaford Bay near Port Lincoln. The only other option is to draw more water from the River Murray which is not only a precarious source of supply but, as we are advised, prohibitively expensive due to the need to increase the size of the Morgan-Whyalla pipeline.

It is proposed that a 4 GL desalination plant be built as soon as possible to augment the existing groundwater supply and relieve pressure on the Uley Basin. Water produced from the plant will be blended with Uley Basin groundwater before being delivered into the Eyre Peninsula network, thereby dramatically improving the aesthetic quality of the water for the region and reducing private costs met by customers by reducing the scaling in their domestic pipes. A collateral benefit will be some relief in demand on River Murray water.

The present proposal is for the installation of 8 GL inlet and outfall pipes so that the plant can be quickly upgraded to produce 8 GLs should they be required to meet growth in demand.

The Committee is persuaded that this project is prudent but is not equipped to form a view about whether it is efficient.

Additional Mains Renewal (\$55m)

The revenue determination for the current regulatory period included \$78m for water mains replacement, which was thought to be adequate to maintain performance as it was at the beginning of the regulatory period, and was in keeping with customer research which indicated customers did not want to pay for better performance. The Committee notes that both the absolute number of water main failures and the number of failures per 100 kilometres of pipe have been on a downward trajectory for many years.

In 2016, the year the current determination commenced, a series of significant failures occurred, leading to a spike in both the absolute number of failures and the rate per 100 kilometres of pipe. These failures attracted considerable media attention. SA Water conducted a customer survey and two workshops and discussed the matter with their Customer Advisory Groups. In light of the prominence of the issue in the media, the outcome was that customers were dissatisfied with

SA Water's investment in maintaining water infrastructure and wanted to see more done, provided they did not have to pay for it.

SA Water decided to invest an extra \$55 million in water mains renewals in the current regulatory period, focusing on properties experiencing three or more failures per annum and reducing the number of failures per 100 kilometres of pipe.

The 2016-17 financial year saw a reduction of 24.6% in pressure related failures and the 2017-18 financial year saw a further reduction, to an accumulated reduction of 28.9%. The extent to which this is due to the greater investment is not clear since the program did not commence until 2016-17 and its impact is not likely to have been immediate. The improvement in pressure-related failures appears to be on track to be maintained in 2018-19 but we note that failures due to ground movement have returned to normal, so that the dramatic improvement experienced in total failures in 2016-17 has not been repeated in subsequent years and indeed there is likely to be a slight increase in total failures in 2018-19.

The number of properties experiencing three or more failures per annum has reduced by 47% since its peak in December 2016 but only to the level experienced prior to the peak and prior to the expenditure of the extra \$55 million.

The Committee is sympathetic to the political and media pressure placed on SA Water by the spike in water mains failures in 2016 and we note that other works were deferred in favour of more expenditure on mains renewal in accordance with expressed customer preferences. Although we are not convinced that this extra expenditure was necessary, we note that, at the very least, it coincided with an improvement in pressure-related failures and therefore would not object if the Commission decided to include in SA Water's RAB for future regulatory periods the actual amount spent on maintaining the water reticulation network in the current regulatory period, which we now understand will be in the order of \$130 million, rather than \$78 million.

Our main interest is on SA Water's future plans for such expenditure, which is dealt with later in this report.

[Smart Networks \(\\$13.5m\)](#)

Independent of problems elsewhere in the network, SA Water decided to conduct a trial of new technology in the Adelaide CBD aimed at early detection of potential failures, at a cost estimated at \$13.5 million. The CBD was chosen for several reasons

- Mains failure rate 2 to 2.5 times higher than in the rest of the metropolitan area
- High number of pressure related failures due to the cast iron network
- The manner in which CBD buildings were being operated was causing strain on the network
- CBD failures have significant impacts.

The key drivers for this investment in smart technology were to learn new and innovative ways to minimise interruptions, enhance network performance and thereby save costs in the long term. Pipe

replacement in the CBD costs \$3 500 per metre and there are 120 kilometres of such pipe, so the scope for cost savings is considerable.

SA Water needed to understand how leaks and breaks occur, the aging process of the network, when pipes need to be repaired or replaced and the best materials to use for those repairs and replacements. To assist in this task, over 300 sensors of different types were installed in the network and 100 smart meters were installed in customers' premises.

The CBD smart water network went live on 1 July 2017 and was fully operational on 1 January 2018. By the end of February 2019, SA Water had detected 35 main breaks and repaired them before they could cause disruption.

Based on the success in the CBD it was decided to extend the trial to other areas in 2018-19. The areas chosen were North Adelaide, since it is contiguous to the CBD and has similar problems, Athelstone, because it has the next highest number of failures after the CBD due to its highly reactive soils and relatively high water pressure, and Port Lincoln and Penneshaw, because they have very high proportions of water leakage. It was decided also to conduct trials in the wastewater network at Stonyfell, which has the highest rate of blockages in South Australia and at Gawler, which has persistent odour issues.

In light of the potential long term benefits to customers from lower maintenance and repair costs and better service, and the benefits to the broader community in less disruption and delay, the Committee considers this initiative to be a prudent investment.

[Kangaroo Island Desalination Plant \(\\$28m\)](#)

Based on normal growth assumptions, the existing water supply capacity in the Middle River system on Kangaroo Island should be adequate for Parndana and Kingscote until 2036. The existing desalination plant should be adequate for Penneshaw until 2031.

Several years ago a proposal to develop a five-star golf course near Pelican Lagoon was granted development approval. At that time the course was to be supplied with water by overflow from the Middle River Dam, which is available only at certain times of the year. Possibly prompted by this proposed development, SA Water commenced a review of water supply options for the Island in 2017 in consultation with stakeholders.

Those consultations appear to have been quite comprehensive and details are available on the SA Water website. The analysis undertaken as part of this process recommended an additional desalination plant at Penneshaw as the preferred option for a new water source by 2030. This solution has several positive features

- It provides a climate independent source which does not compete with other users
- It offers increased penetration of the distribution system
- It allows for future customer connections
- It improves water quality and compliance with drinking water standards.

Apart from the desalination plant at Penneshaw, the proposal calls for a 32 kilometre pipeline from Middle River and a 17 kilometre pipeline from Penneshaw to link the Middle River dam and the new desalination plant.

The Committee notes that none of this infrastructure would be required until 2030 were it not for the proposed golf course.

The development approval for the golf course appears to have lapsed. We understand that a new application will be lodged and in the meantime SA Water has been in negotiations with the developer about bringing forward the new Penneshaw desalination plant and the associated pipelines in order to meet the considerable water needs of the golf course when overflow is not available from the Middle River dam.

The proposed golf course is some considerable distance from any existing source of supply and should sensibly be regarded as outside the area presently supplied by SA Water. The obligation of SA Water under the terms of its licence is, therefore, to make an offer of supply. The proposal under consideration is that the developer will pay the equivalent of the cost of a pipeline from Middle River adequate for its needs, and SA Water will pay for the desalination plant, the pipeline from Penneshaw and the marginal cost of a larger pipeline from Middle River to cater for demand from customers other than the golf course.

This seems to be a generous offer by SA Water, compared with the default position of charging the developer for all system augmentation. However, SA Water must act commercially. It has been put to the Committee that the cost (in net present value terms) of the proposal whereby the developer pays the cost of a pipeline from Middle River is less than the cost (in net present value terms) of the proposal to wait until 2030 to commence the development, with SA Water meeting all costs. If this is all the developer can afford, it would still be beneficial for SA Water and its customers to accept the proposal.

We understand that, as a risk management strategy, SA Water intends to defer work on the rest of the proposal until the pipeline from Middle River is in place. Even so, the Committee regards the risk as quite high. We have not seen details of the NPV calculations for the two options nor do we know what sensitivity analysis has been undertaken to allow for the possibility of the developer not following through to completion, or the developer being unable to meet its obligations once the golf course is in operation, or other potential customers not connecting to the new pipeline or other risks such as delays (which appear to be already occurring).

We suggest this is a project the Commission should examine closely before agreeing to any increase in the RAB. It would be best if that examination were to begin now. It would be unfortunate if SA Water incurred costs on a project which was subsequently judged not to meet the prudent and efficient benchmark.

Chapter Ten: Operating Expenditure

The manner in which SA Water presented its proposal for the amount of annual operating expenditure to be included in the revenue cap for the forthcoming regulatory period was to commence with expenditure in the efficient base year, add the extra amounts considered necessary to carry out its responsibilities and deduct projected savings in electricity costs from the ZCEF initiative and savings expected to emerge from its projected expenditure in IT improvements. If it is accepted that SA Water is operating efficiently in the base year, the task of setting the operating expenditure component of the revenue cap narrows down to an examination of the reasons for variations from that number in ensuing years.

In both of its previous revenue determinations, the Commission has deemed SA Water's operating costs to have been efficient. The Committee therefore felt justified in accepting that such would still be the case, subject to the results of the most recent benchmarking comparison with other large water utilities.

Electricity costs are the key financial risk to SA Water's operating costs, with the 2018-19 forecast being \$13 million higher than budget due to low winter rains and price volatility. In the absence of the ZCEF initiative, SA Water would be entitled to ask for these higher costs to be included in the revenue cap, provided only that it could demonstrate it was doing all it could to manage those costs efficiently.

The Efficient Base Year

SA Water engaged consulting firm KPMG to undertake a benchmarking analysis of SA Water's performance using the most recent data reported to the Bureau of Meteorology, which was for the 2017/18 financial year. To remove confounding influences, performance data was normalised for three factors

- Number of customers
- Length of mains
- Demand.

The KPMG analysis indicated that, in providing water, the average efficiency of all utilities had improved since the last analysis of 2013/14 and that SA Water had improved its position slightly relative to the average efficiency line (ie had become relatively more efficient). SA Water's operating expenditure per customer was below average and ranked fifth lowest out of 13 utilities. Its operating expenditure per kilometre of pipe was well below average and ranked second lowest out of 13 utilities. At least part of the explanation for this is that SA Water has a much longer pipe network than its peers due to the need to transfer water over long distances to service regional areas, unlike other States which have water supplies much closer to their customers.

In providing sewerage services, the average efficiency of smaller utilities had improved but that of larger utilities had stayed the same. SA Water remained at the forefront relative to average efficiency. SA Water's operating expenditure per customer was below average and the lowest of all 13 utilities. Its operating expenditure per kilometre of pipe was also below average and the fifth lowest of the 13 utilities, although the bottom five were closely grouped. SA Water's pipe network for sewerage is not atypically long.

In the light of this analysis, the Committee accepted that SA Water was operating efficiently. In doing so, we note that low expenditure levels may reflect under-investment on asset maintenance rather than efficiency.

Proposed Changes in Operating Expenditure

The proposals put forward by SA Water for operating expenditures in the next regulatory period contain only two initiatives for cost reduction, the ZCEF project and an efficiency dividend of 0.5% per annum cumulative, which would produce an average saving of \$4.4m per annum over the period, all of which is attributable to IT improvements. We have already discussed the importance of ensuring that an accurate estimate of the savings from the ZCEF project flows through to customers.

There are a number of proposed expenditure initiatives, other than IT improvements, which SA Water has justified at least partly on the basis that they will improve productivity and/or efficiency. In the opinion of the Committee the efficiency dividend target of \$4.4m per annum is unambitious and should be the focus of attention from the Commission. We have no scientific basis for suggesting another number but think further savings are likely to be achieved and would expect customers to receive the benefit.

It is relevant to note also that the projected \$4.4m of savings from IT investments is a gross figure. It is offset by equivalent increases in IT operating costs. There is no net benefit to customers and indeed a slight negative impact during the next regulatory period because the extra costs materialise earlier than the savings.

Much of the increased operating expenditure proposed for the next regulatory period is consequent upon proposed capital investments in SA Water's large asset base and in its information technology platform. The Committee has not attempted to examine these operating expenditure proposals in detail but has taken the view that, if the capital expenditure initiative proceeds it is logical that the associated operating expenditure should be included in the revenue cap. The reverse should also apply.

SA Water classifies both its capital and operating expenditure into four categories

- Maintaining existing services
- Meeting external obligations, such as regulatory requirements
- Improving services to customers
- Meeting growth in demand.

A total of an extra \$17 million per annum was sought to maintain existing services, made up as follows

- \$5.3 million for operating costs consequent upon capital expenditure on assets
- \$0.4 million for operating costs consequent upon capital expenditure on IT
- \$1.1 million to enhance the training of field staff
- \$2.2 million for wage growth above CPI increases
- \$0.6 million for licensing costs associated with growth in the number of devices used by field staff and increases above inflation in licensing costs for existing applications
- \$3.2 million for higher than budgeted contractual obligations associated with the support of IT initiatives undertaken in the current regulatory period
- \$4.4 million for contractual obligations associated with the operation of the Adelaide Desalination Plant.

Operating cost uplift associated with capital expenditure on assets (\$5.3m) -- In summary, the extra expenditure in this category is for inspections and maintenance of assets ancillary to pipelines which currently have limited or no inspections and the failure of which could cause service disruptions, inspections of wastewater pumping mains to assess their condition (currently not being done), operating costs of the Eyre Peninsula Desalination Plant, greater maintenance of pipelines and ancillary assets to prolong their life and significantly greater maintenance expenditure on water pumping stations, treatment facilities and tanks to prolong their life. The Committee does not challenge the need for these outlays.

Training of Field Staff (\$1.1m) – At present, SA Water relies on external training of its field staff to equip them for the workplace. It has become apparent that while this training is adequate for imparting generic skills it does not equip trainees with the specialised knowledge required to operate in SA Water’s environment. In order to ensure that trainees are productive earlier and to protect them against the possibility of workplace injury, SA proposes to spend \$1.1m per annum on specialised in house training. The Committee was sceptical of the efficiency of this proposal and specifically of the need to employ an average of an extra 8 FTE, but concedes that it lacks the specialist knowledge to challenge this number. It has opted to accept the proposal on the understanding that there should be savings in operational expenditure from fewer injuries and greater productivity which will flow through to customers.

Wage growth above CPI (\$2.2m) – SA Water is proposing to offer wage increases to its staff in line with the Wage Price Index (WPI). The WPI is expected to increase at a faster rate than the CPI and so SA Water is seeking an uplift in the revenue cap. The Committee points out that if this increase is allowed, it will consume 50% of the proposed efficiency dividend, none of which is attributable to productivity growth from workforce efficiencies. The wage growth proposed by SA Water is justified in part on the basis of greater productivity and efficiency. Presumably what is meant is workforce efficiencies, not efficiencies brought about by IT initiatives, for which the workforce can take no

credit. If the proposed wage increases are to be allowed, the Committee would expect to see workforce efficiencies flowing through to customers, ideally equal to or greater than \$2.2m per annum.

IT licensing costs (\$0.6m) – this increase comprises two parts, an increase in licensing costs consequent upon more devices being made available to field staff and above CPI increases in licensing costs for existing applications. The Committee does not oppose these increases.

IT initiatives from current regulatory period (\$3.2m) – During the current regulatory period SA Water has undertaken a number of IT improvements which the Committee is advised have produced operating savings of \$11.4m. The support costs associated with those initiatives have proved to be higher than anticipated and SA Water is now seeking to have an extra \$3.2m added to its base year expenditure to cover the higher support costs. The Committee notes that, notwithstanding the higher costs, SA Water is on target to meet its operating expenditure target for the current regulatory period. If that remains the case after the extra \$3.2m is added to the base year expenditure, the Committee has no objection to this proposal.

Adelaide Desalination Plant (ADP) (\$4.4m) – the ADP has been running in minimum production mode since the end of its proving period. This was approved by the Commission as the most prudent and efficient way to operate. Since the last determination, SA Water has worked on improving the efficiency of the minimum production mode and has realised savings of \$2.9m per annum on average. Over the next regulatory period, SA Water is facing increases above CPI averaging \$6.2m per annum under its contract for the operation of the ADP and an increase in the number of renewable energy certificates which it is obligated to purchase under the funding agreement with the Commonwealth Government. The Committee accepts that these obligations are unavoidable.

An extra \$9m was originally sought to meet external obligations, including an amount of \$5m for costs associated with granting public access to reservoirs. This request has been withdrawn consequent upon the Government decision to meet these costs from general revenue, leaving the following changes to be considered

- \$3.5m for operating costs consequent upon capital expenditure on assets
- \$1.8m for operating costs consequent upon capital expenditure on IT
- \$0.2m for accommodation costs
- \$0.3m for a Reconciliation Action Plan
- \$0.7m for property and asbestos management
- \$2.4m negative, due to a reduction in licence fees.

Operating cost uplift associated with capital expenditure on capital assets (\$3.5m) – the extra expenditure sought here is largely for the operation of new recycled wastewater infrastructure planned for Hahndorf and Millicent to meet EPA requirements, more tankering of wastewater, improvements in wastewater treatment processes to meet EPA requirements, additional chemical

dosing to support management of odour and increased dam safety investigations to meet dam safety standards. The Committee does not challenge the need for these outlays.

Accommodation cost (\$0.2m) – under the terms of its lease, SA Water faces rent increases of 3% per annum. Through efficiencies, cultural change and a move to activity based working where employees no longer have desks but move to where their work is, SA Water has reduced its footprint from 24 632 square metres to 20 448 square metres. The Committee is satisfied that SA Water is focused on managing its accommodation needs efficiently.

Reconciliation Action Plan (\$0.3m) – additional funding is required to support the development and delivery of a new Reconciliation Action Plan (RAP). Previous such plans have included only limited engagement with Aboriginal communities and more needs to be done. A further 2 FTE positions are also proposed to support a specialised undergraduate and graduate program to provide opportunities to Aboriginal and Torres Strait Islander tertiary students to work in SA Water in their chosen fields, with the ultimate aim of achieving ATSI representation in leadership positions as a step in accelerating achievement of the target of 4.5% ATSI representation in the SA Water workforce. The Committee considers this initiative would be supported by customers.

Property and asbestos management (\$0.7m) – in 2019/20 a comprehensive review of all SA Water sites, of which there are many, will be undertaken to ensure they are safe and fit for use. Thereafter, it is proposed to spend \$0.245m per annum to assess and address risks in a continuing way to ensure staff, contractors and the community are kept safe. Separately from this initiative, the EPA has changed requirements relating to the handling of asbestos waste. All network depots which temporarily store asbestos now need to be licensed as waste depots. The conditions associated with these licences have resulted in additional cost for the disposal of asbestos waste. The Committee accepts that these costs must be incurred.

Licence fees (negative \$2.4m) – in the current regulatory period, SA Water was required to pay fees to the Office of the Technical Regulator for both the current and previous regulatory periods. Removing this double impact creates a reduction in operating expenditure for the next regulatory period.

An extra \$8m is being sought to improve services to customers, made up as follows

- \$3.7m for operating costs consequent upon capital expenditure on assets
- \$3.3m for operating costs consequent upon capital expenditure on IT
- \$0.7m for regional customer support
- \$0.4m for operating costs associated with smart networks
- \$0.1m to improve data from the geospatial information system.

Operating costs associated with asset capex (\$3.7m) – a significant program of expenditure is proposed for the next regulatory period to reduce sewer overflows both internal to customers' homes and external to the environment. Not all the proposed solutions require capital expenditure.

In some cases, the preferred solution is to invest more in cleaning the sewers. Increasing the existing cleaning program is likely to be of material assistance in achieving SA Water's targets for reductions in external and internal overflows, thereby meeting its public health and environmental obligations and improving services to customers. The Committee considers these objectives to be well-supported by customers.

Operating costs associated with IT capex (\$3.3m) – a significant component of the IT plan is attributable to delivering new digital capabilities that will improve water and wastewater services to customers. Associated with those improvements are operating costs such as software licensing, applications support, server and network maintenance and security patching. Provided the capital outlays are approved, these costs will also need to be incurred.

Regional customer support (\$0.7m) – in March 2016, SA Water implemented a permanent Metropolitan Community Support Team to provide support and advice to customers and the community affected by loss of service and/or property damage. Regional teams presently provide some support in regional areas but this initiative is intended to increase that capability by targeting hot spots where most events occur and delivering support and assistance to customers experiencing outages of 4 hours or more (in line with the metropolitan area). The cost will cover 4 additional FTEs, on call allowances for 10 existing staff, the lease and maintenance of 5 vehicles and the purchase and supply of cask water. The Committee does not oppose the initiative in principle, but considers that it should not be implemented without much more consultation with regional customers and stakeholders. It is the suggestion of the Committee that other options should be explored, such as working with local CFS and SES volunteers and bodies like the Country Women's Association with the aim of achieving the same outcome at a lower cost, or greater and more widespread benefits at the same cost.

Operating costs associated with smart networks (\$0.4m) – We have described above the trial conducted in the CBD with new technology to detect prospective mains failures and the proposals to extend those trials. It is expected that the new technology will be rolled out more widely in the next regulatory period and will need to be supported. The existing platform is not suitable for this task and so a new platform will be needed. One of the lessons from the CBD trial is the importance of skilled people to apply the technology and analyse the data. These funds are required to cover those costs. If the rollout proceeds, the Committee accepts the need for additional operating expenditure.

Geospatial Information System (GIS) (\$ 0.1m) – the GIS is SA Water's data base for identifying where its assets are and who is connected to the water and sewer networks, so the assets can be accurately located when they need to be maintained or replaced and customers can be notified when a network needs to be shut down. A review of the GIS has identified that up to 30% of SA Water's 700 000 service points may not be accurately represented, resulting in inefficiencies in locating them when necessary. To keep the project to upgrade the GIS manageable, the current proposal is to focus on key customers such as hospitals, schools, businesses and high volume customers. The Committee accepts the need for this improvement.

An extra \$5m is being sought to meet growth of the business, made up as follows

- \$1.0m for operating costs consequent upon capital expenditure on assets
- \$0.1m for operating costs associated with the proposed expansion of the Glenelg-Adelaide pipeline
- \$3.9m associated with the Northern Adelaide Irrigation System.

Operating costs associated with asset capex (\$1.0m) – extra power costs will be incurred for the pumping and treatment of wastewater in growth areas. The Committee accepts the need for this expenditure.

Glenelg-Adelaide Pipeline (\$0.1m) – there is a proposal to expand the Glenelg-Adelaide pipeline for the reuse of wastewater from the Glenelg Wastewater Treatment Plant and to improve the quality of the wastewater. This expenditure is to support that initiative. If it goes ahead, the Committee accepts that the expenditure will be necessary.

NAIS (\$3.9m) – the Committee is not able to attest to the accuracy of this figure but clearly there will be operating costs associated with the new facilities, comprising electricity to run the recycled water treatment plants and pumping stations and to inject and extract recycled water into and out of the storage aquifer, chemicals used in the recycled water treatment process, staff to operate the new facility and maintenance costs of the new infrastructure. The Committee has elsewhere suggested that the Commission consider quarantining customers from the commercial risk associated with NAIS. The treatment of these operating costs will reflect the Commission's decision on that suggestion.

Chapter Eleven: Overview of Capital Expenditure

SA Water projects its asset management expenditure for 25 years but develops its corporate strategy and business plan on a 10 year horizon. The current plan concludes in 2028. As with all such plans the level of certainty is greater in the earlier years than in the later years.

SA Water has been implementing an asset management system that aligns with the Institute of Asset Management (IAM) Framework and provides a clear connection between the organisation's strategic plan and its asset management activities. The system is still evolving and will continue to do so, based on a philosophy of continuous improvement.

For the current regulatory period, SA Water set itself a 5% efficiency target for all infrastructure capital expenditure (that is, capital expenditure excluding IT), thereby removing \$60 million from its capital expenditure proposal. IT was excluded because it was considered harder to achieve efficiencies in this area. The Committee was advised that SA Water was on target to meet this target and was currently exceeding it by 4.1% through

- Prudent deferrals
- Better contractor frameworks which provided incentives for improved efficiency
- Tighter scoping of projects
- Procurement savings
- Tighter control of changes
- Reduced time slippage.

By its own assessment, SA Water had moved along the IAM spectrum from being merely aware of the importance of asset management to being competent. Further improvement is possible and SA Water will again be setting itself an efficiency target for the forthcoming regulatory period.

The Committee does not consider itself well placed to express a view about how such a target might be calculated and will leave the matter to be considered by the Commission. Logically, however, it should serve to reduce the revenues which SA Water needs to raise in the next regulatory period.

SA Water's capital expenditure proposals for the next regulatory period aggregate \$1655m, made up of \$1025m for water, \$487m for sewerage and \$143m for IT. The following comments are confined to the merits of the individual projects.

Chapter Twelve: Water Infrastructure

The proposed investments in water infrastructure are divided into the following categories

- \$164m for external obligations
- \$65m for growth
- \$187m for improving services
- \$609m for maintaining services.

The \$164m proposed to meet external obligations is made up of

- \$15m for upgrades to tanks, treatment plants and dosing stations to meet SA Health requirements
- \$14m for licences to extract surface water, water from underground sources and water from watercourses
- \$7m for improvements to offices, workshops, stores and laydown yards to comply with accepted standards
- \$8m for fences, CCTV equipment and alarms to improve security
- \$29m to comply with work health and safety requirements
- \$91m to upgrade dams to meet safety guidelines established by the Australian National Committee on Large Dams (ANCOLD), principally \$87m for Mt. Bold reservoir.

A dam portfolio risk assessment carried out in 1998 identified that Mt. Bold dam, amongst others, did not meet ANCOLD guidelines. Priorities were established and since then upgrades have taken place at Hope Valley, Happy Valley, South Para, Hindmarsh Valley, Little Para and Millbrook and work is currently taking place at Kangaroo Creek. Mt. Bold is the largest storage in the Adelaide Hills and supplies water to anywhere between 0.4m and 1.1m people.

There are two primary failure modes that need to be addressed at Mt. Bold, flooding and earthquake.

The dam has a 1 in 900 probability of overtopping in any year. The existing spillway capacity is inadequate, meaning that if there were a flood of the magnitude which ANCOLD guidelines are designed to accommodate, 90% of the water would flow over the dam wall, potentially causing the dam wall to fail due to the weight of the water and potentially causing erosion of the foundations of the dam wall.

ANCOLD guidelines specify that a dam must remain functional after an Operating Basis Earthquake which has a probability of 1 in 1 000 and must not fail after a Maximum Design Earthquake which has a probability of 1 in 10 000. Mt. Bold is assessed as likely to fail both these tests.

Twelve possible solutions have been investigated, of which eight have been eliminated. The four remaining options are all estimated to cost in excess of \$300m. The preferred solution has not yet

been chosen but provision has been made for expenditure of \$87m in the forthcoming regulatory period.

Given the low probability of a failure event occurring, there is a temptation to suggest that this very costly project be deferred. Carried to its logical conclusion, this would result in the work never being undertaken. In light of the known deficiencies relative to accepted national standards and the catastrophic consequences of a failure, the Committee considers that customers would want this project to proceed.

The Committee discussed with SA Water experts each of the other expenditure proposals which fall into this category. We have no reason to oppose them but note that we have not subjected them to close scrutiny.

The \$65m proposed to meet growth requirements is made up principally of a major upgrade to the Eyre Cowell reticulation network and upgrades to network capacity in Murray Bridge, Mount Gambier and the Barossa Valley and in the Goolwa, Middleton and Port Elliot area. The Committee does not contest the need for any of these projects, but notes that supporting documentation was not put forward.

The \$187m proposed to improve services is made up of

- \$124m to ensure water supplied to the metropolitan area is safe for drinking and to improve its aesthetic quality
- \$25m to ensure water supplied to regional areas is safe for drinking and to improve its aesthetic qualities
- \$37m to provide safe drinking water to customers currently supplied with non-potable water.

SA Water uses a risk management framework endorsed by SA Health to ensure the safety of the water supply. Risk assessments of the greater Adelaide region have identified a number of areas of the network at risk. These risks relate not only to the quality of drinking water leaving treatment plants but the safety of the water when it reaches the tap. Reactive controls such as routine monitoring and incident response are relied on to mitigate these risks in the short term but a longer term approach would be much preferred.

SA Water disinfects its water supplies with chlorine. However, a number of parts of the metropolitan network fail to maintain target chlorine levels, which presents a risk of contamination. In addition, levels of chlorine disinfection by-products in parts of the network routinely exceed Australian Drinking Water Guidelines, which poses a potential health risk if it continues for an extended period.

The first part of the proposed solution is to convert the metropolitan area from chlorine disinfection to chloramine disinfection at a cost of \$52m. Work will be required at each of the five Adelaide water treatment plants to modify dosing systems as well as modifications to the network infrastructure to maintain chloramine levels throughout the network. Chloramine is more effective

than chlorine and is used for network disinfection in Sydney, Melbourne and Brisbane and in the Adelaide Hills and parts of regional South Australia.

The second part of the proposed solution, at a cost of \$72m, is to upgrade the Happy Valley Treatment Plant, which supplies about 50% of Adelaide customers and has the highest incidence of complaints about taste. This involves reducing the amount of phosphorous entering the reservoir to control algal growth, installing ozone disinfection units and converting filters to biological filters. The removal of more organic matter and other pollutants from the water will improve water quality and taste. Using ozone for primary disinfection will eliminate the need for chlorine primary disinfection prior to chloramination, resulting in significant savings in capital expenditure when implementing chloramination. Reducing organic matter in the water will reduce the required chloramine dose thereby reducing operating expenditure, reducing disinfection by-products and improving disinfection penetration.

The Committee discussed the proposal with the relevant officer from SA Health and confirmed that the move to chloramination was strongly supported, although not mandated. The second part of the proposal is more about water aesthetics than public safety but there are efficiencies in doing the two parts together. It was the view of the Committee that both parts of the plan should be done together in order to achieve the most efficient outcome but we are not experts in the field and cannot comment on the scope (if any) for staging the second part to reduce the impact in the forthcoming regulatory period.

SA Water has made significant investments in the past to improve regional water quality, including the delivery of a Country Water Quality Improvement Plan between 1997 and 2008, prior to regulation. This plan delivered new water treatment plants to the Riverland region, improving drinking water supply to a number of small communities along the River Murray at a cost of \$55m. In 2014, SA Water constructed a desalination plant at Hawker to supply quality drinking water, at a cost of \$5.8m, and earlier this year completed a treated water pipeline from Peterborough at a cost of \$11.3m to deliver quality drinking water to the township of Orroroo. In the forthcoming regulatory period, SA Water proposes to spend \$25m on upgrades to four water systems at Melrose, Wilmington, Quorn and Naracoorte and small amounts on initiatives to improve water quality at Nangwarry, Cadell and in the Swan Reach Morgan system.

Melrose is currently supplied by two bores. There are no treatment processes and the water is disinfected with chlorine gas. The water has high salinity and is difficult to drink.

Wilmington is also supplied by two bores. There are no treatment processes and the water is disinfected with chlorine gas. The source water has numerous water quality issues and experiences difficulty maintaining chlorine residual due to spending long periods in cast iron mains. Should demand increase the current supply will be inadequate and investigations have failed to find alternative local supplies.

Quorn is currently supplied by three bores. The system has pathogens present, has no treatment processes and is disinfected with chlorine gas. The bores have experienced contamination and the water has high salinity levels.

Naracoorte is currently supplied with raw groundwater from three bores within the township. Salinity levels are very high and there are low levels of iron in the water. The water is quite hard and customers either employ water softeners or drink rainwater.

It is proposed to solve these problems by building two pipelines, one from Booleroo to Melrose to Wilmington to Quorn (90 kms) and one from Bool Lagoon to Naracoorte (35 kms).

Taken in isolation, there is a compelling case for these proposals. Presumably, though, they are only part of a larger problem, which is the lack of a supply of good quality water and the threat to the existing supplies caused by overuse or lower levels of recharge to the aquifers. What the Committee considers customers would find useful would be an assessment of the scope of the larger problem and an estimate of the cost of fixing it. The critical question is the trade-off between water quality and cost. It cannot simply be assumed that customers will be prepared to meet the cost of transporting high quality water to anywhere in the State, and the practice of staging the cost over several regulatory periods is not transparent.

Rainwater is the preferred source of drinking water in most regional locations and is often used for food preparation and other kitchen purposes. We note that we have been presented with no information about consultation with the communities affected by these proposals and so have no impression of the value they would place on an improved water supply. For example, if they would continue to use rainwater for most purposes, why would they pay for better quality water for their gardens or for bathing? The Committee is not convinced that costly engineering solutions are the only ones available to meet the needs of regional areas.

A willingness to pay survey conducted by SA Water indicates that a majority of respondents are prepared to meet higher water bills in order to pay for this initiative. We do not find the results of such a survey persuasive. The wrong people have been asked what they would be prepared to pay and, in any case, the issue would be better addressed by presenting customers with the full context and an opportunity to consider other options.

The Committee accepts that these particular locations are an appropriate focus for improvements in their water supply and that money should be spent on them in the forthcoming regulatory period. We would suggest that SA Water consult with local stakeholders and the community more generally to establish how best these improvements might be brought about and the amount which will need to be spent. This might or might not be \$25m.

We would further suggest that prior to any further such initiatives being undertaken, SA Water engage with customer representatives on the larger question of what is to be done in the longer term about water quality in regional areas presently part of the SA Water network.

SA Water currently operates 19 non-drinking water systems servicing approximately 650 customers in remote townships. The water is used for irrigation, watering of stock, washing clothes, bathing and toilet flushing. Customers rely on rainwater stored in rainwater tanks for drinking purposes. SA Water did not initiate these systems but inherited responsibility for them over time. SA Water has a legal obligation to continue the current supply of non-potable water but no other obligations, since the water is not drinking water and therefore not covered by Ministerial directions. Ironically, this means that the systems are not covered by State-wide pricing and customers may pay up to four times the State-wide price for water they cannot (or should not) drink.

The remote townships in question were established for different reasons, for example as regional hubs or to support railway transport or mining activities. When the original reason for the existence of the towns no longer remained the water infrastructure became available for general community needs. Some of these systems were constructed early last century and their condition is poor. They also face challenges such as extreme climatic conditions, remote locations, small populations and catchments and aquifers with high levels of contamination and concentrations of elements which exceed safe levels.

The reticulated water systems which supply these towns are officially declared non-drinking and are not regulated under the Safe Drinking Water Act. SA Health is prepared to allow the continued supply of non-drinking water under current protocols which require regular notices and advice to customers regarding the safe use of the water, including that it is not safe to drink.

The business case for replacing these systems with drinking water systems states that the proposal is driven solely by customer priorities and cannot otherwise be justified. The genesis of the proposal appears to have been a series of focus groups conducted early in the process of developing the business plan for the next regulatory period which found that participants regarded the supply of safe water as a high priority.

Based on this unsurprising finding, SA Water developed a proposal to supply the 650 remote properties with drinking water. As part of its business plan for the next regulatory period, SA Water is proposing to make a start on the project. The cost has not been refined but should the project proceed to completion in some future regulatory period the business case suggests it might cost in the order of \$100 million (\$150 000 per property) to implement and \$5 million per annum (\$8 000 per property per annum) thereafter to maintain. In very rough terms these costs have a net present value in the order of \$200 million.

Given these very large costs, the appropriate thing to have done would have been to establish what value (or utility) the prospective beneficiaries placed on the proposed service improvement. One possible approach would have been to ask what sum of money they would be prepared to accept in order to find their own solution instead of SA Water proceeding with its solution.

Suppose that number averaged \$10 000 per property. The utility gain from the project would then have been \$6.5 million and the utility loss (the cost) would have been \$200 million. Even assuming much larger utility gains for the property owners, the project cannot be justified.

A consumer survey was conducted which revealed strong support for the concept of providing these properties with drinking water. Subsequently, it was decided to spread the cost over several regulatory periods and a specific proposal to supply 340 properties at a capital cost of \$37m in the forthcoming regulatory period was put to customers in a further survey. The proposal was supported.

These surveys had nothing to do with determining utility. It had already been conceded that the project could not be justified on these grounds. The only purpose of the surveys was to establish if customers who were receiving no benefit from the project would be prepared to donate towards the cost of it.

The Committee does not consider that these surveys should have been undertaken, but if they were to be undertaken the appropriate question would have been “do you think SA Water should spend \$200 million to provide \$6.5 million in benefits?” Of course, that was not the question asked. Instead the cost was spread over 700 000 customers, who were asked if they were prepared to pay a very small amount to help out people without a supply of drinking water.

The proposal was subject to discussion at session four of SA Water’s Customer Working Group, before the second survey had been undertaken. SA Water’s website summarises the discussion as follows

“While the group was generally happy that the survey data reflected the views of the broader customer base and the priorities SA Water should focus on, there was debate about improving the potability of water for 650 regional properties. Some group members raised issues with 650 properties being a priority over other potential services and asked if customers had been given enough information to make an informed choice. The group, while they agreed it was fair and equitable for all South Australians to have clean and potable drinking water, showed concern about whether all customers should pay for this to happen when only a small percentage of customers would benefit. They felt it was hard to understand the true impact on customers versus benefit, without more knowledge of costs.”

These questions appear to have been disregarded, including the request for information about the cost of the proposal.

The Committee has taken note of recent publicity concerning the water needs of customers living in remote areas. Marree is one of the towns currently supplied by SA Water with non-potable water. We note the report in The Advertiser of 13 June last, which reveals that a non-profit organisation based in New South Wales, the Menindee Water Run, is shipping 10 000 litres of drinking water to Marree because the town’s rainwater tanks have run dry. We note that in the same article, the

manager of Marree's Oasis Café expresses the view that only a handful of people did not have water and that was because their rainwater tanks were not big enough.

The same article talks about the plans of the Outback Communities Authority to install a desalination plant to supply tourists to Lake Eyre with water, and the (separate) efforts of the owner of the William Creek Hotel to organise a desalination plant for his town, 170 kilometres east of Coober Pedy. We note that neither of these places would benefit from the SA Water initiative.

According to The Advertiser of 17 August, residents of Coober Pedy will be asked if they support a Council move to sell its water and electricity infrastructure to the State Government in order to retire debt. The Council manages the town's water supply, drawing water from the Great Artesian Basin and treating it before pumping it to customers. Despite charging \$9.30 per kilolitre compared with the top rate of \$3.41 per kilolitre paid by Adelaide residents, the Council incurs an annual loss of about \$600 000 on the operation.

The fact that some remote townships currently have a reticulated supply of non-potable water provided by SA Water is an accident of history and should not determine how drinking water is supplied to remote communities in the future. The Committee suggests that what is required is a considered approach by the Government to this issue and an orderly set of priorities, rather than for SA Water to be pushing ahead with a partial solution at very considerable aggregate cost to its customers and no cost to the Government, but with every possibility that expectations will be raised in other locations across the State currently not served by SA Water.

The cost of operating these non-drinking systems forms part of the costs taken into account by the Commission in making its revenue determinations, notwithstanding the fact that the determinations are described as drinking water determinations. Ironically, once the determinations have been made, SA Water and its owner, the Government, do not apply State-wide pricing in all cases but charge up to four times the State-wide price for supplying water which is undrinkable. A better approach would be for these properties to be removed altogether from the Commission's determination and for the cost of supplying them to be met, not by SA Water customers, but by SA Water and ultimately by its owner, the South Australian Government. There would then be a direct link between those responsible for determining policy and those meeting the cost.

The \$609m proposed for maintaining services was made up of

- \$144m for reticulation network management
- \$129m for major pipelines and trunk mains
- \$37m for third party works
- \$172m for water network facility renewals
- \$16m for minor pipe network renewals
- \$63m for water treatment plants and dosing
- \$4m for minor reservoir upgrades
- \$11m for the Supervisory Control and Data Acquisition System (SCADA)

- \$23m for plant and vehicles
- \$10m for cathodic protection.

The expressed aim of the expenditure on reticulation network management is to reduce the number of properties experiencing 3 or more interruptions to their water supply in one year from 2050 to 1750 by 2024. The reticulation network is defined to include pipes with a diameter of less than 375mm. There is a link between this program and the major pipelines and trunk mains program since failures in the major pipes and mains can contribute to interruptions.

Of the \$144m proposed to be spent on reticulation network management, \$112m is for mains replacement (\$64m in the metropolitan area and \$48m in regional areas), \$21m is for further trials of smart network technology, \$6m is for pressure management and \$5m is for valve installation.

The most obvious way to reduce the number of properties affected by multiple mains failures in a year is to reduce the number of mains failures overall. That is the purpose of the expenditure of \$112m on mains replacement. In order to identify where to spend that money most effectively, SA Water needs information about the status of its network. That is the purpose of the expenditure of \$21m on smart network trials.

When a pipe is new it is designed to withstand the internal pressure loading required to force water through it, but as the pipe ages its capacity to withstand pressure reduces, leading to failures. One of the benefits of the smart technology initiative is to identify areas where pressure needs to be reduced but, in addition, a trial in Kadina has demonstrated the benefits of reducing pressure at night when supply pressure is not in demand. The \$6m proposed for pressure management is required to carry out work to manage the pressure in the pipes.

By increasing the number of valves in the network, the number of properties affected by any given mains failure can be reduced. That is the purpose of the proposed expenditure of \$5m on valve installation.

SA Water has conducted customer research in an effort to become better informed about customer attitudes towards mains replacement. In 2014, before the 2016 spike in mains breaks which attracted so much publicity, the majority of customers opposed additional expenditure to reduce the number of bursts and leaks in water mains. Following the spike, attitudes changed and respondents were strongly in favour of SA Water doing more to prevent failures, although they did not want to pay any more. One assumes this should be interpreted as meaning a change in expenditure priorities was being supported, not an increase in outlays overall.

The Committee is sceptical of the need for the proposed level of expenditure to reduce the frequency of mains breaks overall. Before the spike in 2016, the long term trend in the number of mains breaks was on a downward slope at the historical level of expenditure, which was well below the level proposed for the next regulatory period. It is not unreasonable to suppose that the 2016

experience was an aberration and that the long term trend would revert to the mean without any special effort on the part of SA Water.

It is true that the long term trend in the number of properties experiencing three or more interruptions per annum was steady, or at best marginally downward sloping, but there are other possible solutions to this issue, such as the installation of more valves to reduce the number of shutoff blocks with 50 or more customers.

The Committee notes that the failure rate in regional areas has been stable for the last ten years at a figure well below that in the metropolitan area. No convincing reason has been advanced to increase effort in regional areas.

An important factor which we think needs to be better explained is the appropriate measure of performance. Mains breaks can be caused by pressure, which SA Water can at least partly control, and by ground movement, which it cannot. If the measure of performance were to be mains breaks caused by pressure and other factors within the control of SA Water, rather than all mains breaks regardless of their cause, decision making about appropriate expenditure levels might be improved. If a spike in the number of failures occurs due to a dry season causing soils to react, that seems a poor reason to increase expenditure on preventative measures, since they are unlikely to address the problem effectively.

For the next regulatory period, SA Water is proposing to spend \$144 million in total, a reduction from the \$152 million expected to be spent in the current regulatory period. More will be spent on smart technology designed to locate vulnerable mains, pressure management and valve installation and less on mains replacement. As mentioned above, \$112 million is to be spent on mains replacement, down from the \$130 million now expected to be spent in the current regulatory period, but a significant increase on the \$78 million originally planned to be spent, prior to the spike in mains failures.

The Committee supports the work being done on smart networks to improve SA Water's capacity to identify faults in its mains, the greater focus on pressure management to reduce mains failures and the initiative to install more valves to reduce the impact of breaks when they occur. It would be perverse if, having identified faults, SA Water were denied the resources to fix them. For that reason we do not oppose an appropriate level of expenditure for that purpose, but until the investigations are conducted it is not possible to predict how much might be required. The proposed program is well above historical levels.

We note the recent announcement by the South Australian Government of an independent review of SA Water's network management "to identify opportunities to reduce water mains breaks". As an aside, we note that the review is to be paid for by SA Water and should presumably be removed from the operating expenditure base for the calculation of operating expenditure in the forthcoming regulatory period.

More importantly, it will be conducted by experts and a report is expected to be available late in 2019. That report should be a valuable tool in assisting the Commission to determine an appropriate level of expenditure on maintenance of the water reticulation network.

We make the point that reducing mains breaks is not an end in itself. We hope that when the report of the consultant becomes available, customers will be consulted about the appropriate response.

Of the \$129m to be spent on major pipelines and trunk mains, the Committee was presented with information about \$62m to be spent on the renewal of the Morgan-Whyalla pipeline number one. We are not able to comment on the other \$67m.

In the 40 years following the next regulatory period (2024-2064) total expenditure on replacing the Morgan-Whyalla pipeline number one is forecast at \$686m. This assumes the pipeline has not been made redundant by other developments such as desalination plants. For the present, no more economical source of supply is available for the townships and large industries which rely on the pipeline.

Two major pipelines supply water between Morgan and the upper Spencer Gulf region. The number one pipeline was constructed in the 1940s and the number two pipeline in the 1970s. Both are above ground pipelines except where they need to go underground to avoid infrastructure. Section 1 is the pumping main, where water is pumped from the Morgan Water Treatment Plant to the Hanson Storage Tanks, 92 km away. It services Morgan, Robertstown and Eudunda and links with the Swan Reach to Stockwell pipeline which supplies the Barossa Valley, Lower North and Yorke Peninsula. Section 2 is a gravity section, 135 km in length, extending to the Baroota Storage Tanks and supplies Burra, Spalding, Snowtown, Jamestown, Gladstone, Port Pirie and Crystal Brook. Section 3 is where the two trunk mains diverge, with the number two pipeline crossing beneath Spencer Gulf to Whyalla and the number one pipeline becoming a single feed which travels 131 km around the top of Spencer Gulf to supply Port Augusta, Iron Knob and the northern region.

Section 3 is where most of the proposed \$62m will be spent in the forthcoming regulatory period.

The system supports some of SA Water's largest water users.

A condition assessment of the pipeline was completed in 2018 through a combination of a visual walking inspection over the full length and targeted ultrasonic thickness scanning, targeting the primary failure mode, the thinning of the wall near the seam weld. The results indicated that 1.3% of the pipe length, or 4.67km, currently has a wall thickness of less than 3mm and needs early attention. It is proposed to replace other adjacent lengths of pipe to a total of 14km, where they have also deteriorated significantly and it is economically sensible to do so.

Long lengths of the worst pipe are between Port Augusta and Whyalla. Section 3 accounts for 12 km, section 2 for 1 km and section 1 for 1 km.

In the meantime, other options are being explored to meet the future demands of the region and potentially to reduce the cost of replacing all of the number one pipeline.

The Committee supports this expenditure.

The \$37m of expenditure for third party works is to pay for alterations to the water network in response to customer needs, including both Government agencies (eg new roads) and private customers. The Committee has not assessed the need for this expenditure.

The \$172m of expenditure on water network facility renewals includes the renewal of bores, pump stations, tanks and control facilities. The Committee did not have time nor consider itself well equipped to form a view about the need for this expenditure. We note it is a large sum and the Commission may wish to explore it further.

The \$16m of expenditure on other minor pipe network renewals was not examined by the Committee.

The \$63m of expenditure on water treatment plants and dosing is for the renewal of equipment for operating the plants and for chemical dosing system upgrades. The Committee has not assessed the need for this expenditure.

The \$4m for expenditure on minor reservoir upgrades is for renewal of aqueducts, screens and weirs. The Committee has not assessed the need for this expenditure.

SA Water has a sophisticated Supervisory Control and Data Acquisition system which enables it to monitor centrally its geographically dispersed network and operations. The Committee visited the operational centre of the system which is critical to the ability of SA Water to set priorities and achieve operational efficiencies. This expenditure, together with a smaller sum allocated to the wastewater budget, is for improvements to the system. The Committee is not equipped to assess the need for this precise amount of expenditure, but clearly the system is central to SA Water's operations.

The \$23m of expenditure on major and minor plant is for the vehicle fleet and support equipment in laboratories. The Committee has not assessed this expenditure.

The \$10m of expenditure on cathodic protection is for the protection of metallic assets that are buried or immersed, to prevent corrosion, for example, due to highly saline soils. The Committee is not equipped to assess the need for this expenditure.

Chapter Thirteen: Wastewater Infrastructure

The proposed investments in wastewater infrastructure are divided into the following categories

- \$108m for external obligations
- \$108m for growth
- \$42m for improving services
- \$229m for maintaining services.

The \$108m to meet external obligations is made up of

- \$23m to improve performance of wastewater treatment plants
- \$20m for odour management, predominantly in the networks
- \$11m for environmental improvement plans at wastewater treatment plants
- \$8m for power supply redundancy at wastewater treatment plants
- \$10m for network infiltration management and other network improvements
- \$2m for accommodation to comply with standards for offices, workshops, stores and laydown yards
- \$3m for upgrades to security such as fences, CCTV equipment and alarms
- \$31m to comply with work, health and safety requirements.

SA Water is licensed by the EPA to discharge wastewater from its treatment plants into the environment. In order to retain its licences it must meet the requirements set by the EPA. It is necessary for SA Water to spend \$23m in the forthcoming regulatory period at a number of plants to ensure they meet upgraded regulatory requirements.

SA Water has a target of no more than 450 customer complaints per annum about wastewater odour. This target has been exceeded in recent times. Guided by the frequency of complaints, SA Water identifies hot spots in the network and inspects them from within to detect structural weaknesses. It is proposed to spend \$20m in the next regulatory period to tackle the worst areas of the network.

It is proposed to spend \$11m in the next regulatory period on development of a long term strategic plan for recycled water and on investigations and implementation of plans to increase the amount of wastewater recycled at the following treatment plants

- Millicent
- Port Augusta East
- Hahndorf.

A report on the preferred solution for the Millicent plant is due by December 2021. The report will be used to inform capital investment planning for the regulatory period beginning in 2024.

Negotiations are taking place with the EPA regarding requirements for Port Augusta but it is expected that SA Water will be expected to reduce discharge into Spencer Gulf, the capital cost of which would fall into the regulatory period beginning in 2024.

A report on the preferred solution for the Hahndorf plant is due by December 2019. Current planning assumptions are that implementation of new reuse will be necessary to reduce the discharge of wastewater into Hahndorf Creek.

Research has found that customers have a strong preference for SA Water to recycle wastewater where possible, rather than treat it and discharge it into the environment. Reuse is strongly favoured by the EPA also. Its advantages include protecting the environment, reducing pressure on drinking water sources and supporting primary production. As a consequence, SA Water approaches its Environmental Improvement Plan obligations with a focus on recycling.

The Committee supports this expenditure.

The Committee discussed the other elements of the proposed expenditure required to meet external obligations but did not investigate them in detail.

The \$108m for growth is made up of

- \$38m for upgrading wastewater treatment plants, principally at Bolivar
- \$70m for network growth.

The catchment area for the Bolivar Wastewater Treatment Plant is SA Water's largest. There are 156 pump stations which feed into two major pump stations and two large wastewater pipes prior to discharge at Bolivar. A technical study was undertaken in 2016 and 2017 to assess the capacity of Bolivar and to identify solutions to meet requirements to 2040. An assessment of the inlet channels was performed. Risks identified were that part of the channels were in poor structural condition, the mains which connect the pump stations to the inlet pipework were in poor condition and safety controls were inadequate.

If the inlet works are not large enough or the structures fail, there could be an environmental overflow, which, due to the size of the plant, could be significant. There are also potential impacts on the treatment plant performance if excessive volumes of inadequately screened sewage are discharged into other treatment plant units, leading to non-compliance with EPA requirements.

It is proposed to spend \$23m in the next regulatory period to address the most urgent issues by increasing the capacity of the inlet works, thereby mitigating the risk of environmental overflows, preventing unscreened sewage entering the main plant and providing for growth in the catchment area.

The Committee supports this proposal.

Of the \$70m to be spent on network growth, almost \$50m will be recovered through charges to new customers connecting to the network, both augmentation charges where the network needs to be

extended and connection charges where customers are connecting to existing infrastructure. The balance of the expenditure is required to overcome capacity restrictions in the networks feeding into the Bolivar and Glenelg treatment plants either through duplication of pipes or installation of larger pipes.

The Committee supports these proposals.

The \$42m for improving services is made up of

- \$31m to reduce wastewater overflows
- \$11m to expand the recycled water network.

Overflows from the wastewater system can affect customers directly through internal overflows on or in their property, or indirectly through overflows to the environment. Internal overflows can make a property unliveable until the issue is resolved.

The primary cause of a wastewater overflow is a blockage in either the pipework that connects a property to the sewer or in the sewer main itself. Analysis of environmental overflows has shown that 85% of these incidents can be attributed to a blockage in the gravity main. Tree root intrusion is considered to be the primary cause of blockages. Vitriified clay pipes make up around 50% by length of SA Water's wastewater mains but account for 82% of mains blockages.

Of the 10 000 mains sections in the network, 67% are first time offenders and 87% are either first or second time offenders. It is not possible, therefore, to address the problem by concentrating on particular trouble spots. The solution proposed is to implement the following initiatives

- Increase the current preventative cleaning program
- Conduct CCTV investigations to determine causes and then implement solutions to prevent recurrences
- Develop a predictive tool to identify areas for priority cleaning
- Conduct post-cleaning CCTV investigations to determine the appropriate cleaning frequency.

This solution relies on increased operating expenditure rather than a large capital expenditure program but supporting capex is required, made up of

- \$19m for renewals and upgrades to pumping stations
- \$3m for backup power at pumping stations
- \$2m for modelling of the network
- \$7m for smart network rollout and system analysis.

The improvement targets which SA Water has set are quite modest but, in the view of the Committee, appropriate to the scale of the problem. The Committee supports the proposal, noting that the operating expenditure component can be adjusted in future years.

The Glenelg Adelaide Recycled Water Scheme was commissioned in 2010 and currently supplies recycled water to a number of small and medium sized customers. A feasibility study will be undertaken to quantify the costs and benefits of expanding the scheme but it is expected that reuse is likely to be a lower cost option than further treatment and discharge into the Gulf. Most of the \$11m proposed for expansion of the recycled water network is for expansion of the Glenelg-Adelaide pipeline. This expenditure is dependent upon the option to recycle being a more cost-effective solution than greater treatment followed by discharge to the Gulf. The outcome hinges on finding customers for the treated wastewater.

The Committee notes that this is an example of a project where shadow pricing for environmental damage might be appropriate, given the views of customers about protecting the environment.

The \$229m for maintaining services is made up of

- \$115m for wastewater treatment plant renewals
- \$80m for wastewater network renewals
- \$3m for recycled water network renewals
- \$15m for third party works
- \$3m for improvements to SCADA
- \$11m for plant and vehicles
- \$2m for cathodic protection.

SA Water has a legislated responsibility to treat, in a suitable way, wastewater discharged by its customers. In order to meet this obligation, it must maintain its wastewater treatment plants.

In 2018, SA Water assessed 83% of its wastewater treatment assets and graded them from one to five in line with Water Services Association of Australia best practice principles. A grade one asset has 80% or more of its useful life remaining while a grade five asset has less than 12 months of its useful life remaining. For the assets not explicitly assessed, a condition grade was inferred based on age, projected life cycle and any previous assessments. Six per cent of the assets were graded at level five and another four per cent were graded at level four.

The relevant assets were then risk assessed to identify the likelihood and consequences of failure in terms of the impact on SA Water's responsibility to meet environmental and legislative requirements. Some were judged suitable for a "run to failure" approach and the rest were deemed to be "avoid failure" assets that required capital investment.

Of the \$115m proposed for this program, \$65m is for mechanical and electrical assets such as filtration and aeration systems, valves, pumps and motor controllers and \$50m is for civil works such as concrete structures (tanks) and steel structures (bridges, walkways). A decision not to carry out the proposed renewals program runs the risk of environmental and public health impacts, impacts on native flora and fauna, remediation costs and public nuisance. Such an approach also means that

SA Water is at risk of incurring emergency capital expenditure and losing control of its capital program in an environment where its revenue is capped.

The Committee considers the program to be directed at the right targets but notes that it lacks the expertise to comment on the level of expenditure required to meet the objectives of the program. Should the Commission wish to satisfy itself about this matter, it would need to engage an expert in the field.

A similar program is proposed for renewing the wastewater network. Since buried pipes cannot be assessed by inspection, SA Water must rely largely on responding to leaks and then feeding a camera through the pipes to discover their condition. Priority is given to renewing grade five assets with limited future life. Of the \$80m for network renewals, \$58m is to be spent on grade five assets to reduce blockage rates and the risk of collapse.

The purposes of the expenditures proposed for third party works, SCADA, major and minor plant (including vehicles) and cathodic protection mirror those for the comparable assets described under the water supply function. The Committee's comments mirror our comments under that heading.

Chapter Fourteen: Information Technology

SA Water's operations in providing drinking water and removing wastewater are supported by significant investments in information technology. The Digital Plan for the next regulatory period calls for capital expenditure of \$143.5m made up of

- \$26.3m for Digital Presence (\$28.8m in 2016-20)
- \$6.2m for Smart Infrastructure (\$1.8m in 2016-20)
- \$16.3m for Integrated Operations (\$13.4m in 2016-20)
- \$13.8m for Workforce Collaboration and Mobility (\$12.3m in 2016-20)
- \$9.3m for Data Intelligence and Integration (\$6.5m in 2016-20)
- \$13.8m for Corporate Systems (\$16.6m in 2016-20)
- \$57.8m for Risk Management. (\$48.5m in 2016-20).

In support of its IT proposals, SA Water made available to the Committee a benchmarking exercise carried out by KPMG just prior to the presentation, which compared SA Water with a number of other Australian utilities, including several water utilities, and which incorporated a survey of Chief Information Officers. The only notable difference between the priorities of other utilities and SA Water appeared to be in the area of cyber security, which SA Water appears to have lower on its agenda. This could be explained by the fact that SA Water benefits from the whole of Government protection provided by the South Australian Government. The Committee notes that expenditure on cyber security is proposed under the heading of risk management.

KPMG assessed SA Water across five "digital lenses", digital vision and strategy, engaging customers, governance and management, platform strategy, and network resilience. There is evidence of strong commitment from the leadership towards a digital business strategy, the challenge being to refine it and embed it. There is a need to bring together initiatives to engage with customers and those to increase workforce mobility in order to engage effectively with customers. Investments have been made in predictive models and data analytics but further work is needed to utilise the data effectively. SA Water has a solid platform and is at the start of a journey to use smart technology to build network resilience.

The Committee noted that SA Water's expenditure on IT was broadly in line with that of its peers on several measures. The exception was capital expenditure per customer which was \$33.50 per customer in the 2015-2018 period compared with \$27.10 per customer for peer utilities. For the next regulatory period this is expected to increase to \$44.80 per customer. No data was included in the benchmarking exercise on forecast expenditure for other utilities so it is not possible to draw reliable conclusions about the proposed level of expenditure.

The Committee had the benefit of access to business cases for all the IT proposals.

SA Water proposes to spend \$26.3m to enhance its digital presence. The current digital strategy is focused on transforming SA Water's website, providing e-billing and other payment channels and

some customer self-service functionality and online fault reporting. As a result of this investment, more than 11 000 digital service transactions occur per month, more than 10% of residential customers use digital services and customer registration has doubled in the past 12 months. There has been an increase in customer satisfaction and brand health directly related to these initiatives.

SA Water expects to be saving more than \$1m per annum by 2023 because of e-billing, which also makes it easier to engage with customers and communicate important information.

The initiatives proposed for the next regulatory period include \$10.5m to be spent on gaining a single view of the customer, by which is meant improving the capture of complaints, compliments and other feedback through all communication channels and using that information to assist field staff in responding to problems and for communicating with customers more generally. A further \$11.2m will be spent on augmenting digital communication and account management services to provide a seamless customer experience and produce cost efficiencies. The focus to date has been on major business accounts but this will be extended to all customer service areas.

SA Water proposes to spend \$6.2m on smart infrastructure. Currently, maintenance schedules are calendar driven. With better information about the state of assets, maintenance spending can be better targeted, leading to better customer outcomes and cost savings. The first step will be to invest in sensing technology for the earlier detection of faults and/or inefficient machine operation in a wider range of critical assets. The second step will be to create a data analytics platform to analyse the data collected and use it to compile condition-based maintenance regimes and better predict the useful lives of assets. This initiative is expected to be a significant contributor to future savings in operating expenditure.

SA Water proposes to spend \$16.3m on integrating its operations. Monitoring of most plant and some infrastructure is already centralised but control aspects such as adjusting chemical dosing, testing of water quality and changing flow rates or directions requires someone to be on site making judgements and taking action. The aim of this initiative is to centralise and automate as much as possible of this activity. The elimination of manual processes will lead to faster response times in the event of a fault, more accurate dosing responses due to better data about water condition, better quality water for customers and cost savings.

SA Water proposes to spend \$13.8m on tools for greater workforce collaboration and mobility. Whilst scheduling and capacity management tools are widely available for field crews, the rest of the business relies on mobile phone communication to locate the right person to attend to a problem. It is proposed to invest in collaboration tools that permit more effective communication so issues can be resolved more promptly, more effectively and more efficiently. At present, it is expensive to have staff available at remote sites to deliver safety inductions to employees and others. It is proposed to introduce technology solutions to permit inductions to be delivered remotely and provide staff with safety information relevant to the assets to which they are attending. These initiatives should make it easier to locate field staff, improve their job satisfaction by empowering them to act decisively and improve efficiency.

SA Water proposes to spend \$9.3m on data intelligence and integration. This investment is critical for the success of other IT investments proposed for the next regulatory period. SA Water has five different customer personas for residential customers and knows very little about its commercial and non-residential customers. It is, therefore, not possible to target services and communications secure in the knowledge that a complete picture of the customer is available. Furthermore there are 24 different systems which play a part in how SA Water manages its customer, corporate, asset and financial data. To overcome these shortcomings it is proposed to

- Increase the number of system integrations
- Deliver an information management program that will provide all business units with the data they need
- Improve governance capability so that data is managed responsibly
- Upgrade the system on which data analytics are run to improve its functionality.

SA Water proposes to spend \$13.8m on corporate systems. These are the systems such as procurement, finance and personnel that support day-to-day operations rather than serving customers. Improvements will occur in four key areas.

SA Water is an active trader in the energy market. Changes need to be made to maintain compliance with the requirements of the Australian Energy Market Operator. Unless the changes are made, electricity costs will increase by \$3m to \$4m per year and inability to sell electricity into the grid will put the Zero Cost Energy Future initiative at risk.

Procurement activities are currently carried out using a disparate mix of spreadsheets, bespoke databases and basic lists and surveys. While addressing risks associated with mismanaging contractors and suppliers, the upgrade of procurement systems is expected to deliver more efficient and better procurement outcomes. Cost savings are estimated at \$900 000 per annum and the project is expected to be NPV positive.

Business risks are currently managed inconsistently across the entity, using different processes and tools. One system will be introduced to unify and simplify these processes, improving confidence that the necessary oversight and reporting is in place.

The billing system is approaching the end of its useful life. It is presently based on properties, not customers, which means it cannot produce aggregated data about a customer. In the next regulatory period it is proposed to enhance the existing system by moving to a customer focus. This will make replacing the system at a later date less expensive and less risky.

SA Water proposes to spend \$57.8m on risk management related directly to its IT systems, comprising \$53.3m on refreshing assets, \$4.2m on cyber security and \$0.3m on building IT resilience.

SA Water maintains its IT infrastructure on the basis that (1) assets must be current and supported by vendors and (2) assets must avoid “legacy” status where they cease integrating with other systems built on more recent technology. Consistent with these principles, SA Water is required to

spend \$20m on 80 hardware assets and \$33m on 208 software assets in the next regulatory period. Failure to do so increases security risks, increases the likelihood of non-compliance with SA Government mandated controls and increases the likelihood of costly and damaging system failures.

To ensure investment on cyber security is allocated appropriately, SA Water estimates the likelihood and the consequences of an attack and assigns priorities. In recent times there have been attacks on the e-billing system, the payment gateway and by sending malware through the email system. As systems become more open to the public through online portals, the risks increase. Proposed security measures include ensuring customer access is secure, enhanced monitoring tools, privileged access management for critical systems and preventative security enhancements.

IT resilience is essentially business continuity management. Investment is based on the criticality of the system and is aimed to deliver recovery of critical systems within one hour and recovery of other systems within twelve hours.

By its own assessment, SA Water has room to improve in its use of IT to support its business aims. The Committee notes that SA Water's expenditure is not out of line with its peers on a number of measures but it is undertaking more capital expenditure per customer than its peers and, by this measure, is proposing a further increase in the forthcoming regulatory period. Sound arguments have been made for each of the proposed initiatives but the Committee does not have the technical skills to offer advice on the extent to which they are justified nor whether they are all required in the next regulatory period. The Commission would need to engage an expert to satisfy itself in this regard. The most the Committee can say is that there is nothing in the SA Water proposal to which there is an obvious objection.

Chapter Fifteen: Return on Capital and Depreciation

Approximately 60% of the revenue cap set by the Commission is made up of the return on capital and depreciation. Both are dependent in part on the value of the Regulatory Asset Base (RAB).

Historically, depreciation has accounted for approximately 20% of the revenue cap. The contribution which depreciation makes to the revenue cap is a product of the RAB and the various rates at which SA water depreciates its assets for accounting purposes. The Committee was presented with information about the useful lives assumed for SA Water's various asset types and considers them to be reasonable.

Return on capital has historically accounted for approximately 40% of the revenue cap. Small movements in the rate of return which SA Water is permitted to earn can have a big impact on the revenue cap and on prices, and this percentage will decline if the Commission retains its current approach to the calculation of the rate of return for the next regulatory period.

As mentioned previously, SA Water uses a combination of debt and equity to fund its capital investments. The Commission adopts the common assumption amongst regulators that 60% of capital investment is financed by debt and 40% by equity, based on evidence from similar asset-intensive businesses.

The Commission further assumes that SA Water will issue debt with a maturity of ten years and refinance 10% of that debt every year, thereby insulating itself against the risk of high interest rates at one point of time. For the purposes of striking an appropriate rate of interest, the Commission assumes that SA Water, as a stand-alone entity without a Government guarantee of its borrowings, would be able to borrow at rates appropriate to an entity with a BBB rating from a credit rating agency such as S&P Global Ratings.

SA Water does not contest the Commission's approach to calculating the debt component of the rate of return. The Committee notes in passing that the Government can borrow, on behalf of SA Water, at rates cheaper than a BBB entity. The effect of the regulatory process is that the Government retains this benefit.

The calculation of the debt component of the rate of return is backwards-looking. That is, it incorporates interest rates that were applicable up to ten years previously. By contrast, the approach the Commission adopts to calculating the equity component of the rate of return is forward-looking. That is, the Commission attempts to measure the rate of return SA Water would have to offer if it were attempting to raise equity in the market under current and projected conditions.

The Commission uses the Sharpe-Lintner Capital Asset Pricing Model (CAPM) to determine the return on equity for SA Water. The Committee has not been invited to comment on this highly technical model, nor is it well-equipped to do so. However, there are some aspects of it which were raised with us by SA Water and so we consider it appropriate to comment on those aspects.

The rate of return on equity is calculated by taking as a starting point the risk free borrowing rate (the ten year Commonwealth bond rate) and adding a premium for risk, calculated as the average premium expected by stock market investors, adjusted for the relative riskiness of the industry in which the investment is being made.

The market yields on ten year Commonwealth bonds vary from day to day. In order to arrive at the starting point for its calculation of the rate of return on equity, the Commission takes an average of observed market yields over the twenty business days immediately preceding the commencement of the regulatory period. SA Water considers the twenty day averaging period to be too short and proposes the use of an averaging period of sixty days. In this way, it hopes to avoid the risk that the twenty day period immediately prior to the commencement of a regulatory period contains a sufficient number of days with unusual market conditions that the average for the period is distorted, making the average inappropriate for calculating the return on equity.

Alternatively, SA Water proposed at one stage the use an average of the previous ten years of observed yields, which it claimed would even out fluctuations and produce a more stable price path over time, something valued by customers.

Partly in response to a request from the Committee, the Commission published a guidance paper on the topic. The paper examines historical data and concludes

- A ten year average approach has a much lower forecast accuracy than the current approach
- The large and persistent forecast errors likely to result from using a ten year average could lead to sizeable adverse impacts on allowed revenues
- A sixty day averaging approach is likely to produce limited additional accuracy compared with the Commission's twenty day averaging approach.

The paper concludes by saying

"... the Commission is open to the use of an approach similar to that used by the AER, where the regulated entity can choose an averaging period somewhere between twenty and sixty days, and must do so more than sixty days prior to the start of a regulatory period.

Annual resets of the regulatory rate of return could potentially be a mechanism to help to mitigate forecasting risk for the risk free rate."

The Committee would have no objection to a change from a twenty day averaging period to an approach such as that proposed by the Commission or to a sixty day averaging period as proposed by SA Water. We are happy to leave the matter for further discussion between the Commission and SA Water.

The Committee is also open to the notion of annual resets of the regulatory rate of return, not only to mitigate forecasting risk but also to mitigate the impact of price shocks at the commencement of each regulatory period.

Currently, the rate of return on equity is set for four years, so that when a new regulatory period commences the Commission must adjust the rate to accommodate changes in interest rates which have taken place over the previous four years. This fact alone can produce quite large movements in prices in the first year of the new regulatory period, regardless of the impact of SA Water's business plan.

As a solution to this problem, SA Water suggested that the risk free rate which forms the basis of the calculation of the return on equity should be the average of market yields for the previous ten years rather than the average for the previous twenty days. Over time, the long term average might be expected to smooth out short term fluctuations.

The Commission's research has demonstrated that this approach is a relatively poor way of predicting interest rates for the next four years because it incorporates interest rates from as long ago as ten years prior to the present. While it might be expected to produce a smoother price path, the evidence suggests it would also produce a rate of return which is less relevant to current market conditions. It seems to the Committee that the only way such a change could be justified would be if customers valued a smooth price path over prices relevant to current market conditions.

SA Water justified its proposal on the basis that research indicates customers value stable prices. Against a background of increases of up to 100% in water prices in the not so distant past, and rapidly rising energy prices, this should come as no surprise. It 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.

The facts are that interest rates have been in steady decline now for a number of years and, under the Commission's current methodology, this will have an impact on the rate of return on equity which will favour customers. For example, the weighted average cost of capital (incorporating the cost of debt and the return on equity) for the current regulatory period is 4.17% on a real post-tax basis and seems certain to be less than 3% for the next regulatory period, leading to a significant fall in prices in the first year of the next period and lower prices for the duration of the period. In an early presentation to the Committee, SA Water produced figures which showed that, using the Commission's current methodology, water prices would fall by 7.5% in the first year of the next period and sewerage prices would fall by 7.9%. Using the ten year average of the risk free rate, water prices would instead rise by 1.3% and sewerage prices would rise by 1.7%.

The Committee finds it impossible to believe that customers would prefer an increase in prices to a sizeable fall just because a 1% increase is more "stable" than a 7% fall.

The reality is that in the current environment, where interest rates have been in decline over a number of years and the market is predicting that they will remain low, it is contrary to the interests of customers for the Commission now to change its methodology to bring into the calculation of the rate of return on equity, interest rates from the distant past. SA Water would benefit at the expense of customers.

Were interest rates to rise over a number of years, the situation would be reversed and customers would benefit from the proposed change at the expense of SA Water. No doubt customers would be more sympathetic to the proposal if it were introduced in those circumstances, but the Committee would still have strong reservations about its appropriateness.

The Committee does not dismiss the notion that customers might prefer small annual changes in prices to large price shocks every four years. This could be achieved by adopting the Commission's suggestion of annual resets of the regulatory rate of return. Such an approach would benefit customers in times of falling interest rates and benefit SA Water when interest rates were rising.

The Committee notes, in passing, that this is a cautionary example of the dangers of drawing conclusions from surveys or focus groups where limited context is provided. It is probably true that customers prefer stable prices over prices which jump around or increase rapidly, but it is also probably true that they prefer falling prices to stable prices. If one is going to quote research findings the research must be relevant to the situation.

We note that SA Water has not persisted with this proposal. We do not believe it should be revived.

The other aspect of the CAPM which SA Water is seeking to change is the method used by the Commission to estimate long-term inflation expectations in order to deflate the initial targeted nominal rate of return, converting it to a real post-tax rate of return for the forthcoming regulatory period. It is necessary to adopt an assumption for long-term inflation expectations because SA Water's borrowing and investment decisions are for long horizons and have inflation expectations embedded within them, and the Commission uses market instruments with a term of ten years to arrive at the targeted nominal rate of return.

The Commission's current approach to estimating long-term inflation expectations is to take the Reserve Bank of Australia's (RBA) forecast of inflation one year ahead and assume inflation expectations of 2.5% thereafter, based on the mid-point of the RBA's inflation target band.

However, when SA Water's revenue cap is subsequently adjusted each year, the actual rate of inflation is used. This means that if actual inflation is less than the measure of long-term expectations used by the Commission, the increase in the revenue cap will be insufficient to match the discount factor used by the Commission to set the targeted real rate of return and SA Water will be disadvantaged. If actual inflation is greater than the measure of long-term inflation expectations used by the Commission, it is the customer who is disadvantaged.

SA Water is proposing an approach to forecasting inflation which places greater weight on market expectations and less on the RBA forecast and target band.

The Committee cannot add value to the debate about the best measure for forecasting inflation but is happy to see the matter considered. It is in the interests of the customer for the most accurate method to be used so that costs are neither over-recovered nor under-recovered and SA Water has

the correct incentives to invest in the business of providing services to its customers. Systemic under-recovery by SA Water might benefit customers in the short term but not the long term.

At the same time, the Committee does not consider a change should be made unless there is a conclusive argument in favour of such a change. The mere fact that the present method produces a low rate of return is not such an argument.

REFLECTIONS

Chapter Sixteen: Comments on the process

The Committee has a number of observations about the way in which the negotiation process unfolded. The fact that we consider it could be improved should in no way be seen as diminishing our appreciation of the initiative taken by the Commission and SA Water in subjecting their plans and the regulatory process to close and detailed scrutiny by a group acting on behalf of customers.

Understanding the Objective

The single greatest shortcoming was the lack of a common, precise understanding of the outcome or output which the process was intended to produce. It now seems apparent that, in order to achieve its objective of greater customer involvement in the 2020 regulatory determination, the Commission reached an understanding with SA Water that, to the extent that agreement could be reached between SA Water and the Committee, the work of convincing the Commission about the proposed business plan for the 2020 regulatory period would be reduced. This created an incentive for SA Water to convince the Committee to agree to as much of its business plan as possible and to record that agreement for transmission to the Commission once the "negotiation" period was concluded on 30 June 2019.

By contrast, the Committee Chair thought the Committee's role was to assist the Commission in its task of analysing the SA Water proposal for the 2020 period by challenging and probing each aspect of the proposed business plan. There might be aspects which the Committee opposed, there might be aspects about which the Committee had reservations and there would be aspects which the Committee broadly supported but subject to varying degrees of further examination by the Commission. The nature of the further examination required would be spelt out in the report to be submitted by the Chair by 30 September 2019.

One member thought the role of the Committee was to examine the evidence base for each aspect of the proposed business plan and, specifically, to form a view about whether it was the best way to address the problem and had the explicit support of customers. The main focus was on the quality of the customer engagement.

The third member had a different understanding again, based on a model used in Scotland and a similar model used in some States of the United States. In Scotland there is a Consumer Forum which jointly develops the business plan of Scottish Water. Once the plan is agreed, it is submitted to the Scottish regulator and formally approved. This requires a formal document to record the details of the agreement. In the United States there are similar arrangements except that the documented agreement is more in the nature of a legal agreement between a private sector service provider and a Government agency acting on behalf of customers.

The expectation of this member of the Committee was that there would be an agreement reached, documenting not only the expenditure initiatives which form part of the business plan for the 2020 regulatory period but the revenue caps which were a consequence. This extra element is critical, since it implies not only that the Committee has given approval to particular projects but has agreed to the plan in aggregate and the consequent impact on customers through their water and sewerage prices.

Committee members had expected that there might be debate about the necessity for some of the expenditure proposals advanced by SA Water but instead they were met with a determined defence of every aspect of the business plan. The only issue taken off the table during the entire process was a request for funding to pay for the costs associated with recreational access to reservoirs and that was removed only because the Government agreed to meet the cost. Furthermore, only the most trivial of changes were made to the business plan in response to issues raised by Committee members.

Lack of Time

Another important shortcoming was the amount of time available to the Committee to understand SA Water's strategic direction and priorities, to examine and challenge SA Water's regulatory proposal and to elicit the views of customers, as required by the Committee Charter.

The regulatory proposal was not approved by the Board of SA Water until February 2019 and was presented to the Committee at the very end of that month. The next regulatory period begins on 1 July 2020. In order for SA Water to finalise its submission to the Commission in support of its regulatory proposal, and in order for the Commission to have time to submit the proposal to the necessary scrutiny, the Commission set a deadline of 30 June 2019 for the completion of the negotiation process. This meant that the Committee had four months to examine and challenge the proposal.

In the course of those four months the Committee was presented with a large number of often quite complex proposals covering issues of an engineering, economic, environmental and health nature. The presentations took place weekly and were invariably presented with impressive skill but, in the time available, Committee members were not able to analyse the material presented to them, meet together to discuss the various issues, formulate a joint position and respond to the proposals in an orderly way. Instead, they raised questions individually during presentations. The process did not allow for proper resolution of outstanding questions because by the time answers were received, discussion had moved on to other issues.

The upshot was that the Committee felt pressured to respond to proposals before it had given them adequate consideration.

As regards eliciting the views of customers, the Committee was reliant upon the community engagement undertaken by SA Water over the preceding two years, the report of the Consumer Experts Panel and some subsequent discussions with members of the Panel, the experience of one

of its members on SA Water's Customer Working Group and some conversations with members of the Group at one of the Group's meetings. As indicated below, we think there was an opportunity missed to do more in the way of engaging with those who had participated in SA Water's community engagement processes. To gain an independent and reliable understanding of the preferences and priorities of SA Water customers, however, would have taken much more time than was available to the Committee.

Unproductive Use of Time

A third shortcoming was that the focus of the negotiation process was weighted too much in favour of the business plan and too little in favour of the form and content of the customer and stakeholder engagement undertaken by SA Water in order to formulate the plan. It is apparent that the time between the appointment of the Committee in October 2018 and the availability of SA Water's business plan at the end of February 2019 was not used productively. This meant that the period between the end of February and mid-June was very busy as the Committee tried to absorb both the content of the business plan and come to grips with the various means by which SA Water had attempted to obtain customer and stakeholder input.

Although the business plan was not formally ratified by the Board of SA Water until February 2019, almost all of the customer engagement which had helped in formulating the plan had taken place well beforehand. It should have been possible to use the months prior to the formal release to the Forum of the business plan to educate the Committee (and for the Committee to educate itself) about that engagement, thereby leaving the period from February to June available to consider the content of the plan. This is not to suggest that customer engagement was not raised in the November 2018 briefings but rather that Committee members came too late to the process to develop a framework for carrying out their task which gave proper balance to customer engagement and to the various components of the business plan. By default, the framework adopted was that prepared by SA Water, which did not anticipate the Committee's interest in canvassing the views of SA Water's customers.

Given the importance attached to customer engagement by both the Commission and the Panel (in the Priorities Report), the Committee would have benefited from the opportunity to consult with those with whom SA Water had engaged in order to hear their views on the effectiveness of the engagement. This was done to a very limited extent, in that the Committee met with the Panel and some of its members individually and had the opportunity for informal discussions with some members of SA Water's Customer Working Group at its final meeting, but on the whole an opportunity was missed.

A further advantage of earlier and concentrated focus on customer engagement would have been the opportunity it would have provided for the Committee to gain a better understanding of how the various strands fitted together and formed a coherent sequence. This may have seemed self-evident to SA Water members of the Forum but it was not to Committee members. While it was apparent that significant resources had been applied to engagement with customers, there were, to

the Committee, unexplained gaps between what customers had said and what appeared or did not appear in the final business plan.

[The Aggregate Impact of the Plan](#)

At the risk of repetition, we would like to make the point that the process was not a negotiation. A negotiation normally implies a discussion in which both sides put their views and make concessions in order to arrive at an agreement. This process never occurred. Instead, the Committee was invited to accept the wide range of proposals constituting SA Water's regulatory proposal.

A fundamental weakness of this approach is that the Committee is unable to form a view about the aggregate impact of the plan. While all the proposals (indeed an infinite number of proposals), taken individually, might be supportable, the aggregate impact on revenue (and ultimately on water prices) might be unacceptable. If the process were a true negotiation, the Committee would have formed a view about an acceptable increase in revenue and then engaged with SA Water on the question of whether some worthwhile proposals might be deferred or abandoned in order for the plan to fit within an acceptable revenue cap.

Use of the term "negotiation" raised expectations which were not realised and should be avoided unless the nature of the process is changed.

Chapter Seventeen: Possibilities for the Future

We have previously expressed our appreciation of the willingness of the Commission and SA Water to give representatives of customers the opportunity to comment on SA Water's proposed business plan for the forthcoming regulatory period. It should be possible to build on the goodwill created by this initiative to design an improved process for the regulatory period beginning in 2024.

One of the foremost examples of customer engagement in the water industry, and more broadly, is the process undertaken in Scotland. The process followed on this occasion in South Australia was modelled on the Scottish approach and it is instructive to compare the two.

Scottish Water provides drinking water to 2.4 million households and 150 000 business customers. It is regulated by the Water Industry Commission of Scotland in much the same way as SA Water is regulated by the Essential Services Commission. The third player in the process of developing Scottish Water's business plan is Citizens Advice Scotland (and its Consumer Futures Unit), a company limited by guarantee and a registered charity, active as a consumer advocacy body.

In 2011 a Co-operation Agreement was entered into between the Water Industry Commission, Scottish Water and the National Consumer Council (now replaced by Citizens Advice Scotland), following the rejection by Scotland of the decision of the UK Parliament to privatise the water supply function. Pursuant to that Agreement, a Customer Forum was established. The Forum had nine members. The Chair was a retired Parliamentarian, there were five representatives of customers, two representatives of water retailers and one member nominated by the Chamber of Commerce. The Forum was charged with the responsibility of working together with Scottish Water to devise a business plan for the 2015-2021 regulatory period which was consistent with guidelines issued by the Water Industry Commission. Significantly, the expected outcome was a written agreement between the Forum and Scottish Water which would be provided to the Water Industry Commission and accepted by all parties as the basis for the revenue determination for the next regulatory period.

The Customer Forum had a significant budget of the order of 175 000 UK pounds per annum (currently about \$320 000 Australian). Citizens Advice Scotland also receives funding for consumer engagement separately from this budget.

In developing its business plan, Scottish Water undertakes a significant program of research with customers, working with its research partner, Accent. The more significant of these activities are the Online Customer Panel, Online Stated Preference and Youth Research.

Scottish Water has a pool of 50 household customers available to participate in Online Panel activities over the course of a year or more. The customers build up a good understanding of the issues Scottish Water is confronting and give a customer perspective. Scottish Water claims this is extremely valuable to them in improving their services and informing their strategy because customers are able to place each issue within the context of the bigger picture.

Online Stated Preference research is used to identify which issues customers think Scottish Water should be addressing and the level of investment which should be committed. This research is carried out well in advance of the commitment of funds to enable Scottish Water to analyse customer feedback and subsequently check customer priorities to ensure that it is addressing the issues of enduring importance to customers.

Many of the investments undertaken by Scottish Water have a long time horizon and therefore will have a lasting impact on young people. Scottish Water has commissioned a series of online activities with 16-25 year olds and will be carrying out workshops at secondary schools to gain insights into the views of young people. Many of them professed to know very little about the role of Scottish Water and the extent of the services it provides, thereby emphasising the importance to Scottish Water of investing in public education and brand awareness.

The success of the Customer Forum process prompted the development of a further Co-operation Agreement for the regulatory period 2021-2027, with Citizens Advice Scotland replacing the National Consumer Council as a party to the Agreement. It is relevant to note that this Agreement was finalised in March 2017, over four years prior to the commencement of the regulatory period.

The key feature of the Agreement is the establishment of a further Customer Forum to play a formal role in facilitating effective customer engagement and acting as a conduit for customer views for the purposes of the 2021-2027 revenue determination.

The Agreement provides that the Water Industry Commission will issue a series of Decisions (comparable with ESCOSA guidance papers) to establish a framework within which the Customer Forum should operate. The three parties to the Agreement envisage that the Forum will seek to agree with Scottish Water a business plan which is consistent with these Decisions and with Ministerial Objectives and the Statement of Policy issued by the Scottish Government. In the event that this is achieved, the Water Industry Commission is “minded” to issue a determination for the 2021-2027 regulatory period which reflects fully and completely the agreed business plan.

The Forum will play a key role in the revenue determination process by

- Working with Scottish Water on a program of behavioural, quantitative and qualitative research to establish customer priorities for service improvements and the level of charges
- Ensuring that the research program includes a meaningful level of engagement with communities
- Representing to the Water Industry Commission and Scottish Water the priorities and preferences of customers as identified through the research program
- Seeking to secure the most appropriate outcome for customers based on their priorities and preferences by reaching agreement on the business plan for the regulatory period.

In undertaking these activities the Forum will work closely with Scottish Water to understand how Scottish Water has arrived at decisions about what needs to be done to meet the Ministerial

Objectives and the associated costs. The Forum will do this through the mechanism of a Business Plan Agreement Committee comprising no less than three and no more than five of its members, one of whom must be the Chair of the Forum.

The Forum is accountable to all three parties to the Agreement. It will provide quarterly reports to the three parties on its activities, and to the Water Industry Commission and Citizens Advice Scotland on its current view of progress towards reaching agreement on a business plan. There will be an annual meeting between the Forum, the Water Industry Commission and Citizens Advice Scotland and the Chair will meet with these two bodies every six months.

The Water Industry Commission will provide the Forum with a budget of 250 000 UK pounds per annum (currently around \$450 000 Australian) and 375 000 UK pounds in its busiest year (currently around \$675 000 Australian). In addition, it will provide technical assistance to assist the Forum analyse information provided by Scottish Water and various forms of corporate support such as accounting, accommodation, information technology, human resources and general administration.

Scottish Water and Citizens Advice Scotland will provide technical assistance upon request and meeting rooms upon request.

The Committee considers that there are a number of features of this model which could readily be translated to South Australia. In doing so, however, certain fundamental issues would need to be resolved.

The first of these is whether it were considered desirable to have a customer voice involved in providing broad oversight of the revenue determination process. The body in South Australia most comparable with Citizens Advice Scotland is the South Australian Council of Social Service (SACOSS). SACOSS is already funded by the Department of Human Services to consult with key consumer groups to identify and recommend to the Department projects which might be funded to ensure that water consumers are effectively represented in water regulatory determinations, policy making and market monitoring and development. A strong case could be made for involving SACOSS more directly in oversight of the regulatory process.

The nature of the body to engage with SA Water also needs to be resolved. In the opinion of the Committee, the Customer Forum in Scotland is a useful model but probably too large. The Customer Negotiation Committee, by contrast, is probably too small. We would prefer a body with no fewer than five and no more than seven members, including a Chair independent of customer interests and independent of SA Water. We are not much attracted to the notion of a subset of the Forum being designated as a Business Plan Agreement Committee to undertake the actual engagement with SA Water because it creates two classes of Forum member, those with full responsibility and those with an oversight role. We are of the view that Forum members need to be fully committed to the task, in return for which they should be properly remunerated.

The Forum could report regularly on progress to a tripartite group comprising the Chief Executives of the Commission, SA Water and SACOSS. This would provide the necessary oversight of the process and help to remove impediments to the achievement of the desired outcome.

Timing is an important issue and we have drawn attention to the fact that the process in Scotland was begun four years before the commencement of the regulatory period. A similarly early start is needed if the Forum is to guide the process undertaken by SA Water in engaging with customers and to help shape the business plan developed to meet customer expectations. This is true regardless of the precise level of influence the Forum is to exercise over the final form of that business plan.

The most critical issue is the precise level of influence the Forum is to exercise over the final form of the business plan. The process in Scotland is at one end of the IAP2 spectrum. The Forum is empowered to reach agreement with Scottish Water on its business plan for the next regulatory period and the expectation of all parties is that agreement will be reached and a formal document signed attesting to that agreement. The process undertaken by the Committee and SA Water fell well short of this.

The level to which customers are to be involved in revenue determinations for SA Water is a very important question of public policy and one in which the Government might expect to be involved as the elected representatives of the community. The Committee would strongly suggest that the appropriate parties be consulted and a decision reached on this matter as a matter of priority so that all interested parties have the same understanding about the outcome expected from the process next time it is implemented.

Whatever decision is taken about the precise level of involvement of customers in the oversight of the revenue determination, the Committee commends to the Commission the close involvement of customer representatives in Scotland in eliciting customer priorities and preferences for service levels and charges. Those representing customers need to be satisfied that the methods used by SA Water to establish these priorities and preferences are soundly based and faithfully reflect what customers want. Unless this objective can be achieved the process of customer engagement will not be seen as effective.

If the Forum is to play a significant role in the development of SA Water's regulatory business plan it needs to be a creature of substance. By this, we mean that its members need to be properly remunerated for the considerable commitment of time required to understand how best to engage with customers to determine their true priorities and preferences and to understand the challenges faced by SA Water in delivering water and wastewater services which are consistent with those priorities and preferences. We note that in Scotland, Forum members are paid for 50 days work per annum.

We mean also that the Forum needs to have access to resources, both analytical and administrative. Some of these resources could and probably should be provided by the Commission but the Forum

should also have access to a modest budget from which to meet the cost of independent advice or research, should it be needed.

In concluding this section of the report, I note that all members of the Committee consider the Scottish model worthy of consideration for introduction in South Australia. At least one member would go further and advocate for its introduction, both in respect of the framework which it provides and the level of influence exercised by consumers over the revenue determination.