

# SA WATER'S WATER AND SEWERAGE REVENUES 2013/14 - 2015/16

## DRAFT DETERMINATION: STATEMENT OF REASONS

February 2013



## REQUEST FOR SUBMISSIONS

The Essential Services Commission of SA (the Commission) invites written submissions from all interested parties in relation to the issues raised in this paper. Written comments should be provided by **19 March 2013**. It is highly desirable for an electronic copy of the submission to accompany any written submission.

It is Commission policy to make all submissions publicly available via its website ([www.escosa.sa.gov.au](http://www.escosa.sa.gov.au)), unless a submission either wholly or partly contains confidential or commercially sensitive information provided on a confidential basis and appropriate prior notice has been given.

The Commission may also exercise its discretion not to exhibit any submission based on their length or content (for example containing material that is defamatory, offensive or in breach of any law).

Responses to this paper should be directed to:

### **SA Water's Drinking Water and Sewerage Revenues 2013/14 - 2015/16**

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### **Public Information about ESCOSA's activities**

Information about the role and activities of the Commission, including copies of its latest reports and submissions, can be found on the Commission's website at [www.escosa.sa.gov.au](http://www.escosa.sa.gov.au).

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## GLOSSARY OF TERMS

ABS	Australian Bureau of Statistics
ACIL	ACIL Tasman
ADP	Adelaide Desalination Project
AEMC	Australian Energy Market Commission
AEMO	Australian Electricity Market Operator
AER	Australian Energy Regulator
AICP	Additional Infrastructure Compensation Payment
CAPM	Capital Asset Pricing Model
Capex	Capital Expenditure
Cardno	Cardno (Qld) Pty Ltd (supported by WS Atkins)
CGB	Commonwealth Government Bond
CIE	Centre for International Economics
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> .e	Carbon dioxide equivalent
Commission	Essential Services Commission of South Australia
COTA SA	COTA (South Australia)
CPI	Consumer Price Index
CPM	Carbon pricing mechanism
CSO	Community Service Obligation
DEWNR	Department for the Environment, Water and Natural Resources, SA
EPA	South Australian Environmental Protection Agency
ERA	Economic Regulation Authority of Western Australia

ESC Act	<i>Essential Services Commission Act 2002 (SA)</i>
ESCV	Essential Services Commission of Victoria
FFA	Full Financial Approval
FVC	Fair Value Curve
GAP	Glenelg to Adelaide Pipeline
GL	Gigalitre
GSP	Gross State Product
HOMA	Headworks Optimisation Model of Adelaide
Initial regulatory period	1 July 2013 – 30 June 2016
IPART	Independent Pricing & Regulatory Tribunal, NSW
kL	Kilolitre
M & E	Mechanical and electrical
ML	Megalitre
MLR	Mount Lofty Ranges
MWh	Megawatt hour
NEM	National Electricity Market
NERA	NERA Economic Consulting
NPR	National Performance Report
NSIS	North South Interconnection System (Project)
NSM	National Smart Metering
NTUC	Northern Territory Utilities Commission
NWC	National Water Commission
NWI	National Water Initiative

Ofwat	Office of the Water Services Regulation Authority, England and Wales
Ofgem	Office of the Gas and Electricity Markets (Great Britain)
Opex	Operating Expenditure
PIRSA	Department for Primary Industry and Regions South Australia
QCA	Queensland Competition Authority
RAB	Regulated Asset Base
RBP	SA Water's Regulatory Business Proposal 2013/14-2015/16
REC	Renewable Energy Certificate
Regulatory Statement	SA Government's 2012/13 Drinking Water and Sewerage Prices Regulatory Statement
SA Government	Government of South Australia
SA Water	South Australian Water Corporation
SACOSS	South Australian Council of Social Service
SAPN	South Australian Power Networks
SKM	Sinclair Knight Merz
t	Metric tonne
TFP	Total factor productivity
WACC	Weighted average cost of capital
Water for Good	SA Government's plan entitled " <i>Water for Good: a plan to ensure our water future to 2050</i> "
Water Industry Act	<i>Water Industry Act 2012 (SA)</i>
WWTP	Wastewater treatment plant



# 1. EXECUTIVE SUMMARY

The Essential Services Commission of South Australia (**Commission**) has made this draft determination (**Draft Revenue Determination**), under the *Essential Services Commission Act 2002 (ESC Act)*, which covers drinking water, sewerage, and other retail services to be supplied by the South Australian Water Corporation (**SA Water**) during the period from 1 July 2013 to 30 June 2016, and has released it for public consultation. In making this Draft Revenue Determination, the Commission has had regard to its primary objective: **protection of the long-term interests of South Australian consumers with respect to the price, quality and reliability of essential services**.

## 1.1 Overall real average revenue reductions

This Draft Revenue Determination sets two revenue caps: average water revenue per kilolitre (**kL**) and average sewerage revenue per connection. While the Commission does not set individual prices for services that fall within these caps (for example, water supply and usage charges), movements in average revenues are overall indicators of movements in the prices of services that fall within each cap.

In real (discounted for inflation) terms, the Draft Revenue Determination's revenue caps reduce average water revenue per kL significantly, while increasing average sewerage revenue per connection by a relatively small amount. Table 1-1 summarises the Draft Revenue Determination's average revenue caps with reference to forecast average revenues for the current (2012/13) year.

**Table 1-1: Real Average Water and Sewerage Revenue Caps 2013-14 – 2015/16<sup>1</sup>**

Year	2012/13	2013/14	2014/15	2015/16
Water revenue \$ per kL (annual change)	4.34	4.10 (-5.4%)	4.10 (0%)	4.10 (0%)
Sewerage revenue \$ per connection (annual change)	600.40	610.63 (+1.7%)	610.63 (0%)	610.63 (0%)

Average real water revenue per kL falls by 5.4% from 1 July 2013 and is then held constant for the remainder of the three-year period.

Average real sewerage revenue per connection rises by 1.7% from 1 July 2013 and is then held constant for the remainder of the three-year period.

As the average real water revenue reduction is larger than the average real sewerage revenue increase and that water accounts for about 70% of total water and sewerage

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<sup>1</sup> All real revenue numbers in this document are stated in dollars as of December 2012, unless otherwise stated.



revenues, overall real water and sewerage prices fall by around 3.3% under this Draft Revenue Determination.

The Commission will convert these real revenue caps into nominal revenues by adjusting for inflation shortly before the start of each year. For example, if inflation turns out to be 2.5% each year, then average nominal water revenue per kL would fall by 3% from 1 July 2013, average nominal sewerage revenue per connection would rise by 4.2% and overall nominal water and sewerage prices would fall by about 0.8%.

## 1.2 Drivers of average revenue changes

The overall average revenue reductions are primarily due to operating expenditure savings, which more than offset a small capital expenditure increase. The small capital expenditure increase largely reflects shifts in the timing of expenditures and a change in accounting treatment, rather than a real increase in expenditure.

As the water industry is capital-intensive, the revenue caps that the Commission sets are heavily dependent on the value of SA Water's assets. The Treasurer has decided to set the value of the Regulated Asset Base (**RAB**) and will do so in May 2013. As the Treasurer has not yet set the value of the RAB, the Commission has established revenue caps in this Draft Revenue Determination based on its understanding that the Treasurer will set the value of the RAB to achieve price paths for water and sewerage services equal to:

- The price paths that the Government forecast in its 2012/13 Drinking Water and Sewerage Prices Regulatory Statement (**Regulatory Statement**)

*plus/minus:*

- Adjustments to pass through to consumers the full impact of changes in capital and operating expenditures that the Commission makes relative to those forecast in the 2012/13 Regulatory Statement.

Table 1-2 and Table 1-3 present the Commission's calculation of the revenue caps for water and sewerage based on this understanding.

The Regulatory Statement forecast real average water revenue per kL to rise by 0.2% per year (a total increase of 0.6%) over the three-year period.

However, the Commission's real average water revenue cap is 5.6% below the Regulatory Statement's forecast in 2013/14. By 2015/16, the Commission's real average water revenue cap is 6% below the Regulatory Statement's forecast. This is largely because water operating expenditures that the Commission has allowed over the three years of the Draft Revenue Determination are \$145.2 million (14.1%) lower than those forecast in the Regulatory Statement. While capital expenditures allowed in the Draft Revenue Determination are higher than those forecast in the Regulatory Statement, they are substantially less than those proposed by SA Water and the net impact of capital and operating expenditure changes represents a significant reduction in average real water revenue per kL.

**Table 1-2: Real Average Water Revenue (\$ per kL)**

<b>Year</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>
2012/13 Regulatory Statement Water revenue \$ per kL <i>(annual change)</i>	\$ 4.34 <i>(+0.2%)</i>	\$ 4.35 <i>(+0.2%)</i>	\$ 4.36 <i>(+0.2%)</i>
<i>plus/minus:</i> Operating and capital expenditure adjustment	(\$ 0.25)	(\$ 0.26)	(\$ 0.26)
<b>Average revenue cap \$ per kL <i>(annual change)</i></b>	<b>\$ 4.10 <i>(-5.4%)</i></b>	<b>\$ 4.10 <i>(0%)</i></b>	<b>\$ 4.10 <i>(0%)</i></b>

*Note: totals may not add due to rounding.*

**Table 1-3: Real Average Sewerage Revenue (\$ per connection)**

<b>Year</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>
2012/13 Regulatory Statement Sewerage revenue \$ per connection <i>(annual change)</i>	\$ 604.32 <i>(+0.7%)</i>	\$ 608.41 <i>(+0.7%)</i>	\$ 610.82 <i>(+0.4%)</i>
<i>plus/minus:</i> Operating and capital expenditure adjustment	+\$ 6.31	+\$ 2.22	(\$ 0.19)
<b>Draft Determination Average revenue cap \$ per connection <i>(annual change)</i></b>	<b>610.63 <i>(+1.7%)</i></b>	<b>610.63 <i>(0%)</i></b>	<b>610.63 <i>(0%)</i></b>

The Regulatory Statement forecast a 1.7% increase in real average sewerage revenue per connection over the three-year period. The Draft Revenue Determination has allowed sewerage capital expenditure less than that forecast in the Regulatory Statement. However, while the allowed operating expenditures are substantially less than those proposed by SA Water, they are higher than those forecast in the Regulatory Statement. The Commission's real average sewerage revenue cap is 1.0% above the Regulatory Statement's forecast in 2013/14, but is slightly lower than the Regulatory Statement's forecast by 2015/16.

### *1.3 Required change in the value of the Regulated Asset Base*

The Commission can only implement the revenue caps specified in the Draft Revenue Determination if the Treasurer changes the value of SA Water's RAB to be consistent with those revenue caps. The Commission expects that this will require a significant overall reduction in the RAB value. The Commission will calculate the required reduction prior to its Final Revenue Determination. That reduction will depend on various factors that may change significantly prior to the Final Revenue Determination, such as interest rates.

A large part of the overall required RAB change will simply reflect differences in the methodologies that the Government has used in the past and those used by the Commission and other economic regulators. For example, the Government required only a 3.1% pre-tax return on "legacy" water assets; if these assets are to earn a commercial rate of return without increasing the revenues that they generate, their RAB value will need to be reduced significantly.

Conversely, the value of the sewerage RAB may need to increase if commercial rates of return remain below the 6% pre-tax return that the Government previously required those assets to earn.

The Commission will provide a recommended initial RAB value to the Treasurer prior to finalising its Final Revenue Determination. In the interests of transparency, the Commission will publish its recommendation to the Treasurer in its Final Revenue Determination.

The Commission may also consider recommending further reductions in the initial RAB value prior to making its Final Revenue Determination. For example, if the Commission concludes that South Australian water and sewerage prices remain high relative to other jurisdictions and that such price differences cannot be justified by differences between the costs of supplying South Australian and interstate customers, the Commission may recommend a further reduction in the initial RAB value to bring South Australian prices in line with those interstate.

### *1.4 Potential changes in the Final Revenue Determination*

The Commission will make its Final Revenue Determination in May 2013. The revenue caps made in the Final Revenue Determination may differ from those in this Draft Revenue Determination for a number of reasons, including:

- The Commission will take account of information and views provided in submissions;
- Changes in market conditions may cause the Commission to vary some estimates, such as trends in future input costs;
- Long-term forecasts of weather conditions and water flows may change; and
- The Commission is required to set revenue caps consistent with the initial RAB value to be set by the Treasurer in May.

## 2. INTRODUCTION

The Commission has released for public consultation this Draft Revenue Determination, which covers certain water and sewerage retail services to be supplied by SA Water. SA Water is the dominant supplier of water and sewerage services to Adelaide and many regional centres across South Australia; it supplies drinking water to approximately 95% of the State's population.

The Commission's Draft Revenue Determination covers the three-year period from 1 July 2013 to 30 June 2016 (**initial regulatory period**). In making this Draft Revenue Determination, the Commission has had regard to its primary objective: ***protection of the long-term interests of South Australian consumers with respect to the price, quality and reliability of essential services.***

The Commission's Draft Revenue Determination has been informed by:

- a Regulatory Business Proposal (**RBP**) supplied by SA Water;<sup>2</sup>
- submissions received in response to the Commission's Issues Paper on the RBP;
- independent expert advice; and
- scrutiny, analysis and recommendations provided by Commission staff.

SA Water's RBP was submitted to the Commission on 28 September 2012 in response to the Commission's Guidance Paper<sup>3</sup>, which set out various factors that the Commission required SA Water to provide as inputs for the Commission to consider in making this Draft Revenue Determination.

The Commission has prepared this Draft Revenue Determination to offer all members of the community the opportunity to provide comments and suggestions, which the Commission will give due consideration to in making its Final Revenue Determination. The Commission considers public consultation to be an essential element of any determination process. Therefore, the Commission encourages any member of the community to participate in this final consultation stage by making a submission.

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<sup>2</sup> SA Water, *Regulatory Business Proposal 2013*, September 2012; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf). The Commission has published non-confidential attachments to SA Water's RBP.

<sup>3</sup> Essential Services Commission of South Australia, *Review of SA Water's Prices 2013/14 - 2015/16: Guidance Paper*, February 2012, available at [http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices\\_2013-16-GuidancePaper.pdf](http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices_2013-16-GuidancePaper.pdf).

## 2.1 Legislative framework and role

The Commission, established under the ESC Act, is the independent economic regulator of essential services in South Australia. In undertaking its regulatory functions, the Commission's primary objective is the "**protection of the long-term interests of South Australian consumers with respect to the price, quality and reliability of essential services.**"<sup>4</sup>

The regulatory functions of the Commission are set out in section 5 of the ESC Act:

### **5—Functions**

*The Commission has the following functions:*

- (a) to regulate prices and perform licensing and other functions under relevant industry regulation Acts;*
- (b) to monitor and enforce compliance with and promote improvement in standards and conditions of service and supply under relevant industry regulation Acts;*
- (c) to make, monitor the operation of, and review from time to time, codes and rules relating to the conduct or operations of a regulated industry or regulated entities;*
- (d) to provide and require consumer consultation processes in regulated industries and to assist consumers and others with information and other services;*
- (e) to advise the Minister on matters relating to the economic regulation of regulated industries, including reliability issues and service standards;*
- (f) to advise the Minister on any matter referred by the Minister;*
- (g) to administer this Act;*
- (h) to perform functions assigned to the Commission under this or any other Act;*
- (i) in appropriate cases, to prosecute offences against this Act or a relevant industry regulation Act.*

A key function of the Commission under section 5 is regulating prices under relevant industry regulation Acts. The *Water Industry Act 2012 (Water Industry Act)* provides (at section 17) that the water industry (those operations associated with the provision of water or sewerage services) is a regulated industry for the purposes of the ESC Act.

As a result, the Commission has a general power to regulate prices in the water industry; however, under the provisions of the ESC Act, that power only comes into effect where authorised by, and in accordance with any procedural requirements of, an industry regulation Act.

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<sup>4</sup> Essential Services Commission Act 2002, section 6(a); available at <http://www.legislation.sa.gov.au/LZ/C/A/ESSENTIAL%20SERVICES%20COMMISSION%20ACT%202002/CURRENT/2002.14.UN.PDF>

Section 35 (1) of the Water Industry Act provides the relevant authorisation, such that the Commission may make a price determination under the ESC Act regulating prices, conditions relating to prices, and price-fixing factors for retail services in South Australia. As a basic proposition, therefore, the Commission may make price determinations under Part 3 of the ESC Act in respect of those services.

That said, there are a number of important legislative qualifications on the scope of the Commission's price determination powers.

First, in authorising the making of a price determination, the Water Industry Act limits the Commission's price determination role only to those services falling within the definition of "retail services"; any services outside the scope of that definition may not be the subject of a price determination by the Commission.

Section 4(1) of the Water Industry Act defines a retail service to be:

#### **4—Interpretation**

*retail service means a service constituted by—*

*(a) the sale and supply of water to a person for use (and not for resale other than in prescribed circumstances (if any)) where the water is to be conveyed by a reticulated system; or*

*(b) the sale and supply of sewerage services for the removal of sewage,*

*(even if the service is not actually used) but does not include any service, or any service of a class, excluded from the ambit of this definition by the regulations;*

As a result, any operations or services falling outside the scope of that definition are not amenable to price regulation by the Commission; for example, the provision of network services on a stand-alone basis is not price regulated.

Second, section 35(3) of the Water Industry Act provides that, in making a price determination under Part 3 of the ESC Act, in addition to any procedural requirements specified under section 24 of that Act (for example, the requirement to have regard to various matters and factors), the Commission must comply with the requirements of any pricing order issued by the Treasurer.

The Treasurer is provided with a power, under section 35(4) of the Water Industry Act, to issue a statutory instrument, known as a pricing order:

#### **35—Price regulation**

*(4) The Treasurer may, for the purposes of subsection (3), issue an order (a **pricing order**) that —*

*(a) sets out any policies or other matters that the Commission must have regard to when making a determination contemplated by this section;*

*(b) specifies various parameters, principles or factors that the Commission must adopt or apply in making a determination contemplated by this section;*

*(c) relates to any other matter that the Treasurer considers to be appropriate in the circumstances.*

On 24 September 2012, the Treasurer issued an Initial Pricing Order. In summary, the Initial Pricing Order requires the Commission to:

1. only determine the revenue which may be derived from the provision of drinking and sewerage retail services provided by SA Water;
2. determine revenues for the three-year period 2013/14 – 2015/16;
3. adopt a revenue cap, average revenue cap, or combination of the two, as the form of price regulation;
4. include a mechanism which allows for the adjustment of allowable revenues to be derived where the Commission determines there to be a material variation between forecast and actual water consumption or sewerage connections;
5. adopt an initial value of the RAB, to be specified by the Treasurer at a later date;
6. allow SA Water to recover the costs of certain non-commercial activities, externalities and water and planning management charges in accordance with a direction under Section 6 of the *Public Corporation Act 1993*; and
7. comply with National Water Initiative (**NWI**) pricing principles (other than the principles for recovering the costs of water planning and management activities).

A copy of the Initial Pricing Order is contained in Appendix A.

As a result, the Commission's ordinary price determination powers under the ESC Act are limited by the terms of the Initial Pricing Order. The Commission understands that the Treasurer will issue a second pricing order in May 2013, which will specify the initial value of the RAB that the Commission must apply in its Final Revenue Determination. The Commission will make its Final Revenue Determination shortly after the Treasurer has specified the initial value of the RAB.

As indicated in its Statement of Approach<sup>5</sup>, the Commission understands that the Treasurer will set the initial value of the RAB to achieve price paths for water and sewerage services equal to:

- The price paths that the Government forecast in its 2012/13 Regulatory Statement<sup>6</sup>  
*plus/minus:*

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<sup>5</sup> Essential Services Commission of South Australia, *Economic Regulation of SA Water's Revenues – Statement of Approach*, July 2012, pp.23-24; available at <http://www.escosa.sa.gov.au/library/120713-EconomicRegulationOfSAWatersRevenue-StatementOfApproach.pdf>

<sup>6</sup> Government of South Australia, *2012/13 Drinking Water and Sewerage Prices: Regulatory Statement*, July 2012, available at [http://www.treasury.sa.gov.au/data/assets/pdf\\_file/0017/1196/regulatory-statement-201213.pdf](http://www.treasury.sa.gov.au/data/assets/pdf_file/0017/1196/regulatory-statement-201213.pdf).

- Adjustments to pass through to consumers the full impact of changes in capital and operating expenditures that the Commission makes relative to those forecast in the 2012/13 Regulatory Statement.

As discussed in Chapter 11, the Commission expects that a significant reduction in the initial RAB value will be required to achieve this outcome.

As the full impact of changes in capital and operating expenditures that the Commission makes will flow through to consumers, the Commission's determination of the allowable capital and operating expenditures is a critical part of this Draft Revenue Determination. All other financial estimates contained in the Draft and Final Revenue Determinations (such as community service obligation expenses and payments) will have no bearing on the revenue caps that the Commission sets for the initial regulatory period.<sup>7</sup> However, as they will affect the initial RAB value that the Treasurer sets, they will affect the revenue caps and prices that will apply in the second and subsequent regulatory periods.

The Commission's Revenue Determination must be made in accordance with the requirements of the ESC Act, Water Industry Act, and the directions provided by the Treasurer's Initial Pricing Order and any subsequent pricing order(s). As the Initial Pricing Order requires the Commission to determine revenue only, the term "revenue determination" has been used, rather than "price determination", throughout this document.

## *2.2 Approach to making the Draft Revenue Determination*

In making this Draft Revenue Determination, the Commission has been informed by the RBP and submissions received, and relied upon:

- independent expert advice; and
- scrutiny, analysis and recommendations provided by Commission staff.

The Commission engaged the following independent experts:

- The Centre for International Economics (**CIE**), to undertake a top-down analysis of SA Water's efficiency and to assess the demand forecasts submitted by SA Water; and
- Cardno (Qld) Pty Ltd (**Cardno**), assisted by WS Atkins to undertake detailed engineering and financial analysis of SA Water's proposed capital and operating expenditures.

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<sup>7</sup> With the exception of the cost of capital, which has a small impact on the capital expenditure adjustments made in calculating revenue caps.



The Commission considered fifteen submissions that it received in response to its Issues Paper<sup>8</sup>; eight of these were submitted in confidence, while seven were submitted as public documents<sup>9</sup>, as summarised in Table 2-1.

**Table 2-1: Submissions on the Commission's Issues Paper**

PUBLIC SUBMISSIONS	CONFIDENTIAL SUBMISSIONS
<ul style="list-style-type: none"> <li>• Clare Region Winegrape Growers Association</li> <li>• COTA South Australia (<b>COTA SA</b>)</li> <li>• Department for Primary Industries and Regions, Government of South Australia (<b>PIRSA</b>)</li> <li>• Environmental Protection Authority (<b>EPA</b>) of South Australia</li> <li>• Private individual 1</li> <li>• South Australian Council of Social Service (<b>SACOSS</b>)</li> <li>• Woolworths Limited</li> </ul>	<ul style="list-style-type: none"> <li>• Company 1</li> <li>• Private Individual 2</li> <li>• Private Individual 3</li> <li>• Private Individual 4</li> <li>• Private Individual 5</li> <li>• Private Individual 6</li> <li>• Private Individual 7</li> <li>• Private Individual 8</li> </ul>

The Commission has given consideration to all issues raised in submissions during its review process. While the Commission has not adopted all positions put forward, all submissions have been helpful in assisting the Commission’s identification and consideration of relevant issues and have enabled the Commission to gain a comprehensive understanding of views held within the community.

Where appropriate, the Commission has, either by direct quotation or by reference to themes or point of views, acknowledged certain arguments and submissions in the text, to assist stakeholders in responding to the positions it has reached. However, failure to reference an argument or submission does not mean that the Commission has not taken that argument or submission into account in its deliberations.

The purpose of this review is to ensure that the Draft Revenue Determination meets two criteria; that it is consistent with relevant legislative requirements and, most importantly, that it promotes the long-term interests of consumers in South Australia. Collectively, SA Water’s RBP, submissions received, independent expert advice and scrutiny, analysis and

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<sup>8</sup> Essential Services Commission of South Australia, *Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14-2015/16 - Issues Paper*, October 2012; available at <http://www.escosa.sa.gov.au/Publications/DownloadPublication.aspx?id=2310&versionId=2431>.

<sup>9</sup> Publicly available submissions are available on the Commission’s website at <http://www.escosa.sa.gov.au/projects/186/determination-of-sa-water-s-drinking-water-and-sewerage-revenue-2013-14-2015-16.aspx#stage-list=1>.

recommendations provided by Commission staff have appropriately informed this Draft Revenue Determination.

The Commission acknowledges and thanks SA Water's staff for their assistance and responsiveness to the Commission's requests for information necessary to make this Draft Revenue Determination.

### *2.3 Structure of this document*

Chapter 3 defines the services which are covered by this Draft Revenue Determination.

Chapter 4 defines the service standards and the targets for each service standard that the Commission has set.

Chapter 5 presents the Commission's consideration of alternative forms of revenue control (such as total revenue and average revenue caps) and the Commission's decisions on the controls used in this Draft Revenue Determination.

The Commission's consideration of demand forecasts, which are a key driver of expenditures, is discussed in Chapter 6.

Chapters 7 and 8 provide the Commission's assessment of the prudent and efficient capital and operating expenditure required, respectively, each year to provide the regulated services and non-commercial services that the Government has directed SA Water to perform, given the specified service standard targets and demand forecasts.

Chapter 9 sets out the revenue caps that the Commission has established in this Draft Revenue Determination and their calculation.

In Chapter 10, the rate of return that the Commission will allow SA Water to earn on its RAB is calculated and explained.

Chapter 11 estimates the initial RAB value that the Treasurer would need to set to enable the Commission's revenue caps to be implemented.

Chapter 12 outlines how the Commission will consider whether, and how, to adjust revenue caps to allow pass-throughs of the expenditure impacts of certain unforeseen events.

Chapter 13 explains the Commission's proposed form of price regulation to apply to recycled water and excluded services.

The legal instrument giving effect to the Commission's decisions in this document, to be issued pursuant to Part 3 of the ESC Act, as authorised by section 35 of the Water Industry Act, has been published with this document<sup>10</sup>.

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<sup>10</sup> ESCOSA, *SA Water's Water Retail Services 2013/14-2015/16 – Draft Determination – Essential Services Commission Act 2002, Part 3*, February 2013; available at: [http://www.escosa.sa.gov.au/library/130206-SAWatersWaterRetailServices\\_2013-16-DraftDetermination.pdf](http://www.escosa.sa.gov.au/library/130206-SAWatersWaterRetailServices_2013-16-DraftDetermination.pdf)

## 2.4 Other Commission publications

Table 2-2 lists a number of previous publications of the Commission that are relevant to this Draft Revenue Determination. These publications are available on the Commission’s website.

**Table 2-2: Relevant Commission Publications**

DATE OF PUBLICATION	DOCUMENT
December 2010	Economic Regulation of the South Australian Water Industry – Statement of Issues <sup>11</sup>
November 2011	Economic Regulation of the South Australian Water Industry – Draft Advice <sup>12</sup>
February 2012	Advice on a Regulatory Return for SA Water – Final Advice <sup>13</sup>
June 2012	Economic Regulation of the South Australian Water Industry – Final Advice <sup>14</sup>
July 2012	Economic Regulation of SA Water’s Revenues – Statement of Approach <sup>15</sup>
July 2012	Water Retail Code – Consultation Draft <sup>16</sup>
October 2012	SA Water's Regulatory Business Proposal for the Revenue Determination 2013-2016 - Issues Paper <sup>17</sup>

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<sup>11</sup> Available at <http://www.escosa.sa.gov.au/library/101207-EconomicRegulationOfSAWaterIndustry-StatementOfIssuesPaper.pdf>

<sup>12</sup> Available at <http://www.escosa.sa.gov.au/library/111110-EconomicRegulationWaterIndustry-DraftAdvice.pdf>

<sup>13</sup> Available at <http://www.escosa.sa.gov.au/library/120221-AdviceRegulatoryRateOfReturnForSAWater-FinalAdvice.pdf>

<sup>14</sup> Available at <http://www.escosa.sa.gov.au/library/120607-EconomicRegulationWaterIndustry-FinalAdvice.pdf>

<sup>15</sup> Available at <http://www.escosa.sa.gov.au/library/120713-EconomicRegulationOfSAWatersRevenue-StatementOfApproach.pdf>

<sup>16</sup> Available at <http://www.escosa.sa.gov.au/library/120712-WaterRetailCode-ConsultationDraft.pdf>

<sup>17</sup> Available at [http://www.escosa.sa.gov.au/library/121011-ReviewOfSAWaterRegulationBusinessProposal\\_2013-16-IssuesPaper.pdf](http://www.escosa.sa.gov.au/library/121011-ReviewOfSAWaterRegulationBusinessProposal_2013-16-IssuesPaper.pdf)

## 2.5 *Next steps*

The Commission will consult on this Draft Revenue Determination until Tuesday, 19 March 2013. After considering all submissions, further independent expert advice and further scrutiny, analysis and recommendations provided by Commission staff, the Commission will provide a draft Final Revenue Determination to the Treasurer in May. The Treasurer will then set the initial RAB value and the Commission will then make and publicly release its Final Revenue Determination before the end of May 2013; it will take effect as of 1 July 2013.

### 3. CLASSIFICATION OF SERVICES

The Commission has classified SA Water's services into three broad categories: *direct control services*, *excluded services*, and *non-regulated services*.<sup>18</sup>

Not all services provided by SA Water are retail services (as defined under section 4 of the Water Industry Act) and, consequently, the Commission has no price regulation powers over those services. Therefore, they are referred to as *non-regulated services*.

For those services that are retail services, the Commission is able to apply various forms of price regulation, as specified in section 25(3) of the ESC Act. In its Guidance Paper, the Commission stated that it would separate retail services into two categories: *direct control services*, which are to be subject to revenue caps, and *excluded services*, which are to be subject to an alternative form of control (e.g. pricing principles or price monitoring).

In general, *excluded services* are those provided to a minority of customers. The Commission believes that the cost of such services should be recovered through specific charges to customers receiving those services, rather than through tariffs paid for by the majority of customers. In its Guidance Paper<sup>19</sup>, the Commission indicated that the following services are likely to be excluded services:

- Non-standard connection (water);
- Non-standard connection (sewerage);
- Annual audit (sewerage);
- Miscellaneous minor services;
- Recycled water audits;
- Easement extinguishment services;
- Fire plug flow testing services (for external parties); and
- Network analysis (developer inquiries).

*Direct control services* are all retail services that are not excluded services. The Commission's Guidance Paper indicated that they include (but may not be limited to):

- Sale and supply of drinking water;

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<sup>18</sup> This is consistent with the Commission's views in *Economic Regulation of SA Water's Revenues – Statement of Approach*, July 2012; available at <http://www.escosa.sa.gov.au/library/120713-EconomicRegulationOfSAWatersRevenue-StatementOfApproach.pdf>

<sup>19</sup> Essential Services Commission of South Australia, *Review of SA Water's Prices 2013/14 - 2015/16: Guidance Paper*, February 2012, pp.4-5, available at [http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices\\_2013-16-GuidancePaper.pdf](http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices_2013-16-GuidancePaper.pdf).

- Sale and supply of sewerage services;
- Standard connection (water); and
- Standard connection (sewerage).

### 3.1 SA Water’s proposed allocation of services to the Commission’s service classes

As SA Water provides many services, it has been necessary to allocate each of the services to one of the Commission’s three service classes. SA Water has proposed the allocations listed in Table 3-1. SA Water’s allocations are the same as those indicated in the Commission’s Guidance Paper, except in relation to standard connection services. Whereas the Commission indicated that standard connections (for water and sewerage) are likely to form direct control services, SA Water has identified them as an excluded service, on the basis that the costs of providing standard connections (as distinct from ongoing supply costs) have historically been recovered from those customers requesting the connection, as opposed to being recovered from all customers through tariffs.

**Table 3-1: SA Water’s proposed allocation of services into Commission’s service classes**

Direct control services	Excluded services	Non-regulated services
<ul style="list-style-type: none"> <li>• Sale and supply of water; and</li> <li>• Sale and supply of sewerage services.</li> </ul>	<ul style="list-style-type: none"> <li>• Standard and non-standard connection services;</li> <li>• Miscellaneous minor services;</li> <li>• Annual sewerage and recycled water audit services;</li> <li>• Easement extinguishment services;</li> <li>• Fire plug flow testing services; and</li> <li>• Network analysis services.</li> </ul>	<ul style="list-style-type: none"> <li>• Laboratory services provided on a commercial basis;</li> <li>• Project management services provided on a commercial basis;</li> <li>• Water transportation services provided to third parties;</li> <li>• Operation and maintenance of the River Murray lock system;</li> <li>• Soil and sand testing services;</li> <li>• Emergency functional services; and</li> <li>• Metropolitan floodwaters drainage administration.</li> </ul>

Source: SA Water Regulatory Business Proposal, p.48

SA Water proposed that direct control services also include trade waste services (included in sewerage services, consistent with the Water Industry Act), and recycled water services.

### *3.2 Issues raised in submissions*

The Commission did not receive any comments regarding service classification.

### *3.3 Commission's consideration*

The Commission accepts SA Water's proposed allocation of services between the Commission's service classifications, as they are generally consistent with the Commission's definitions of these classifications, previous guidance provided by the Commission and the Commission's interpretation of the Water Industry Act. The classification of standard water and sewerage connections (as distinct from ongoing supply) as an excluded service is accepted, on the basis that the costs of providing those connections are attributable to specific customers.

As non-regulated services are not price regulated and the Commission has confirmed that SA Water's RBP does not include expenditures related to such services, they are not discussed further in this Draft Revenue Determination.

### *3.4 Draft Decision*

#### **Draft Decision**

**The Commission adopts three service classes and the allocations of individual services to those classes summarised in Table 3-1 for the purposes of this Draft Revenue Determination.**

## 4. CUSTOMER SERVICE STANDARDS AND TARGETS

The Water Industry Act provides the Commission with the power to set customer service standards and targets for those service standards to be met by retail service providers. The purpose of setting customer service standards is consumer protection. They are distinct from health, environmental and other technical standards set by other regulatory bodies.

The Commission posted the service standards to apply to SA Water for the period 1 January 2013 to 30 June 2013 on the Commission's website on 16 November 2012.<sup>20</sup> At that time, the Commission indicated that it would determine the service standards to apply to SA Water from 1 July 2013 during the current Revenue Determination process.

The Commission adopted the following approach in deciding the service standards and targets specified in this Draft Revenue Determination:

- review data on actual service levels achieved by SA Water for each service standard over the five-year period 2006/07 - 2010/11;
- determine average and maximum service levels achieved for each service standard over that period;
- have regard to the importance of each service standard to customers;
- set service targets at levels that achieve an appropriate balance of benefits and costs (including costs of reporting by SA Water);
- set service targets on a 'best endeavours' basis;<sup>21</sup> and
- round targets to nearest 5% unless, in the case of rounding to 100%, there are sufficient factors in favour of setting at 99%.<sup>22</sup>

On 20 December 2012, the Commission released the final version of Water Industry Guideline No. 2 (WG2/01)<sup>23</sup> and an accompanying Explanatory Memorandum<sup>24</sup>. WG2/01 applies only to SA Water.

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<sup>20</sup> Essential Services Commission of South Australia, *Water Consumer Protection Framework*, November 2012; available at: <http://www.escosa.sa.gov.au/article/newsdetail.aspx?p=16&id=1044>.

<sup>21</sup> For an explanation of the 'best endeavours' approach, refer to the Commission's *Water Regulatory Information Requirements Water Industry Guideline No. 2 (WG2/01) - Explanatory Memorandum*, page 17; available at: [http://www.escosa.sa.gov.au/library/121220-WaterIndustryGuidelineNo2\\_WG2\\_01-ExplanatoryMemorandum.pdf](http://www.escosa.sa.gov.au/library/121220-WaterIndustryGuidelineNo2_WG2_01-ExplanatoryMemorandum.pdf).

<sup>22</sup> Essential Services Commission of South Australia, *Economic Regulation of the South Australian Water Industry-Final Advice*, June 2012, page 55; available at <http://www.escosa.sa.gov.au/library/120607-EconomicRegulationWaterIndustry-FinalAdvice.pdf>.



WG2/01 provides for the collection, allocation and recording of certain business data, to be reported to the Commission in accordance with the requirements and pro-formas specified in the Guideline. The Commission will use data collected under WG2/01 to monitor the performance of SA Water against service standards and requirements of the Water Retail Code – Major Retailers.<sup>25</sup>

The Explanatory Memorandum provides further detail on the consultation undertaken and the approach adopted by the Commission in developing the service standards that apply to SA Water for the six month period commencing 1 January 2013.

Those service standards apply for standard customer arrangements. They may differ from those that certain customers may agree with SA Water due to their specific circumstances.

In its *'Review of SA Water's Prices: 2013/14 - 2015/16 Guidance Paper'*<sup>26</sup>, the Commission advised that it would require SA Water to forecast costs based on the draft service standards that the Commission specified in its draft Water Retail Code.<sup>27</sup> The Commission also advised that if it subsequently varied the standards and/or targets following public consultation, it would consider a further submission from SA Water, prior to making its Final Revenue Determination.

#### 4.1 SA Water's proposal

SA Water based its RBP on the draft Water Retail Code released by the Commission in July 2012. However, it stated that it would be difficult to achieve some draft service targets that have been set at 100% without significant further investment in networks and systems.<sup>28</sup> SA Water also noted that the Water Minister's Customer Council had indicated that it did not wish to see a reduction in service standards in order to reduce water prices. However, SA

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<sup>23</sup> Essential Services Commission of South Australia, *Water Regulatory Information Requirements-Water Industry Guideline No.2 (WG2/01)*, December 2012; available at: <http://www.escosa.sa.gov.au/water-overview/codes-guidelines-and-rules/water-guidelines.aspx>. WG2/01 identifies the version of the Guideline, with "WG2" referring to Water Industry Guideline No.2 and "01" signifying version 1.

<sup>24</sup> Essential Services Commission of South Australia, *Water Regulatory Information Requirements Water Industry Guideline No. 2 (WG2/01) - Explanatory Memorandum*, December 2012; available at [http://www.escosa.sa.gov.au/library/121220-WaterIndustryGuidelineNo2\\_WG2\\_01-ExplanatoryMemorandum.pdf](http://www.escosa.sa.gov.au/library/121220-WaterIndustryGuidelineNo2_WG2_01-ExplanatoryMemorandum.pdf).

<sup>25</sup> Essential Services Commission of South Australia, *Water Retail Code-Major Retailers (WRC-MR/01)*, November 2012; available at: <http://www.escosa.sa.gov.au/library/121116-WaterRetailCode-MajorRetailers>.

<sup>26</sup> Essential Services Commission of South Australia, *Review of SA Water's Prices: 2013/14 - 2015/16 Guidance Paper*, February 2012, page 6; available at: [http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices\\_2013-16-GuidancePaper.pdf](http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices_2013-16-GuidancePaper.pdf)

<sup>27</sup> SA Water, *SA Water Regulatory Business Proposal 2013*, September 2012, page 153; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf).

<sup>28</sup> SA Water, *SA Water Regulatory Business Proposal 2013*, September 2012, page 33, available at: [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf).

Water considered that the Customer Council's view should be tested to determine whether it reflects the broad view of consumers.<sup>29</sup>

#### 4.2 *Issues raised in submissions*

No issues were raised in submissions on either the Commission's proposed service standards or the Commission's draft targets for those standards.

#### 4.3 *Commission's consideration*

In considering the service standards to apply for this Draft Revenue Determination, the Commission has had regard to the following:

- the service standards that the Commission previously set have applied since 1 January 2013;
- the Commission will only have available one quarter of data on SA Water's performance against these standards prior to making its Final Revenue Determination in May 2013; and
- the lack of time available<sup>30</sup> to undertake a willingness to pay survey or other research, to test the value that consumers would place on service standard changes.

Taking account of these factors, this Draft Revenue Determination adopts, without amendment, the service standards that the Commission had previously set and which have applied since 1 January 2013. Those service standards are set out in Appendix B.

As a consequence, the requirements of Water Industry Guideline No.2 (WG2/01) will continue to apply to SA Water throughout the initial regulatory period.

The Commission notes SA Water's concern regarding draft service targets that had been set at 100%. However, as stated in its Explanatory Memorandum, the Commission had regard to that issue and did not set any targets at 100% when it finalised the service standards and targets to apply from 1 January 2013. As the Commission has adopted those service standards and targets for this Draft Determination, the Commission does not consider that SA Water needs to revise its RBP expenditure forecasts in response to this Draft Determination.

The Commission will monitor SA Water's performance against these service standards and targets during the initial regulatory period, and may have regard to other factors, such as the results of a willingness to pay survey of SA Water's customers, in determining the service standards to apply from 1 July 2016 (i.e. during the second regulatory period).

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<sup>29</sup> SA Water, *SA Water Regulatory Business Proposal 2013*, September 2012, page 26; available at: [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf).

<sup>30</sup> Due to the delayed passage of the Water Industry Act.

The Commission notes that Cardno recommended that the Commission consider setting targets for the frequency with which service incidents occur, in addition to the timeliness of response to those incidents.<sup>31</sup> The Commission will consider that recommendation in developing the service standards and targets to apply from 1 July 2016.

The Commission will also consider the merits of adopting a broader range of service standards prior to making its Revenue Determination for the second regulatory period. Those considerations will take into account the Commission's experience in monitoring SA Water's performance against the initial set of standards. Such experience may assist the Commission in identifying and prioritising additional standards and/or eliminating existing standards.

#### 4.4 *Draft Decision*

##### **Draft Decision**

**The Commission adopts, without amendment, the current service standards that have applied to SA Water from 1 January 2013 for the purposes of this Draft Revenue Determination.**

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<sup>31</sup> Cardno, *Review of Capital and Operating Expenditure Plans for SA Water – 2013/14 to 2015/16 Price Determination - Final Report*, page 30; available at <http://www.escosa.sa.gov.au/library/130207-ReviewofCapexOpexPlansofSAWater-Cardno-FinalReport>

## 5. FORMS OF CONTROL

The Initial Pricing Order limits the Commission to determining *revenue caps* for retail services. It does not allow the Commission to determine *prices*. SA Water will set prices, which must comply with the Commission's revenue caps.

However, the Initial Pricing Order does provide the Commission with the discretion to adopt one of the following forms of control: a total revenue control, an average revenue control, or a combination of the two controls. It requires the Commission to apply separate controls for drinking water and sewerage retail services, but prevents the Commission from differentiating these controls across different customer classes (e.g. residential and commercial) or by location (i.e. the control must apply on a state-wide basis). The Initial Pricing Order also states that:

*The determination must include a mechanism which allows for the adjustment of the allowable revenue to be derived where the Commission determines there to be a relevant and material variation between forecast and actual rates of water consumption or sewerage connections.*<sup>32</sup>

The Commission must comply with these requirements. However, in its *Statement of Approach*, the Commission expressed concern that a number of the Initial Pricing Order provisions do not best serve the long-term interests of consumers.<sup>33</sup>

### 5.1. SA Water's proposal

SA Water proposed forms of controls based on the following criteria:<sup>34</sup>

- A preference for price stability;
- The likelihood and extent to which actual demand for services could differ from forecast demand;
- The degree to which costs of provision of services could change due to variations in supply constraints and demand level shift; and
- The difference between the short-run marginal costs and prices of services.

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<sup>32</sup> See clause 4.1.6 of the 24 September 2012 Pricing Order.

<sup>33</sup> Essential Services Commission of South Australia, *Economic Regulation of SA Water's Revenues – Statement of Approach*, July 2012, p15-16; available at <http://www.escosa.sa.gov.au/library/120713-EconomicRegulationOfSAWatersRevenue-StatementOfApproach.pdf>.

<sup>34</sup> SA Water, *Regulatory Business Proposal 2013*, September 2012, p 188; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf)

### 5.1.1. Form of control for drinking water services

SA Water proposed a total revenue cap, with the additional proviso that it be subject to a “banking” mechanism. Conditional upon a materiality threshold, that proposed banking mechanism would enable the Commission to adjust SA Water’s revenues in a subsequent regulatory period if variations between actual and forecast demand led to actual revenues (net of any change in marginal costs) being materially different to the revenue caps set for the initial regulatory period.<sup>35</sup>

SA Water noted that a total revenue cap *only* may result in price instability for customers, if actual demand varies from that forecast. For example, if water demand is less than forecast, SA Water could raise prices to increase revenues while still meeting a total revenue cap.

SA Water preferred not to apply an average revenue cap only, because it argued that while it may improve price stability, it would increase SA Water’s profit variability. For example, SA Water states that while there would be some cost-saving if demand fell, the revenue loss would be around 10 times higher.

Therefore, SA Water proposed a total revenue cap and a “banking” mechanism. The proposed banking mechanism would allow the difference between actual and forecast revenue in each year to be notionally “banked” (provided the difference is greater than 1%). Differences banked each year would accumulate revenue gains in years with above-forecast demands offset against revenue losses in years with below-forecast demands.

SA Water also proposed that any material residual bank balance at the end of the initial regulatory period be carried forward to the next regulatory period, after adjusting for marginal cost changes arising from the variation in water supply requirements relative to those forecast.

### 5.1.2. Form of control for sewerage services

SA Water proposed a total revenue cap only (with no banking mechanism) for sewerage services, on the basis that demand for sewerage services is much less variable than that for water services.

## 5.2. Issues raised in submissions

Two submissions commented directly on forms of control.

In response to SA Water’s proposal of a total revenue cap only for sewerage services, COTA SA agreed:

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<sup>35</sup> This proposal is discussed in greater detail in Chapter 10, and Attachment J.1, of SA Water’s RBP; available at [http://www.escosa.sa.gov.au/library/121011-J1\\_WorkedExamplesProposedFormControlBankingMechanism.pdf](http://www.escosa.sa.gov.au/library/121011-J1_WorkedExamplesProposedFormControlBankingMechanism.pdf)

*...that a total revenue cap is appropriate for sewerage services as this will provide some certainty to customers.*<sup>36</sup>

However, COTA SA did not support the form of control proposed by SA Water for drinking water services, arguing that it:

*...does not consider SA Water's proposed revenue model for drinking water services represents an appropriate balancing of demand risk between consumers and SA Water.*<sup>37</sup>

In particular, COTA SA was critical of SA Water's proposed banking mechanism, arguing that:

*This model serves to protect SA Water from competitive risk and offers none of the benefits to consumers that might be anticipated from a competitive market scenario. Indeed, it would seem more likely, that it would be in SA Water's interests to invest resources in maintaining a revenue buffer and identifying discretionary spending that would offset any reduction in prices to the consumer.*<sup>38</sup>

SACOSS also questioned the extent of demand risk that SA Water faced in the provision of water services and argued that SA Water would be compensated for bearing demand risk in the allowed rate of return anyway. SACOSS drew its attention to SA Water's analysis of demand variability<sup>39</sup> and pointed out that the results indicate a range of 6.35% (ie  $\pm 3.2\%$  pa) of actual demand variability. SACOSS also argued that given SA Water's high fixed water supply charges, the annual variability of total water revenues (supply and usage charges) is probably of only the order of 1-2%. Furthermore, SACOSS argued that:

*...the treatment of demand risk (or cashflow risk) should be reflected in the risk premiums used in the derivation of the Weighted Average Cost of Capital. The more that risk is allocated to consumers, the lower the appropriate risk premium for the business should be.*<sup>40</sup>

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<sup>36</sup> COTA SA, *Submission for Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14-2015/16*, November 2012, p 5; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-COTA.pdf>

<sup>37</sup> COTA SA, *Submission for Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14-2015/16*, November 2012, p 5; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-COTA.pdf>

<sup>38</sup> COTA SA, *Submission for Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14-2015/16*, November 2012, p 5; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-COTA.pdf>

<sup>39</sup> See RBP, Figure 5.9 and Table 5.9.

<sup>40</sup> SACOSS, *Submission for Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14-2015/16*, November 2012, p 10; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-SACOSS.pdf>

### 5.3. Commission's consideration

A key issue in the selection of the form of control is the treatment of demand volatility. A total revenue cap would lead to prices varying should actual demand vary from that forecast. Demand risk would be borne by consumers. An average revenue cap would lead to total revenues varying should actual and forecast demand differ (as opposed to prices varying). Under an average revenue control, demand risk would be borne by SA Water. A combination of a total revenue cap and an average revenue cap would lead to both prices and revenues varying with both consumers and SA Water bearing some demand risk.

The appropriate form of revenue control turns on the question: who should bear demand risk – SA Water or consumers?

As a first step in addressing that question, the Commission reviewed how other regulators have dealt with this issue.

#### 5.3.1. Forms of control used by other regulators

##### 5.3.1.1. Form of control in England & Wales

In England and Wales, the Office of the Water Services Regulation Authority (**Ofwat**) (2007) stated that its objective in choosing the form of price control was to provide:

*...the overall best incentives for companies to operate efficiently including the incentive to pursue a cost effective level of water efficiency and [to] recover a fair level of revenue from water customers.*<sup>41</sup>

Ofwat proposed a set of criteria which, if met, would fulfil this objective. These criteria are provided in Table 5-1.

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<sup>41</sup> "Forms of price control for the water industry", report prepared for Ofwat by DotEcon Ltd, 12 June 2007.

**Table 5-1: Ofwat criteria for the assessment of forms of price control**

- 1 Household bill stability
- 2 Implications for cost of capital
- 3 Strong incentives for general operating efficiency
- 4 Fair share of revenue outperformance between customers and companies
- 5 Consistency of bill movements with price control
- 6 Strong incentives for cost effective water efficiency
- 7 Strong incentives to bill all possible customers
- 8 Reduce revenue gaming at price setting (i.e. conservative forecasts)
- 9 Impact on competition
- 10 Simplicity
- 11 Reduce revenue risk for company
- 12 Regulatory intervention

*Source: "Forms of price control for the water industry", report prepared for Ofwat by DotEcon Ltd, 12 June 2007. p18.*

In an October 2010 discussion paper, Ofwat<sup>42</sup> considered that the forms of control should be designed to provide incentives for water utilities to manage demand and other risks. Ofwat observed that, even if a party is best placed to manage the probability of risk events occurring, it will have no incentive to manage those risks if it does not bear the consequences of those events occurring. For example, insulating a water utility from demand risk through a total revenue cap and/or a banking mechanism reduces its incentive to manage that risk.

Table 5-2 summarises Ofwat's views on the abilities of different stakeholders to manage various risks. For each of these risks, Ofwat concluded that customers have far less ability than regulated companies to manage the risk.

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<sup>42</sup> Ofwat, *Allocating risk and managing uncertainty in setting price controls for monopoly water and sewerage services: discussion paper*, October 2010; available at [www.ofwat.gov.uk/future/monopolies/fpl/prs\\_inf\\_1010fplrisk.pdf](http://www.ofwat.gov.uk/future/monopolies/fpl/prs_inf_1010fplrisk.pdf)



**Table 5-2: Water industry stakeholder abilities to managing risks**

Risk	Stakeholder								
	Central Government	Customers	Regulator	Taxpayers	Society	Company	Supply chain	New entrant	Investors
Political	✓✓✓	✓	✓✓✓	✓	✓	✓✓	✓	✓	✓✓
Regulatory	✓✓✓	✓	✓✓✓	–	✓	✓✓✓	✓	✓✓	✓✓
Economic	✓✓✓	✓	✓✓	–	–	✓✓	✓✓	✓✓	✓✓
Environment	✓✓✓	✓	✓✓✓	–	✓	✓✓✓	✓✓	✓✓✓	✓✓
Operational	✓	✓	✓✓	–	✓	✓✓✓	✓✓	✓✓✓	✓
Construction	✓	–	✓	–	–	✓✓✓	✓✓	✓✓✓	✓
Financial	✓✓	✓	✓✓	–	–	✓✓✓	✓	✓✓✓	✓
Business	✓✓✓	✓	✓✓	–	–	✓✓✓	✓	✓✓✓	✓

**Key:**

- ✓ Some limited role, which may include setting expectations that bear on the management of risk.
- ✓✓ Material role in managing risk or whose ex ante actions impact on the scope of the outcome.
- ✓✓✓ Complete/significant role in controlling or managing risk or whose ex ante actions impact on the scope of the outcome.

Source: Ofwat, “Allocating risk and managing uncertainty in setting price controls for monopoly water and sewerage services”, Discussion Paper, p23 [www.ofwat.gov.uk/future/monopolies/fpl/prs\\_inf\\_1010fplrisk.pdf](http://www.ofwat.gov.uk/future/monopolies/fpl/prs_inf_1010fplrisk.pdf)

Ofwat has stated that, for its next retail price determination:

*Our preferred option is to use a form of average revenue control. A control that governs average revenues has the effect of sharing between companies and customers the risk that demand for particular services is different to that assumed in our determinations. This provides the companies with an incentive to understand and forecast demand accurately across the period, while allowing them some flexibility to recover revenues by adjusting prices differently within the period.<sup>43</sup>*

### 5.3.1.2. Forms of control in Australia

The Commission has reviewed recent studies and reviews of price controls undertaken by the Queensland Competition Authority (QCA), the Economic Regulatory Authority of Western Australia (ERA), and the Essential Services Commission of Victoria (ESCV).

The QCA<sup>44</sup> recently considered how different forms of regulation affect risk, risk allocation, and the regulated firm’s cost of capital. It observed that alternative forms of regulatory control have different impacts on a regulated firm’s cash flows and therefore its exposure to (or insulation from) non-diversifiable risk and its cost of capital. In particular, the QCA found that:

<sup>43</sup> Ofwat, *Future price limits – a consultation on the framework, Appendix 4: Retail controls*, November 2011, available at [https://www.ofwat.gov.uk/consultations/pap\\_con201111fpl\\_app04.pdf](https://www.ofwat.gov.uk/consultations/pap_con201111fpl_app04.pdf).

<sup>44</sup> Queensland Competition Authority, *Risk and form of regulation: Discussion paper*, November 2012.

*Specifically, the form of regulatory control (e.g. revenue cap or price cap) affects the allocation of risk between the regulated firm and its customers. Therefore, in considering the choice of control, the regulator should take into account the effect of that control on risk allocation. If it transfers risk away from the firm and to customers (or vice versa) and a component of that risk is non-diversifiable, then the regulator should adjust the firm's beta accordingly to reflect the actual, non-diversifiable risk borne by the firm's investors.<sup>45</sup>*

The QCA also stated that:

*The form of regulation chosen should ideally allocate risks in the regulated market in an optimal manner among the relevant parties (i.e. the regulated firm, customers, and taxpayers). Important analytical findings are that the firm's (investors in the CAPM) and customers' attitudes toward risk are important determinants of the allocation of risk and, therefore, of the choice of the form of regulation. The relevant beta and cost of capital are then outcomes that follow from these choices. A key finding from the risk allocation literature is that some form of cost-sharing between the firm and customers is almost always more efficient in practice than implementing pure price caps or revenue caps which shifts risks entirely to one party.<sup>46</sup>*

Furthermore, in its price review for SunWater Irrigation, the QCA has examined the various risks SunWater faces and its operating environment and has recommended whether or not those risks should be allocated either to customers, to the government or to SunWater itself.<sup>47</sup> The QCA recommended that short-term volume risk should be addressed by setting a tariff structure that recovers fixed costs through fixed charges and variable costs through volumetric charges. In addition, the QCA recommended that long term volume risk should be borne by both SunWater and Government. It argued that SunWater “...should bear both the risks, and benefit from the revenues, associated with reducing distribution system losses” but that other long term volume risks should not be SunWater's responsibility.

In this instance, the QCA<sup>48</sup> recommended that a price cap was the appropriate form of control for drinking water services. It recommended that customers pay cost-reflective variable tariffs to ensure that they faced price signals that reflect marginal costs.

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<sup>45</sup> Queensland Competition Authority, *Risk and form of regulation: Discussion paper*, November 2012, p.vii. “Beta” is a measure of non-diversifiable risk and is explained in Chapter 10.

<sup>46</sup> Queensland Competition Authority, *Risk and form of regulation: Discussion paper*, November 2012, p.vii.

<sup>47</sup> Queensland Competition Authority (2012), *SunWater Irrigation Price Review: 2012-17, Volume 1*, p.40, May 2012.

<sup>48</sup> Queensland Competition Authority (2012), *SunWater Irrigation Price Review: 2012-17, Volume 1*, p.40, May 2012.

The Commission agrees that setting cost-reflective tariffs is critical for managing demand risk. If tariffs are structured such that revenues and costs are aligned as water demand fluctuates, the risk of actual and forecast demand varying is largely avoided.

### 5.3.2. Total versus average revenue caps

The Commission generally prefers average revenue caps to total revenue caps. A major drawback of setting a total revenue cap *only* is that it would provide SA Water with the freedom to raise prices when demand is below-forecast. In contrast, in competitive markets, prices generally fall when demand is below expectations. By insulating SA Water from demand risk, a total revenue cap may dampen key incentives, including the development of cost-reflective usage charges and rigorous consideration of demand risk in evaluating investments; the end-result is inefficiencies in both consumption and investment, which is not in the long-term interests of consumers.

Furthermore, while a total revenue cap may reduce SA Water's demand risk, it does so only by transferring this risk to consumers who are less able to manage it.

An average revenue cap limits the revenue earned per unit sold. It promotes price stability for customers. The Commission believes that risk should be allocated to the party who is better able to manage that risk and, in this case, the Commission believes that party to be SA Water, particularly as it is able to set its own prices. The Commission notes that current water usage charges are substantially above long-run marginal cost<sup>49</sup> and are probably substantially above short-run marginal cost. This is not in the long-term interest of consumers. SA Water has stated that marginal revenues associated with demand variations are approximately 10 times higher than short-run marginal costs. SA Water can significantly reduce demand risk by setting usage tariffs to reflect the marginal cost of supply.

The Commission considers an average revenue cap to be the appropriate form of control for SA Water, as it:

- Provides SA Water with appropriate incentives to make efficient investment decisions. Demand risk is a relevant risk that businesses should consider in making business decisions. Insulating a regulated business from demand risk is likely to lead to overinvestment, which is not in the long term interest of consumers.
- It prevents SA Water being doubly compensated for demand risk. An appropriate reward for bearing demand risk is already built into the weighted average cost of capital (**WACC**<sup>50</sup>). Insulating SA Water's cash flows from demand risk would therefore insulate SA Water from a risk that it is already fully rewarded for bearing and result in consumers paying unnecessarily high prices.

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<sup>49</sup> Tier 2 and tier 3 residential usage tariffs are currently \$3.45/kL and \$3.73/kL respectively, compared to an estimated long-run marginal cost of \$2.75/kL (see the 2012/13 Regulatory Statement, p.4, available at <http://www.treasury.sa.gov.au>).

<sup>50</sup> The WACC is discussed in Chapter 10.

- Provides incentives for SA Water to charge cost-reflective prices. The most effective tool for managing demand risk is through the setting of cost reflective prices. As SA Water will set prices, it is best placed to manage demand risk. An average revenue control will provide SA Water with flexibility in setting individual tariff components.
- Creates a strong incentive for SA Water to develop rigorous demand forecasts.
- May encourage SA Water to consider adopting additional risk management strategies such as hedging against extreme weather conditions and supply portfolio diversification; both of which are strategies that many businesses, exposed to demand volatility, do undertake.

SA Water proposed a total revenue cap with no banking mechanism for sewerage services. However, for the reasons outlined earlier, the Commission prefers an average revenue cap to a total revenue cap.

In its submission, COTA SA supported a total revenue cap for sewerage services as an appropriate form of control. While demand risk may be lower for sewerage services than drinking water services, the principle of allocating demand risk to SA Water still applies, as SA Water is best able to manage that risk.

### *5.3.3. Compliance with Pricing Order*

Clause 4.1.6 of the Initial Pricing Order requires the Commission to include a mechanism that allows revenue to adjust if the Commission determines there to be a material variation between actual demand and demand forecast under the Revenue Determination. While the Commission considers that an average revenue cap is the most appropriate form of control for SA Water, a “pure” average revenue cap would not comply with Clause 4.1.6 of the Initial Pricing Order.

The Commission is concerned that Clause 4.1.6 insulates SA Water from demand risk. Nevertheless, the Commission must comply with the Initial Pricing Order. Therefore, the Commission proposes a revenue adjustment mechanism that is similar to that proposed by SA Water. The proposed mechanism would operate as follows:

- The average revenue caps set by the Commission would apply throughout the initial regulatory period, regardless of demand variations.
- At the end of that period, the Commission would look back to determine the extent to which water sale volumes and sewerage connections varied from those forecast in the Final Revenue Determination.
- Should the change in revenue that results from those variations exceed a materiality threshold (calculated over the entire period), the mechanism would be activated.
- Once activated, the mechanism will allow revenues to increase in the subsequent regulatory period (if sales/connections were materially below those forecast) or

decrease (if sales/connections were materially greater than those forecast) by 30% of the cumulative difference between actual and forecast revenues.

The mechanism does not adjust subsequent revenues by the full amount of the cumulative difference between actual and forecast revenues.

In part, this is because the impacts of demand variations on SA Water's profits would be less than the revenue impacts, as the associated cost savings/increments would partly offset revenue losses/gains.

In addition, the Commission does not wish to insulate SA Water from demand risk unduly. The decision on an appropriate ratio (in this case 70/30) is necessarily a matter of judgement. Finally, the Commission has also considered the uncertainty that surrounds the future bounce-back of water demand following the lifting of water restrictions. On balance, the Commission considers a 30% adjustment factor to be reasonable. The Commission may review the adjustment factor in the future.

Note that the adjustment mechanism is symmetrical: if the cumulative difference between actual and forecast revenues is positive (due to demand exceeding forecasts), the Commission would reduce subsequent revenue caps by 30% of the cumulative difference.

While the Commission is still considering the technical aspects of the adjustment mechanism, including a relevant materiality threshold, it welcomes comments on the merits of that mechanism.

While the Initial Pricing Order limits the Commission to determining revenues rather than prices, the Commission believes that it is important to identify opportunities to improve the structure of prices.

Current tier 2 and 3 water usage charges are not in the long-term interests of consumers, as they are substantially above cost. Therefore, the Commission recommends that SA Water implement any real average water revenue reductions that the Commission may make in its Final Revenue Determination by focusing on moving usage charges towards costs.

The Commission is also concerned that the current policy of setting sewerage charges based on property values causes sewerage charges for many consumers to vary substantially from the cost of supply. The Commission believes that this is not in the long-term interests of consumers. However, the Initial Pricing Order prevents the Commission from changing this approach to sewerage pricing.

The Treasurer has requested that the Commission undertake an Inquiry into pricing reforms for retail water and sewerage services. The Commission will consider reform of water usage and sewerage charges during this Inquiry. However, the final report of the Inquiry is not due until 31 December 2014.<sup>51</sup>

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<sup>51</sup> Letter from the Treasurer to the Commission dated 24 September 2012.  
[http://www.escosa.sa.gov.au/library/121207-InquiryDrinkingWater\\_SewerageRetailServicesPricing-NoticeOfReferral.pdf](http://www.escosa.sa.gov.au/library/121207-InquiryDrinkingWater_SewerageRetailServicesPricing-NoticeOfReferral.pdf)

## 5.4. Draft Decision

### **Draft Decision**

The Commission adopts for the purposes of this Draft Revenue Determination:

- Average revenue controls for each of drinking water and sewerage services; and
- An adjustment mechanism for each of drinking water and sewerage services, which will allow total revenue to increase or decrease by 30% of the change in total revenue resulting from any material difference between forecast and actual demand. The revenue adjustment will be taken into account when the Commission makes its revenue determination for the second regulatory period (commencing 1 July 2016). It will not affect average revenues during the initial regulatory period.

## 6. DEMAND FOR DRINKING WATER

Demand forecasts play an important role in revenue determinations, as they drive future capital expenditures, operating expenditures and total revenues.

In its RBP, SA Water presented its forecasts of demand for drinking water over the initial regulatory period, which were prepared with the assistance of its consultant, ACIL Tasman Pty. Ltd. (**ACIL Tasman**).<sup>52</sup>

The Commission scrutinised these forecasts and engaged CIE, to review SA Water's (and ACIL Tasman's) demand forecasting methodology and results.

Demand for sewerage services is less volatile than water demand and was not the subject of the ACIL Tasman report or the CIE review. Growth in the number of sewerage connections is reasonably predictable and the Commission has considered such growth and factored it into its assessment of SA Water's proposed capital and operating expenditures. Therefore, the remainder of this chapter focuses on the demand for water only.

### 6.1 SA Water's proposal

Key points that SA Water made in its RBP included:

- Demand for water has fallen substantially in recent years – from 222 gigalitres (**GL**) in 2006/07 to 177GL in 2011/12.<sup>53</sup> SA Water argued that this 20% reduction was primarily due to serious drought-related water restrictions (now eased) and price increases. Despite the easing of water restrictions in December 2010, SA Water stated that water demand will not return to pre-drought levels during the initial regulatory period;
- Price responsiveness of demand and other factors are expected to suppress demand growth during the initial regulatory period. However, SA Water forecast residential demand to increase by approximately 7.5GL (or 4.3%) by the end of that period; and
- Demand for water has become more volatile in recent years. Therefore, SA Water argued that demand forecasts have a high degree of uncertainty.

The following sections provide an overview of SA Water's modelling approach and forecasts.

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<sup>52</sup> SA Water, *Regulatory Business Proposal 2013-Attachment E.1 Demand Forecasting Methodology*, report prepared by ACIL Tasman, September 2012; available at [http://www.escosa.sa.gov.au/library/121011-E1\\_SAWaterDemandForecastingMethodology.pdf](http://www.escosa.sa.gov.au/library/121011-E1_SAWaterDemandForecastingMethodology.pdf)

<sup>53</sup> Originally, SA Water had stated in its RBP that water consumption for 2011/12 was likely to be 184GL; however, information provided to the Commission by SA Water suggests that actual billed water consumption in 2011/12 was 177GL, not the 184GL as previously estimated.

### *6.1.1 Modelling the demand for water*

For the purposes of modelling the demand for drinking water, SA Water's RBP categorises customers into three distinct groups:

1. Residential customers;
2. Commercial customers;<sup>54</sup>
3. Other Non-Residential customers, which include industrial, rural water and other users.

SA Water's demand forecasts for residential and commercial customers are based on separate regression models that analyse customer numbers and water use per customer. The two models were combined to provide total demand forecasts across the two customer segments. The models explained 89% to 95% of the variation in historical total demand data.

In modelling water use per customer, SA Water adopted the following explanatory variables: price, temperature and water restrictions. For commercial customers, economic activity was also included as a driver of water use.

SA Water found that population growth was the best predictor of growth in the number of residential customers; it explained 99% of the historical variation in that variable. However, in the case of the number of commercial customers, it found Gross State Product (**GSP**) to be the key (and only) explanatory variable; it explained 98% of the historical variation in that variable.

SA Water modelled other non-residential demand in a "one-step" approach that combined both customer numbers and water use drivers. The model used all four variables listed above (GSP, price, temperature and water restrictions).

### *6.1.2 Price elasticity of water demand*

Water bills from SA Water are made up of two components: a fixed supply charge and volume-related usage charges. For residential customers, usage charges comprise three tiers of inclining block tariffs; the usage charge per kL rises with volume demanded. Commercial and other non-residential customers pay only a single usage charge per kL (equal to the second tier charge residential customers). SA Water has based its derivation of the price elasticity of demand for water on the second tier price which, for the majority of SA Water's customers, is the marginal price of water.

The second tier water price has risen substantially since 2006/07. However, SA Water noted that as price increases have coincided with drought and various demand management programs (including water restrictions), it is difficult to separate the effects of price changes from those other factors. It concluded that the price variable in its regression models also captured some of the effects of those other factors. While its regression model estimated a

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<sup>54</sup> As defined within the Waterworks Act 1932 (now repealed by the Water Industry Act 2012).



price elasticity of demand of -0.38 for residential users, this was reduced to -0.28 to exclude the effects of those other factors and bring it more in line with elasticity estimates produced by other studies.<sup>55</sup>

The price elasticities of demand for commercial users and non-residential users were estimated to be -0.37 and -0.32, respectively.

### 6.1.3 Modelling the lifting of water restrictions

SA Water’s modelling indicated that, after the lifting of restrictions, water consumption levels will not bounce back to pre-restriction levels.

It concluded that, even assuming average weather conditions, water demand is forecast to fall further in 2012/13 in response to recent large price rises (including the 25% increase as of 1 July 2012). SA Water estimated demand to fall by 4.0% for residential customers, 4.8% for commercial customers, and 5.2% for other non-residential customers. It also predicted that this fall would be followed by modest demand increases (averaging 1.4% per annum) during the initial regulatory period, driven by expected increases in customer numbers rather than by increases in consumption per customer. Under these forecasts, total demand would remain well below pre-2007 levels.

### 6.1.4 Summary of SA Water’s demand forecasts

Table 6-1 summarises SA Water’s demand forecasts. The Commission notes that the South Australian Government adopted significantly higher demand forecasts (190GL per annum) for each year between 2012/13 to 2015/16 when it set SA Water’s 2012/13 prices.<sup>56</sup>

**Table 6-1: SA Water’s proposed water demand forecasts 2013/14 – 2015/16 (GL)<sup>57</sup>**

	2012/13	2013/14	2014/15	2015/16
Residential	119.0	120.8	122.5	124.3
Commercial	9.1	9.3	9.6	9.8
Other non-residential	48.2	48.7	49.3	49.7
<b>Total</b>	<b>176.3</b>	<b>178.9</b>	<b>181.4</b>	<b>183.8</b>

<sup>55</sup> SA Water, *Regulatory Business Proposal 2013-Attachment E.1 Demand Forecasting Methodology*-report prepared by ACIL Tasman, 2012, p56; available at [http://www.escosa.sa.gov.au/library/121011-E1\\_SAWaterDemandForecastingMethodology.pdf](http://www.escosa.sa.gov.au/library/121011-E1_SAWaterDemandForecastingMethodology.pdf)

<sup>56</sup> Government of South Australia, *2012-13 Drinking Water and Sewerage Prices-Regulatory Statement*, July 2012; available at [http://www.treasury.sa.gov.au/\\_data/assets/pdf\\_file/0017/1196/regulatory-statement-201213.pdf](http://www.treasury.sa.gov.au/_data/assets/pdf_file/0017/1196/regulatory-statement-201213.pdf)

<sup>57</sup> SA Water *Regulatory Business Proposal 2013*, p63

## 6.2 Issues raised in submissions

Submissions did not provide comments on SA Water's proposed demand forecasting methodology. However, COTA SA agreed with the modelled conclusions; that a combination of factors, particularly high retail prices, will place downward pressure on usage and stabilise demand.<sup>58</sup>

## 6.3 Commission's consideration

The Commission engaged CIE to conduct a review of SA Water's demand forecasts. The Commission asked CIE to:

- Review the historical drivers of demand and SA Water's approach to modelling them;
- Examine SA Water's forecasting model (as developed by ACIL Tasman), particularly the methods used to forecast customer numbers and average consumption per connection, and the 'reasonableness' of the outcomes;
- Recommend improvements/amendments if it considered any aspects of the model to be unreasonable; and
- If necessary, provide a revised demand forecast based on the recommended amendments.

CIE provided its final report and recommendations to the Commission in January 2013. It is available on the Commission's website.<sup>59</sup>

### 6.3.1 Review of demand modelling methodology

CIE concluded that SA Water's paper on its demand modelling provided a high level of transparency of both the data and the modelling approaches underpinning the forecasts. It considered that SA Water's forecasting approach was generally sound and CIE's recommendations had regard to particular technical areas of the forecasting approach and updates on relevant data. CIE's recommendations, if applied individually, make material changes to many of the components that make up the forecasts. Once all the changes are made, however, the net result is similar to the demand forecasts proposed by SA Water over the regulatory period.

In its advice to the Commission on SA Water's demand forecasting methodology, CIE recommended that:

- 1 *Historical population data be updated within ACIL's demand forecasting model.*

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<sup>58</sup> COTA SA, *Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14-2015/16-submission*, November 2012, p8; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-COTA.pdf>

<sup>59</sup> CIE, *Review of Demand Forecasts for SA Water-Final Report*, January 2013; available at <http://www.escosa.sa.gov.au/library/130207-ReviewOfDemandForecastsforSAWater-CIE-FinalReport>

- 2 *Annual billing data in 2009/10 should be adjusted to reflect that a large part of non-residential water consumption was billed quarterly prior to 2009/10.*
- 3 *The demand forecasting model be adjusted to reflect that both level 1 and 3 water restrictions applied in 2010/11.*
- 4 *An alternative approach be used for developing forecasts of customer numbers. Options are set out in chapter 4 [of CIE's final report].*
- 5 *The restriction that the constant is zero for the Commercial usage model be removed.*
- 6 *The methodology used to forecast residential and commercial customer numbers should be amended to apply growth to the most recent data on customer numbers rather than forecasting the level of customer numbers.*
- 7 *Updated GSP forecasts should be incorporated into the demand forecasting model used to generate average consumption per commercial customer and total annual non-residential consumption.*
- 8 *The unadjusted price elasticity, as estimated in the residential consumption model, should be used to forecast average residential water consumption per connection*
- 9 *An adjustment should be made to projections to allow for water demand to recover gradually to expected consumption which also reflects bounce back of water consumption experienced in 2011-12.*<sup>60</sup>

The Commission agrees with CIE that SA Water's demand forecasting methodology is generally robust. CIE's recommended technical adjustments are discussed further in the following sections.

### **6.3.2 Updating model inputs**

The Commission accepts CIE's recommendations 1 and 7 regarding the use of updated population data and GSP forecasts. In general, the Commission supports using the most up-to-date historical information in forecasting demand. Approximately six months has passed since SA Water's demand forecasts were prepared, and it is appropriate to update any data that has materially changed. As CIE noted, the Australian Bureau of Statistics revised downwards its published Estimated Resident Population data for South Australia<sup>61</sup> subsequent to the preparation of SA Water's demand modelling. In addition, the South

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<sup>60</sup> CIE, *Review of Demand Forecasts for SA Water-Final Report*, January 2013, page 5; <http://www.escosa.sa.gov.au/library/130207-ReviewOfDemandForecastsforSAWater-CIE-FinalReport>

<sup>61</sup> Refer ABS, Australia Demographic Statistics. Table 4: Estimated resident population, states and territories. Cat. No. 3101.0.

Australian Government’s current forecast of GSP<sup>62</sup> for each year of the regulatory period is lower than the previous GSP forecasts the SA Water’s modelling relied upon. These revised inputs should be incorporated into current demand forecasts.

**6.3.3 Adjustment for quarterly billing**

CIE recommended a revision to the manner in which SA Water adjusted 2009/10 billing data to reflect a change from six monthly to quarterly billing in that year.

SA Water proposed an adjustment to billing data in 2009/10 to avoid overstating the billed water sales across the three customer classes (residential, commercial, and non-residential). The timing of meter readings in 2009/10 as customers moved to quarterly meter readings produced sales volumes that SA Water acknowledges overstated actual sales in 2009/10. As identified in ACIL Tasman’s report to SA Water:

*If not addressed, this overstatement would distort the apparent growth in billed water sales during a period when prices were increasing rapidly. This would tend to understate price elasticity, with lasting implications for the forecasts.*<sup>63</sup>

While CIE agreed that total sales are likely to be overstated in 2009/10 due to the move to quarterly billing cycles, it pointed out that large non-residential customers were billed quarterly prior to 2009/10 and that SA Water’s proposed adjustment leads to demand for residential and commercial customers being overstated and non-residential water consumption being understated for 2009/10. CIE proposed a further adjustment to reflect the fact that the majority of non-residential demand was already billed quarterly. The impact of that adjustment is summarised in Table 6-2.

**Table 6-2: Comparison of proposed 2009/10 demands after adjustments for quarterly billing (GL)**

Customer Segment	SA Water proposal	CIE recommendation
Residential	123.3	117.7
Commercial	9.9	9.5
Other non-residential	52.5	58.5
<b>Total</b>	<b>185.6</b>	<b>185.6</b>

Source:CIE<sup>64</sup>

<sup>62</sup> Based on the South Australian Government’s 2012-13 Budget Statement, ([http://www.statebudget.sa.gov.au/budget\\_papers.html](http://www.statebudget.sa.gov.au/budget_papers.html))

<sup>63</sup> SA Water, *Regulatory Business Proposal 2013-Attachment E.1 Demand Forecasting Methodology*-report prepared by ACIL Tasman, 2012, p13; available at [http://www.escosa.sa.gov.au/library/121011-E1\\_SAWaterDemandForecastingMethodology.pdf](http://www.escosa.sa.gov.au/library/121011-E1_SAWaterDemandForecastingMethodology.pdf)

The Commission supports CIE's conclusion that SA Water's proposed adjustment is likely to overstate residential and commercial demand, albeit that it does not affect aggregate demand, and that this should be corrected.

#### *6.3.4 Aggregation of water restrictions*

SA Water's forecasts were modelled on the basis that Level 1 water restrictions<sup>65</sup> applied for the entirety of 2010/11. However, Level 1 restrictions applied only from December 2010 (except for the Eyre Peninsula); prior to that date, Level 3 restrictions were in place. CIE therefore recommended that demand for each segment should be re-estimated using the assumption that Level 1 and Level 3 water restrictions each applied for approximately half of the 2010/11 year.

This matter was discussed with SA Water; however, SA Water indicated that it supported the assumption of Level 1 restrictions for the whole of 2010/11, as it believed that the announcement of the move to level 1 restrictions occurred around September 2010 and that the announcement was likely to have affected consumer behaviour from that time. It also noted that water restrictions have the greatest impact in the summer period, and argued that assuming that level 3 (rather than Level 1) restrictions applied during the period from July to December 2010 period would not significantly affect the results.

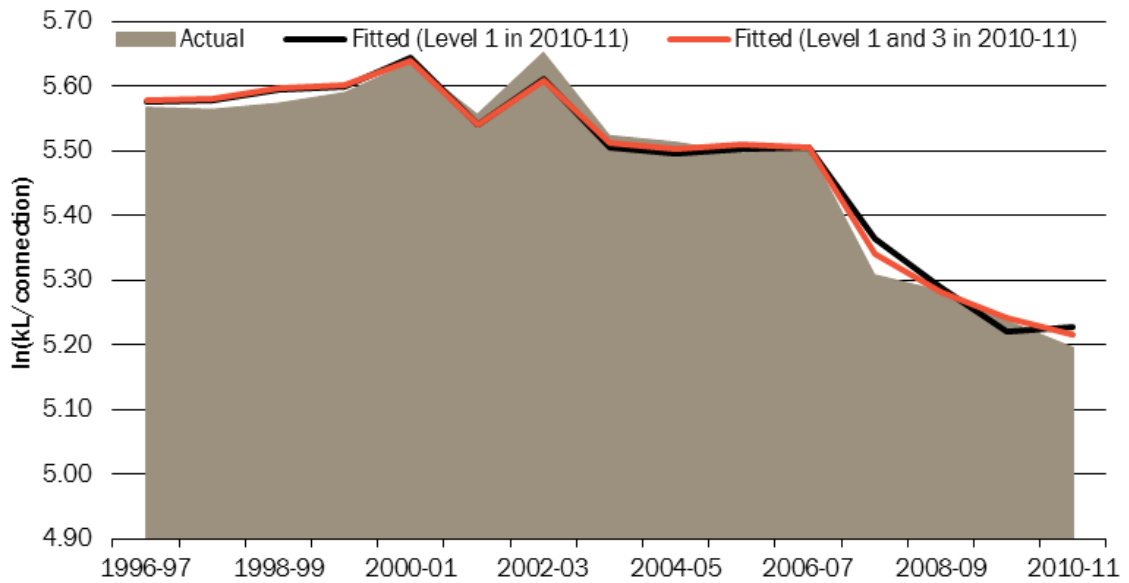
CIE tested the sensitivity of forecasts to this issue through modelling the impact of its alternative assumption. By changing this one parameter of the model, the other modelled outcomes, such as the price elasticity of demand, also change (as discussed in section 6.3.7 below). It has found that the issue is material (forecast 2010/11 demand is 7.6% higher under CIE's proposed adjustment) and that its alternative assumptions improves the empirical fit of the model against historical data as shown on the orange line in Figure 6-1.

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<sup>64</sup> CIE, *Review of Demand Forecasts for SA Water- Final Report*, January 2013, page 17; available at <http://www.escosa.sa.gov.au/library/130207-ReviewOfDemandForecastsforSAWater-CIE-FinalReport>

<sup>65</sup> Also referred to as Permanent Water Conservation measures.

**Figure 6-1: Fitted residential model predictions under alternative 2010/11 water restriction assumptions**



Source: CIE<sup>66</sup>

The Commission supports CIE’s recommendation regarding the modelling of water restrictions in 2010/11, as it reflects how water restrictions were actually applied in 2010/11 and it improves the explanatory power of the model.

### 6.3.5 Forecasts of customer numbers

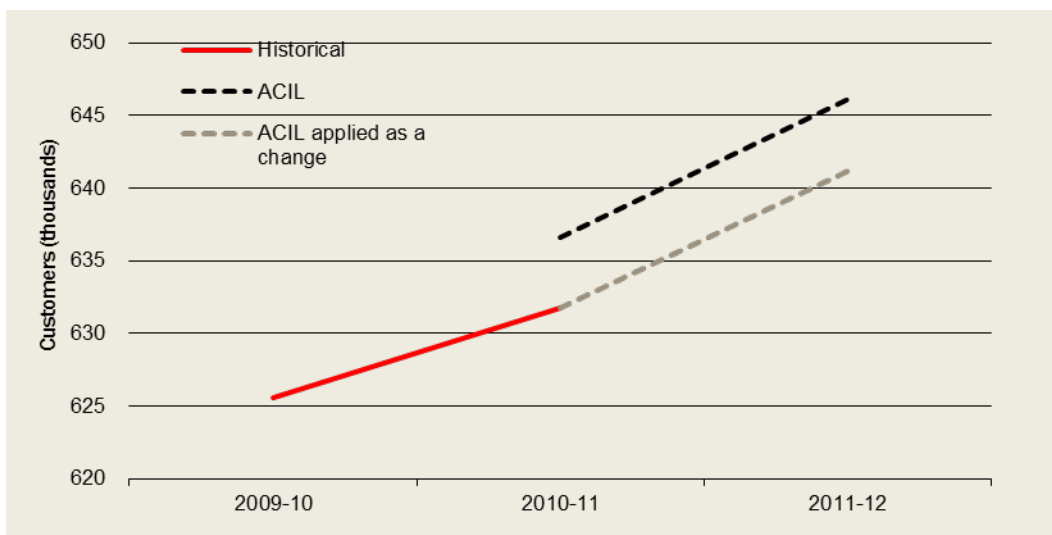
CIE’s recommendations 4 and 6 proposed that SA Water’s proposal of a “level” approach to forecasting customer numbers should be replaced with an approach based on forecasting changes in customer numbers. CIE considered SA Water’s approach to be unreasonable, as it treated customer numbers as ‘stationary’; as a result, forecasts of customer numbers in any particular year did not depend on customer numbers in the previous year. CIE indicated that under SA Water’s approach, forecasting errors in prior years would be factored into subsequent forecasts.

CIE believed that it would be more reasonable to treat customer numbers as ‘non-stationary’. It recommended forecasting customer numbers based on applying growth projections to the most recent year and applying ABS population growth forecasts with an

<sup>66</sup> CIE, *Review of Demand Forecasts for SA Water- Final Report*, January 2013, page 19; available at <http://www.escosa.sa.gov.au/library/130207-ReviewOfDemandForecastsforSAWater-CIE-FinalReport>

adjustment factor to account for the difference between annual customer growth and population growth over the past five years. This point is illustrated in Figure 6-2.<sup>67</sup>

**Figure 6-2: Forecast of residential customers**



Source: CIE<sup>68</sup>

The Commission agrees that CIE’s recommended approach is superior, as it recognises that customer numbers in one period do depend on those in preceding periods and would reduce the effect of model error at the commencement of a forecast period.

### 6.3.6 Forecasts of average consumption for commercial customers

SA Water’s proposed model imposes a restriction of a zero intercept for commercial water demand (i.e. demand is zero when the other explanatory variables are zero). SA Water justified this approach on the basis that the intercept was not statistically significant.

CIE recommended that this restriction be lifted to enable the model to determine the intercept. It notes that the restriction had a significant impact on the coefficients of the explanatory variables.

The Commission agrees that there is little rationale for imposing a zero intercept, and that it is preferable to allow for an estimated intercept value.

### 6.3.7 Review of price elasticity of demand

Modelling by CIE has produced price elasticity of demand estimates that are consistently lower than SA Water’s. SA Water reduced the residential demand elasticity to a point

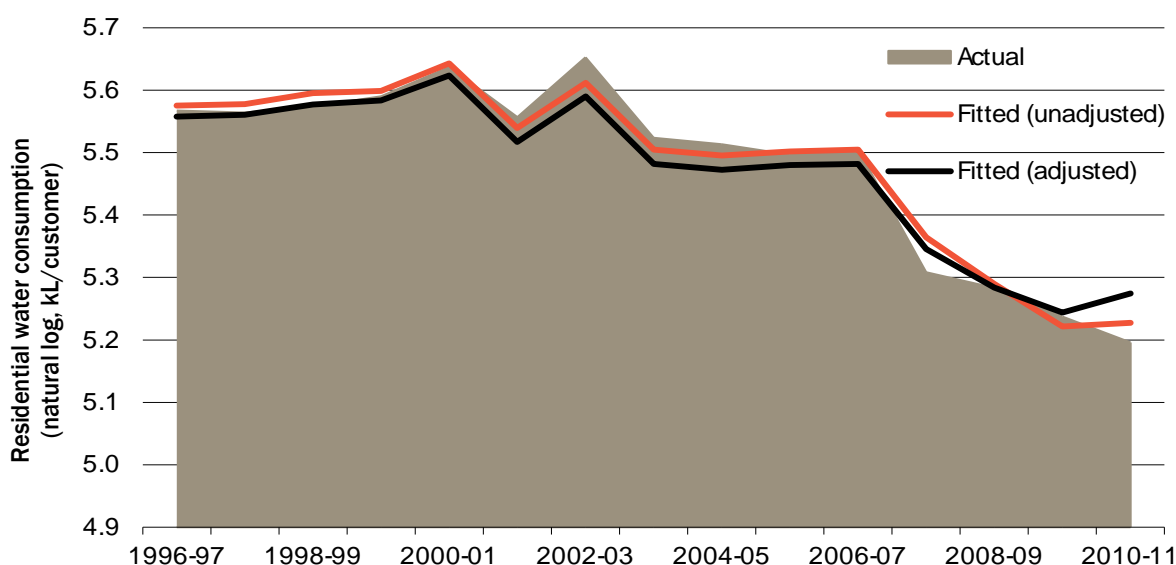
<sup>67</sup> CIE, *Review of Demand Forecasts for SA Water- Final Report*, January 2013, page 28; available at <http://www.escosa.sa.gov.au/library/130207-ReviewOfDemandForecastsforSAWater-CIE-FinalReport>

<sup>68</sup> CIE, *Review of Demand Forecasts for SA Water- Final Report*, January 2013, page 28; available at <http://www.escosa.sa.gov.au/library/130207-ReviewOfDemandForecastsforSAWater-CIE-FinalReport>

between the modelled outcome of -0.38 and what is believed to be a value typical of the estimates produced by empirical studies figure (-0.18).<sup>69</sup> This reduced SA Water’s residential elasticity to -0.28. SA Water justified this approach on the basis that it was sensible to ‘interpret’ the results, rather than simply accept them unquestioningly. SA Water further argued that demand management factors were impacting on the price elasticity of demand.

CIE did not consider that there was sufficient basis to depart from the price elasticity of demand produced by the model. It noted that SA Water’s adjusted elasticity model is less able to explain the historic demand variations than the (fitted) unadjusted elasticity model, as shown in Figure 6-3.<sup>70</sup>

**Figure 6-3: Fit of adjusted and unadjusted elasticities to actual historic data**



Source: CIE<sup>71</sup>

The Commission notes that as a result of the changes made, particularly to the amendment of water restriction data in 2010/11, CIE’s model produces a residential price elasticity of demand of -0.29, which is very close to the modified figure of -0.28 proposed by SA Water. Also, CIE’s recommendation generates lower elasticity estimates for the commercial and other non-residential segments than those of SA Water.

The Commission accepts CIE’s recommendation that the price elasticity of demand should not be adjusted; having regard to the better empirical fit that result from non-adjustment.

<sup>69</sup> The Commission notes that empirical studies have in fact produced a wide range of estimates, and the unadjusted model estimate would be well within that range.

<sup>70</sup> CIE, *Review of Demand Forecasts for SA Water- Final Report*, January 2013, page 32; available at <http://www.escosa.sa.gov.au/library/130207-ReviewOfDemandForecastsforSAWater-CIE-FinalReport>

<sup>71</sup> CIE *Review of Demand Forecasts for SA Water Final Report*, January 2013, page 32; available at <http://www.escosa.sa.gov.au/library/130207-ReviewOfDemandForecastsforSAWater-CIE-FinalReport>



The modelled price elasticity of demand also accords with the results from relevant literature, after taking into account the amendment to water restrictions data in 2010/11, and avoids the need for an artificial adjustment as proposed by SA Water.

**6.3.8 Review of demand bounce-back**

Bounce-back, in this instance, refers to the recovery of demand after the removal of various factors (such as water restrictions) which suppressed it. Limited evidence is available to assess the extent of demand bounce-back following the lifting of restrictions. SA Water’s modelling assumed bounce-back to demand associated with level 1 restrictions after the first year of the regulatory period.

SA Water assumed that after the lifting of restrictions, water consumption levels would not bounce back to pre-restriction levels (where level 1 restrictions did not apply). The Commission considers this assumption to be reasonable, partly due to the coincident price rises discussed earlier, and also due to the permanent nature of some of the water conservation measures taken over the period of restrictions. For example, a water efficient shower head, once installed, will continue to save water even after water restrictions have ceased.

However, SA Water’s model does assume that demand will return *to the level expected under level 1 restrictions* within one year. The differences between SA Water’s proposed model and CIE’s can be shown in Table 6-3 below, where the results from both models are compared if the 100% bounce-back to Level 1 is assumed.

**Table 6-3: Comparison of SA Water’s forecasts under 100% bounce-back to Level 1 restrictions compared with CIE’s model outcome with the same bounce-back assumption**

	Total water consumption	
	SA Water's forecast	CIE's model forecast
Bounce back assumption	100% in 1 year	100% in 1 year
2011-12	188.0	190.1
2012-13	176.3	182.6
2013-14	178.9	185.1
2014-15	181.4	187.7
2015-16	183.8	190.3

*Source: SA Water’s forecast (updated by CIE for 2011/12 weather data) and the Commission (utilising the CIE model).*

After examining the pattern of water use so far, as well as information available from interstate, CIE concluded that such immediate and full bounce-back is not a realistic assumption. Whilst the actual level of demand bounce-back remains uncertain at this early stage, the limited evidence available to date would indicate that recovery in demand may be gradual and incomplete. CIE proposed three scenarios for bounce-back in demand:

- 25% per year occurring for two years (i.e. only 50% bounce-back ever occurs);
- 25% per year over three years to a total of 75%;
- 25% per year over four years to a total of 100%.

The results of CIE’s modelling are compared with SA Water’s forecasts in Table 6-4.<sup>72</sup>

**Table 6-4: Demand forecasts under alternative bounce-back assumptions**

	Total water consumption (GL)			
	SA Water’s forecast <sup>a</sup>	CIE’s forecasts		
Bounce back assumption	100% in 1 year	50% over 2 years	75% over 3 years	100% over 4 years
2011-12	188	175.9	175.9	175.9
2012-13	176.3	169.1	172.3	172.3
2013-14	178.9	171.4	178.1	181.6
2014-15	181.4	173.8	180.6	187.7
2015-16	183.8	176.2	183.1	190.3

<sup>a</sup> SA Water’s forecast in 2011-12 adjusted for updated weather data in 2011/12.

Source: SA Water, CIE.

The Commission does not consider it likely that full bounce-back to level 1 restriction demand will ever occur. SA Water’s assumption of bounce-back to level 1 restriction demand in the first year after the easing of restrictions is the prime reason why SA Water’s demand forecasts are higher than CIE’s in the first part of the initial regulatory period.

Given the limited evidence available, a degree of judgement is necessarily required in estimating the extent of demand bounce-back. The Commission believes that the scenario of 75% bounce-back to Level 1 restriction levels over 3 years is more reasonable than SA Water’s assumption. The Commission’s view reflects the likelihood that a proportion of customers will have made permanent changes to water installations and usage habits, as well as the likelihood that any shifts in customer behaviour will occur gradually rather than instantly.

The Commission notes that even with SA Water’s bounce-back assumption, its demand forecasts are still substantially below those assumed in the SA Government’s 2012/13 Regulatory Statement (190GL).<sup>73</sup>

<sup>72</sup> CIE, *Review of Demand Forecasts for SA Water, Final Report*, January 2013, page 42; available at <http://www.escosa.sa.gov.au/library/130207-ReviewOfDemandForecastsforSAWater-CIE-FinalReport>

In summary, the Commission accepts CIE’s recommended changes to SA Water’s demand forecasting methodology, as they result in:

- a better fit with historic data;
- forecasts that are more contemporary; and
- gradual, but limited, demand bounce-back over time.

The Commission stresses that all demand forecasts are based upon average weather conditions. Information provided by SA Water to the Commission indicates that demand for 2012/13 is tracking higher than forecast. However, this is against a background of warmer and drier weather than average during much of the financial year to date, as well as the likelihood that the full reaction to the July 2012 price rises would not yet have occurred. Furthermore, the SA Government temporary customer rebates of \$45 or \$75 (depending on water use) may further defer the reaction to the July 2012 price increases.

The implications of actual demand deviating from forecast demand under the Commission’s proposed forms of revenue control, was discussed in Chapter 5.

*6.4 Draft Decision*

**Draft Decision**

**The Commission adopts the water demand forecasts specified in Table 6-5 for the purposes of this Draft Revenue Determination.**

*Table 6-5: Commission’s Draft Decision on water demand forecasts*

Segment	2013/14	2014/15	2015/16
Residential	116.9	118.7	120.4
Commercial	9.7	9.9	10.1
Other non-residential	51.5	52.0	52.6
<b>Total</b>	<b>178.1</b>	<b>180.6</b>	<b>183.1</b>

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<sup>73</sup> Government of South Australia, *2012-13 Drinking Water and Sewerage Prices-Regulatory Statement*, July 2012; available at [http://www.treasury.sa.gov.au/\\_data/assets/pdf\\_file/0017/1196/regulatory-statement-201213.pdf](http://www.treasury.sa.gov.au/_data/assets/pdf_file/0017/1196/regulatory-statement-201213.pdf)

## 7. CAPITAL EXPENDITURE

Capital expenditure (**capex**) is expenditure on the purchase or creation of an asset that can be utilised into the longer term. As such, the Commission will add capex incurred by SA Water to the RAB – if the Commission deems it to be prudent and efficient. In contrast, operating expenditure (**opex**) will be expensed as incurred.

SA Water operates in a capital-intensive industry. It owns many long-life assets, such as pipe networks, dams, and water treatment plants. SA Water has significantly increased capex in recent years, primarily on water security projects such as the ADP.

A critical element in the making of this Draft Revenue Determination was the Commission’s review of SA Water’s proposed capital expenditures. The Commission has examined specific capital projects and programs proposed by SA Water, and has allowed only capex that it has deemed to be prudent and efficient.

The effect of this review is a Draft Revenue Determination for capex that is 16% lower than the proposals presented in SA Water’s RBP.

While the revenue caps contained in this Draft Revenue Determination are based on only the capital (and operating) expenditures that the Commission has allowed as prudent and efficient, SA Water is ultimately responsible for determining the capital projects that should be undertaken. The Commission would expect SA Water to re-prioritise projects as circumstances change.

### 7.1 SA Water’s Proposal

In its RBP, SA Water proposed capital expenditures associated with direct control water and sewerage services of \$1.104 billion over the initial regulatory period, as presented in Table 7-1.

**Table 7-1: Capital expenditures proposed by SA Water**

\$m (\$Mar12) <sup>74</sup>	2013/14	2014/15	2015/16	Total
SA Water Proposal	342.5	348.9	412.3	1103.7

SA Water stated that, as investment in asset renewal was curtailed in recent years to facilitate major investment in drought-response projects, including the ADP and the North South Interconnection System (**NSIS**) project, it proposed to catch-up on previously deferred asset renewal expenditures during the initial regulatory period.

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<sup>74</sup> In this chapter, and in the following chapter, all expenditure amounts are expressed in dollars of March 2012. While the Commission has assessed expenditure on this basis, it has inflated all costs to dollars of December 2012 to determine regulated revenues.

In developing its capital expenditure proposal, SA Water used a risk assessment and review process. It stated that this process has enabled it to develop a prudent capital plan which provides for the least possible capital expenditure within acceptable risk limits.

SA Water’s capex proposal comprised a series of planned capital projects and programs of work, driven principally by asset renewal requirements, system growth, new external obligations, and drought response measures. Key proposed projects are summarised in Table 7-2.

**Table 7-2: Key capex projects proposed by SA Water**

<b>\$m (\$Mar12)</b>	<b>2013/14-15/16 Forecast</b>	<b>Overall Project Total<sup>75</sup></b>
Murray Bridge Wastewater Treatment Plant Upgrade	107.2	188.6
Kangaroo Creek Dam Safety Upgrade	74.5	79.9
Bolivar Primary Treatment Structure Concrete Rehabilitation	35.0	45.5
Aldinga Wastewater Treatment Plant – Capacity Upgrade St.2	34.8	60.0
Adelaide Desalination Plant	23.3	1824.0
Mt Barker Water Supply Scheme	19.0	24.4

Further to these major projects, the plan proposes several hundred smaller projects and programs of work.

## 7.2 Subsequent adjustments to SA Water’s proposed capex

Following submission of its RBP, SA Water subsequently submitted adjustments to its proposed capex. Those adjustments (some of which were flagged in the RBP) are described below.

### 7.2.1 Real Cost Submission

SA Water has provided, in Table 6.4 of the RBP, forecasts of the real input cost escalation (i.e. increases in cost above general Consumer Price Index (CPI) inflation) that it expects to face on capex works, across the 2013/14-2015/16 period. SA Water has forecast real increases in the cost of labour, materials and contracted services at between 1.5% and 1.8% per annum (i.e. above the rate of inflation), depending on the input cost and year. This would add approximately \$49m to the capex forecasts over the regulatory period. These

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<sup>75</sup> All of these projects are multi-year, with additional spend in either the years prior to 2013/14 or after 2015/16.

forecasts were developed through a study conducted by Evans & Peck on behalf of SA Water. The Evans & Peck report<sup>76</sup> has been published as Appendix F3 to the RBP.

**7.2.2 High Level Update**

Early in the review process, SA Water provided the Commission with a high level update to its capex plan, providing updated costs and phasing information for many of the larger projects in the RBP. This update was based on new information that had become available, through ongoing project development, following internal sign-off of the RBP by SA Water’s Board. Whilst the impact of this update was not material at a total capex plan level, resulting in a net reduction in the overall capex requirement of \$1.9m, there were more material changes to costs and phasing of spend within individual projects. The Commission has taken account of this updated information in its assessment of the required capex.

**7.2.3 Price Base Adjustment**

SA Water further highlighted that, whilst the RBP proposal is principally presented at \$Mar12 constant prices, those projects which were already beyond Full Financial Approval (FFA) were presented in the RBP at nominal cost. These projects totalled \$50.6m in \$nominal across the regulatory period, which deflates to \$48.3m when expressed in \$Mar12, a reduction of \$2.3m.

**7.2.4 Adjusted SA Water Proposal**

Taking account of the above adjustments, SA Water’s proposal is revised to \$1148.6m, as presented below in Table 7-3.

**Table 7-3: Adjustments to SA Water’s Proposal**

\$m	2013/14	2014/15	2015/16	Total
SA Water Proposal as presented	342.5	348.9	412.3	1103.7
Real Price submission	8.5	15.3	25.4	49.1
High Level Update	-0.7	8.3	-9.4	-1.9
Adjust FFA projects to \$Mar12	-1.9	-0.4	-0.1	-2.3
Adjusted SA Water Proposal (\$Mar12)	348.4	372.1	428.2	1148.6

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<sup>76</sup> SA Water, RBP Appendix F3, Review of Indexation Rates for Capital Works, 15 October 2012; available at: [http://www.escosa.sa.gov.au/library/121011-F3\\_ReviewIndexationRatesCapitalWorksEvansPeck.pdf](http://www.escosa.sa.gov.au/library/121011-F3_ReviewIndexationRatesCapitalWorksEvansPeck.pdf)

As shown in Table 7-4, this is \$250.6m (28%) higher than the capex forecast in the Regulatory Statement<sup>77</sup>, published in March 2012.

**Table 7-4: Comparison of SA Water’s Capex Forecasts**

\$m (\$Mar12)	2013/14	2014/15	2015/16	Total
Adjusted SA Water Proposal	348.4	372.1	428.2	1148.6
2012/13 Regulatory Statement	306	346	246	898
Variance	+42.4	+26.1	+182.2	+250.6

As explained in Chapter 2, the Commission’s revenue caps are set to ensure that any capex and opex savings that the Commission makes relative to those forecast in the Regulatory Statement flow through to customers.

### 7.3 Issues raised in Submissions

As part of the public consultation process, the Commission released an Issues Paper in October 2012, seeking public submissions on SA Water’s RBP.

Four of the submissions received in response to the Issues Paper raised specific issues regarding capital expenditure:

- The EPA, whilst noting that it has not required SA Water to undertake the works, was supportive of planned works at a number of wastewater treatment plant (**WWTP**) sites (Murray Bridge, Aldinga, Bolivar and Glenelg), commenting that *‘it strongly supports the reduction in environmental risks achieved from the proposed projects.’*<sup>78</sup>
- SACOSS expressed concern that the proposed level of sewerage capex could not be sustained whilst keeping price increases within CPI, and urged the Commission to conduct an extensive and detailed examination of proposed capex (and opex), to determine areas for significant savings.<sup>79</sup>

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<sup>77</sup> Government of South Australia, *2012-13 Drinking Water and Sewerage Prices Regulatory Statement*, July 2012, table 9; available at: [http://www.treasury.sa.gov.au/\\_data/assets/pdf\\_file/0017/1196/regulatory-statement-201213.pdf](http://www.treasury.sa.gov.au/_data/assets/pdf_file/0017/1196/regulatory-statement-201213.pdf)

<sup>78</sup> EPA, *RE: SA Water Regulatory Business Proposal*, 9 November 2012, available at : <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-EPA.pdf>

<sup>79</sup> SACOSS, *SACOSS Submission to ESCOSA’s Issues Paper*, November 2012; available at: <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-SACOSS.pdf>

- COTA SA noted that the RBP capex proposal is nearly \$200m higher than the Regulatory Statement, and expressed concern at the impact that this level of investment may have on overall costs.<sup>80</sup>
- A submission received from a private individual expressed concern at SA Water's propensity for building 'gold-plated' infrastructure, citing Bird-in-Hand WWTP as an example. Further concern was expressed at the level of capital expenditure proposed at Murray Bridge WWTP, which was described as grossly excessive and unnecessary.<sup>81</sup>

## 7.4 Review Methodology

The Commission engaged Cardno, supported by WS Atkins, to provide expert advice, from both a financial and engineering perspective, on the prudence and efficiency of SA Water's capital and operating expenditure proposals.

Cardno also examined SA Water's Governance, Capital Planning processes, Cost Allocation methodology, and Asset Management capability, to ensure that they are robust and represent best practice. Consideration was also given to the deliverability of the proposed capex works.

A report<sup>82</sup> detailing Cardno's findings has been published with this Draft Revenue Determination.

In order to test the prudence and efficiency of SA Water's capex proposal, a sample of projects and programs of work was chosen for detailed analysis, as shown in Table 7-5.

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<sup>80</sup> COTA SA, *Review of SA Water's Regulatory Business Proposal*, November 2012; available at: <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-COTA.pdf>

<sup>81</sup> Private Individual 1, *Determination of SA Water's Drinking Water and Sewerage Revenue*, 9 November 2012; available at: <http://www.escosa.sa.gov.au/library/121104-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-PrivateIndividual-1.pdf>

<sup>82</sup> Cardno, *Review of Capital and Operating Expenditure plans of SA Water*, January 2013; available at <http://www.escosa.sa.gov.au/library/130207-ReviewofCapexOpexPlansofSAWater-Cardno-FinalReport>



**Table 7-5: Major projects/programs identified for analysis (2013/14 to 2015/16)**

<b>Project/Program \$m (\$Mar12)</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>3 year Total</b>	<b>Project Total</b>
Murray Bridge WWTP Upgrade	8.0	19.2	80.0	107.2	188.6
Kangaroo Creek Dam Safety Investigation	4.0	35.0	35.5	74.5	79.9
Water Network Reticulated Mains Renewal	23.4	22.3	21.7	67.4	-
Mechanical & Electrical Plant Renewal – Treatment Plants	13.1	18.1	22.3	53.5	-
Mechanical & Electrical Plant Renewal – Networks	15.9	17.9	11.4	45.2	-
Occupational Health & Safety Improvement	15.3	11.5	11.2	38.0	-
Bolivar Pre-aeration Concrete Rehabilitation	1.4	12.7	21.0	35.0	45.5
Aldinga WWTP, Capacity Upgrade Stage 2	1.3	15.0	18.5	34.8	60.0
Capability Management	9.1	11.5	9.3	29.9	-
Structures Renewal – Networks	10.3	8.8	8.8	27.8	-
Mount Barker Water Supply Investigation	16.2	2.8	-	19.0	24.4
Water Quality - Network	7.4	5.7	5.6	18.6	-
IT – Business Application Risk	4.7	7.3	4.0	16.0	-
Happy Valley Water Treatment Plant Upgrade Chlorine Station	8.9	2.5	-	11.4	17.8
Hendon Upgrade Queensbury Wastewater Pumping Station	9.3	0.5	-	9.8	18.0

This sample of projects covered over 50% of proposed capex for the period, and included projects and programs of work across the full range of SA Water’s capex works: metropolitan and country; water and sewerage; growth and renewals.

Cardno also undertook benchmarking of SA Water’s capex against comparable water utilities to inform its analysis of overall efficiency. This benchmarking found that:

- SA Water’s sewerage capex spend per property was in the mid-range of its peer companies in recent years, having previously been lower than all peer companies over the 2004/5-2007/08 period; and
- SA Water’s water supply capex per property was at the lower end compared to peer companies over the 2004/05-2007/08 period. However, water security investments had driven SA Water’s capex above that of its peer companies in the period thereafter.

## 7.5 Assessment of Projects and Programs of Work

A detailed review was carried out of all of the projects and programs of work listed in Table 7-5, including interview discussions with the relevant SA Water project managers, site visits, and a full review of all documentation provided by SA Water in support of its proposed projects and programs of work.

For the following projects and programs of work, Cardno recommended that adjustments be made to SA Water's proposed capex plans:

### 7.5.1 Murray Bridge WWTP Upgrade

#### Project Description

The current wastewater treatment plant at Murray Bridge was constructed in 1970 and, due to growth in the area, is currently operating above its design capacity. Other issues with the site include its location below the 1956 flood level, and encroachment of development, causing a number of odour complaints. The current site lacks space to increase the plant size.

Further to this, the City of Murray Bridge has been identified as part of Adelaide's urban land supply for the next 30 years, and Planning SA has approved the rezoning of land to provide an additional 3,000 residential lots.

For these reasons, SA Water is proposing to construct a new, larger WWTP, at a site near to the current Murray Bridge Township, to serve the area's requirements into the longer term, at cost of \$188.6m.

#### Assessment of Prudence & Efficiency

Cardno assessed each of the drivers for this project in turn and formed the following conclusions:

- Growth – Whilst the existing site is currently operating above its design capacity, all effluent is re-used and end-users are satisfied with the quality of treated effluent received. There is no evidence to date of overloading of the existing plant causing any significant deterioration in performance. Sludge removal of the existing lagoons is scheduled three yearly, and there has been no requirement to date to increase the frequency of this activity due to overloading. Additionally, monitoring data provided by SA Water shows no deterioration of effluent quality. Based on the above, Cardno could see no need to upgrade the existing plant for loading reasons.
- Odour Complaints – It is noted that residential properties have been built up to site boundary (within 30m of plant). Detailed complaint information received from SA Water confirmed that only ten complaints (from eight different parties) related to odour issues from this site have been received in the last five years. Further, the EPA confirmed that it had received only six complaints (from three different parties) related to odour issues from this site over the last six years. Cardno considered this

to be a very low rate of complaints, and insufficient to drive the planned upgrade works.

- Flood Risk – The existing site was constructed below the 1956 flood level. It is noted that SA Water does not have formal standards for flood protection of its assets. Further, the 1956 flood was the largest in South Australia’s European history. Cardno concluded that, without reference to a standard for protection, or the return period for the flood, it was difficult to consider that the works are required on this basis.

Cardno concluded that the expenditure was not justified in the timeframe proposed by SA Water, and recommended that the project be deferred to beyond the forthcoming regulatory period.

Conclusion

The Commission notes the submission from the EPA that was supportive of the reduction in environmental risks that the proposed works would achieve. It also notes the submission from a private individual expressing concern at the cost of the proposed works.

The Commission agrees that there is a need to address the wastewater treatment issues at Murray Bridge in the medium term, particularly if the population growth that is projected for the area does materialise. However, based on discussions held with SA Water, and the supporting documentation provided, there is no clear case to support either the timing, or the scale, of the proposed works.

The Commission notes Cardno’s view that the stated drivers for the proposed works are not sufficient to pass the prudent and efficient test, and that the works should be deferred to beyond the forthcoming regulatory period.

The Commission believes that SA Water should continue to investigate alternative options to address the issues that exist at Murray Bridge WWTP. Therefore, the Commission has allowed \$1.75m within the initial regulatory period for further investigation works (Table 7-6).

**Table 7-6: Murray Bridge WWTP Upgrade**

<b>\$m (\$Mar12)</b>	<b>Prior years</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>Later years</b>	<b>Project Total</b>
SA Water Proposal	3.4	8.0	19.2	80.0	78.0	188.6
Commission adjustment		-7.7	-18.9	-78.7		
Commission Assessment		0.3	0.3	1.3		

## *7.5.2 Mechanical & Electrical Plant Renewal – Treatment Plants*

### Program Description

This program of works relates to maintaining the asset reliability of mechanical and electrical (M & E) infrastructure at water and wastewater treatment plants, at the lowest cost and acceptable level of risk, over the lifetime of the assets. It also covers work to achieve efficient and effective performance of the assets, to maintain levels of service stated in the SA Water Customer Charter, to address external stakeholder requirements, and to ensure compliance with all relevant regulatory requirements.

The proposed program comprises fifty projects across a wide range of both metropolitan and country sites.

### Assessment of Prudence & Efficiency

The proposed investment levels equate to an implied asset life of approximately 35 years for water M & E assets and 28 years for wastewater M & E assets. Cardno considered that both of these average asset lives were reasonable for assets of this type.

However, Cardno noted that the rate of planned spend in these areas is approximately three times higher than that observed across the previous seven years.

Whilst recognising that SA Water is taking a more rigorous approach to capital maintenance planning, and accepting that there may be an element of backlog expenditure required due to the previous focus on water security projects, Cardno found it implausible that there was a need for expenditure to be accelerating at the rate indicated by the proposed spend profile.

Cardno further commented that, with the advent of asset management information gathering enhancements, it is likely that a more robust case for a higher level of investment could be made beyond the forthcoming regulatory period.

### Conclusion

Cardno concluded that the proposed level of investment was not fully justified and, based on their engineering experience and judgement, proposed a 10% reduction in spend across the three-year period.

The Commission notes that, whilst the proposed level of investment represents a significant step up from recent years, it does result in implied asset lives that are reasonable for assets of this type.

Further, the Commission notes Cardno's comments on asset management, and encourages SA Water to continue to enhance its asset information gathering capability in this and other areas, in order to improve its asset decision making, and to strengthen its case for investment in future regulatory periods.

The Commission has considered Cardno’s advice, and supports the recommended adjustment to SA Water’s proposed capital expenditure. The Commission believes that the revised level of investment strikes an appropriate balance between the need to maintain treatment plant reliability and the desire to ensure that SA Water’s customers do not pay an excessive price for services (Table 7-7).

**Table 7-7: M & E Plant Renewal – Treatment Plants**

<b>\$m (\$Mar12)</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>Program Total</b>
SA Water Proposal	13.1	18.1	22.3	53.5
Commission adjustment	-1.3	-1.8	-2.2	-5.3
Commission Assessment	11.8	16.3	20.1	48.2

**7.5.3 Mechanical & Electrical Plant Renewal – Networks**

Program Description

This program of works relates to maintaining the asset reliability of mechanical and electrical infrastructure within water and sewerage networks, at the lowest cost and acceptable level of risk, over the lifetime of the assets. It also covers work to achieve efficient and effective performance of the assets, to maintain levels of service stated in the SA Water Customer Charter, and to ensure compliance with all relevant regulatory requirements.

The proposed program comprises sixteen projects across a wide range of both metropolitan and country sites.

Assessment of Prudence & Efficiency

Cardno examined the proposed program in the context of the existing water and wastewater network pumping assets. Whilst the proposals were not (in numerical terms) considered excessive, Cardno noted that the documentation provided did not indicate that the asset base is at, or approaching, poor condition or performance, other than at a third of wastewater pumping stations.

Cardno noted that the rate of planned spend in this area is approximately four times higher than that observed across the previous seven years, and that there was no evidence of previous lower investment leading to significant failure incidents. Cardno commented that it would expect to see some linkage between outturn and forecast performance.

Conclusion

Whilst accepting that the current and recent levels of investment are unsustainable, Cardno concluded that the proposed level of investment was not fully justified and, based on its engineering experience and judgement, proposed a 20% reduction in spend across the three-year period.

The Commission notes that only a limited number of existing assets are at, or approaching, the end of their useful lives, and that no significant failure incidents have occurred in recent years.

For these reasons, the Commission gave consideration to allowing less capex in this area than that recommended by Cardno. However, due to the criticality of these pumping assets, and the potential consequence of failure, the Commission has determined to limit the adjustments to those recommended by Cardno.

The Commission believes that the revised level of investment strikes an appropriate balance between the need to maintain network reliability, and the desire to ensure that SA Water’s customers do not pay excessive prices for services (Table 7-8).

**Table 7-8: M & E Plant Renewal - Networks**

<b>\$m (\$Mar12)</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>Program Total</b>
SA Water Proposal	15.9	17.9	11.4	45.2
Commission adjustment	-3.2	-3.6	-2.3	-9.0
Commission Assessment	12.7	14.3	9.1	36.2

**7.5.4 Aldinga WWTP Capacity Upgrade Stage 2**

Project Description

This project seeks to increase the capacity of the Aldinga WWTP. This area has experienced extensive growth over the last ten years, and \$22m has already been invested over the 2006-12 period to upgrade the capacity of the site. Further growth in the treatment plant catchment area is forecast, with additional new developments identified in the Greater Adelaide Plan, and rezoning of further land for residential development due to commence in 2012/13.

Assessment of Prudence & Efficiency

During the review process, SA Water informed the Commission that, subsequent to preparation of the RBP proposal, new information had become available that showed that growth in the treatment plant catchment area had slowed considerably and that, as a result, the planned project could be deferred by two years.

Only initial planning, option investigation, and preliminary design works will now be required to be undertaken within the initial regulatory period, and Cardno was supportive of this revised approach.

Conclusion

The Commission accepts SA Water’s view that the project can be deferred due to the rate of growth slowing in the area served by Aldinga WWTP. Based on the updated information

provided by SA Water, the Commission has allowed \$1.75m across the three-year period for planning, option investigation, and design works at this site (Table 7-9).

The Commission further notes that there is a consequential operating expenditure saving of \$0.4m per annum from the deferral of this project. This saving has been factored into the opex adjustments detailed in Chapter 8 of this Draft Revenue Determination.

**Table 7-9: Aldinga WWTP Capacity Upgrade Stage 2**

<b>\$m (\$Mar12)</b>	<b>Prior years</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>Later years</b>	<b>Project Total</b>
SA Water Proposal	0.3	1.3	15.0	18.5	25.0	60.0
Commission adjustment		-1.0	-14.7	-17.2		
Commission Assessment		0.3	0.3	1.3		

**7.5.5 Structures Renewal - Networks**

Program Description

This program of works relates to managing structures within water and sewerage networks, to meet required standards of service, asset reliability, and structural integrity, at the lowest cost and acceptable level of risk, over the lifetime of the assets. Further, the program aims to effectively manage structures so that they provide water and wastewater services that are fit for purpose, cost effective, and comply with regulatory requirements.

Whilst the program includes all structures within the water and wastewater networks, including pumping stations (both above and below ground), storage tanks, chemical dosing stations, and valve chambers, the planned works are not well defined, beyond the general nature of the work, for years two and three of the regulatory period.

Assessment of Prudence & Efficiency

Cardno examined the proposed program in the context of the existing water and sewerage network asset base, and acknowledged that SA Water had carried out considerable analysis of its asset base in this area.

Cardno noted that the rate of planned spend in this area is approximately three times higher than that observed across the previous seven years, whilst there was no evidence of previous lower investment leading to significant failure incidents. Cardno commented that they would expect to see some linkage between outturn and forecast performance.

Conclusion

Whilst accepting that the current and recent levels of investment are unsustainable, Cardno concluded that the planned threefold increase in the level of investment was not fully justified and, based on their engineering experience and judgement, proposed a 10% reduction in spend across the three-year program.

The Commission has considered Cardno’s advice, and is supportive of its recommended adjustment to SA Water’s investment (Table 7-10).

**Table 7-10: Structures Renewal - Networks**

<b>\$m (\$Mar12)</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>Program Total</b>
SA Water Proposal	10.3	8.8	8.8	27.8
Commission adjustment	-1.0	-0.9	-0.9	-2.8
Commission Assessment	9.3	7.9	7.9	25.0

**7.5.6 Upgrade Hendon (Queensbury) WWPS**

Project Description

This project is to replace the existing wastewater pumping station at Hendon, in Adelaide’s north-western suburbs. The existing station was constructed in 1935, serves 40-50k customers, and is described by SA Water as ‘the most critical in the state’. The existing pumping station is underground and has numerous issues – the age and condition of the assets; access to the pumps; the condition of the wet well; the danger of flooding of electrical equipment in the event of failure; odour issues (40 complaints in 10 years).

Design and planning works on this project are well advanced, with works on site due to commence in early 2013.

Assessment of Prudence & Efficiency

Cardno acknowledged the significant health and safety issues that exist with the existing site, and confirmed that appropriate options had been considered to resolve these issues. Given the difficulties that would exist with carrying out refurbishment of the existing site, Cardno considered that replacement of the pumping station on the available adjacent land is an appropriate solution.

Cardno carried out an assessment of the proposed costs of the planned works and identified that, whilst the base costs were reasonable, the level of contingency allowed was considered high, given that the detailed design and costing has already been carried out, and the project is located within a known boundary, with limited scope for unforeseen circumstances.

Conclusion

Cardno recommend that the level of contingencies on this project be reduced by \$0.7m, to a value more reflective of the advanced state of project development.

The Commission has considered Cardno’s advice, and is supportive of the proposed adjustment to SA Water’s forecast capex (Table 7-11).



**Table 7-11: Upgrade Hendon (Queensbury) WWPS**

\$m (\$Mar12)	Prior years	2013/14 Plan	2014/15 Plan	2015/16 Plan	Later years	Project Total
SA Water Proposal	8.2	9.3	0.5	-	-	18.0
Commission adjustment		-0.7	-	-		
Commission Assessment		8.6	0.5	-		

### 7.5.7 Other Projects and Program of Work

For all other projects and programs of work listed in Table 7-5, Cardno assessed the works to be both prudent and efficient. It therefore recommended that the proposed capex be included in full in the Commission’s capex allowance for the initial regulatory period.

The Commission has reviewed these projects and is satisfied that the proposed works are prudent and efficient. It has, therefore, allowed the associated capex in full in this Draft Revenue Determination.

The Commission notes Cardno’s view that it has no concerns over the deliverability of the proposed capital works.

## 7.6 Further Adjustments

### 7.6.1 Real Cost Increases

#### Description

As stated in section 7.2.1, SA Water submitted in its RBP a claim for an additional \$49.1m, representing a forecast of real cost increases above the general rate of inflation (CPI) over the three-year period. This claim was supported by a report<sup>83</sup>, prepared by Evans & Peck, which forecast real input cost escalation for each of labour, materials, and contracted services across the period.

SA Water argued that this additional funding was required because input costs in each of these areas would escalate above CPI, and that this was beyond the control of the company.

#### Cardno Assessment

Cardno carried out a review of the Evans & Peck study, and found that, whilst the methodology was generally sound and used publicly available price indices, two critical assumptions were questionable:

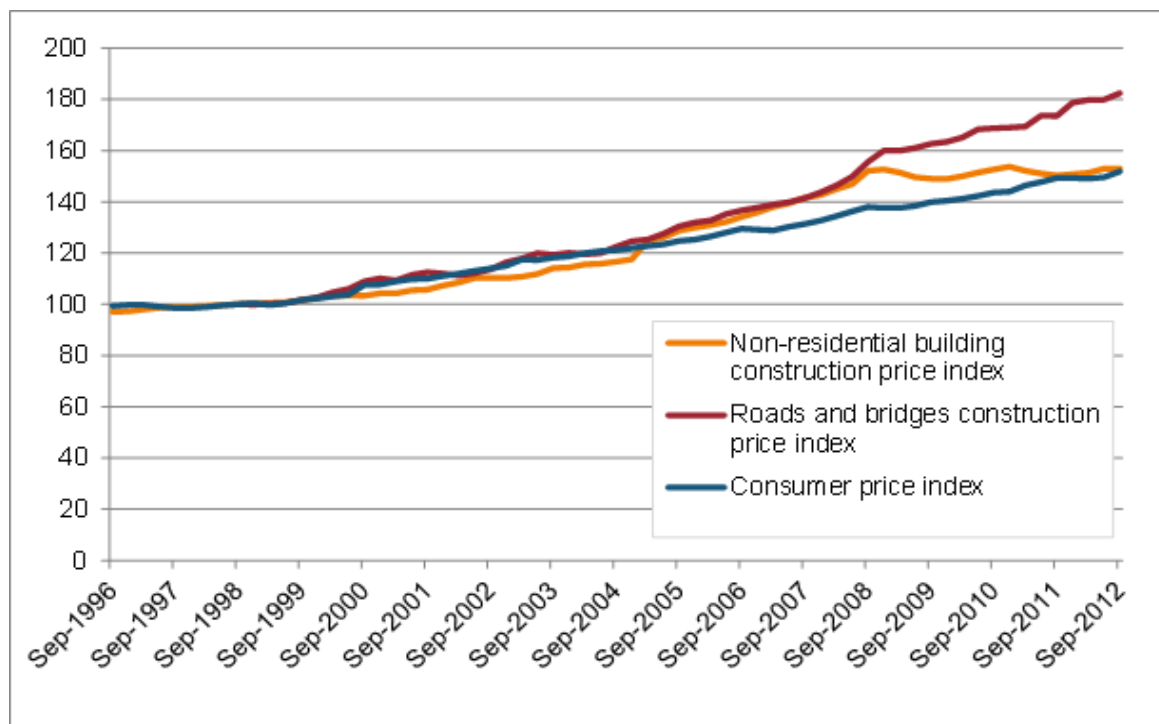
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<sup>83</sup> SA Water, *RBP Appendix F3, Review of Indexation Rates for Capital Works, 15 October 2012*; available at: [http://www.escosa.sa.gov.au/library/121011-F3\\_ReviewIndexationRatesCapitalWorksEvansPeck.pdf](http://www.escosa.sa.gov.au/library/121011-F3_ReviewIndexationRatesCapitalWorksEvansPeck.pdf)

- That economic growth in South Australia over the next five years would be close to that in the last five years. Cardno cited ABS statistics that showed construction activity in South Australia increased over the 2001-2009 period, but has since declined significantly. Cardno further noted that the Evans & Peck forecasts assumed the planned expansion of Olympic Dam (representing approximately 40% of total state investment), which has since been deferred; and
- That the supply side for construction services would remain unchanged over the period. It is Cardno's view that South Australia is linked to the national market, with the potential for supply of services to vary with demand.

Cardno presented an alternative perspective by reviewing relevant construction output price indices, as shown in Figure 7-1:

**Figure 7-1: Non-residential building construction, Roads and Bridges construction and CPI Indices**



Cardno noted that the non-residential building construction price index has matched CPI over the 1996-2012 period, whilst the roads and bridges construction price index matched CPI until the end of 2004. From this time, it has significantly exceeded the other two indices.

Cardno further noted that the period from 2001 to 2009 was a period of continuous economic growth. Additionally, there were a number of major water security supply projects undertaken during the second half of the last decade. Cardno concluded that these two factors make it likely that the construction cost increases observed over this period were higher, and possibly much higher, than will be seen over the next five years.

Therefore, Cardno concluded that no real cost escalation should be allowed for SA Water’s capital costs.

Conclusion

The Commission notes Cardno’s advice in this area.

A further issue exists around whether, at a principle level, any allowance should be provided to regulated entities beyond general CPI. Input prices over the medium to longer term will, as can be seen in Figure 7-1 above, tend towards CPI. Indeed, it is noted that the non-residential construction price index has risen at a rate well below CPI over the last four years, having risen at a materially higher rate in the four years prior to that. The Commission notes that, over the longer term, construction costs will tend to follow general movements in the Australian economy as a whole.

The Commission recognises that, on occasion, exceptional circumstances beyond the reasonable control of the regulated entity may exist, and that there may be a limited case for allowing certain cost increases beyond CPI. Indeed, as explained in Chapter 8, the Commission has allowed for electricity cost growth above CPI in this Draft Revenue Determination.

However, a pure CPI-x approach has worked well across other jurisdictions in driving efficiency and outperformance in regulated entities. Both the Independent Pricing & Regulatory Tribunal (**IPART**) and ESCV are committed to CPI-x only allowances in their water determinations, with the risks relating to input costs moving above or below inflation from time to time sitting with regulated entities.

The Commission believes that, unless exceptional circumstances can be shown to exist, no allowance beyond CPI for capital costs should be provided to SA Water. SA Water’s proposed real price increases have therefore been disallowed in this Draft Revenue Determination (Table 7-12).

**Table 7-12: Real Cost Increase**

<b>\$m (\$Mar12)</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>Total</b>
SA Water Proposal	8.5	15.3	25.4	49.1
Commission adjustment	-8.5	-15.3	-25.4	-49.1
Commission Assessment	-	-	-	-

**7.6.2 Capitalisation of Desalination Membranes**

Description

The detailed operating plan for the ADP includes costs relating to the commencement of an ongoing program to replace the reverse osmosis membranes, from 2014/15, at a cost of \$3.8m within the regulatory period.

### Assessment

Whilst these costs have been treated as opex in the RBP proposal, the Commission has reviewed whether it would be more appropriate to treat the costs as capex.

SA Water has informed the Commission that the exact life of the membranes is unknown, and will depend on a number of factors:

- the level of pre-filtration of the raw seawater;
- the level of membrane use (i.e. desalination plant usage levels);
- whether membranes are used for first or second pass within the plant; and
- how the membranes are preserved during any extended close-down period.

Based on the current operating plans for the ADP, there is an expectation that the membranes will have a useful life of approximately 5-7 years. The Commission notes that the schedules to the Design and Construct contract for the ADP specify membrane lives varying between 6.25-12.5 years.

The Commission also notes that Cardno recommended that SA Water reconsider, in consultation with its financial auditors, whether membrane replacement costs should be re-allocated from opex to capex.

### Conclusion

Based on the above projected asset lives, the Commission believes that it is appropriate to treat membrane replacement costs as capex for regulatory purposes, rather than as opex. The Commission has therefore transferred the projected costs from opex to capex (Table 7-13).

**Table 7-13: Desalination Membranes**

<b>\$m (\$Mar12)</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>Total</b>
SA Water Proposal – opex	-	0.8	3.0	3.8
Commission adjustment	-	-	-	-
Commission Assessment - capex	-	0.8	3.0	3.8

### **7.6.3 Capitalisation of Desalination Plant Proving Costs**

#### Description

As detailed in Chapter 8, SA Water plans to run the ADP, for proving purposes, for two years from January 2014 to December 2015. SA Water believes that this should enable it to comprehensively test the desalination plant at differing production levels, to establish reliability, and to find any faults with the design or construction of the plant. Any such issues would be addressed via the Design and Construction contract, as warranty work.

The water produced during this proving period, which will average approximately 60% of maximum annual production, will be pumped to Happy Valley reservoir and mixed with treated catchment water, prior to being supplied to customers. The production will occur irrespective of the level of supply available from other sources.

### Assessment

Whilst these proving costs have been treated as opex in the RBP proposal, the Commission has reviewed whether it would be more appropriate to consider the costs as commissioning costs for the ADP (i.e. part of the cost of delivering a fully tested and operational plant) and, therefore, to treat the costs as capex.

The Commission notes that Cardno recommended consideration of this issue in its report.

The accounting concept of accrual seeks to match the costs of an activity with the benefits that accrue from that activity. Applying this concept to the ADP, it may be reasonable to match the costs of the proving period (in seeking to identify and rectify any faults early) against the benefit gained in avoiding major repair costs in later years. This would suggest that it may be appropriate to capitalise the costs of the proving period.

A further issue to consider is whether it is reasonable to capitalise the full costs of running the ADP for the proving period (approximately \$60m within the regulatory period), or only the marginal costs over using water sourced from the River Murray (approximately \$35m).

Cardno noted that there is some beneficial use from the water produced during the proving period, and that it would therefore be appropriate to treat at least some of the costs as opex.

### Conclusion

The Commission's view is that, for regulatory purposes, it is appropriate to capitalise some of the costs of running the ADP during the two year proving period, as it will produce benefits (such as reduced repair costs) over the years that follow. The Commission notes that the water produced will displace water that otherwise would have been sourced from the River Murray. The marginal cost of producing desalinated water over utilising River Murray water is therefore the true cost to consumers of running the desalination plant over the proving period, and should appropriately be capitalised, to match the benefit of avoided major repairs in later years.

SA Water has provided the Commission with detailed cost and volume information that has enabled an accurate estimate to be made of marginal cost of running the ADP over the proving period. The Commission has therefore transferred the projected costs, as shown in Table 7-14 below, from opex to capex.

**Table 7-14: Desalination Plant Proving Costs**

<b>\$m (\$Mar12)</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>Total</b>
SA Water Proposal – opex	23.4	12.4	-	35.8
Commission adjustment	-	-	-	-
Commission Assessment – capex	23.4	12.4	-	35.8

#### 7.6.4 Efficiency

##### Description

Efficiency in regulated utilities is typically assessed using the concept of an efficiency frontier to determine the scope for achieving efficiencies. There are two types of efficiency improvements when assessed in this way:

- *Continuing efficiency* – the amount by which the efficiency frontier moves over time (i.e. the rate at which the frontier company becomes more efficient); and
- *Catch-up efficiency* – the rate at which the regulated entity closes the gap between its current level of performance and that of the frontier company.

Cardno has assessed SA Water against both of these criteria.

##### Cardno Assessment

For continuing efficiency, Cardno has recommended a frontier movement of 0.5% per annum, as established by Reckon LLP through a study<sup>84</sup> for Ofwat, as part of a price determination process for the twenty-two water companies in England and Wales, covering the 2010-2015 period.

With regard to catch-up efficiency, Cardno identified four areas where it believes that SA Water could more efficiently deliver its proposed capital expenditure by improving its business practices, as follows:

- Under the new metropolitan Adelaide service delivery outsourcing arrangements, SA Water has taken back asset management functions for metropolitan assets, which will allow SA Water to better understand its assets, and their needs for renewal and replacement.
- Improving the depth of asset information held in Maximo (asset management software), to allow SA Water to undertake more quickly, and more fully, appraisal of needs identified for further investigation.

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<sup>84</sup> Reckon LLP, *PRO9 Scope for Efficiency Studies*, 17 October 2008, page 165; available at [http://www.ofwat.gov.uk/publications/commissioned/rpt\\_com\\_scopeefficiencyreckon.pdf](http://www.ofwat.gov.uk/publications/commissioned/rpt_com_scopeefficiencyreckon.pdf)

- More rigorous treatment of cost contingencies, including setting out specific guidelines for their incorporation in cost estimates, monitoring them at a program level, and moving to a risk-based approach to estimating contingencies.
- Adopting a higher level, portfolio approach to managing and delivering the capital works program. This may identify opportunities to achieve the outcomes desired from the capital works program at a lower cost. Cardno noted that SA Water was already moving in this direction.

It is Cardno's view that efficiency could be improved, based on the four opportunity areas outlined above, by 0.6% per annum across the three-year period.

### Conclusion

The Commission notes that SA Water's proposal provided very little information on efficiency, despite such information being specifically requested by the Commission.<sup>85</sup> SA Water provided the explanation that, whilst it was considering a number of efficiency driven initiatives, none of these were well enough developed to be considered for inclusion in its RBP proposal.

On continuing efficiency, it is the Commission's view that it is appropriate to set a target to reflect the continuing improvements that will undoubtedly be available over time in the areas of technology, innovation, productivity and procurement. The proposed target of 0.5% per annum, based on a detailed study carried out for Ofwat, and applied to comparable entities in the UK, is considered reasonable.

On catch-up efficiency, the Commission recognises that each of the four areas identified by Cardno has the potential to improve the efficient delivery of SA Water's capital program into the medium term. The Commission notes that SA Water has commenced work in some of these areas, and would expect some level of benefits to accrue by the commencement of the regulatory period.

The Commission has also considered recent regulatory determinations in other jurisdictions on catch-up efficiency, though it is noted that these should be considered in the context of the relative starting point level of efficiency of each regulated entity.

Sydney Water was targeted by IPART in June 2012 to make catch-up efficiency savings varying between 0.9% to 4.8% per annum, averaging 1.8% per annum, over the 2012/13-2015/16 period.

Further to this, Ofwat applied wide-ranging catch-up efficiencies to water entities in England & Wales for the 2010-2015 period, with efficiency targets as high as 17% for one entity.

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<sup>85</sup> Refer to *Review of SA Water's Prices – Guidance Paper*, February 2012, Chapter 4; available at: [http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices\\_2013-16-GuidancePaper.pdf](http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices_2013-16-GuidancePaper.pdf)

The Commission notes that, based on the recent top-down efficiency review<sup>86</sup> that it commissioned, and other studies, SA Water tends to compare favourably on efficiency, when measured against comparable Australian water entities, with performance typically assessed to be between average and upper quartile. It is, therefore, appropriate that only a modest catch-up efficiency target is set. For these reasons, the Commission supports the 0.6% per annum target for catch-up efficiencies proposed by Cardno.

Table 7-15 summarises the Commission’s decisions with respect to efficiencies.

**Table 7-15: Impact of Efficiencies**

	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>
Continuing Efficiencies	0.5%	0.5%	0.5%
Catch-up Efficiencies	0.6%	0.6%	0.6%
Total Impact (cumulative)	1.10%	2.19%	3.26%

The Commission notes that SA Water has already contracted for approximately \$50m of capex works within the three-year period. As this work is committed and costs are therefore already largely fixed, the efficiency factors are not applied to this expenditure.

**7.6.5 Further Scope for Efficiency**

The Commission notes that Cardno commented further that the capital authorisation framework that SA Water operates under, as a State Government owned entity, is likely to generate inefficiencies. Cardno identified the following changes that could unlock further efficiencies:

- Complete confidentiality of capital cost estimates when referred to the State Government for approval. Currently, on many larger projects, the Public Works Committee publish SA Water’s cost estimates prior to them going to market. This can set a market expectation on the cost of the tendered works, and has the potential to lead to higher costs.
- Referral for FFA after detailed design. This would remove any potential for estimates at concept design to be overestimated, to allow for risks yet to be identified.
- Transferral of more responsibility for capital expenditure approval from State Government to SA Water Executive and Board, through a streamlined process, and higher levels of delegation. Current delegations allow the SA Water Board to approve capex projects only up to \$4m, with all higher value projects being authorised by either the Minister for Water or, for projects above \$11m, State Cabinet. Clearly, this creates time and cost delays on major works. Cardno further noted that the

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<sup>86</sup> CIE, *Top Down Efficiency Review of SA Water*, September 2012; available at <http://www.escosa.sa.gov.au/library/121012-TopDownEfficiencyReviewSAWater-CIEReport.pdf>



authorisation levels were generally lower than for other public sector organisations across Australia.

However, as these issues are out of the control of SA Water, Cardno did not include them in its assessment of efficiency.

The Commission notes these issues and has highlighted them in this Draft Revenue Determination as having the potential to unlock further efficiencies within SA Water.

## 7.7 Draft Decision

### Draft Decision

The Commission adopts a capital expenditure amount of \$962.6m (\$Mar12) for the purposes of this Draft Revenue Determination, as summarised in Table 7-16.

*Table 7-16: Draft Decision Adjustments to SA Water's Capital Expenditure Proposal*

\$m (\$Mar12)	2013/14	2014/15	2015/16	Total
<b>Adjusted SA Water Proposal</b>	<b>348.4</b>	<b>372.1</b>	<b>428.2</b>	<b>1148.6</b>
Murray Bridge WWTP	-7.7	-18.9	-78.7	-105.4
M&E Plant Renewal – Treatment Plants	-1.3	-1.8	-2.2	-5.3
M&E Plant Renewal – Networks	-3.2	-3.6	-2.3	-9.0
Aldinga WWTP Capacity Upgrade Stage2	-1.0	-14.7	-17.2	-33.0
Structures Renewal – Networks	-1.0	-0.9	-0.9	-2.8
Hendon Upgrade Queensbury WWPS	-0.7	-	-	-0.7
Real Price Adjustment	-8.5	-15.3	-25.4	-49.1
Capitalisation of ADP Membranes	-	0.8	3.0	3.9
Capitalisation of ADP Proving Costs	23.4	12.4	0.0	35.8
<b>Sub total</b>	<b>348.3</b>	<b>330.0</b>	<b>304.5</b>	<b>982.8</b>
Cumulative Efficiency Factor	-1.10%	-2.19%	-3.26%	
Continuing/Catch-up Efficiencies	-3.5	-6.8	-9.9	-20.3
<b>Draft Decision Capex Allowance</b>	<b>344.8</b>	<b>323.2</b>	<b>294.5</b>	<b>962.6</b>

*Note: totals may not add due to rounding*

## 8. OPERATING EXPENDITURE

Opex is the day to day cost of running a business. For SA Water, this includes the costs of paying wages and salaries, the costs of pumping and treating water, carrying out maintenance activities, reading meters and sending out customer bills, and the many other activities required to provide an on-going service to its customers. Unlike capex, opex is expensed as incurred.

A critical element in the making of this Draft Revenue Determination was the Commission's review of SA Water's proposed operating expenditures. The Commission has examined SA Water's operating expenditure proposal and has allowed only opex that it has deemed to be prudent and efficient.

The effect of this review is a Draft Determination for opex that is 9.5% lower than the proposals presented in SA Water's RBP submission.

### 8.1 SA Water's Proposal

In its RBP, SA Water provided forecasts of operating expenditures associated with the delivery of direct control water and sewerage services for the initial regulatory period, which totalled \$1.419 billion (Table 8-1). This was 14.8% higher than the \$1.236 billion of opex that SA Water expects to spend in the three-year period from 2010/11 to 2012/13.

**Table 8-1: SA Water's Proposed Operating Expenditure**

\$m (\$Mar12)	2010/11 actual	2011/12 actual	2012/13 projected	Total	2013/14 forecast	2014/15 forecast	2015/16 forecast	Total
SA Water Proposal	373.8	391.5	470.7	1236.0	483.5	469.4	465.8	1418.7

In its Guidance Paper, the Commission specified that the RBP should include information on the different drivers of forecast opex. SA Water stated that, in recent years, the key driver of the increase in SA Water's opex has been drought response. This included the enforcing of water restrictions, processing and payment of rebates, addressing low flows in the River Murray, and additional pumping from the River Murray to supplement metropolitan reservoirs.

However, much of this drought-response opex has ceased. SA Water identified the four key cost drivers for opex during the regulatory period as:

- Opex required to utilise newly finalised capital investment programs, such as the ADP and the NSIS;
- Increasing costs of maintaining and operating existing assets, due to age and proposed changes to asset condition monitoring;

- Growth in the number of customers served, and the volume of wastewater to be treated, as this requires, for example, increased consumption of electricity for pumping, and chemicals for treatment; and
- Compliance with new external obligations, such as carbon pricing, which has a significant impact on energy prices.

In forecasting the opex required to deliver water and sewerage services consistent with relevant service standards, SA Water used a base year approach. SA Water selected 2011/12 as the base year, as it represented the most recent actual spend, then factored into future years all cost movements related to known variations (stemming from the above mentioned cost drivers), and any other forecast operating cost changes, for each year through to 2015/16, before the application of real cost escalators to each category of expenditure. Real cost escalators for each category were developed by SA Water's consultants Evans and Peck.

In attempting to demonstrate that its opex is prudent and efficient, SA Water undertook three distinct benchmarking processes:

- Customers, length of network, demand analysis, which involves normalising operating expenditure for size of the utility;
- Partial financial indicator analysis, which is the standard method of analysis used by the National Water Commission (**NWC**); and
- Total Factor Productivity (**TFP**) analysis.

SA Water stated that its past opex compared favourably under each benchmarking approach and therefore concluded that it operated efficiently.

SA Water engaged KPMG to provide assurance of the cost allocation methodology used in forecasting for the initial regulatory period.

As the ADP is the single largest driver of increased opex, SA Water undertook detailed analysis of the ADP requirements; this included an independent analysis by Sinclair Knight Merz (**SKM**) of the costs associated with the 24 month proving period for the plant, which commenced in January 2013. SA Water is bound contractually to produce varying volumes of water from the site for at least two years, and plans to put the ADP into standby mode after this time. This plan sees opex peak in the first year of the regulatory period and then reduce in the second and third years to slightly below the 2012/13 level.

## *8.2 Adjustments to SA Water's Proposal*

On 18 October 2012, SA Water informed the Commission of four errors included in its RBP opex forecasts. Adjustments for these four errors are summarised in Table 8-2 and briefly explained below.

**Table 8-2: SA Water advised adjustments to operating expenditure (18 Oct 2012)**

\$m (\$Mar12)	Water/Sewer	2013/14	2014/15	2015/16
Opex associated with change to capitalisation policy	Water	-0.328	-0.507	-0.697
Opex associated with change to capitalisation policy	Sewer	-0.161	-0.250	-0.343
Replacement of chains on tank scrapers (Bolivar)	Sewer	-2.700	-0.976	0.000
Electricity costs to support water operations	Water	0.526	0.282	0.389
<b>Net Impact</b>		<b>-2.663</b>	<b>-1.451</b>	<b>-0.651</b>

### 8.2.1 Change to capitalisation policy

In SA Water’s summary models of forecast opex, a variation for “Opex associated with change to capitalisation policy” was included within the “Other Corporate” expenditure line in error. SA Water informed the Commission of this error. The related opex has, therefore, been removed.

### 8.2.2 Replacement of chains on tank scrapers

This is a capex project with no associated opex spend. The cost of the project was included in the proposal in both capex and opex. This opex error has been removed.

### 8.2.3 Electricity costs to support water operations

SA Water explained that this adjustment was due to a summing error outside the electricity model, where a line item was missed in calculating the total. The Commission is satisfied that this adjustment is appropriate and the electricity model, as provided to the Commission, is accurate.

### 8.2.4 Adjusted SA Water Proposal

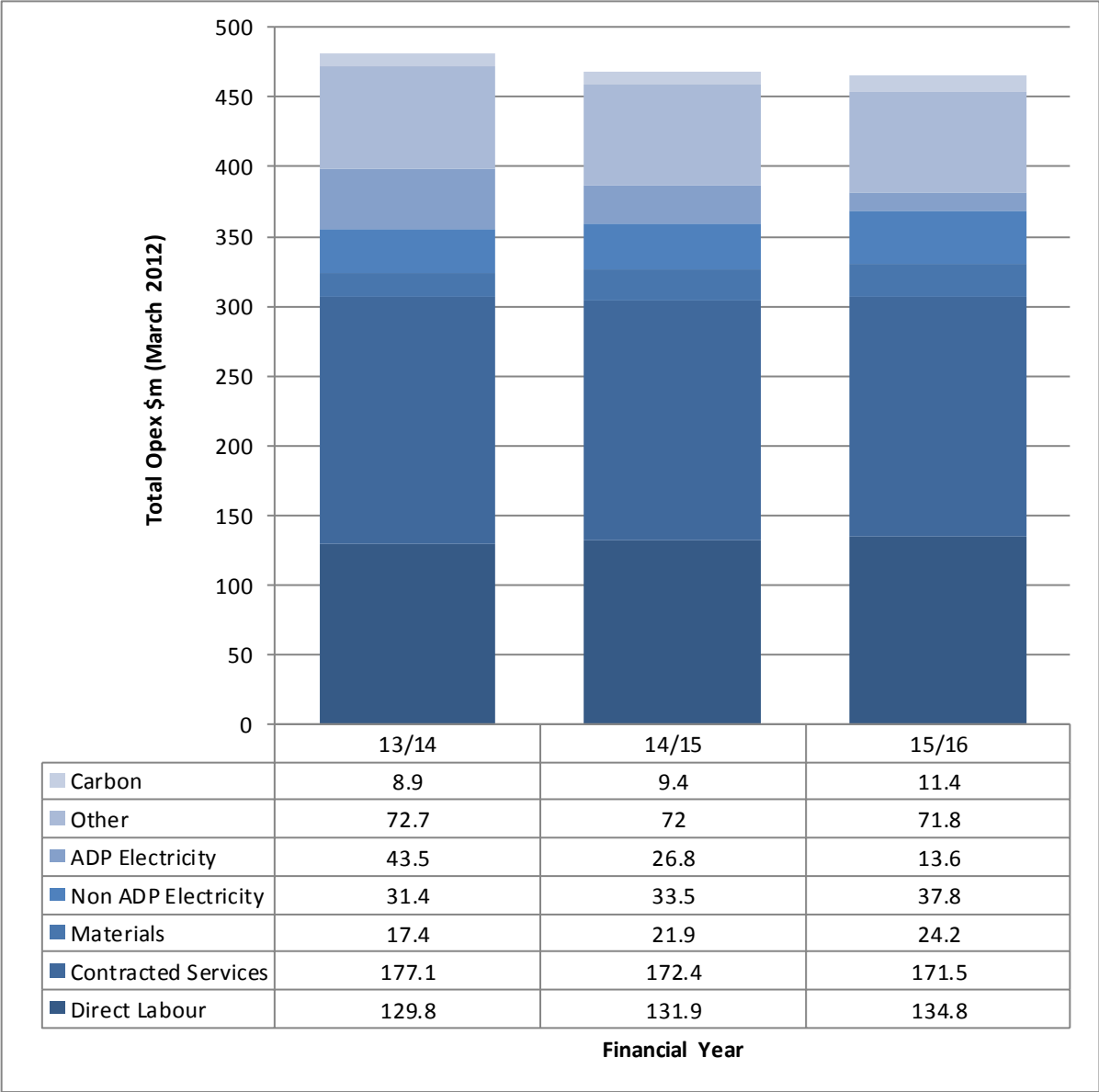
Accounting for these errors reduced forecast opex by \$4.9m over the three years. This is depicted below in Table 8-3.

**Table 8-3: SA Water revised operating expenditure proposal**

\$m (\$Mar12)	2013/14	2014/15	2015/16	Total
SA Water RBP	483.5	469.4	465.8	1418.7
SA Water advised adjustments 18 Oct 12	-2.7	-1.5	-0.7	-4.9
Adjusted SA Water Submission	480.8	467.9	465.1	1413.8

8.2.5 Profile of Revised SA Water Opex Proposal

Figure 8-1: SA Water Proposed Opex Profile



8.3 Issues Raised In Submissions

The Commission received a submission from SACOSS outlining its concern over several aspects of SA Water’s proposed opex. SACOSS commissioned St Kitts Associates to provide advice to SACOSS regarding the Commission’s Issues Paper. To ensure that water and sewerage costs were kept at today’s levels until at least 2015/16, SACOSS supported the recommendation by St Kitts Associates that:

*Operating Expenditure levels need to be reduced for both water and sewer services from the start of the period ... Significant savings from expenditure plans will need to be found now, if room is to be allowed for increased operation of the*

*Desalination Plant later in the regulatory period, while not materially increasing prices.*<sup>87</sup>

SACOSS understood that the Commission is unable to determine the RAB for SA Water, but proposed that the ability to find savings in capex and opex are within the Commission's scope. It therefore stated that:

*SACOSS believes that SA Water's proposed Capital Expenditure program needs to be reduced or offset by reduced expenditure in other areas, which would in reality require significant reductions in Operating Expenditure.*<sup>88</sup>

## 8.4 Review Methodology

The Commission has examined SA Water's proposed opex from two perspectives:

- an aggregated "top-down" perspective, which looks at SA Water's total operating costs with reference to comparable Australian water utilities; and
- a disaggregated "bottom-up" perspective, which looks at each relevant opex activity on a line-by-line expenditure basis.

The top-down relative efficiency study was undertaken on the Commission's behalf by CIE, and was published as part of the Commission's RBP Issues Paper<sup>89</sup>.

For the bottom-up review, the Commission engaged Cardno, supported by WS Atkins, to provide expert advice, from both a financial and engineering perspective, on the prudence and efficiency of SA Water's capex and opex proposals. Cardno also considered relevant measures of efficiency from a top-down perspective, to inform its analysis.

Cardno's assessment of the prudent and efficient opex involved detailed scrutiny of all direct and allocated expenses. It analysed the allocation of SA Water's total opex to direct, excluded and non-regulated services, as well as movements in direct control opex leading into the base year, and then through the regulatory period. The variances in the regulatory forecast years were then examined to reach the final position for each year of the initial regulatory period.

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<sup>87</sup> SACOSS, *SACOSS Submission to ESCOSA's Issues Paper*, November 2012, Appendix 1, page 3; available at <http://www.escosa.sa.gov.au/projects/186/determination-of-sa-water-s-drinking-water-and-sewerage-revenue-2013-14-2015-16.aspx>

<sup>88</sup> SACOSS, *SACOSS Submission to ESCOSA's Issues Paper*, November 2012, Appendix 1, page 4; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-SACOSS.pdf>

<sup>89</sup> CIE, *Top Down Efficiency Review of SA Water*, September 2012; available at <http://www.escosa.sa.gov.au/projects/186/determination-of-sa-water-s-drinking-water-and-sewerage-revenue-2013-14-2015-16.aspx#stage-list=0>

The detailed assessment of all opex areas included interview discussions with relevant SA Water managers, site visits, and a full review of all documentation provided by SA Water in support of its proposals. Through this process, the Commission identified a number of opex-related activities and opex assumptions made in the RBP that it considers to be neither prudent or efficient. Analysis of these cost areas forms the basis of this chapter.

Along with Commission staff's own investigations and the submissions to the Issues Paper, the Cardno report forms a key input in the determination process. Cardno's full final report on its bottom-up study of SA Water's expenditures can be accessed at the Commission's website.<sup>90</sup>

#### *8.4.1 Summary of findings of Cardno report*

Cardno accepted SA Water's proposed opex, including the adjustments it put forward subsequent to submitting its RBP, subject to adjustments in the following areas:

- Real cost escalators;
- Opex associated with Cardno's recommended deferral of the Aldinga WWTP; and
- An adjustment to reflect ongoing opex efficiency.

Cardno recommended that the real cost escalator assumptions related to labour, materials and contracted services be removed. This is because, in its view, and consistent with regulatory decisions in other jurisdictions, any escalation above CPI in these costs is wholly a business risk issue. Cardno believed that real cost pressures in these areas can be addressed through effective and prudent management by SA Water of its procurement approach.

Cardno also recommended removal of opex associated with the capital project at Aldinga WWTP that Cardno has recommended be deferred.

Consistent with SA Water's proposal, the National Water Commission's National Performance Report (NPR) reporting, and other data, Cardno supports the view that SA Water's current level of opex is relatively efficient, compared to other water utilities. It therefore recommended that no catch-up efficiency target be applied to opex.

Cardno was, however, surprised that SA Water had not assumed any ongoing efficiency improvement, noting that this was inconsistent with SA Water's objective "to drive reductions in the real operating cost of delivering service" outlined in the Financial Management section of SA Water's Corporate Business Plan 2012-16. Based on its complete assessment of SA Water's submission and expenditure proposals, Cardno proposed a phased continuing annual efficiency target of 1%, 2% and 2% over the three years of the regulatory period.

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<sup>90</sup> Cardno, *Review of capital and operating expenditure plans of SA Water*, January 2013; available at <http://www.escosa.sa.gov.au/library/130207-ReviewofCapexOpexPlansofSAWater-Cardno-FinalReport>

Cardno’s recommended adjustments to SA Water’s proposed opex are summarised in Table 8-4.

**Table 8-4: Cardno’s recommended operating expenditures**

<b>\$m (\$Mar12)</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>
<b>SA Water RBP</b>	483.5	469.4	465.8
<b>Expenditure adjustment:</b>			
SA Water advice of 18/10/12 (Table 8.3)	-2.7	-1.5	-0.7
Deferral of Aldinga WWTP	-0.4	-0.4	-0.4
Cost escalator adjustment	-4.1	-6.5	-9.4
<b>Total</b>	<b>476.3</b>	<b>461</b>	<b>455.3</b>
<b>Efficiency adjustment:</b>			
Continuing efficiency % p.a.	1.00%	2.00%	2.00%
Total cumulative efficiency %	1.00%	2.98%	4.92%
Efficiency adjustment \$m	-4.8	-13.7	-22.4
<b>Recommended efficient opex</b>	<b>471.5</b>	<b>447.3</b>	<b>432.9</b>
<b>Variance \$m</b>	<b>-12.0</b>	<b>-22.1</b>	<b>-32.9</b>
<b>Variance (%)</b>	<b>-2.5%</b>	<b>-4.7%</b>	<b>-7.1%</b>

## 8.5 Commission’s Consideration

The Commission has reviewed SA Water’s opex movements over time, including forecasts of real movements in salary and wage costs, contractor costs, and materials costs. Additionally, the Commission assessed the extent to which SA Water can improve the efficiency of its operations. The potential for efficiency improvements was examined, with the support of both Cardno, from an activity-specific perspective (bottom-up), and CIE, from an aggregate perspective (top-down).

The Commission has set an opex allowance for the initial regulatory period that reflects only the opex required to prudently and efficiently deliver water and sewerage services to customers, and meet the costs of other obligations which the Initial Pricing Order requires the Commission to take account of.

The Commission’s allowances for prudent and efficient expenditures do not bind SA Water to spend only those amounts. The Commission expects SA Water to constantly monitor its operational requirements, and notes that its opex plans are likely to change over time.



The Commission's review has taken into consideration a detailed analysis of SA Water's proposed opex, SA Water's responses to requests for further information, submissions received from stakeholders during public consultation, and advice from both Cardno and CIE.

The following sections discuss the Commission's analysis of SA Water's opex proposals.

### 8.5.1 SA Water's Methodology for Forecasting Operational Expenditure

In its Guidance Paper, the Commission stated that SA Water's RBP should clearly articulate the methodology and rationale adopted to forecast opex during the initial regulatory period.

In its RBP, SA Water stated that it based its operating expenditure forecasts on the following methodology:<sup>91</sup>

- Step 1: Selection of a base year (2011/12);
- Step 2: Allocation of operating expenditure between direct control, excluded and non-regulated services;
- Step 3: Further allocation of direct control operating expenditure between water and sewerage services;
- Step 4: Identification of adjustments to base year operating expenditure for each year through to 2015/16; and
- Step 5: Application of input cost escalators, reflecting forecast cost escalation in real terms.

This informed the key questions for the Commission in assessing SA Water's forecast opex methodology. These are:

- *Is the methodology of using a base year and adjusting for variances an appropriate approach? If so, is the base year of 2011/12 appropriate?*
- *Is the use of cost escalators an appropriate approach? If so, have the appropriate escalators been used?*
- *Is the proposed opex program prudent and efficient?*

#### 8.5.1.1 Base Year

On the matter of the selection of the base year, SA Water stated that it selected 2011/12 as its base year for the following reasons:

- The costs associated with severe drought abated in 2011/12, with severe drought conditions assumed not to apply during the forthcoming regulatory period;

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<sup>91</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012, p 128; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf)

- SA Water began to incur significant operating costs associated with the ADP and NSIS during 2011/12, with further increases forecast for 2012/13, reflecting the increased operating expenditure associated with these assets, which will persist during the regulatory period;
- There have been major upgrades at several of SA Water's wastewater treatment plants immediately prior to July 2011, with the operating expenditure incurred at these plants in 2011/12 indicative of the operating expenditure to be incurred during the regulatory period.

In its assessment of SA Water's selection of the base year, Cardno noted:

*The SA Water rationale for choosing this base year is that the key criterion should, to the greatest extent possible, reflect the prudent and efficient operating expenditure expected to be incurred during the forthcoming regulatory period. We concur with this view.*<sup>92</sup>

However, the RBP and supporting documentation did not include a variance analysis of movements in historical expenditure prior to the base year. This information was sought from SA Water during the review period.

Cardno summarised its conclusion on the appropriateness of the base year in its report. Cardno was satisfied that movements from historic spend to the base year level of expenditure were justified by the Company's explanations subsequently provided. Further, Cardno assured that they "were not made aware of any atypical or exceptional items that we would expect to be excluded from the base year costs."<sup>93</sup>

The Commission has undertaken its own analysis of the appropriateness of the base year and has also considered the conclusions of Cardno. Table 8-5 and Table 8-6 below summarise the variances in SA Water's base year from its historic spend, and provide some examples of the key reasons for variances. The Commission agrees with Cardno's conclusions that the base year was appropriately selected and does not contain any anomalies that should be removed prior to forecasting for the initial regulatory period.

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<sup>92</sup> Cardno, *Review of capital and operating expenditure plans of SA Water*, January 2013, p 46; available at <http://www.escosa.sa.gov.au/library/130207-ReviewofCapexOpexPlansofSAWater-Cardno-FinalReport>

<sup>93</sup> Cardno, *Review of capital and operating expenditure plans of SA Water*, January 2013, p 49; available at <http://www.escosa.sa.gov.au/library/130207-ReviewofCapexOpexPlansofSAWater-Cardno-FinalReport>

**Table 8-5: Comparison of SA Water's historic operating expenditure to base year expenditure<sup>94</sup>**

Nominal prices	Average annual spend 2007/08 to 2010/11	Base year 2011/12	Variance base year to average historic spend
	\$'000	\$'000	%
Customer Services	36,008	31,567	-12.30
Infrastructure Management & Delivery	3,749	8,964	+139.10
Operations	174,243	204,496	+17.40
Water Quality and Environment	15,452	17,264	+11.70
Dept. of the Head of Customer Services	1,230	1,657	+34.70
Dept. of the Head of Asset Management	3,497	6,729	+92.40
Dept. of the Head of Water Quality & Environment	1,557	427	-72.60
Finance & Business Support	19,798	24,957	+26.10
Information Services	20,997	25,094	+19.50
Corporate	18,610	22,250	+19.60
People & Culture	10,119	11,385	+12.50
Strategy Planning & Regulation	12,742	29,477	+131.30
Governance Group	6,555	7,660	+16.90
<b>Total</b>	<b>324,550</b>	<b>391,927</b>	<b>+20.80</b>

<sup>94</sup> These figures are based on the Commission's template cost allocations and are in nominal terms, that is historic expenditure has not been inflated to base year prices. Source: Cardno, *Review of capital and operating expenditure plans of SA Water*, January 2013, p 47; available at <http://www.escosa.sa.gov.au/library/130207-ReviewofCapexOpexPlansofSAWater-Cardno-FinalReport>

**Table 8-6: Selected key reasons for variances from historic spend<sup>95</sup>**

	<b>Variance base year to average historic spend</b>	<b>Selected key reasons for variance</b>
Infrastructure Management & Delivery	+139.10%	In-sourcing of metropolitan contract in 2010/11
Operations	+17.40%	ADP costs are prime driver balanced, to a degree, by reduction in pumping and associated electricity elsewhere;
		Implications of wastewater treatment enhancements
		Establishment of a Capital Project Management Office;
Dept. of the Head of Asset Management	+92.40%	Establishment of enhanced contract management capabilities and contracting models;
		A change in the allocation of accommodation costs to the Infrastructure Management and Delivery group.
Dept. of the Head of Water Quality & Environment	-72.60%	A reduction in maintenance costs due to relocation of the Water Quality & Environment ( <b>WQE</b> ) workgroup from Bolivar to Victoria Square;
		A reduction in external services and internal labour costs due to decreased water quality and River Murray monitoring activities (made possible due to ending of a severe drought);
		Transfer of responsibility for procurement of Green Energy Certificates (Electricity) & Carbon offsets to the Finance and Business Services unit, resulting in a reduction within this expenditure category;
		A change in the costing of investigations associated with climate change, such that these costs are aggregated within the Head of WQE expenditure category.
Strategy Planning & Regulation	+131.30%	Increase in 2011/12 reflects the introduction of Water Planning and Management Fees equating to approximately \$15.9m.
		Economic regulation licence fee.

<sup>95</sup> Source: Cardno, *Review of capital and operating expenditure plans of SA Water*, January 2013, pp. 47-49; available at <http://www.escosa.sa.gov.au/library/130207-ReviewofCapexOpexPlansofSAWater-Cardno-FinalReport>

### 8.5.1.2 Cost Allocation

In relation to SA Water's proposed allocation of opex to direct control, excluded and non-regulated services, the Commission notes the findings of the KPMG report commissioned by SA Water, which supports SA Water's cost allocation methodology.<sup>96</sup> Cardno also reviewed the methodology and has indicated that it is appropriate. The Commission agrees with those findings, and accepts this element of SA Water's cost allocation proposal.

SA Water further split direct control opex by water and sewerage services, in order to determine a revenue amount for each service. The Commission notes that KPMG and Cardno both support the approach taken to the allocation of opex between water and sewerage services. The Commission also notes SA Water's use of the same allocation methodology for combined cost items for other regulatory purposes, such as the NPR framework.<sup>97</sup> The Commission accepts this element of SA Water's cost allocation proposal.

### 8.5.1.3 Real Cost Increases

SA Water separately included an adjustment for real cost escalation (salary and wage costs, contractor costs, and materials costs), as estimated for SA Water by Evans and Peck<sup>98</sup>, consistent with the approach it took for forecast capex. SA Water proposed a real input cost escalation (i.e. increases in cost above general CPI inflation) of approximately \$20.9m in its operating expenditure forecasts over the initial regulatory period.

Cardno expressed the following views in relation to real cost pressures related to labour, materials and contracted services:

- They are, to a large extent, manageable by SA Water through its approach to procurement, hence, price movements above CPI are wholly business risks and those below are a reflection of sound management by the company;
- Price movements in labour, materials and contracted services will trend to CPI in the long-term; and
- Given the current growth rates of the South Australian economy, a forecast price movement of CPI over the forthcoming regulatory period is reasonable.

Cardno also referred to similar practice in other regulatory regimes. UK regulatory regimes only allow for Retail Price Index escalation and, in NSW, IPART allows only CPI escalation.

The Commission has considered the application of real cost escalators in general, and as proposed by SA Water. For the reasons outlined by Cardno above, the Commission is in

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<sup>96</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012, Attachment D.2; available at [http://www.escosa.sa.gov.au/library/121011-D2\\_CostAllocationMethodology.pdf](http://www.escosa.sa.gov.au/library/121011-D2_CostAllocationMethodology.pdf)

<sup>97</sup> NWC, *2011-12 National Performance Framework: urban performance reporting indicators and definitions handbook*, June 2012; available at <http://archive.nwc.gov.au/library/topic/npr>.

<sup>98</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012, Attachment G.2; available at [http://www.escosa.sa.gov.au/library/121011-G2\\_ReviewIndexationRatesOperatingExpenditure.pdf](http://www.escosa.sa.gov.au/library/121011-G2_ReviewIndexationRatesOperatingExpenditure.pdf)

favour of applying escalation based solely on observed CPI for salary and wages, contractors and materials costs. This removes \$20.9m in opex from SA Water’s proposal over the period.

**Table 8-7: Cost Escalators**

<b>\$m (\$Mar12)</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>Total</b>
	<b>Plan</b>	<b>Plan</b>	<b>Plan</b>	
SA Water Proposal	4.4	6.8	9.7	20.9
Commission Assessment	-	-	-	-
Commission Adjustment	-4.4	-6.8	-9.7	-20.9

While the Commission concludes that there is insufficient evidence to support real increases in input costs in areas which SA Water is, to a large extent, able to manage, there may be a legitimate argument for allowing some real cost escalation in costs largely beyond SA Water’s control. The Commission accepts the principle that specific cost escalators on top of CPI apply to SA Water’s energy purchase costs, as discussed in 8.5.5 below.

**8.5.2 ADP Proving Period/Supply Mix**

In its Guidance Paper, the Commission requested that SA Water provide a schedule separately identifying the additional operating, maintenance and administrative costs related to the ADP. It also requested supporting commentary covering:

- full details of all testing and warranties which are included in the construction contract(s);
- how operating, maintenance & administrative costs related to the desalination plant will be optimised, given that it forms part of a portfolio of water supply sources;
- what assumptions had been made on desalination plant usage versus other infrastructure over the plan period; and
- explanations of the manner in which the plan reflected compensatory savings in other cost areas.

SA Water’s RBP was based on running the ADP at an average of 65% of capacity for two years (January 2013 to December 2014), which is the proving period for warranty purposes. It then proposed to put the plant in standby mode from January 2015.

In considering SA Water’s proposed ADP utilisation, the Commission has had regard to:

- An independent review of the prudent and efficient costs of operating the ADP, conducted for SA Water by SKM. The objective of this review was to determine the

lowest operating cost scenario for the ADP for the initial regulatory period, consistent with SA Water's contractual obligations and with good engineering practice;<sup>99</sup>

- Advice provided by Cardno;
- EPA licence requirements for the ADP;
- Relevant contractual documents; and
- The availability of alternative water sources, from the Mount Lofty Ranges and the River Murray.

The Commission acknowledges that SA Water has contractual and regulatory requirements to run the ADP for a minimum level following the project's completion. This is necessary to allow SA Water to be satisfied that the ADP is free from defects, compliant with the law, and meets its standards of operation. The Commission accepts the conclusions of both SKM and Cardno that SA Water's proposal to run the ADP at various capacities for 24 months during the initial regulatory period is prudent and efficient.

The Commission also notes that the ADP EPA licence<sup>100</sup> stipulates that all marine monitoring (including salinity compliance) should commence with the issue of the licence (1 Dec 2010) and end 12 months after project handover of the 100GL plant (end of 2013). The licence therefore requires the ADP to be operational for at least the first 6 months of the initial regulatory period.

Any requirement to use the ADP beyond the warranty period would likely be the result of a change in water availability from SA Water's two main alternative water sources: reservoir inflows (generally the cheapest source of water), and the River Murray (the second cheapest). The Commission has sought information from water resource regulators and is satisfied with SA Water's assumption that there will be sufficient water availability from these sources over the initial regulatory period.

During the course of the review, the Commission has sought modelled estimates on Mount Lofty Ranges (**MLR**) inflows from the Department of Environment, Water and Natural Resources (**DEWNR**) to test SA Water's key assumptions regarding the volumes of water to be available in SA Water's reservoirs. The Commission will review SA Water's MLR inflow forecasts further following the release of this Draft Determination and incorporate any cost impact of changes in MLR inflow forecasts in its Final Revenue Determination. This may require remodelling by SA Water.<sup>101</sup> This remodelling will also enable SA Water to take into

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<sup>99</sup> The SKM report was confidential and was not published.

<sup>100</sup> EPA Licence 26902, December 2010, condition 11.2; available at [http://www.epa.sa.gov.au/environmental\\_info/water\\_quality/adelaide\\_desalination\\_plant\\_monitoring](http://www.epa.sa.gov.au/environmental_info/water_quality/adelaide_desalination_plant_monitoring)

<sup>101</sup> The Commission recognises that there are a number of interdependencies and constraints relating to SA Water's water portfolio, which are best taken into account through detailed modelling by SA Water. The Commission has made its best assessment of the cost impacts of its changes to activities and assumptions in

consideration other related impacts based on the Commission’s Draft Determination (e.g. any changes in demand and environmental flows).

As the ADP proving period forms part of the cost of delivering a fully constructed, tested and operational desalination plant, the Commission believes that the cost of the warranty should be matched with the benefits of the warranty over the period in which they will accrue. Therefore, the Commission has determined that it is appropriate to capitalise the costs of running the ADP during the proving period. Cardno was also of the view this was appropriate.

In calculating the marginal cost of running the plant during the proving period, the Commission has used the differential in variable costs per Megalitre (ML) of water produced from each water source (ADP vs. River Murray), as provided by SA Water during the review process. The resulting \$35.8m differential has been removed from opex and added to capex.

**Table 8-8: Desalination Plant Proving Costs**

<b>\$m (Mar12)</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>Total</b>
	<b>Plan</b>	<b>Plan</b>	<b>Plan</b>	
SA Water Proposal - opex	23.4	12.4	-	35.8
Commission Assessment	-	-	-	-
Commission Adjustment - capex	23.4	12.4	-	35.8

### 8.5.3 Desalination Membranes

As discussed in Chapter 7, given their 5-7 year life span, the Commission has also decided to capitalise, for regulatory purposes, the \$3.8m of opex associated with ADP membrane replacement that had been included in the RBP

**Table 8-9: Desalination Membranes**

<b>\$m (\$Mar12)</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>Total</b>
	<b>Plan</b>	<b>Plan</b>	<b>Plan</b>	
SA Water Proposal – opex	-	0.8	3.0	3.8
Commission Assessment - opex	-	-	-	-
Commission Adjustment - capex	-	0.8	3.0	3.8

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this Draft Determination, based on available information, but recognises that these may change in the Final Determination following detailed remodelling of all new parameters.



### 8.5.4 Environmental Obligations

SA Water forecast that it would incur approximately \$40 million opex during the initial regulatory period to comply with environmental obligations. SA Water’s environmental obligations mainly stem from its sewerage services, particularly through limitations placed on discharges to the receiving environment. This results in SA Water undertaking a range of works relating to the treatment and reuse of sewage, and preventative measures such as overflow abatement programs. SA Water must also comply with conditions relating to the extraction of water resources from the environment.

These obligations are controlled by other legislation and the environmental regulators – the EPA and the DEWNR. These regulators issue SA Water with licences, subject to certain conditions.

The Commission has reviewed SA Water’s proposal, and has sought confirmation on a number of matters from the EPA and DEWNR. Following consultation with these bodies, the Commission is satisfied that SA Water’s proposed opex for environmental compliance during the initial regulatory period is generally prudent and efficient.

However, SA Water’s RBP included \$1.71m opex for a trial to provide up to 16.5 GL of ‘environmental flows’<sup>102</sup> in the Western Mount Lofty Ranges (MLR), each year over the regulatory period. SA Water has stated that it is undertaking this trial, in partnership with DEWNR, to gain the information required to ensure that an appropriate level of environmental flows is stipulated in its water extraction licence.

The Commission does not dispute that such a trial may yield a benefit to the state. However, SA Water is not currently required to provide these environmental flows. Therefore, the Commission believes that this trial should be funded by a direct government subsidy (rather than by consumers through prices), as the provision of environmental flows relates to a Government function rather than a drinking water or sewerage service. Accordingly, the Commission has disallowed the trial cost.

**Table 8-10: Opex for environmental flows trial - MLR**

\$m (\$Mar12)	2013/14	2014/15	2015/16	Total
	Plan	Plan	Plan	
SA Water Proposal	0.4	0.4	0.9	1.7
Commission Assessment	-	-	-	-
Commission Adjustment	-0.4	-0.4	-0.9	-1.7

<sup>102</sup> Environmental flows refer to the provision and/or management of a share of water for the environment in order to protect river health. This often occurs during times of competing demands for water. Refer to <http://www.sa.gov.au/subject/Water,+energy+and+environment/Water/River+Murray/About+the+River+Murray/The+environment/Environmental+flows>

### 8.5.5 Electricity

In its RBP, SA Water proposed a specific methodology for forecasting electricity expenses, which differed from that used for other forms of opex. This methodology relied largely on forecast changes in over-the-counter contract prices (beyond the current contracted period), expected movements in network charges (as determined by the Australian Energy Regulator (AER)) and expected Australian Energy Market Operator (AEMO) fees. SA Water forecast total electricity charges over the initial regulatory period to be approximately 40% higher than over the previous three years.

**Table 8-11: SA Water's electricity expenditure proposal**

\$m (\$Mar12)	2010/11 Actual	2011/12 Actual	2012/13 Projected	Total	2013/14 Planned	2014/15 Planned	2015/16 Planned	Total
RBP total opex	373.8	391.5	470.7	1236.0	480.8	467.9	465.1	1413.8
RBP Electricity	29.2	34.5	68.7	132.4	74.4	60.0	51.1	185.5
Electricity % of total opex	7.8%	8.8%	14.6%	10.7%	15.5%	12.8%	11.0%	13.1%

As stated earlier, the Commission recognises that, on occasion, and in circumstances beyond the reasonable control of the regulated entity, there may be a limited case for allowing certain cost increases beyond CPI. The Commission considers that electricity costs fall into this category for the purposes of this Draft Revenue Determination. Hence, the Commission will allow electricity cost increases above CPI during the initial regulatory period. Unlike the costs of labour, contractors and materials, electricity costs are expected to increase significantly above CPI and are, to an extent, largely outside of SA Water's control. The Commission also notes that electricity is a large expenditure category, accounting for 13.1% of opex over the regulatory period. While electricity use at large and small sites is quite stable year on year, major pumping and ADP electricity usage has a direct link with demand and supply mix. As these sites will account for over fifty per cent of SA Water's annual electricity usage going forward, it is reasonable that electricity costs are forecast in a more detailed manner than the simple CPI escalation of other opex items.

#### 8.5.5.1 Methodology

SA Water used a separate methodology for forecasting electricity costs, according to major pumping, large sites, small sites and the ADP. SA Water's electricity model used the water demand optimisation tool (Headworks Optimisation Model of Adelaide (HOMA)), previous actual electricity usage and other inputs to estimate the amount of electricity required at each site for future years. Forecasts of future prices were obtained from a broker, network fees from ElectraNet's and South Australia Power Networks' (SAPN) pricing proposals to the AER, and published fees from AEMO. This methodology is depicted below in Figure 8-2.

**Figure 8-2: SA Water’s Electricity Forecasting Methodology**

SA Water Electricity Expense Modelling			
Non-ADP model			ADP model
10%	40%	50%	
Small sites	Large Sites	Major Pumping	
Forecast Usage	Historical kWh usage sourced from retail billing data	Adopt a 3 year moving average of retail billing or smart meter data to forecast kWh	MWh based on forecast demand and historically observed ML to kWh multipliers
	Data grouped by NMI, inspected and anomalies removed. If a NMI exhibits a clear time trend it may be forecast individually		Optimisation modelling projects ML p.a. output required subject to demand and other requirements
	Most recent 3 years are averaged and projected constant for future		Scenario modelling projects MWh electricity required to meet output
	Annual load growth assumed at 2%	Growth addressed by addition of new sites as per capital program	
Adjusted Usage	NMI level annual kWh forecasts adjusted for AEMO data transmission and distribution losses	Adjust MWh for AEMO data transmission losses	Projected MWh usage adjusted for AEMO data transmission and distribution losses
	Contract rates multiplied by MWh usage		Contract rates multiplied by MWh usage
Cost of Usage	Outside of contract period, apply historically observed premiums paid on broker forecast SA Flat \$/MWh		Contract rates multiplied by MWh usage
	<b>Network Charges</b>		
Other Usage Associated Costs	Apply SAPN pricing schedule 11/12 (\$/MWh)	Apply ElectraNet pricing schedule 11/12 to lower of MWh use two years prior or capacity	AICP as agreed with SAPN Apply SAPN pricing schedule 11/12
	Apply broker's forecast annual real cost escalation of 7.5% to 11/12 prices		
	<b>AEMO Fees</b>		
Apply total of pool fees from 2011/12 AEMO NEM Fees Schedule (\$/MWh) constant into future years		Apply forecast pool fees as outlined in 2011/12 AEMO Final Budget and Fees (\$/MWh)	
Apply historical average AEMO ancillary services charges (\$/MWh) constant into future years			

NMI - National Metering Identifier

The Commission has reviewed and broadly accepts SA Water’s methodology for forecasting electricity costs. The Commission considers it appropriate to include a separate methodology for electricity costs, segregated into major pumping, large sites, small sites, and the ADP, which are procured under separate energy contracts.

However, SA Water's methodology used a number of assumptions that the Commission does not agree with. For example, a number of the assumptions are now out-dated. The Commission has replaced these assumptions with the most recent estimates, where possible.

#### **8.5.5.2 ADP Electricity Costs**

Use of the ADP adds significantly to total SA Water electricity costs. SA Water recently went through a competitive tendering process to procure energy for the operation of the ADP. The Commission notes that competitive tendering can help ensure that contracts reflect efficient prices.

#### **8.5.5.3 SA Wholesale Energy Forward Price Estimates**

SA Water's proposed electricity costs following the cessation of current electricity contracts depend heavily on the wholesale energy cost forecasts for South Australia. SA Water's electricity contracts for Major Pumping, Large Sites and Small Sites all cease on 30 June 2013, with procurement for contracts from 1 July 2013 currently reaching the final stages. This leaves a degree of uncertainty in the forward estimates for electricity costs. As the state's third largest user of electricity, SA Water is in a strong position to negotiate with electricity retailers. SA Water applied the trend market premiums that it has historically experienced for each of the three types of sites above its long-run forecast flat energy price for South Australia, to obtain a forecast price per Megawatt hour (**MWh**) under future negotiated contracts. SA Water also stated that it has become difficult to obtain contracts extending longer than two years.

The Commission is satisfied that SA Water's current electricity contract prices are efficient having been determined through a competitive tender process. At this time, the Commission accepts the market premiums for each of the three contracts, and has applied these to the most recent forecasts of the flat wholesale energy price received by SA Water from a broker.

#### **8.5.5.4 Transmission Network Charges**

All but one of SA Water's major pumping sites are directly connected to ElectraNet's transmission network. Due to high volatility in consumption patterns, the network charges for electricity use at each site are based on the lower of capacity or actual usage. SA Water provided the Commission with comprehensive modelling that forecasts its usage at each major pumping site into the future. SA Water proposed a 7.5% increase per annum in transmission prices during the initial regulatory period, based on estimates provided to SA Water by a broker. The forecast ElectraNet network charges over the regulatory period totals \$28.4m (Table 8-12).

On 30 November 2012, the AER released its draft decision for the ElectraNet transmission revenue determination, covering the 2013-18 period.<sup>103</sup> The AER has proposed a decrease in

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<sup>103</sup> AER, *Draft Decision - ElectraNet Determination 2013-18*, 30 November 2012; available at <http://www.aer.gov.au/node/16617>.

ElectraNet’s revenue in the first year of its 5-year regulatory period, with a small real cost increase each year for the remainder of the period. Subject to ElectraNet’s pricing methodology, price movements over the period are expected to mirror the movement in allowable revenues. This decision provides greater certainty for the initial regulatory period, but was not available at the time SA Water submitted its RBP. Based on the AER’s draft decision, the Commission will not allow a 7.5% real annual increase in ElectraNet prices and instead will apply the AER’s real price path which, on average, reduces transmission network charges by 1.2% per annum over the regulatory period.

The Commission notes that while the AER’s determination applies directly to “prescribed” customers and not “negotiated” customers (which includes SA Water), ElectraNet’s *Negotiating Framework for Provision of Negotiated Transmission Service* states that “the negotiating framework must comply with and be consistent with the applicable requirements of a transmission determination applying to the provider”<sup>104</sup>.

The Commission’s adjustment translates to a disallowance of \$6.4m of opex over the initial regulatory period (Table 8-12).

**Table 8-12: Opex adjustment for transmission network charges**

\$m(\$Mar12)	2013/14	2014/15	2015/16	Total
	Plan	Plan	Plan	
SA Water Proposal	8.5	9.3	10.6	28.4
Commission Assessment	7.2	7.2	7.6	22.0
Commission Adjustment	-1.3	-2.1	-3.0	-6.4

**8.5.5.5 Distribution Network Charges**

SA Water will incur SAPN’s distribution network charges for one of its major pumping sites, all large sites, all small sites, and the ADP. SA Water forecast distribution network charges for each of these sites, other than the ADP, based on those paid in the base year with a 7.5% annual real cost escalation applied. This escalator was provided to SA Water by its broker.

The ADP model applied 0% real cost escalation to transmission and distribution network charges and 0% real escalation to the Additional Infrastructure Compensation Payment (AICP) invoiced directly by SAPN. The AICP is SA Water’s negotiated contribution to the costs incurred by SAPN for the network augmentation required to distribute electricity to the ADP.

SA Water’s proposed SAPN distribution network charges over the initial regulatory period total \$49.5m.

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<sup>104</sup> ElectraNet, *2013-18 Regulatory Proposal, Appendix G – Negotiating Framework*, May 2012, p 5; available at <http://www.aer.gov.au/node/16617>.

**Table 8-13: SA Water proposed distribution networks charges**

\$m(\$Mar12)	2013/14	2014/15	2015/16	Total
	Plan	Plan	Plan	
Non-ADP	11.9	12.8	13.7	38.4
ADP	4.0	3.7	3.4	11.1
Total	15.9	16.5	17.1	49.5

The 2012/13 SAPN Approved Pricing Proposal<sup>105</sup> shows projected network charges through to 2014/15. There are no estimates of price beyond 2014/15 in SAPN’s pricing proposals, as its next five year regulatory period begins on 1 July 2015. The AER’s draft decision for the ElectraNet Determination 2013-18 suggests a lower than CPI increase over the period from 2013/14 to 2017/18, as a significant drop is expected in the first year. The Commission therefore considers it appropriate to assume CPI only escalation for SAPN network charges between 2014/15 and 2015/16. The Commission forecasts SAPN’s network charges in 2015/16 to be 17% higher than those in 2011/12 (\$Mar12).

Based on this information, the Commission has applied 4.3% real annual escalation to SAPN network charges (excluding ADP AICP, as this is a contracted charge). This reduces allowable opex by \$1.9m for the regulatory period (Table 8-14).

**Table 8-14: Opex adjustment for SA Power Networks charges**

\$m (\$Mar12)	2013/14	2014/15	2015/16	Total
	Plan	Plan	Plan	
SA Water Proposal	15.9	16.5	17.1	49.5
Commission Assessment	15.5	15.9	16.2	47.6
Commission Adjustment	-0.4	-0.6	-0.9	-1.9

#### 8.5.5.6 Other Electricity-related Charges

AEMO, as the National Electricity Market (**NEM**) operator and planner, plays an important role in supporting integration, security, and cost-effectiveness in national energy supply.

Each of the electricity contracts for SA Water’s sites (Major Pumping, Large Sites, Small Sites and the ADP) contain pass-through clauses for amounts paid by the retailer to AEMO for ancillary services and other fees, as applicable to the electricity sold to SA Water under the contract. A further clause states that, for remotely read interval metered sites, the monthly

<sup>105</sup> ETSU Utilities, Approved Annual Pricing Proposal 2012/13, May 2012; available at <http://www.aer.gov.au/node/15626>.

statement must include information on AEMO pool fees and ancillary services charges, unit rates and consumption.

*a) Pool fees*

AEMO levies various administration charges on energy market participants, known collectively as pool fees. Pool fees support the day-to-day functions of AEMO and recover the costs of capital projects undertaken by AEMO on behalf of the NEM and/or with NEM-wide benefits.

SA Water proposed pool fees of \$0.40/MWh (\$Mar12) for each year of the initial regulatory period for non-ADP electricity usage. It applied approximately \$0.50/MWh (\$Mar12) for pool fees for ADP electricity usage over the same period. SA Water based these proposed charges on AEMO published fees, and the forecasts have been made independent of one another.

As only large sites are universally smart metered (remotely read interval metered), they are the only sites for which SA Water has actual billing data that include ancillary service charges and AEMO pool fees separately as unit charges. Using this information, average pool fees for 2010/11 and 2011/12 are given in Table 8-15.

**Table 8-15: Large sites pool fees actuals**

\$/MWh	2010/11	2011/12
Average pool fees incurred	0.41	0.42

These pool fees closely reconcile with the estimates that SA Water used in forecasting non-ADP pool fees of \$0.40/MWh.

The Commission has reviewed SA Water’s proposed pool fees in both electricity models, using up-to-date AEMO projections<sup>106</sup>, and has concluded that the most reasonable forecast is \$0.40/MWh for each year of the initial regulatory period. The slight drop from 2011/12 prices reflects AEMO’s projection that full recovery of National Smart Metering (**NSM**) project costs will be achieved in 2012/13.

The Commission has changed the forecasts of pool fees to \$0.40/MWh in both the ADP and non-ADP SA Water electricity models.

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<sup>106</sup> AEMO, *Electricity Final Budget & Fees 2012-13*, May 2012; available at <http://www.aemo.com.au/Electricity/Registration/Budget-and-Fees>

**Table 8-16: Opex adjustment for AEMO pool fees**

\$m(\$Mar12)	2013/14	2014/15	2015/16	Total
	Plan	Plan	Plan	
SA Water Proposal	0.2	0.3	0.1	0.6
Commission Assessment	0.2	0.2	0.1	0.5
Opex Adjustment	-	-0.1	-	-0.1

This revised forecast results in an opex reduction totalling \$0.1m over the initial regulatory period.

*b) Ancillary services charges*

AEMO also procures various ancillary services on behalf of the NEM, as required. These services involve, but are not limited to, control of voltage at different points of the network, to keep it within the prescribed standards, control of power flow within physical limitations of the infrastructure, and contingency solutions where there has been a whole or partial system blackout and restart is required. AEMO's costs for these services are then recouped, on a user or causer pays basis, from market participants. As costs of ancillary services are dependent upon the nature and amount of service required, they vary significantly from period to period.

SA Water proposed real ancillary services charges of \$0.35/MWh for each year of the initial regulatory period for all non-ADP electricity usage. It applied \$0.50/MWh for ancillary service charges for ADP electricity usage over the same period. SA Water based these on historical averages using AEMO weekly data.

Only large sites are universally smart metered, hence they are the only sites for which SA Water has actual billing data that includes ancillary service charges separately as unit charges. Using this information, average ancillary service charges for 2010/11 and 2011/12 are given in Table 8-17.

**Table 8-17: Large sites ancillary service charges actuals**

\$/MWh	2010/11	2011/12
Average ancillary service charges incurred	0.92	1.24

These ancillary service charges are approximately three times higher than those the \$0.35/MWh proposed by SA Water for non-ADP electricity usage.



AEMO collates weekly data for ancillary service charges. The latest data<sup>107</sup> show great variations by week and by year. The average over the most recent full two calendar years<sup>108</sup> is calculated in Table 8-18.

**Table 8-18: AEMO ancillary services cost summary**

<b>NEM data range</b>	<b>Demand MWh</b>	<b>Total Customer Recovery \$</b>	<b>Customer cost \$/MWh</b>
Previous two calendar years	377,647,335.60	147,544,088	0.39

Table 8-18 shows that SA Water’s estimate of \$0.35/MWh in ancillary service charges for non-ADP electricity usage is not unreasonable; however, the estimate of \$0.50/MWh for ADP electricity is high. The Commission accepts that ancillary service charges occur as services are required and there is no way to perfectly forecast those charges. At this time, the Commission has taken the NEM-wide average for the previous two years as the forecast of ancillary service charges for each year of the initial regulatory period. Therefore, the Commission has adopted an ancillary services charge of \$0.39/MWh in both electricity models.

This adjustment allows \$0.1m above SA Water’s proposed opex over the three-year period.

**Table 8-19: Opex adjustment for AEMO ancillary service charges**

<b>\$m(\$Mar12)</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>Total</b>
SA Water Proposal	0.2	0.1	0.1	0.4
Commission Assessment	0.2	0.2	0.1	0.5
Opex Adjustment	-	+0.1	-	+0.1

### 8.5.6 Carbon

In its RBP, SA Water proposed a variance for new obligations it faces as a result of the Federal Government’s carbon pricing mechanism (**CPM**). The CPM began on 1 July 2012, as legislated by the *Clean Energy Act 2011*.

SA Water made the adjustments outlined in Table 8-20 to its opex over the initial regulatory period to account for this new cost, relative to the 2011/2012 base year.

<sup>107</sup> Utilised from week 1 of 2012 to week 52 of 2012.

<sup>108</sup> Calendar years 2011 and 2012; obtained from AEMO Weekly Ancillary Services Cost, NEM; available at <http://www.aemo.com.au/Electricity/Data/Ancillary-Services>.

**Table 8-20: Carbon Pricing Mechanism Impacts**

<b>\$m (\$Mar12)</b>	<b>2013/14 Plan</b>	<b>2014/15 Plan</b>	<b>2015/16 Plan</b>	<b>Total</b>
Chemicals	0.8	0.9	1.0	2.7
Electricity	5.3	5.7	7.1	18.0
Other – Fugitives (Bolivar)	0.7	0.7	0.8	2.2
Supply Chain impact	2.1	2.2	2.5	6.8
Total CPM adjustment	8.9	9.5	11.4	29.8

### **8.5.6.1 Methodology**

The Commission accepts SA Water’s proposition that the CPM will increase its opex. SA Water has used different methodologies to calculate the opex impacts of the CPM for different expenditure categories of the business. For this reason, each particular methodology used, and whether the Commission supports, replaces or rejects it, is discussed below in relation to the relevant expenditure category adjustment.

The Commission notes that, as with electricity costs, SA Water has used a number of assumptions in quantifying the CPM impact which are now out-dated. The Commission has replaced these assumptions with the most recent estimates, where appropriate.

### **8.5.6.2 Cost pass-through to chemicals**

In its RBP, SA Water proposed an increase in the cost of chemicals above CPI, due to the carbon dioxide (CO<sub>2</sub>) equivalent factors of production associated with the supply of several chemicals used in water and wastewater treatment processes. SA Water determined these costs based on a report by the University of New South Wales<sup>109</sup>, which studied the CO<sub>2</sub>-equivalencies (CO<sub>2</sub>-e) of all chemicals associated with the ADP; the report being commissioned in response to the desire for carbon neutrality of the ADP. The chemicals used in all other operations were matched against the reported list of chemicals used by the ADP, and their relative carbon intensities were inferred. SA Water assumed a 90% carbon price pass-through for chemical purchases. The proposed impact of the CPM on chemical purchases totals \$2.7m over the three-year period (Table 8-21).

However, the Commission considers that the cost of chemicals should not increase by more than CPI during the initial regulatory period. Despite the relatively emissions-intensive nature of chemical manufacturing, the Australian chemical industry is subject to competition from imports. SA Water can therefore choose to purchase chemicals from suppliers that do

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<sup>109</sup> The report has been provided to the Commission; however, as it is confidential, it has not been published.

not pass on a carbon price. Therefore, the Commission considers that SA Water’s proposed carbon price pass-through for chemical purchases is not prudent and efficient.

Furthermore, the Commission notes many of the chemical suppliers contracted by SA Water are not listed by the Clean Energy Regulator as liable entities and, therefore, are not liable to directly pay the carbon price. In addition, the chemicals supplied by suppliers that are directly liable for the carbon price do not fall under the National Greenhouse and Energy Reporting Scheme list of greenhouse gas emitting chemicals and, therefore, do not attract a direct carbon price.

Any increase in the cost of chemicals used by SA Water as a result of the CPM comes from the cost attached to scope 2 emissions<sup>110</sup>, as their production is energy (electricity) intensive. However, unlike the electricity industry, chemical manufacturing is an industry subject to competition from overseas producers and, thus, the real price of chemicals in Australia should not increase due to the CPM.

In removing the impact of SA Water’s proposed carbon price pass-through, the Commission has disallowed \$2.7m of opex over the initial regulatory period (Table 8-21).

**Table 8-21: Opex adjustment for carbon pricing impact on chemicals**

\$m (\$Mar12)	2013/14	2014/15	2015/16	Total
	Plan	Plan	Plan	
SA Water proposed impact	0.8	0.9	1.0	2.7
Commission Assessment	-	-	-	-
Commission Adjustment	-0.8	-0.9	-1.0	-2.7

### 8.5.6.3 Electricity carbon price estimates

In its RBP, SA Water assumed carbon prices of \$23.00/t CO<sub>2</sub>-e in 2012/13, \$24.15/t CO<sub>2</sub>-e in 2013/14, and \$25.40/t CO<sub>2</sub>-e in 2014/15, as legislated in the *Clean Energy Act 2011*. SA Water forecast a nominal carbon price of \$29.31 for 2015/16, based on an estimate provided by a consultant for an industry body study. This closely aligns with the Federal Treasury’s estimate at the time the RBP was submitted of around \$29.00<sup>111</sup>. As the non-ADP electricity model operates in real prices, real price estimates of the carbon price (\$/t CO<sub>2</sub>-e)

<sup>110</sup> Scope 2 emissions are indirect greenhouse gas emissions from the consumption of purchased electricity, heat or steam.

<sup>111</sup> SKM MMA, *Carbon Pricing and Australia’s Electricity Market*, July 2011; available at <http://archive.treasury.gov.au/carbonpricemodelling/content/consultantreports.asp>.

were obtained by SA Water from a broker in February 2012. ADP electricity is not subject to the carbon tax, as the existing long-term energy contract is for renewable energy.<sup>112</sup>

To estimate the impact of the carbon price on electricity costs, SA Water converted the \$/t CO<sub>2</sub>-e price into a \$/MWh price, by applying a carbon intensity factor of 1 (i.e. 1 MWh of electricity consumed generates 1 tonne of carbon emissions), and assuming that retailers will be able to pass through 80% of that cost to end users. It then applied the \$/MWh carbon price to its forecast energy usage to derive a total carbon cost for electricity. SA Water’s calculations are set out in Table 8-22. The total impact of SA Water’s assumed carbon prices on electricity expenditure is \$18m over the initial regulatory period.

**Table 8-22: SA Water proposed carbon impact on electricity costs (non-ADP)**

	2013/14 Plan	2014/15 Plan	2015/16 Plan
SA Water proposed (nominal) price of carbon (\$/t CO <sub>2</sub> -e)	24.15	25.40	29.31
SA Water proposed (real) price of carbon (\$/t CO <sub>2</sub> -e)	23.58	24.16	26.82
SA Water proposed (real) price of carbon (\$/MWh)	18.86	19.33	21.46
SA Water forecast energy usage (MWh)	278,500	295,000	329,500
SA Water forecast carbon cost of electricity (\$m)	5.25	5.70	7.07

The Commission notes that the carbon price (\$/t CO<sub>2</sub>-e) is fixed under the *Clean Energy Act 2011* for the first two years of the regulatory period. The price in the third year is variable and, at the time SA Water developed its RBP, was to be subject to a price floor. In July 2012, the Federal Government announced that it would remove the price floor from the beginning of 2015/16, and that the market would determine the price of carbon from then on. Based on European futures market data<sup>113</sup>, the Commission estimates that the real domestic price of carbon will fall to around \$8.07/t CO<sub>2</sub>-e in 2015/16, in line with global prices.

<sup>112</sup> SA Water must purchase energy derived from renewable resources, and/or applicable renewable energy certificates (REC), for the purposes of the operation of the ADP, to maintain South Australia’s commitment of the Federal Government funding for ADP.

<sup>113</sup> ICE Futures Europe, *ICE ECX EUA Futures (monthly) Data*; available at <https://www.theice.com/marketdata/reports/ReportCenter.shtml#report/10>

SA Water proposed a carbon intensity factor of 1.0 and an 80% pass-through rate to electricity prices. This pass-through amount was based on a Frontier Economics report prepared for the Australian Energy Market Commission (AEMC) in May 2009, prior to the introduction of the carbon price.<sup>114</sup>

To assess the reasonableness of this assumption, the Commission investigated the carbon intensity equivalent of producing one MWh of electricity throughout the NEM. A summary of the latest AEMO carbon intensity data for the NEM is depicted in Table 8-23 below.

**Table 8-23: AEMO carbon intensity equivalents**

<b>NEM region</b>	<b>Total sent out energy (MWh) (1 Jan – 29 Dec 2012)</b>	<b>Total emissions (t) (1 Jan – 29 Dec 2012)</b>	<b>CO<sub>2</sub> Equivalent Intensity Index</b>
NSW1	61,083,650.69	55,197,164.81	0.90
QLD1	54,197,920.87	45,094,410.42	0.83
SA1	12,666,656.74	6,767,615.88	0.53
TAS1	11,570,433.92	911,173.14	0.08
VIC1	48,855,623.89	59,479,736.71	1.22
NEM	188,374,286.10	167,450,100.96	0.89

SA Water is “progressively purchasing” 100% of its total electricity requirements through its retailer for the initial regulatory period. This means that SA Water will incur a wholesale spot price that is settled based on an interconnected NEM system and the associated carbon emissions will reflect NEM-wide emissions. While the current carbon intensity factor across the NEM is currently 0.89, it is expected that this factor will fall over the next three years, as a greater proportion of energy is produced by relatively clean technology. This will lead to a lower intensity factor than the 1.0 assumed by SA Water, although the Commission notes that SA Water’s decision to purchase energy based on spot market prices will remove its ability to negotiate a lower pass-through amount from retailers. Considering both issues together, the Commission is of the view that SA Water’s real price impact of carbon is reasonable; while its proposed carbon intensity factor is likely to be too high, this is offset by its assumed pass-through rate, which is likely to be too low. The Commission, therefore, accepts the carbon price impact on electricity costs proposed by SA Water for 2013/14 and 2014/15. For 2015/16, the Commission has rejected SA Water’s proposed nominal price and adopted the Commission’s latest price estimates for that year.

<sup>114</sup> Frontier Economics, AEMC, *Impacts of climate change policies on electricity retailers*, May 2009; available at <http://www.aemc.gov.au/Media/docs/Frontier%20Economics%20Report%20-%20%20Impact%20of%20Climate%20Change%20Policies%20on%20Electricity%20Retailers-e004f70d-67f4-413c-8736-4f4f0896c303-0.pdf>

The Commission’s allowed carbon impact on electricity costs in 2015/16 is \$2.0m (Table 8-24), substantially less than SA Water’s proposal.

**Table 8-24: Commission’s carbon impact on electricity costs**

	2013/14 Plan	2014/15 Plan	2015/16 Plan
Commission’s proposed (nominal) price of carbon (\$/t CO <sub>2</sub> -e)	24.15	25.40	8.69
Commission’s proposed (real) price of carbon (\$/t CO <sub>2</sub> -e)	23.58	24.16	8.07
Commission’s proposed (real) price of carbon (\$/MWh)	18.86	19.33	6.46
SA Water forecast energy usage (MWh)	278,500	295,000	329,500
Commission’s forecast carbon cost of electricity (\$m)	5.3	5.7	2.0

Table 8-25 compares the Commission’s decision to SA Water’s proposed carbon costs. The Commission has disallowed \$5.1m in 2015/16.

**Table 8-25: Electricity carbon price adjustment**

\$m (\$Mar12)	2013/14	2014/15	2015/16	Total
SA Water Proposal	5.3	5.7	7.1	18.1
Commission Assessment	5.3	5.7	2.0	13.0
Commission Adjustment	-	-	-5.1	-5.1

#### **8.5.6.4 Other Carbon Costs – Fugitives (Bolivar)**

Under the *Clean Energy Act 2011* and the *National Greenhouse and Energy Reporting Act 2007*, SA Water is directly liable to pay the carbon price, as it emits more than 25,000 tonnes of CO<sub>2</sub>-e per year from the Bolivar WWTP. The annual liability is calculated by multiplying total emissions by the carbon price. SA Water has estimated annual emissions of 28,346t and has used the fixed carbon prices, as legislated, until 2014/15 and the forecast variable carbon price for 2015/16, as discussed in section 8.5.6.3. SA Water’s proposed variance to base year opex totals just under \$2.1m over the initial regulatory period (Table 8-26).

**Table 8-26: SA Water’s proposed carbon liabilities for Bolivar WWTP**

	2013/14	2014/15	2015/16	Total
Carbon price (\$/t nom)	24.15	25.40	29.31	N/A
Bolivar emissions (t)	28,346	28,346	28,346	85,038
Fugitive liability (\$m nom)	0.68	0.72	0.83	2.23
CPI	2.5%	2.5%	2.5%	N/A
Indexation	1.0506	1.0769	1.1038	N/A
Fugitive liability (\$m \$Mar12)	0.65	0.67	0.75	2.07

SA Water provided information to the Commission showing that it had undertaken various investigations to bring the Bolivar plant under the 25,000t limit for fugitive emissions, but that any solution available at this time is more costly than the liabilities for the emissions. The Commission accepts that it is prudent and efficient for SA Water to incur direct liabilities for the fugitive emissions produced at Bolivar during the initial regulatory period.

As noted earlier, the removal of the carbon price floor, as announced in July 2012, and the most recent forecasts of global carbon prices, together imply a real carbon price of \$8.07/t CO<sub>2</sub>-e<sup>115</sup> in 2015/16, over \$18/t CO<sub>2</sub>-e below SA Water’s estimate. The Commission has disallowed SA Water’s opex allowance for fugitives in 2015/16 and has based the allowance for that year on a nominal carbon price of \$8.69/t CO<sub>2</sub>-e (Table 8-27).

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<sup>115</sup> ICE Futures Europe, *ICE ECX EUA Futures (monthly) Data*; available at <https://www.theice.com/marketdata/reports/ReportCenter.shtml#report/10>

**Table 8-27: Commission’s allowance for carbon liabilities for Bolivar WWTP**

	2013/14	2014/15	2015/16	Total
Carbon price (\$/t CO <sub>2</sub> -e nom)	24.15	25.40	8.69	N/A
Bolivar emissions (t CO <sub>2</sub> -e)	28,346	28,346	28,346	85,038
Fugitive liability (\$m nom)	0.68	0.72	0.25	1.65
CPI	2.5%	2.5%	2.5%	N/A
Indexation	1.0506	1.0769	1.1038	N/A
Fugitive liability (\$m \$Mar12)	0.65	0.67	0.22	1.54

The Commission’s use of a lower 2015/16 carbon price has caused it to disallow \$0.6m of the opex proposed by SA Water (Table 8-28).

**Table 8-28: Opex adjustment for carbon liabilities of Bolivar WWTP**

\$m (\$Mar12)	2013/14	2014/15	2015/16	Total
SA Water Proposal	0.7	0.7	0.8	2.2
Commission Assessment	0.7	0.7	0.2	1.6
Commission Adjustment	-	-	-0.6	-0.6

#### **8.5.6.5 Other Carbon Costs - Impact on Supply Chain**

SA Water applied a 0.7% increase to all supply chain costs in 2013/14 and a further 0.2% in 2015/16, in line with the Federal Government’s modelling of the CPI impacts of the carbon price.<sup>116</sup>

The Commission does not accept this adjustment, as it believes that SA Water has incorrectly double-counted the impact. The Treasury estimate of the carbon impact on CPI will be recovered by SA Water when the Commission adjusts its revenue caps by CPI each year. SA Water would be compensated twice-over if the CPI impact was also included as a real cost escalator. The Commission’s rejection of SA Water’s proposed 0.7% (and further 0.2% in 2015/16) supply chain cost escalation results in the disallowance of \$6.8m of SA Water’s proposed opex over the initial regulatory period (Table 8-29).

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<sup>116</sup> The Treasury, *Strong growth, low pollution: modelling a carbon price*, September 2011; available at <http://carbonpricemodelling.treasury.gov.au/carbonpricemodelling/content/default.asp>



**Table 8-29: Carbon pricing impact on supply chain costs**

<b>\$m(\$Mar12)</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>Total</b>
	<b>Plan</b>	<b>Plan</b>	<b>Plan</b>	
RBP proposed 0.7% CPI impact on Supply Chain costs	2.1	2.2	2.5	6.8
Commission proposed real cost supply chain impact	-	-	-	-
Opex adjustment	-2.1	-2.2	-2.5	-6.8

### 8.5.7 Ministerial Directions

Pursuant to section 6 of the *Public Corporations Act 1993* and sections 6 and 7(2)(f) of the *South Australian Water Corporation Act 1994*, SA Water is subject to control and direction by its Minister (the Minister for Water and The River Murray), and can have functions conferred on it by its Minister.

The Treasurer’s Initial Pricing Order requires that the Commission must allow SA Water to recover costs arising from any Ministerial Directions. This includes costs that the Commission may otherwise have deemed not to be prudent and/or efficient. The Commission has previously indicated that this requirement is not in the long-term interests of consumers, as it results in prices that are not cost-reflective. The Commission believes that the costs of meeting any Ministerial Directions should be transparently determined and funded by direct, transparent community service obligation payments and not by consumers.

Nevertheless, the Commission must comply with the Initial Pricing Order, which requires (amongst other things) that the Commission must:

- Allow SA Water to recover the efficient costs of assets to be acquired over the course of the initial regulatory period that are required to support activities that SA Water is required to provide in accordance with a direction under section 6 of the *Public Corporations Act 1993* (refer to clause 4.1.7.2); and
- Allow, in relation to costs of externalities (including water planning and management), those costs that are attributable to, and payable by, SA Water in accordance with the law, including a direction under section 6 of the *Public Corporations Act 1993* (refer to clause 4.1.8.1).

In January 2013, the Minister issued a direction to SA Water to provide the following services, facilities and contributions, until further notice:<sup>117</sup>

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<sup>117</sup> Note that all values expressed in the Minister’s direction are presented at nominal prices. The Minister’s direction to SA Water is available at Appendix C of this Draft Revenue Determination.

- **Emergency Management Services** – These include engineering services as required for compliance with the State Emergency Management Plan, prepared by the State Emergency Management Committee, under the *Emergency Management Act 2004*. The Government’s estimate of the cost of providing these non-regulated services within the initial regulatory period is \$1.9m and the Government will contribute \$1.9m of funding for these services.
- **Government Radio Network Services** – These are services required for SA Water’s ongoing connection to, and participation in, the South Australian Government Radio Network. The Government’s estimate of the cost of providing these non-regulated services within the initial regulatory period is \$1.8m and the Government will contribute \$1.8m of funding for these services.
- **Save the River Murray Levy Administration Services** – These are services to support the administration of the Save the River Murray Levy, in accordance with section 93 of the *Water Industry Act 2012*. The Government’s estimate of the cost of providing these non-regulated services within the initial regulatory period is \$300,000 and the Government will contribute \$300,000 of funding for these services
- **Fluoridation Services** – These services are required for the continuation of SA Water’s current fluoride dosing, and the construction and operation of any new fluoride dosing installations, as recommended or agreed by the Chief Executive of the Department of Health and Ageing. Although the Minister’s direction does not include an estimated cost of providing this service, SA Water has indicated that the purchasing of fluoride totals approximately \$2.3m over the initial regulatory period. As there is no Government contribution toward these costs, they must be met by SA Water’s water customers.
- **State-wide Pricing** – The Minister has directed SA Water to continue to set tariffs for the provision of drinking water and sewerage retail services on the basis of state-wide pricing. The Minister’s direction does not include an estimated cost of meeting this requirement. However, the Government has indicated that it will contribute a total of \$323m towards meeting this obligation over the initial regulatory period. Any costs to SA Water in meeting its obligation to provide state-wide pricing above this amount, will need to be met by SA Water’s customers.
- **NWI Water Planning and Management Charges** – The Minister’s direction also states that SA Water must make contributions to the Department for the Environment, Water and Natural Resources, in order to support water planning and management activities required for the implementation of the NWI and the SA Government’s Water for Good Plan<sup>118</sup>. The approximate cost of providing this contribution within the initial regulatory period is \$51.4m and must, under the Initial Pricing Order, be paid by SA Water’s customers.

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<sup>118</sup> SA Government, *Water for Good: a plan to ensure our water future to 2050*; available at <http://www.waterforgood.sa.gov.au/wp-content/uploads/2009/06/complete-water-for-good-plan.pdf>

- **Purchase of renewable energy for the Adelaide Desalination Plant** – The Minister has directed SA Water to purchase energy derived from renewable resources, and/or applicable renewable energy certificates (**REC**), for the purposes of the operation and maintenance of the ADP and associated infrastructure, sufficient to maintain South Australia’s commitment at clause 17 of the *Implementation Plan for Augmentation of the Desalination Plant (100 gigalitres per annum)*, *National Partnership Agreement on Water for the Future*. The Direction does not include a cost for this activity, however the Commission estimates that the cost of the renewable energy premium (above the cost of “black” energy) is \$43.7m (\$Mar12) across the initial regulatory period, based on the proposed level of use of the ADP.

The combined effect of the Treasurer’s Initial Pricing Order and the Minister’s section 6 direction is that the Commission must treat the above functions and activities as if they were “prudent”. The Commission must treat some of these costs (for example, NWI Water Planning and Management Charges) as if they were “efficient”. However, costs for some of these functions and activities are subsumed within broader categories of opex, which have been reviewed by the Commission.<sup>119</sup>

The Commission believes that any costs attributable to activities that the Minister directs SA Water to carry out be fully funded through transparent direct contributions by the Government, and not by SA Water’s customers. In this respect, the Commission has some concerns with fluoridation services, state-wide pricing, and NWI water planning and management charges.

- **Fluoridation services** – It is the Commission’s preference that any obligation on SA Water to provide fluoridation services be determined by the health regulator through the setting of health standards. If the health regulator set such standards, it would be appropriate for water customers to pay the costs of meeting them.
- **State-wide pricing** – Whilst the Minister’s direction stipulates an upper limit of costs to be incurred by SA Water for the provision of all other services (which, with the exception of NWI water planning and management charges, are then subsequently matched by a Government contribution), this is not the case for state-wide pricing. Therefore, the costs of meeting this obligation may not be fully met by the Government’s CSO payment and may be partially borne by SA Water’s customers. The risk of this situation is likely to increase over time, as the Government’s CSO payment is decreasing in real terms. The Commission believes that the cost of state-wide pricing should be directly and transparently estimated and the CSO payment be set to match that cost, rather than the CSO payment being pre-determined by the Government.

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<sup>119</sup> Not all the activities included in the Minister’s direction are direct control or excluded services. For example, ‘Emergency functional services’ are classified as non-regulated services (refer to page 48 of SA Water’s RBP), and are therefore not included in SA Water’s RBP.

- **NWI Water Planning and Management Charges** – The Commission recognises that there are certain environmental externalities associated with SA Water’s operations that can be attributable to ‘water planning and management’, and that these costs can be difficult to estimate.<sup>120</sup> The Commission has previously noted that Governments have been slow to implement reform in this area, in accordance with the objectives in the NWI.<sup>121</sup> Action 81 of Water for Good called for the introduction of a water planning and management cost-recovery framework by 2012, although this is not yet publicly available.

It is the Commission’s view that water planning and management costs are best recovered through an environmental regulation framework (i.e. through water extraction licence fees), rather than Ministerial direction, and that there should be more transparency in how these costs are determined. A failure to do so removes incentives for SA Water to alter its operations to reduce costs in this area. The Commission has also previously expressed its view that, consistent with the NWC’s recommendation, water planning and management costs should be independently reviewed to determine their efficiency and economic regulators should only allow water planning and management costs that are deemed to be efficient.

### 8.5.8 Other Matters

#### 8.5.8.1 Valuer General Fees

SA Water purchases property valuation data from the Valuer General. These data provide SA Water with the capital value and land use of properties, which are then used to determine water charges (commercial only) and sewerage charges. Although the data are purchased annually, SA Water receives a ‘data feed’ on a daily basis.

SA Water pays an annual fee of approximately \$4m for the Valuer General data. This fee has increased at a rate well above CPI over the past 6 years, including an increase of 10.9% between 2006/07 and 2007/08. SA Water has stated that it expects such increases to continue and has sought for increases from customers.

Given SA Water’s current water and sewerage charging regime, the Commission recognises the need to have property revaluations undertaken with sufficient regularity. However, the Commission believes that there is very little benefit to customers in purchasing Valuer General data on an annual basis, rather than less frequently, for the following reasons:

- Property valuation data are used by SA Water mainly for sewerage charging purposes. In particular, SA Water uses property values as a means of apportioning

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<sup>120</sup> Refer to [http://www.treasury.sa.gov.au/data/assets/pdf\\_file/0006/1212/transparency-statement-200910-part-c.pdf](http://www.treasury.sa.gov.au/data/assets/pdf_file/0006/1212/transparency-statement-200910-part-c.pdf)

<sup>121</sup> Essential Services Commission of South Australia, *Inquiry into the 2010-11 Metropolitan and Regional Potable Water and Sewerage Pricing Process: Final Report*, pp.43-44 (available at [http://www.escosa.sa.gov.au/library/101031-PotableWaterSeweragePricingProcessesInquiry\\_2010-11-FinalReport.pdf](http://www.escosa.sa.gov.au/library/101031-PotableWaterSeweragePricingProcessesInquiry_2010-11-FinalReport.pdf)).

fixed sewerage costs amongst sewerage customers.<sup>122</sup> These data therefore do not affect the total costs of providing sewerage services; they merely help allocate the recovery of those costs;

- Such allocations based on property values will not result in cost-reflectivity at the individual customer level. Therefore, the use of annual Valuer General data (rather than less frequent data) will not make a significant difference to the cost-reflectivity of charges;
- General property price increases/decreases in any one year would not significantly affect the distribution of sewerage charges or the distribution of commercial water charges; and
- Valuer General fees are a rising cost for SA Water and there is no sign that cost increases will abate. SA Water could consider purchasing less costly services from the Valuer General or from a third party valuation service.

The Commission has decided that the costs of the Valuer General fees should only be allowed to be passed on to customers once during the initial regulatory period. This decision is consistent with Australian Standard AASB 116 (Property, Plant and Equipment)<sup>123</sup> and with practice in other jurisdictions (e.g. 3-5 years is the standard for infrastructure in Queensland and land valuations are only carried out every two and three years in Victoria and the Northern Territory respectively). This decision will generate savings of \$8.5m for customers (\$11.19 per customer<sup>124</sup>) over the initial regulatory period.

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<sup>122</sup> The SA Government has historically considered property-based sewerage charging to be the most appropriate way to meet its financial and social equity objectives without undermining economic efficiency. Refer to *Transparency Statement Water and Wastewater Prices in Metropolitan and Regional South Australia 2005-06*, South Australian Government, available at [http://www.treasury.sa.gov.au/\\_data/assets/pdf\\_file/0003/1200/transparency-statement-200506-part-a.pdf](http://www.treasury.sa.gov.au/_data/assets/pdf_file/0003/1200/transparency-statement-200506-part-a.pdf), p51.

The Commission will review property-based charging for sewerage services as a part of its Inquiry into Drinking Water and Sewerage Retail Services Pricing Reform. Refer to <http://www.escosa.sa.gov.au/projects/189/inquiry-into-drinking-water-and-sewerage-retail-services-pricing-reform.aspx>.

<sup>123</sup> Refer to Clause 34.

<sup>124</sup> Calculated assuming the total Valuer General fees are split equally amongst all water customers. Total water customer numbers for each year of the regulatory period are taken from SA Water's Rating Analysis Report (unpublished).

**Table 8-30: Opex adjustment for Valuer General's fees**

<b>\$m Mar12</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>Total</b>
SA Water proposed opex impact	4.2	4.3	4.3	12.8
Commission proposed opex impact	-	-	4.3	4.3
Opex adjustment	-4.2	-4.3	-	-8.5

### 8.5.9 Efficiency Targets

In its Guidance Paper, the Commission stipulated that SA Water's RBP should identify and explain opex trends and the scope for productivity improvements over the initial regulatory period. The Guidance Paper stated that the RBP should detail SA Water's efficiency programs and explain how the costs and benefits of these programs had been factored into opex forecasts.<sup>125</sup> It is the Commission's and Cardno's view that SA Water has not adequately explained the scope for productivity improvements over the initial regulatory period. The Commission agrees with the following statements by Cardno:

*Our understanding of the SA Water submission is that it has not assumed an on-going or catch-up efficiency factor in its proposed operating expenditure to 2015/16. It has identified adjustments to the base year, both ups and down, but these are related specifically to:*

- *Capital investment.*
- *Asset renewal and operating requirements.*
- *Changes in demand.*
- *Compliance with obligations.*
- *Other factors including the takeover of the operation and maintenance of 10 water treatment plants along the Murray, consolidation of offices, training and customer programs.*
- *The ADP program.*
- *Real cost escalation.*

*Disentangling true efficiencies from other cost movements within and additional to the base is fraught with difficulty. It does appear that many of the operational efficiencies referred to in the Company submission are already embedded within the base position and current year 2012/13*

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<sup>125</sup> Essential Services Commission of South Australia, *Review of SA Water's Prices 2013/14 - 2015/16 Guidance Paper*, February 2012, p.4; available at [http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices\\_2013-16-GuidancePaper.pdf](http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices_2013-16-GuidancePaper.pdf)

We noted in the SA Water Corporate Business Plan 2012-16 that a key objective in relation to Financial Management is (Page 22):

To drive reductions to the real operating cost of delivering services and delivery of regulatory capital expenditure commitments.

With the supporting strategy:

Reduce annual change in unit price of key cost inputs through negotiation with suppliers.

As noted in Chapter 7, it is common practice throughout Australia and the United Kingdom for industry regulators, or regulated businesses themselves, to set target levels of efficiencies in expenditure, comprising continuing efficiency (the amount by which the frontier company improves over time) and catch-up efficiency (the rate at which the regulated entity closes the gap between its current level of performance and that of the frontier company). Cardno has assessed SA Water against both of these criteria.

Cardno also noted other recent Australian applications of efficiency targets in its report; these are summarised in Table 8-31.

**Table 8-31: Cardno summary of Australian water industry efficiency targets**

Regulator	Regulated business	Year	Average annual operating cost efficiency	Note
Independent Pricing and Regulatory Tribunal (New South Wales)	Sydney Water	2008	0.7%	
Independent Pricing and Regulatory Tribunal (New South Wales)	Sydney Water	2011	0.91%	
Economic Regulation Authority of Western Australia	Water Corporation	2012	2%	Decision is draft only. This has historically been a self-imposed efficiency target that the regulator has chosen not to exceed. However, it has previously only applied to 'base' expenditure. Following a rise in non-base expenditure, the efficiency target is proposed to now apply to all operating expenditure
Essential Services Commission of Victoria	All Victorian water businesses	2012	1%	Guidance note: "The Commission requires all businesses to achieve a minimum of 1 per cent per year productivity improvement on its baseline operating expenditure."

Based on the evidence provided, Cardno advised that an annual continuing efficiency target should be applied to SA Water's opex to reflect the continuing improvements that will be available over time in the areas of technology, innovation, productivity and procurement. The Commission accepts Cardno's advice, including its proposal for phased continuing efficiency targets of 1% in 2013/14 and 2% in both 2014/15 and 2015/16.

With respect to catch-up efficiency, SA Water's RBP (refer to section 7.2) detailed three benchmarking analyses of its relative operating efficiency. The Commission notes that SA Water performed favourably in all three of its analyses and also notes similar results in the NWC's *National Performance Report 2010/11 for Urban Water Utilities*. The Commission also conducted its own top-down efficiency study which drew comparable conclusions.<sup>126</sup> The Commission accepts Cardno's advice that, based on the evidence, no catch-up efficiency factor should be applied to SA Water's opex for the initial regulatory period.

Table 8-32 summarises the Commission's decisions on continuing and catch-up efficiencies.

**Table 8-32: Impact of Efficiencies**

	2013/14 Plan	2014/15 Plan	2015/16 Plan
Continuing efficiencies	1.0%	2.0%	2.0%
Catch-up efficiencies	0.0%	0.0%	0.0%
Cumulative efficiency factor	1.00%	2.98%	4.92%

The Commission has applied the cumulative efficiency factors to determine the overall opex allowance in each year.

The Commission's total opex allowance of \$1,279.5m over the initial regulatory period is \$134.5m (9.5%) below that proposed by SA Water.

**Table 8-33: Opex adjustment for continuing efficiency**

\$m (\$Mar12)	2013/14	2014/15	2015/16	Total
Commission Opex Assessment (pre-efficiency)	443.4	437.0	438.0	1318.4
Cumulative Efficiency Factor	1.00%	2.98%	4.92%	N/A
Commission Opex Allowance	439.0	424.1	416.4	1279.5

<sup>126</sup> CIE, *Top Down Efficiency Review of SA Water*, September 2012; available at <http://www.escosa.sa.gov.au/projects/186/determination-of-sa-water-s-drinking-water-and-sewerage-revenue-2013-14-2015-16.aspx#stage-list=0>



## 8.6 Draft Decision

### **Draft Decision**

The Commission adopts an operating expenditure amount of \$1,279.5m (\$Mar12) for the purposes of this Draft Revenue Determination, as summarised in Table 8-34.

**Table 8-34: Draft Decision adjustments to SA Water's opex proposal**

<b>\$m (\$Mar12)</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>Total</b>
<b>SA Water revised total opex</b>	<b>480.8</b>	<b>467.9</b>	<b>465.1</b>	<b>1,413.8</b>
Cardno Adjustment Aldinga	-0.4	-0.4	-0.4	-1.2
Commission Real Cost Escalation Adjustment	-4.4	-6.8	-9.7	-20.9
ADP Proving Costs to Capex	-23.4	-12.4	-	-35.8
ADP Membrane replacement to Capex	-	-0.8	-3.0	-3.8
Cost of Environmental flows	-0.4	-0.4	-0.9	-1.7
Transmission network charges	-1.3	-2.1	-3.0	-6.4
Distribution network charges	-0.4	-0.6	-0.9	-1.9
Pool fees	-	-0.1	-	-0.1
Ancillary services charges	-	0.1	-	0.1
Carbon pricing impact supply chain	-2.1	-2.2	-2.5	-6.8
Carbon pricing chemicals	-0.8	-0.9	-1.0	-2.7
Carbon pricing and pass-through electricity	-	-	-5.1	-5.1
Carbon price Bolivar liabilities	-	-	-0.6	-0.6
Valuer General fees	-4.2	-4.3	-	-8.5
<b>Commission revised total opex</b>	<b>443.4</b>	<b>437.0</b>	<b>438.0</b>	<b>1,318.4</b>
Cumulative efficiency factor (%)	1.00%	2.98%	4.92%	N/A
Annual efficiency saving	-4.4	-13.0	-21.5	-39.0
<b>Draft Decision Opex Allowance</b>	<b>439.0</b>	<b>424.0</b>	<b>416.5</b>	<b>1,279.5</b>
<b>Total reduction on SA Water's proposed opex</b>	<b>41.8</b>	<b>43.9</b>	<b>48.6</b>	<b>134.5</b>
	<b>8.7%</b>	<b>9.4%</b>	<b>10.5%</b>	<b>9.5%</b>

*Note: totals may not add due to rounding*

## 9. AVERAGE REVENUE CAPS

Under normal circumstances, the Commission would set revenue caps using the conventional “building block” approach generally adopted by economic regulators. This involves determining the revenue required to cover allowed operating expenditures, depreciation on regulated assets (including on the initial RAB and allowed capital expenditures), and an appropriate return on regulated assets.

The Commission has had to adopt a different approach in this Draft Revenue Determination. This is because the Treasurer has decided to set one of the most critical “building blocks” – the value of the RAB – in a Pricing Order to be issued in May 2013. As the Commission must comply with any Pricing Order and that Pricing Order has not yet been issued, the Commission has established revenue caps in this Draft Revenue Determination based on its understanding that the Treasurer will set the value of the RAB to achieve price paths for each of water and sewerage equal to:

- The price paths that the Government forecast in its 2012/13 Regulatory Statement for the 2013/14 – 2015/16 period<sup>127</sup>

*plus/minus:*

- Adjustments to pass through to consumers the full impact of changes in capital and operating expenditures that the Commission makes relative to those forecast in the 2012/13 Regulatory Statement.

Therefore, rather than the revenue caps being determined as the end-result of a “building block” approach, they are back-solved by starting with pre-determined price paths and adjusting for only two “building blocks” (the Commission’s determinations of allowed capital and operating expenditures).

As the values of all building blocks must combine to be consistent with the revenue caps, the Commission will – prior to making its Final Revenue Determination – also back-solve to determine the value of the initial RAB that must be set to enable implementation of the Commission’s revenue caps. Chapter 11 provides an overview of how the Commission will back-solve to determine the initial RAB value.

The remainder of this chapter focuses on the calculation of the Commission’s determination of revenue caps consistent with its understanding of the Treasurer’s intention.

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<sup>127</sup> Government of South Australia, *2012-13 Drinking Water and Sewerage Prices-Regulatory Statement*, July 2012; available at [http://www.treasury.sa.gov.au/\\_data/assets/pdf\\_file/0017/1196/regulatory-statement-201213.pdf](http://www.treasury.sa.gov.au/_data/assets/pdf_file/0017/1196/regulatory-statement-201213.pdf)

## 9.1 2012/13 Regulatory Statement price path forecasts

As noted above, the Commission's average revenue caps are based on two factors: the price paths contained in the 2012/13 Regulatory Statement and adjustments for changes in capital and operating expenditures that the Commission determines. The first step in calculating these average revenue caps is therefore the derivation of the price paths contained in the 2012/13 Regulatory Statement.

The Regulatory Statement provided total revenue forecasts, but not prices. In addition, the Regulatory Statement presented some revenues which were classified on a different basis from the Commission's definition of direct control services. Accordingly, the Commission made several adjustments to calculate the average revenue forecasts for direct control services that were implicit in the Regulatory Statement, as follows:

1. Total revenue forecasts in the Regulatory Statement were adjusted to ensure that revenues reflected direct control services only (as defined in this Draft Revenue Determination). The Commission sought and scrutinised information provided by SA Water in making those adjustments. The Commission confirmed that revenues described as "water rates", "water sales" and "sewerage rates" in the 2012/13 Regulatory Statement contained only revenues that relate to direct control services. It also added \$1.5m p.a. (drinking water) and \$6.5m p.a. (sewerage) to the water and sewerage rates and sales revenues reported in the Regulatory Statement to reflect some direct control revenues that were described as "Other" in the Regulatory Statement.
2. Forecast average water revenues implicit in the Regulatory Statement were derived by dividing the direct control drinking water revenues (established in step 1) by the sales volumes projected in the Regulatory Statement. Forecast average sewerage revenues implicit in the Regulatory Statement were derived by dividing the direct control sewerage revenues (established in step 1) by the total number of sewerage connections derived from information provided by SA Water.<sup>128</sup>

Table 9-1 sets out the derivation of these average revenues (converted into December 2012 dollars).

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<sup>128</sup> Sewer customer numbers were derived from actual numbers supplied by SA Water to the Commission in the Rating Analysis Reports up to 2011-12; then forecast to grow at the ABS SA population growth rate of 0.9%.

**Table 9-1: Derivation of forecast average revenues in the 2012/13 Regulatory Statement (\$Dec12)**

	2013/14	2014/15	2015/16
<b>DRINKING WATER</b>			
Regulatory Statement rates and sales revenue (\$m)	824.6	826.1	827.6
Add: other-direct control revenues excluded in Regulatory Statement (\$m)	1.5	1.5	1.5
Equals: Revenue for direct control services (\$m)	826.1	827.6	829.0
Divided by: Forecast water sales (as per the Regulatory Statement) (GL)	190	190	190
Equals: Drinking water average revenue (\$/kL)	4.35	4.36	4.36
<b>SEWERAGE</b>			
Regulatory Statement rates revenue (\$m)	343.3	348.8	353.5
Add: other-direct control revenues excluded in Regulatory Statement (\$m)	6.5	6.5	6.5
Equals: Revenue for direct control services (\$m)	349.8	355.4	360.0
Divided by: Average forecast sewerage connections	578 892	584 102	589 359
Equals: Sewerage average revenue (\$/connection)	604.32	608.41	610.82

*Note: totals may not add due to rounding.*

## 9.2 2012/13 Regulatory Statement capital and operating expenditure forecasts

Any differences between the capital and operating expenditure forecasts established by the Commission in its Revenue Determination and those assumed by the Government in the 2012/13 Regulatory Statement will be passed through to consumers. To ensure like-for-like expenditure comparisons, the Commission has obtained and scrutinised information provided by SA Water on capital and operating expenditures included in the Regulatory Statement that do not relate to direct control services.

Around 7.5% (water) and 10% (sewerage) of the Regulatory Statement's forecast operating expenditures did not relate to direct control services and were therefore removed in the Commission's calculations. No such adjustment was necessary for capital expenditures, as all of the Regulatory Statement's forecast capital expenditures related to direct control services. Table 9-2 shows the Commission's calculation of the direct control operating and capital expenditures implicit in the Regulatory Statement.

**Table 9-2: Direct control capital and operating expenditures implicit in the 2012/13 Regulatory Statement (\$Dec12)**

	2013/14	2014/15	2015/16
<b>DRINKING WATER</b>			
Regulatory Statement capital expenditure (\$m)	189.8	175.5	169.5
Less: adjustment for non-direct control capital expenditure (\$m)	-	-	-
Equals: direct control capital expenditure (\$m)	189.8	175.5	169.5
Regulatory Statement operating expenditure (\$m)	380.5	369.7	365.7
Less: adjustment for non-direct control operating expenditure (\$m)	27.7	28.0	28.4
Equals: direct control operating expenditure (\$m)	352.8	341.7	337.3
<b>SEWERAGE</b>			
Regulatory statement capital expenditure (\$m)	127.1	186.6	90.5
Less: adjustment for non-direct control capital expenditure (\$m)	-	-	-
Equals: direct control capital expenditure (\$m)	127.1	186.6	90.5
Regulatory Statement operating expenditure (\$m)	148.1	150.0	152.5
Less: adjustment for non-direct control operating expenditure (\$m)	14.3	14.4	14.7
Equals: direct control operating expenditure (\$m)	133.8	135.6	137.8

*Note: totals may not add due to rounding.*

### 9.3 Commission's allowed capital and operating expenditures versus Regulatory Statement forecasts

As the Commission reviewed SA Water's proposed capital expenditures for 2014/15 and 2015/16, and the Government took account of the Commission's advice on capital expenditure reductions in its 2012/13 Regulatory Statement, it is not surprising that the overall capital expenditure allowances made in this Draft Revenue Determination are similar to the capital expenditure forecasts contained in the 2012/13 Regulatory Statement.

The Commission's determination of capital expenditure for drinking water services is, in total, \$68m higher than that forecast in the Regulatory Statement. However, this in part reflects deferrals of some capital expenditures from 2012/13 into the initial regulatory period. In addition, the Commission's decision to capitalise ADP proving costs also increases capital expenditure relative to the Regulatory Statement (although this is compensated by a

reduction on operating expenditure). These factors, rather than any real increase in capital expenditure, explain the majority of the increase in capital expenditure relative to the Regulatory Statement.

Table 9-3 summarises the differences between the capital and operating expenditures for direct control services allowed in this Draft Revenue Determination and those forecast in the 2012/13 Regulatory Statement.

The capital and operating expenditures determined in Chapters 7 and 8 were presented in March 2012 dollars, to enable like-for-like comparisons with SA Water's RBP. However all figures in this chapter are presented in December 2012 dollars.<sup>129</sup> Amounts stated in March 2012 dollars have been updated to December 2012 dollars, using an annualised 2.5% inflation rate.<sup>130</sup> All numbers have been adjusted to a common real dollar base (as of December 2012) to enable like-for-like comparisons.

As the Commission's reviewed SA Water's proposed capital expenditures for 2014/15 and 2015/16 and the Government took account of the Commission's advice on capital expenditure reductions in its 2012/13 Regulatory Statement, it is not surprising that the overall capital expenditure allowances made in this Draft Revenue Determination are similar to the capital expenditure forecasts contained in the 2012/13 Regulatory Statement.

The Commission's determination of capital expenditure for drinking water services is, in total, \$68m higher than that forecast in the Regulatory Statement. However, this in part reflects deferrals of some capital expenditures from 2012/13 into the initial regulatory period. In addition, the Commission's decision to capitalise ADP proving costs also increases capital expenditure relative to the Regulatory Statement (although this is compensated by a reduction in operating expenditure). These factors, rather than any real increase in capital expenditure, explain the majority of the increase in capital expenditure relative to the Regulatory Statement.

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<sup>129</sup> All prices are calculated using consumer price index data published by the Australian Bureau of Statistics, and are based on the all groups, weighted average of eight capital cities index.

<sup>130</sup> Assuming an annual inflation rate of 2.5% resulted in an imputed escalation factor for the period from March to December of 1.869%.

**Table 9-3: Capital and Operating Expenditures for Direct Control Services:  
2012/13 Regulatory Statement vs. Draft Determination (\$Dec12)**

	2013/14	2014/15	2015/16	Total
<b>Drinking Water</b>	(\$m)	(\$m)	(\$m)	(\$m)
Capex as per Regulatory Statement	190	176	170	<b>535</b>
Capex as per Draft Determination	226	210	168	<b>603</b>
<b>Difference</b>	<b>36</b>	<b>34</b>	<b>(2)</b>	<b>68</b>
Opex as per Regulatory Statement	352	342	337	<b>1,031</b>
Opex as per Draft Determination	307	293	286	<b>886</b>
<b>Difference</b>	<b>(45)</b>	<b>(49)</b>	<b>(51)</b>	<b>(145)</b>
<b>Sewerage</b>				
Capex as per Regulatory Statement	127	187	91	<b>404</b>
Capex as per Draft Determination	126	120	133	<b>378</b>
<b>Difference</b>	<b>(1)</b>	<b>(67)</b>	<b>42</b>	<b>(26)</b>
Opex as per Regulatory Statement	134	136	138	<b>407</b>
Opex as per Draft Determination	140	139	138	<b>417</b>
<b>Difference</b>	<b>6</b>	<b>3</b>	<b>-</b>	<b>10</b>

*Note: totals may not add due to rounding.*

In its Final Revenue Determination, the Commission will set average revenues expressed in December 2013 dollars, which will ensure that average revenue in that year reflects the average inflation applicable in that year. As the December 2013 CPI will not be available when the Commission makes its Final Revenue Determination (in May 2013), the Commission will use the March 2012 to March 2013 change in CPI as a proxy for the December 2012 to December 2013 change in CPI. The Commission will apply this 9-month lag in CPI when escalating average revenue caps for inflation during each year of the regulatory period.

#### *9.4 Total revenue adjustments for capital and operating expenditure differences*

The Commission has adjusted allowable revenues by \$1 for every \$1 difference between the operating expenditures that it has allowed and those forecast in the Regulatory Statement. The Commission has converted the differences between the capital expenditure it has allowed and those forecast in the Regulatory Statement by calculating the regulatory

depreciation return on asset allowances associated with those differences. The calculation of these total revenue adjustments is summarised in Table 9-4.

**Table 9-4: Total revenue adjustments for capital and operating expenditure differences (\$Dec12)**

	2013/14	2014/15	2015/16	Total
	(\$m)	(\$m)	(\$m)	(\$m)
<b>Drinking Water</b>				
Change in depreciation from capex difference	0.3	1.0	1.4	<b>2.8</b>
Change in return on assets from capex difference	0.9	2.5	3.2	<b>6.6</b>
Change in opex	(45.0)	(48.9)	(51.3)	<b>(145.2)</b>
<b>Total revenue adjustment</b>	<b>(43.9)</b>	<b>(45.4)</b>	<b>(46.6)</b>	<b>(135.8)</b>
	(\$m)	(\$m)	(\$m)	(\$m)
<b>Sewerage</b>				
Change in depreciation from capex difference	(0.0)	(0.7)	(0.9)	<b>(1.6)</b>
Change in return on assets from capex difference	(0.0)	(1.7)	(2.2)	<b>(3.9)</b>
Change in opex	6.2	3.5	0.4	<b>10.1</b>
<b>Total revenue adjustment</b>	<b>6.2</b>	<b>1.1</b>	<b>(2.7)</b>	<b>4.6</b>

*Note: totals may not add due to rounding.*

Depreciation changes due to capital expenditure differences are based on the lives of each asset class and the proportional distribution of assets between classes, as proposed by SA Water in its RBP. The return on assets component is based on the Commission's estimated weighted average cost of capital, which is discussed in Chapter 10.

## 9.5 Determination of average revenue caps

The Commission converted each year's total drinking water revenue adjustment into an average revenue adjustment by dividing by the Commission's forecast water demand (GL) for that year. Likewise, the Commission converted each year's total sewerage revenue adjustment into an average revenue adjustment by dividing by the Commission's forecast average number of sewerage connections for that year.

These average revenue adjustments were then deducted from the average revenues forecast in the Regulatory Statement to determine the average revenue caps.

As the capital and operating expenditure differences vary by year, the Commission has smoothed the average revenue caps based on the following principles:

- The present value of the total revenue resulting from the smoothed average revenue caps should equal the present value of the total revenue from average revenue caps



calculated without smoothing, to ensure that SA Water does not gain or lose purely as a result of smoothing; and

- The average revenue in the last year of the initial regulatory period should not significantly depart from the estimated total cost in that year, to ensure that prices are relatively cost-reflective in that year and minimise the potential for a price shock in the first year of the second regulatory period.

While significant smoothing proved necessary for sewerage, it did not prove necessary for drinking water. Table 9-5 shows the derivation of the smoothed revenue caps.

**Table 9-5: Derivation of Average Revenue Caps (\$Dec12)**

	2013/14	2014/15	2015/16
<b>DRINKING WATER \$ per kL</b>			
Regulatory Statement average revenue	4.34	4.35	4.36
Operating and capital expenditure adjustment	(0.25)	(0.25)	(0.25)
<b>Draft Determination average revenue cap</b>	<b>4.10</b>	<b>4.10</b>	<b>4.10</b>
<b>Per cent change from previous year</b>	<b>-5.4%</b>	<b>-</b>	<b>-</b>
<b>SEWERAGE \$ per connection</b>			
Regulatory Statement average revenue	604.32	608.41	610.82
Operating and capital expenditure adjustment	10.74	1.93	(4.73)
Unsmoothed adjusted average revenue per connection )	615.05	610.34	606.10
<b>Draft Determination average revenue cap (smoothed)</b>	<b>610.63</b>	<b>610.63</b>	<b>610.63</b>
<b>Per cent change from previous year</b>	<b>+1.7%</b>	<b>-</b>	<b>-</b>

## 9.6 Annual nominal revenue changes

The Commission's Final Revenue Determination will specify in real terms the average revenue caps to apply in each year of the regulatory period. The Commission converted these amounts to nominal revenue caps to apply from 1 July each year, by the most recent actual annual inflation rate (year to March CPI).

To ensure that SA Water complies with the Commission's average revenue caps, the following process will apply:

- SA Water will be required to submit a statement to the Commission by May each year, setting out its proposed drinking water and sewerage prices to apply for the next financial year.

- SA Water will be required to include in the statement its forecasts of drinking water sales (by pricing tier), and forecast drinking water and sewerage customer/connection numbers, to enable a forecast revenue amount for drinking water and sewerage services to be calculated from tariffs. Those forecasts must be based on the best evidence available at the time of preparing the statement.
- The statement must demonstrate that the average revenue that results from the proposed tariffs and forecasts is no greater than the average revenue cap established under the Commission's Revenue Determination.
- Should any pass-through event occur and result in a pass-through approved by the Commission, the Commission will adjust the average revenue caps to reflect the impact of that pass-through. The Commission's draft decision on a pass-through scheme for the initial regulatory period is discussed in Chapter 12.

The Commission will formalise the pass-through process through the legal instrument that gives effect to the Draft Revenue Determination.<sup>131</sup>

As discussed in Chapter 5, the Initial Pricing Order requires the Commission to specify an adjustment mechanism to adjust revenues for differences between forecast and actual demand. However, this mechanism will not affect average revenue caps during the initial regulatory period. Any adjustments that may occur under the mechanism would be made in the Commission's determination for the second regulatory period, which begins on 1 July 2016.

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<sup>131</sup> ESCOSA, *SA Water's Water Retail Services 2013/14-2015/16 – Draft Determination – Essential Services Commission Act 2002, Part 3*, February 2013; available at: [http://www.escosa.sa.gov.au/library/130206-SAWatersWaterRetailServices\\_2013-16-DraftDetermination.pdf](http://www.escosa.sa.gov.au/library/130206-SAWatersWaterRetailServices_2013-16-DraftDetermination.pdf)

## 9.7 Draft Decision

### **Draft Decision**

The Commission adopts the average revenue caps set out in Table 9-6 for the purposes of this Draft Revenue Determination.

***Table 9-6: Draft Determination of Average Revenue Caps (\$Dec12)***

<b>Average revenue</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>
Water (\$/kL)	<b>4.10</b>	<b>4.10</b>	<b>4.10</b>
Sewerage (\$ per connection)	<b>610.63</b>	<b>610.63</b>	<b>610.63</b>

## 10. RATE OF RETURN

The regulatory rate of return has no direct impact on the average revenues set by the Commission under this Draft Revenue Determination, other than in relation to determining the revenue impact of the capital expenditure changes made relative to the 2012/13 Regulatory Statement. It is, however, important in determining the extent to which SA Water's RAB should be reduced in order to avoid price shocks to customers.

The regulatory rate of return is a measure of the opportunity cost of investment in regulated assets and is integral in ensuring that consumers do not pay prices higher than those necessary, while providing sufficient incentives for the regulated utility to provide for on-going investment in relevant infrastructure. Capital (or investment funds), like any commodity, has a price that is determined by supply and demand and the riskiness of the cash flows generated by the assets. Thus, determination of the regulatory rate of return requires the estimation of the cost of capital associated with the regulated activity.

The Commission considers that the appropriate regulatory rate of return can, and should, change over time as economic and market conditions change. To account for future changes to the cost of capital, the Commission will set the regulatory rate of return to apply to SA Water's regulated assets from 1 July 2013 as close as possible to that date, so that the most up-to-date data can be utilised. Further information on this topic is available in the Commission's, "Advice on a Regulatory Rate of Return for SA Water – Final Advice",<sup>132</sup> published February 2012.

### 10.1 SA Water's proposal

In its RBP, SA Water proposed a methodology for calculating the rate of return that is consistent with that used by the Commission in its February 2012 Final Advice.

In general, SA Water has derived a rate of return using a post-tax WACC approach, with the cost of equity calculated using the Capital Asset Pricing Model (**CAPM**).

The only practical matter of significance raised by SA Water was in relation to the averaging period to be used in determining the value of the various parameters.

Furthermore, in its discussion on the rate of return and its preferred revenue modelling framework,<sup>133</sup> SA Water has implied that a nominal rate of return be adopted. Discussion on the merits of the preferred modelling framework and whether a nominal rate of return is adopted is considered in Chapter 10.

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<sup>132</sup> The Essential Services Commission of South Australia, *Advice on a Regulatory Rate of Return for SA Water-Final Advice*, February 2012; available at <http://www.escosa.sa.gov.au/library/120221-AdviceRegulatoryRateOfReturnForSAWater-FinalAdvice.pdf>

<sup>133</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012, p 167-168; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf)

### 10.1.1 Proposed position on the rate of return parameters

As indicated above, SA Water supports the Commission's derivation of a rate of return based on a post-tax WACC approach, with the cost of equity calculated using the capital asset pricing model. SA Water has updated the calculation of the various market based parameters that constitute the rate of return in its RBP. Those parameters requiring to be updated due to changing economic or market based conditions include those instruments that are used to determine the risk-free rate and the cost of debt components within the WACC.

The only major methodological difference between SA Water's proposal and that used by the Commission in its February 2012 advice is the use of the appropriate averaging period for determining the risk-free rate of return and the debt risk premium. SA Water has proposed an averaging period of 180 trading days whilst the Commission has determined that an averaging period of 20 trading days be adopted.

#### 10.1.1.1 Selection of an averaging period to apply to market observations

In essence, SA Water argues that to use a short averaging period to measure the observable market-based parameters (that make up the CAPM and the WACC) may risk the final outcome being exposed unrepresentatively to short-term variability and volatility periods in the financial markets. It argues that a longer period would minimise the effect of this market volatility and provide estimates of market-based parameters that better reflect the underlying market.

To support its case for an averaging period of longer than 20 days, SA Water specifically argues:

*...that there are significant shortcomings in this approach insofar as it does not reflect how a regulated business actually finances its activities, and does not adequately address the volatility observed in financial markets in recent years.*<sup>134</sup>

SA Water goes on to state that:

*...there is the potential for significant changes to debt market conditions during the regulatory period, and the level of observable inputs at the point in time at which each regulatory determination is made. SA Water considers that the existing 20 day averaging period does not adequately take into account such variability, and that it magnifies the impact of market volatility on the WACC outcome.*<sup>135</sup>

Furthermore, SA Water argues that the level of volatility in the financial markets since the global financial crisis in 2008:

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<sup>134</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012, p 169-170; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf)

<sup>135</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012, p 170; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf)

*...has increased significantly and shows little sign of abating.*<sup>136</sup>

It also states that it considers that:

*...the potential exists for a WACC outcome based on observable inputs averaged over a 20 day window to depart significantly from the long term financial requirements and circumstances of an appropriately structured and managed business.*<sup>137</sup>

SA Water accepts that a longer period, over which observations are taken, risks that some of those earliest observations may be less relevant in determining future financing costs. However on balance, it considers an averaging period of not less than 180 trading days, the equivalent of approximately nine calendar months, as providing an appropriate balance between reducing the effects of market volatility and ensuring that the estimate is based on the most relevant market data.

#### **10.1.1.2 SA Water's proposed rate of return**

SA Water acknowledged that the proposed rate of return should be based on the most recent market data available as close as possible to the commencement of the regulatory period.

SA Water's proposed rate of return is summarised in its RBP<sup>138</sup> (Table 9-13, on page 181; it is also reproduced in Table 10-1 below for convenience). The RBP compares SA Water's proposal with both the Commission's February 2012 Final Advice to the Treasurer<sup>139</sup> (with parameters as at 27 January 2012) and SA Water's re-calculation of the Commission's advice updated as at 1 June 2012.

SA Water has proposed a nominal vanilla<sup>140</sup> WACC of 7.98% as at 1 June 2012 (based on a 180 day averaging period) as shown in the Table 10-1 below.

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<sup>136</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf)

<sup>137</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012, p 172; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf)

<sup>138</sup> The table is a reproduction of the SA Water's updated calculation of the Commission's Final Advice on Rate of Return as at 1 June 2012 and is reproduced from SA Water, *Regulatory Business Proposal 2013*, October 2012, p181; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf)

<sup>139</sup> The parameters that make up the WACC are technical and rather than repeat the discussion here, an explanation of these parameters was provided in the Commission's "Advice on a Regulatory Rate of Return for SA Water-Final Advice", February 2012; available at <http://www.escosa.sa.gov.au/library/120221-AdviceRegulatoryRateOfReturnForSAWater-FinalAdvice.pdf>

<sup>140</sup> There can be many different versions of the WACC; pre-tax or post-tax, inclusive or exclusive of imputation credits, real or nominal, or even some other hybrid that takes into account the range of potential funding arrangements of a firm. The simplest form of the WACC is commonly referred to as a "vanilla" WACC. A vanilla WACC is independent of any influence of tax; including the tax effect on returns of imputation credits and the interest deductibility of debt. In effect, tax would need to be identified and accounted for separately in the relevant cash flows. Therefore, a vanilla WACC represents a 'post-tax' methodological framework.

**Table 10-1: Comparison of SA Water’s proposed rate of return<sup>141</sup> with the Commission’s rate of return published February 2012**

Parameter	Commission Final Advice (27 Jan 2012)	Updated calculation (1 Jun 2012)	SA Water Proposal (1 Jun 2012)	Data Source
Averaging Period	20 days	20 days	<b>180 days</b>	
Nominal Risk Free Rate	3.79%	3.23%	<b>3.93%</b>	10 year CGBs
Credit Rating	BBB	BBB	<b>BBB</b>	Regulatory Precedent
Gearing	60%	60%	<b>60%</b>	Regulatory Precedent
Debt Margin	3.94%	3.53%	<b>3.55%</b>	Extrapolated Bloomberg BBB 7 year FVC
Equity Beta	0.80	0.80	<b>0.80</b>	Regulatory Precedent
Market Risk Premium	6%	6%	<b>6%</b>	Regulatory Precedent
Corporate Tax rate	30%	30%	<b>30%</b>	Statutory tax rate
Gamma	0.50	0.50	<b>0.50</b>	Regulatory Precedent
Inflation Forecast	2.25%	2.16%	<b>2.28%</b>	10 year CGB and inflation indexed bonds
Nominal Vanilla WACC	8.07%	7.27%	<b>7.98%</b>	Calculated from above
Real Vanilla WACC	5.70%	5.00%	<b>5.57%</b>	Calculated from above

## 10.2 Issues raised in submission

Only one submission (from SACOSS) was received that could be considered to be associated with or address an aspect of the rate of return to apply to SA Water.

In its submission, SACOSS questioned SA Water’s rationale of attempting to avoid and mitigate risk but not adjust downwards the embedded risk parameters that underpin the capital asset pricing model which is used to estimate the rate of return calculations. Specifically, SACOSS states:

*...it seems incongruous that SA Water can seek to defray risks (through a revenue banking mechanism and a solid list of pass throughs) yet also claim the standard Market Risk Premium of 6%.<sup>142</sup>*

<sup>141</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012, p181; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf)

<sup>142</sup> SACOSS, *Submission to ESCOSA’s Issues Paper on Review of SA Water’s Regulatory Business Proposal for the Revenue Determination Period 2013/14-2015/16-submission*, November 2012; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-SACOSS.pdf>

### 10.3 Commission's consideration

The appropriate regulatory rate of return to apply to SA Water should be one that is representative of an efficient water supplier; to ensure that SA Water's prices reflect efficient financing costs. In the past, the Commission has used a pre-tax, real rate of return but in its Statement of Approach the Commission noted that it would move to a post-tax rate of return methodology - more in line with the practice of other regulators.

In line with general market and regulatory practice, the Commission uses the CAPM for estimating the cost of equity to incorporate in the rate of return or WACC. The CAPM describes the relationship between the risk and return of an asset by determining the appropriate rate of return for an asset in a diversified portfolio.

To determine the appropriate weighted average cost of capital, the Commission must determine seven distinct parameters as outlined above; three of which can be observed directly from market and financial data and four that require estimation and analysis. The observable market parameters required by the CAPM and the WACC include:

- the risk-free rate ( $r_f$ );
- the debt risk premium (**DRP**) or debt margin;
- the adjustment for expected inflation ( $i_{exp}$ ).

The other four parameters that require estimation or analysis are:

- the market risk premium (**MRP**); that is, the expected total market return less the risk-free rate;
- the degree of systematic risk of an equity – also referred to as the equity beta ( $\beta$ );
- the level of debt and equity in the business otherwise referred to as the level of gearing of the business;
- the value of imputation credits ( $\gamma$ ) - also referred to as “gamma”.<sup>143</sup>

Accordingly, the first step in determining the rate of return is to derive the cost of equity from the CAPM, where the cost of equity is defined as:

$$k_e = r_f + \beta_L \times \text{MRP}$$

where:

$r_f$  = the risk-free rate;

$\beta$  = the equity beta;

MRP = the market risk premium.

The second step is to determine the cost of debt ( $k_d$ ) which is the sum of the risk-free rate ( $r_f$ ) and the DRP:

$$k_d = r_f + \text{DRP}$$

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<sup>143</sup> In a post-tax approach, the gamma is accounted for in the tax allowance of the building block approach and not in the regulatory rate of return.



The final step is to weight those returns by the relative proportions of debt and equity in an appropriate manner. The real post-tax WACC formula used by the Commission is:

$$WACC_{real}^{post-tax} = \frac{1 + (k_e \frac{E}{V} + k_d \frac{D}{V})}{(1 + i_{exp})} - 1$$

where:

E = market value of equity;

D = market value of debt;

V = market value of the firm (V = E + D);

$i_{exp}$  = adjustment for expected inflation.

### 10.3.1 Consideration of the rate of return parameters

In respect of the rate of return to be applied to its regulatory assets, SA Water has accepted almost all of the Commission's positions adopted in its Final Advice to the Treasurer on the various parameters that make up the WACC.

The Commission agrees with several aspects of SA Water's regulatory proposal as outlined in its RBP. Specifically, the Commission and SA Water agree upon the following methodological approaches:

- the use of a post-tax WACC methodology;
- the use of the capital asset pricing model to calculate the cost of equity;
- the adoption of the yield on 10-year Commonwealth Government Bonds (CGBs) as the proxy for the risk free rate;
- the setting of the market risk premium at 6%;
- the setting of the equity beta at 0.8;
- the determination of the cost of debt as the DRP over the risk free rate;
- the determination of the DRP by defining a benchmark bond as a 10 year Australian corporate bond with a BBB credit rating and measuring the benchmark bond rate using the extrapolated Bloomberg BBB rated 7 year fair value curve (FVC);
- extrapolating the Bloomberg BBB rated 7 year FVC to a 10 year maturity by adding a premium of 20 basis points;
- the use of a gearing ratio of 60% to reflect the capital structure of a theoretically benchmark efficient firm rather than SA Water's actual financial structure;
- a corporate tax rate of 30%; and
- the adoption of gamma as 0.5.

The Commission does not accept SA Water's proposal to use an averaging period of 180 days in determining the observable market inputs to the risk free rate and the debt risk premium

nor does it accept the use of a nominal vanilla WACC. The reasons for not accepting these positions are provided below.

#### **10.3.1.1 Selection of an Averaging Period to apply to market observations**

As stated earlier, the only major departure between the Commission's methodology for setting the rate of return, as outlined in its Final Advice, and SA Water's RBP, is the selection of the length of the averaging period to be used when determining the risk free rate, the inflation forecast and the debt risk premium. SA Water argues for an averaging period of not less than 180 trading days: the equivalent of approximately nine calendar months. This contrasts with the Commission's currently held view of using 20 trading days: the equivalent of one calendar month.

Notionally, the selection of the values to apply to the parameters of the rate of return would be based on market observations at a single point in time; as close as possible to the commencement of the regulatory period. In reality this is not possible for various reasons.

Dependent on timing, volatility in the market and the possibility of unique, unusual or one-off market movements may have temporary or short-term (potentially adverse) consequences that may be locked in to the rate of return for the life of the regulatory period resulting in a rate that either overly advantages or disadvantages the regulated firm. The use of an averaging period seeks to "smooth" out such market impacts so that less weight is given to unique events or other inexplicable variations that have little or nothing to do with the underlying state of the market.

Fundamentally, the question is:

*How long should the averaging period be to ensure that these unique events are "smoothed" while still reflecting the underlying contemporaneous state of the debt and equity markets in order to accurately predict the parameter over the forthcoming regulatory period?*

A review of current regulatory practice indicates that Australian regulators use averaging periods that range from as little as 10 trading days to 40 trading days - with most adopting an averaging period of 20 trading days; as is presented in Table 10-2:

**Table 10-2: Averaging periods used by recent regulators across Australia<sup>144</sup>**

Jurisdiction/Regulator	Averaging period adopted
<b>NSW/IPART</b>	
Rural Water Charging Systems (2012)	20 days <sup>145</sup>
Sydney Water Corporation (2012)	20 days
<b>Victoria/ESC Victoria</b>	
2013 Water Price Review (2011)	40 days
<b>ACT/ICRC</b>	
2008 Water Price Determination	20 days
<b>Qld/QCA</b>	
SEQ Interim Price Monitoring Guidance Paper (2011)	20 days
<b>WA/ERA</b>	
Water Corporation, Aqwest and Busselton (2013)	20 days
<b>Federal/AER</b>	
Access Queensland Gas Network (2011)	10 days <sup>146</sup>
ElectraNet Determination 2013-18 (2012)	20 days <sup>147</sup>
Access Roma to Brisbane pipeline 2012-13 to 2016-17 (2012)	20 days <sup>148</sup>
Aurora Final Determination (2012)	20 days <sup>149</sup>

<sup>144</sup> Sources: IPART: *Review of rural water charging systems, Final Report, August 2012*, IPART: *Review of prices for Sydney Water Corporation's water, sewerage, stormwater drainage and other services, Final Report, June 2012*, ESC Victoria: *Water Price Review 2013, Guidance on Water Plans, October 2011*, ICRC: *Water and Wastewater Price Review December 2007*, QCA: *The Risk Free Rate and Market Risk Premium, Discussion Paper, November 2012*, QCA: *Interim Price Monitoring of SEQ Water and Wastewater Distribution and Retail Activities Final Report March 2011*, ERA: *Inquiry into the efficient costs and tariffs of the Water Corporation, Aqwest and Busselton Water Board, Draft report, September 2012*. AER: *Access arrangement proposal for the Queensland Gas Network, Final Decision, June 2011*, AER: *ElectraNet Determination 2013-18, Draft Determination, 30 November 2012*, AER: *APT Petroleum Pipeline Pty Ltd, Access arrangement final decision Roma to Brisbane Pipeline 2012–13 to 2016–17, Final Decision, August 2012*, AER: *Aurora Energy Pty Ltd. Final Distribution Determination, 2012-13 to 2016-17, August 2012*.

<sup>145</sup> ACCC's water pricing principles state that the risk free rate should be based on a 10-year Commonwealth Government Security, using an averaging period of 10-40 days. IPART have used a 20 day averaging period in this example, updated as at 25 June 2012. ACCC, *Pricing principles for price approvals and determinations under the Water Charge (Infrastructure) Rules 2010*, July 2011; available at <http://www.accc.gov.au/content/item.phtml?itemId=967534&nodeId=18b613006035400088ac9602a01b19ba&fn=Water%20charge%20rules%20-%20infrastructure%20-%20pricing%20principles.pdf>

<sup>146</sup> Using a 10 day averaging period commencing 25 February 2011.

<sup>147</sup> Using a 20 day averaging period from 24 September to 19 October 2012.

<sup>148</sup> Using an averaging period of 20 business days starting on the 25 June 2012 and ending on 20 July 2012.

The ERA tested the forecasting efficiency of several different averaging periods (extending from one day through to five years) using a range of statistical techniques and concluded that:

*The results suggested that, statistically, there is no difference in forecasting efficiency between twenty, five or one day averaging period forecasts. Twenty day based forecasts were significantly superior to one year based forecasts with 95 per cent statistical confidence. They were also superior to five year based forecasts, but with only 90 per cent statistical confidence. The tests again confirm that the most recent value of Australian Government bond yields is the most efficient predictor of the future yields, being the twenty trading day average period.*<sup>150</sup>

Accordingly, the Commission is satisfied its practice of using an averaging period of 20 trading days is appropriate.

### 10.3.2 Nominal or real rates of return

#### 10.3.2.1 WACC methodology

As outlined in the Guidance Paper<sup>151</sup>, the Commission's preferred methodology is to adopt a real post-tax rate of return. This methodological change would bring the Commission more in to line with the practice of the majority of Australia's water pricing regulators.

Other regulators who use a real post-tax approach include the ESCV, IPART in New South Wales and the United Kingdom's Ofwat and the Office of the Gas and Electricity Markets (**Ofgem**) use post-tax approaches.<sup>152</sup> In addition, the ERA of Western Australia used a real, post-tax modelling approach in arriving at its decision on the access arrangements for Western Power<sup>153</sup> in November 2012 and also in relation to its determination of the Dampier to Bunbury natural gas pipeline<sup>154</sup> published in October 2011. In its recent inquiry into the efficient costs and tariffs of the Water Corporation and other smaller water boards, had intended using a post-tax real approach at the time of the draft but at the time of the

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<sup>149</sup> Using a 20 day averaging period from 9 January 2012 and ending on 6 February 2012.

<sup>150</sup> ERA, *Inquiry into the efficient costs and tariffs of the Water Corporation, Aqwest and Busselton Water Board- Final report*, January 2013, pp 152-153.

<sup>151</sup> ESCOSA, *Review of SA Water's Prices: 2013/14-2015/16-Guidance Paper*, 12 July 2012; available at [http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices\\_2013-16-GuidancePaper.pdf](http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices_2013-16-GuidancePaper.pdf)

<sup>152</sup> IPART, *The Incorporation of Company Tax in Pricing Determinations – Other Industries – Final Decision*, 2011.

<sup>153</sup> ERA, *Further Final Decision on Proposed Revisions to the Access Arrangement for the Western Power Network*, 29 November 2012.

<sup>154</sup> ERA, *Final Decision on Proposed Revisions to the Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline*, 31 October 2011.

final decision reverted to using a pre-tax real approach.<sup>155</sup> Notwithstanding, the ERA did publish both pre- and post-tax WACCs that it had intended to use in its final report on the matter.<sup>156</sup>

In contrast, the QCA has adopted a post-tax nominal approach as has the Australian Energy Regulator; although the AER has no choice in the matter as it is compelled by the National Electricity Rules to use a nominal post-tax approach.

SA Water has accepted the change in methodology to move to a post-tax environment. However, it has proposed the use of a post-tax nominal approach in its revenue modelling preference. SA Water has proposed the use of the AER's post-tax revenue model, which incorporates a nominal adjustment to future cash flows, as the basis to adopt a nominal post-tax approach.

The Commission's preference is to use a real post-tax approach rather than a nominal post-tax approach in order to control for inflation. In this way it alleviates the problem of forecasting an appropriate rate of inflation to apply to future cash flows or risk using cash flows provided by the regulated entity with a range of uncertain expectations of inflation.

### 10.3.3 Summary

The Commission's draft decision is to set a rate of return using the parameters set out in Table 10-3. A comparison of the rate of return to that proposed by the Commission in its Final Advice to the Treasurer and to SA Water's RBP is also provided.

Under direction from the Treasurer, and applying the principles and methodology contained in its Final Advice, the Commission estimated the pre-tax real rate of return to be 6.29% on 27 January 2012. Also, the Commission noted at that time that it would update the final values of the relevant market observable parameters as close as possible to the date of the final decision.

As noted above, the Commission's preferred methodology is to adopt a post-tax real modelling approach; this is in line with the practice of the majority of Australia's water pricing regulators. Updating the WACC (as at 7-Dec-12) yields a pre-tax real WACC of 5.42% or a post-tax real WACC of 4.87%.

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<sup>155</sup> ERA, *Inquiry into the efficient costs and tariffs of the Water Corporation, Aqwest and Busselton Water Board - Final report*, January 2013, p55 and footnote 52.

<sup>156</sup> ERA, *Inquiry into the efficient costs and tariffs of the Water Corporation, Aqwest and Busselton Water Board - Final report*, January 2013, Table 73, p182.

**Table 10-3: Comparison of Rates of Returns for SA Water**

Parameter	Commission's Final Advice (27-Jan-12)	SA Water Proposal (1-Jun-12)	Commission's Draft Decision (7-Dec-12)	Data Source
Averaging period	20 days	180 days	<b>20 days</b>	Regulatory precedent
Nominal risk free rate	3.79%	3.93%	<b>3.09%</b>	10 year CGBs
Inflation forecast	2.25%	2.28%	<b>2.15%</b>	10 year CGBs and inflation indexed bonds
Debt risk premium	3.94%	3.55%	<b>3.53%</b> <sup>157</sup>	Extrapolated Bloomberg BBB 7year FVC
Credit rating	BBB	BBB	<b>BBB</b>	Regulatory precedent
Gearing	60%	60%	<b>60%</b>	Regulatory precedent
Equity beta	0.80	0.80	<b>0.80</b>	Regulatory precedent
Market risk premium	6%	6%	<b>6%</b>	Regulatory precedent
Corporate tax rate	30%	30%	<b>30%</b>	Statutory tax rate
Gamma	0.50	0.50	<b>0.50</b>	Regulatory precedent
WACC pre-tax real	6.29%	7.98%	<b>5.42%</b>	Calculated from above
WACC post-tax real	5.70%	5.57%	<b>4.87%</b>	Calculated from above

## 10.4 Draft Decision

### Draft Decision

**The Commission's Draft Determination is to set a regulatory rate of return of 4.87% (post-tax, real).**

**The Commission will update its estimate of the regulatory rate of return in preparing its Final Revenue Determination.**

<sup>157</sup> The DRP of 3.53% is the value provided by SA Water in its RBP as at 1-Jun-12. The DRP will be updated closer to the Final Decision along with all the other market based parameters.

## 11. REGULATED ASSET BASE

The Regulated Asset Base (RAB) is the asset base associated with the provision of direct control drinking water and sewerage services. The value of SA Water's RAB will strongly affect the revenue caps that the Commission sets in its Final Revenue Determination. The Commission will set revenue caps to allow SA Water to recover the costs of providing regulated assets over the period of their useful lives (regulatory depreciation) and earn an appropriate rate of return on the value of those assets.

There are two elements to the determination of SA Water's RAB. The first is to establish the value of the initial asset base to apply at the commencement of the regulatory period. The second is to determine how that value should be updated, or "rolled forward", over the course of the regulatory period.

The value of the initial RAB will be set by the Treasurer in May 2013, under a Pricing Order to be issued pursuant to section 35(4) of the Water Industry Act. The Commission will be required to adopt that initial RAB value in its Final Revenue Determination.

### 11.1 SA Water's Proposal

In its RBP, SA Water did not propose an initial RAB value, on the basis that the Treasurer will be determining that value in a future Pricing Order.

SA Water did propose asset classes and associated useful lives, to calculate regulatory depreciation and a methodology for rolling forward the RAB from year to year. The proposed approach allows for capital additions, disposals, regulatory depreciation, and an allowance to compensate for the loss of the return on assets component of revenue that results from SA Water's assumption that all assets are commissioned on the last day of the financial year.

### 11.2 Issues raised in Submissions

Two submissions to SA Water's RBP commented directly on the issue of setting the RAB value. Those submissions, from SACOSS and COTA, both supported the principle of reducing the RAB value to the extent necessary to contain price increases, with the COTA submission adding that:

*...there should be some balance between the future accounting needs of SA Water as a business entity to maintain and depreciate infrastructure and the historical fact that the RAB is essentially comprised of assets which the residents of South Australia have contributed to over many years and which SA Water owns on behalf of the State.<sup>158</sup>*

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<sup>158</sup> COTA SA, *Submission for Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14-2015/16*, November 2012, p 9 (available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-COTA.pdf>).

COTA SA also commented on the impact that the construction of the ADP has had on its asset values, and the one-off rebate that the Government provided to consumers to offset the 2012/13 price increase that was driven largely by those costs. It argued that the Commission should consider the impact of rising prices on consumers, and recommend that the Government set a RAB value that would lead to price increases of CPI only.<sup>159</sup>

SACOSS also supported the Commission providing the Treasurer with RAB values that would lead to price increases of no more than CPI. Based on advice that SACOSS received from its consultants, SACOSS suggested that, should the Commission's capital and operating expenditure forecasts create pressure for above-CPI price increases, the RAB should be:

*...reduced below current levels at the start of the period and allowed to grow back to its historic levels so that prices at the end of the regulatory period (2015-16) simply return to their current levels (in real terms).<sup>160</sup>*

## 11.3 Commission's Consideration

### 11.3.1 Setting the Initial Regulated Asset Base

As discussed in Chapter 9, the Commission has determined average revenue caps based on adjustments to the 2012/13 Regulatory Statement price path, rather than through the typical "building block" approach used by economic regulators. The Commission is unable to use the building block approach, as a key determinant of the building blocks (the initial RAB value) will be set by the Treasurer in May 2013.

Prior to making its Final Revenue Determination, the Commission will make a recommendation to the Treasurer as to the initial RAB value. In the interests of transparency, the Commission will include that recommendation in its Final Revenue determination. As the Commission must, in its Final Revenue Determination, set revenue caps consistent with the initial RAB value and the other building blocks, if the Treasurer decides to set an initial RAB value different to that recommended by the Commission, the Commission will need to revise its revenue caps accordingly.

A RAB value does currently exist, as the Government has used the RAB concept in setting prices for a number of years. However, the initial RAB value for the purposes of economic regulation is likely to be significantly different to (and probably lower) than the current RAB value, for several reasons; these are explained in turn below.

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<sup>159</sup> COTA SA, *Submission for Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14-2015/16*, November 2012, p 9 (available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-COTA.pdf>)

<sup>160</sup> SACOSS, *SACOSS Submission to ESCOSA's Issues Paper on the Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14 to 2015/16*, November 2012, Appendix 1, p 4.



#### **11.3.1.1**      *Increased rate of return on legacy assets*

In setting prices until now, the Government has required SA Water's metropolitan water "legacy" assets (those in existence on 30 June 2006) to earn a 3.1% rate of return (pre-tax, real), while all other assets were required to earn a 6% rate of return. Whilst NWI pricing principles do allow for such an approach, the Commission considers that it is more appropriate to apply a single cost-reflective rate of return to all of SA Water's regulated assets. This is consistent with both the practice of other economic regulators and the objective of ensuring that revenues are reflective of efficient costs.

While the Commission's current estimate of the regulatory rate of return is less than 6% (it is 5.42% on a pre-tax basis) it is substantially higher than 3.1%. Therefore, to achieve the same revenue from legacy assets when the Commission's regulatory rate of return is applied, the RAB value must be reduced significantly.

#### **11.3.1.2**      *Other methodological differences*

The methodologies used by the Commission and other economic regulators differ from those previously used by the Government in setting SA Water's prices. For example, the Commission's post-tax rate of return approach differs from the Government's pre-tax approach. Such methodological differences will need to be taken into account in setting the initial RAB value.

#### **11.3.1.3**      *Changes in the rate of return*

Any difference between the rate of return determined by the Commission in its Final Revenue Determination and the average rate of return established under the 2012/13 Regulatory Statement, will require an adjustment to the initial RAB value in order to ensure that revenue is consistent with the Government's pre-determined price path. As noted in Chapter 10, the Commission's rate of return (expressed as a pre-tax, real value) of 5.42% is lower than the 6% rate of return that the Government has previously required SA Water non-legacy assets to earn. If the Commission's rate of return remains below 6%, then the RAB value of non-legacy assets would need to increase.

#### **11.3.1.4**      *Change in other key inputs*

Changes in other key inputs, such as changes in demand or CSO payments to SA Water relative to the assumptions contained in the Regulatory Statement, will also require adjustments to the initial RAB value in order to avoid unintended price changes.

Taking the above factors into account, it is likely that the drinking water RAB value will need to be significantly reduced, primarily due to the legacy asset issue. Conversely, the sewerage RAB value may need to increase, largely because commercial rates of return are now below the 6% pre-tax return that the Government required those assets to earn.

The Commission may also consider recommending further reductions in the value of the RAB prior to making its Final Revenue Determination. For example, the Commission has previously noted that South Australian water and sewerage prices are high relative to those

of other Australian jurisdictions. If the Commission concludes that South Australian water and sewerage prices remain high relative to other jurisdictions and that such price differences do not reflect efficient cost differences, the Commission may recommend further reductions in the value of the RAB to help bring South Australian prices in line with those in other jurisdictions.

### *11.3.2 Rolling forward the Regulated Asset Base*

In accordance with the Initial Pricing Order, the Commission must ensure that SA Water's proposed roll-forward approach is consistent with the NWI Pricing Principles.

The Commission has some concerns with certain aspects of SA Water's roll-forward methodology. Those concerns relate to:

- proposed asset classes and asset lives;
- allowances for depreciation and return on assets;
- the timing of capex; and
- the allowance to compensate for delayed return on assets timing.

With respect to asset classes and lives, SA Water's proposal did not separately identify the extent of its non-depreciable assets in total, nor as a separate component of its proposed capex forecast. Not identifying the non-depreciable assets separately would result in a slight overstatement of the regulatory depreciation allowance.

In addition, SA Water proposed that the allowances for depreciation and return on assets be determined at the beginning of the year after commissioning. However, the Commission considers it more appropriate to depreciate capital expenditure on an "as-incurred" basis rather than on an "as-commissioned" basis. The Commission assumes that capital expenditure occurs evenly throughout the year, which is equivalent to assuming that all capital expenditure in a year is incurred at the mid-point of that year. Under this approach, there is no deferral of return on assets by 6 months as SA Water claims. Furthermore, the Commission agrees that roll-forward calculations should apply real values.

With respect to the timing of capex and the impact on work-in-progress (**WIP**), SA Water has noted that its WIP balance is currently large (as a result of the ADP and NSIS) and that it may be disadvantaged as a consequence of its proposal to adopt an as-commissioned approach. However, the Commission believes that this could be managed by making a provision for a working capital allowance. As stated previously, the Commission's preference is to base all depreciation on the effective mid-point of the year and it sees no need to deviate from this approach.

The Commission has accepted the asset lives for both regulatory and tax purposes as proposed by SA Water for the period ending 30 June 2012. However, the Commission did update these lives to reflect the position as at 30 June 2013; immediately prior to the commencement of the forthcoming regulatory period.

### **11.3.2.1 Ex-post Review of Capital Expenditure**

In its Statement of Approach<sup>161</sup>, the Commission indicated that it would retain the option to carry out an ex-post review of SA Water's actual capital expenditure during the initial regulatory period. This review will take place as part of the revenue/price setting process for the second regulatory period, and would seek to ensure that only capital expenditure that has been prudently and efficiently incurred is added to SA Water's RAB.

Ex-post reviews of capital expenditure are commonplace in other Australian jurisdictions, and in the UK, and provide an additional level of comfort to consumers that they are funding only prudent and efficient investments.

The Commission considers that such a review is particularly relevant to Government owned enterprises, where the incentives towards profit maximisation may be less strong than for privately owned entities, and where there is the potential for non-commercial objectives to be given priority.

SA Water states that it has well established procedures, through its existing project development and approval processes, and that these ensure that its capital expenditure is both prudent and efficient. If that is the case, an ex-post review of capital expenditure should add no regulatory risk for SA Water.

As a further measure to ensure that the expected outcomes are delivered, the Commission will set up a reporting framework to monitor the delivery of projects and programs of work within the capital program on an annual basis.

### **11.3.2.2 Further review of the RAB value for the second and subsequent regulatory periods**

The Commission notes that a further review of the RAB may be necessary prior to the second and subsequent regulatory periods if certain key assumptions change materially. For example, if CSO funding to SA Water fell and/or the costs of required non-commercial activities rose, a lower RAB value would be required to avoid price increases. While the Commission would prefer that the costs of required non-commercial activities be fully funded by direct, transparent CSOs, if such funding does not occur, an adjustment to the RAB value would be a "second-best" solution.

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<sup>161</sup> ESCOSA, *Economic Regulation of SA Water's Revenues – Statement of Approach*, July 2012, page 27; available at <http://www.escosa.sa.gov.au/library/120713-EconomicRegulationOfSAWatersRevenue-StatementOfApproach.pdf>

## 11.4 Draft Decision

### Draft Decision

The Commission will:

- Provide a recommendation on the initial RAB value to the Treasurer and include that recommendation in its Final Revenue Determination.
- Adopt an adjusted asset roll-forward methodology to:
  - Ensure that regulatory depreciation correctly accounts for non-depreciable assets;
  - Depreciate capital expenditure on an “as-incurred” basis; and
  - Reflect updated information on asset lives.
- Undertake a review of SA Water’s actual capital expenditures incurred during the initial regulatory period to ensure that only prudent and efficient capital expenditures are reflected in the RAB to apply at the commencement of the second regulatory period.
- Consider recommending further changes to the RAB value prior to the second and subsequent regulatory periods if certain key assumptions change materially.

## 12. PASS-THROUGHS

In competitive markets, firms may incur unexpected costs due to events outside of their control. Unlike price-regulated firms, those firms have the option to raise prices at any time. However, not all unexpected costs can be passed on through higher prices in competitive markets. The discipline of competitive markets ensures that only unexpected costs that are uncontrollable, unavoidable, and raise short-run marginal costs, are passed on.

Having regard to the fact that a price-regulated firm generally cannot raise prices in the same way that unregulated firms can, “pass-through” mechanisms have sometimes been adopted by regulators in Australia and the United Kingdom. Under those mechanisms, the primary revenue or price control may be adjusted or supplemented during the period of a price/revenue determination to account for unexpected or exogenous cost impacts (whether upwards or downwards) that would be passed on in competitive markets.

### 12.1 SA Water’s Proposal

SA Water proposed two categories of pass-through events. Firstly, “general pass-through events” which include changes in taxes events, service standard events, regulatory change events, extraordinary events and major projects events. Secondly, “specific pass-through events” which include operation of the ADP and management of water licences.

SA Water proposed definitions of each type of pass-through event and the materiality threshold that should apply having regard to various previous determinations made by the Commission and their context in relation to SA Water’s retail services.<sup>162</sup>

### 12.2 Issues raised in Submissions

Two submissions received in response to the Issues Paper discussed cost pass-throughs.

COTA SA considered the *“process proposed [by SA Water] to manage cost pass-through events to be reasonable subject to the Commission’s usual scrutiny processes including opportunity for community comment.”*<sup>163</sup>

SACOSS stated that it supported *“the treatment of ADP costs as a pass-through event.”*<sup>164</sup> It further stated that given *“the inexperience with plant operation and costs, the mechanism will provide for a detailed and transparent examination of costs to consumers.”*<sup>165</sup>

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<sup>162</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012, page 148; available at [http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal\\_2013.pdf](http://www.escosa.sa.gov.au/library/121012-SAWaterRegulatoryBusinessProposal_2013.pdf)

<sup>163</sup> COTA SA, *Submission for Review of SA Water’s Regulatory Business Proposal for the Revenue Determination Period 2013/14-2015/16*, November 2012, page; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-COTA.pdf>

However, SACOSS also submitted:

*It is also important to acknowledge that this approach also leaves open the possibility that price rises would go above CPI if the ADP was utilised beyond that forecast for the period (ie into standby mode once commissioned and out of its warranty/proving period). This provides further reason for scrutinising expenditure proposals.<sup>166</sup>*

and:

*In relation to risk exposure, it is important to reiterate that SA Water is only entitled to efficient risk-weighted returns. The more SA Water seeks to defray risks, the lower the risk premiums afforded in the WACC determination.<sup>167</sup>*

### 12.3 Commission's Consideration

The inclusion of pass-through mechanisms is highly dependent on the nature and scope of the underpinning statutory framework. For example, while the Commission did provide pass-through mechanisms in its electricity and gas retail standing contract price determinations, that was only because the relevant legislative provisions expressly permitted that to occur.<sup>168</sup>

Where pass-through mechanisms are permitted, regulators recognise that not all unexpected cost changes are passed through in competitive markets and that pass-throughs create price uncertainty for consumers. Furthermore, the consideration of cost pass-throughs involves significant costs.

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<sup>164</sup> SACOSS, *SACOSS Submission to ESCOSA's Issues Paper on the Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14 to 2015/16*, November 2012, Appendix 1, page 11; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-SACOSS.pdf>

<sup>165</sup> SACOSS, *SACOSS Submission to ESCOSA's Issues Paper on the Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14 to 2015/16*, November 2012, Appendix 1, page 11; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-SACOSS.pdf>

<sup>166</sup> SACOSS, *SACOSS Submission to ESCOSA's Issues Paper on the Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14 to 2015/16*, November 2012, Appendix 1, page 11; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-SACOSS.pdf>

<sup>167</sup> SACOSS, *SACOSS Submission to ESCOSA's Issues Paper on the Review of SA Water's Regulatory Business Proposal for the Revenue Determination Period 2013/14 to 2015/16*, November 2012, Appendix 1, page 11; available at <http://www.escosa.sa.gov.au/library/121121-ReviewOfSAWaterRegulationBusinessProposal-IssuesPaperSubmission-SACOSS.pdf>

<sup>168</sup> Under section 36AA(4a)(c) of the Electricity Act, while the relevant price determination was required to be made for a three-year period, the Commission was permitted to vary that "fixed" price determination at specified times according to a formula specified in the determination.

For those reasons, the events which can trigger the consideration of whether or not a pass-through should be permitted are not unconstrained. In order to maintain appropriate incentives to manage costs, pass-through events are limited in number and nature to events that can be demonstrated to have a material cost implication (positive or negative) on the costs of providing the relevant service and can be demonstrated to be of such a nature that they would be passed on to prices in competitive markets.

Noting SA Water's suggestion that the Commission should include a pass-through mechanism (with a significant number of event triggers), it is useful to consider whether or not the statutory regime permits that process and, if so, what form it should take.

### 12.3.1 Statutory regime

Under the revenue regulation regime established by the Initial Pricing Order, the Water Industry Act and the ESC Act, the Commission must implement a revenue control on SA Water in one of three forms: a total revenue cap; an average revenue cap; or combination thereof.

The only expressly permitted variance in the operation of that selected control is the inclusion, mandated under clause 4.1.6 of the Initial Pricing Order, of a mechanism within the revenue determination to account for material differences between forecast and actual demand (with materiality determined by the Commission).

Apart from that mechanism, the requirement of the Initial Pricing Order is that, once set, the resulting revenue determination must be in place for a three-year period (commencing 1 July 2013).

The imposition of this form of revenue control under the Initial Pricing Order is therefore considered to generally prevent the Commission from altering the permitted revenues during the period of the revenue determination and therefore SA Water from raising prices in response to unexpected cost increases.

That said, the Commission notes that section 6(b)(vi) of the ESC Act requires it, in making a price determination, to have regard to the need to facilitate maintenance of the financial viability of regulated industries and the incentive for long term investment. While this is an industry-wide, rather than firm-specific, obligation, the Commission acknowledges that it is arguable that *ex ante* price determination processes do have embedded risks of forecasting error and hence (in exceptional cases) financial viability risks for regulated industries – precisely the risks that pass-through mechanisms are intended to address, provided it can be demonstrated that it is in consumers' interests to do so.

The Commission has concluded that, read as a whole, the statutory regime for this revenue determination does permit a very limited form of pass-through mechanism. This is primarily because while clause 4.1.6 of the Initial Pricing Order provides that the determination must include a demand-adjustment mechanism, the Initial Pricing Order does not expressly exclude the inclusion of a pass-through mechanism and, as noted above, pass-through

mechanisms can protect consumers' interests in limited circumstances and are not inconsistent with the relevant statutory framework.

It is the Commission's understanding that the intention expressed in the Initial Pricing Order is for there to be a generally fixed revenue determination but that variation mechanisms may be included where allowed by other elements of the statutory framework (such as the ESC Act).

It is therefore the Commission's general position, as outlined above, that a pass-through mechanism should only deal with costs which:

1. directly arise from the occurrence of events which:
  - a. are entirely outside the control of the regulated business; and
  - b. could not be predicted at the time the determination was made;
2. have a material impact on the costs of providing the relevant regulated service; and
3. are of a nature such that they would be passed on if the relevant market were competitive.

Of note, under such a scheme the occurrence of an event would not itself give rise to any change in the revenue determination; it is only where the qualification criteria are met to the Commission's satisfaction that a change may be given effect.

It is the Commission's view that many of SA Water's pass-through proposals are not appropriate as they:

- isolate SA Water from normal acceptable business risks (e.g., the operation of the ADP);
- would result in costs that should not be borne by SA Water's customers (e.g., changes in government policy);
- would create an overly strict regime;
- are excessively broad in definition, adding too great a level of uncertainty to prices over the determination period and hence being inconsistent with the terms of the initial Pricing Order; or
- include costs that would not be passed on in a competitive market (e.g. changes that do not affect short-run marginal costs).

The forms of revenue control outlined in Chapter 5 of this determination negate any material cost impacts that variances between the forecast and actual rates of water consumption or sewerage connections might cause.

Based on the above, the only pass-through events that the Commission will consider are:

- a change in legal obligation: that is, a new and legally binding obligation is placed on SA Water which exogenously and unavoidably impacts the costs of provision of retail services; and



- the occurrence of an “extraordinary” event: that is, an event which was unforeseen, or if foreseen, the occurrence and impacts of which could not be quantified or determined at the time of the determination, and which exogenously and unavoidably impacts the costs of provision of retail services.

However, even if such an event were to occur, consistent with the approach adopted in the Initial Pricing Order for demand variations, the pass-through mechanism will involve the Commission deciding whether or not to pass these costs through based on certain conditions, including whether the event:

- is material;
- could not have otherwise been controlled by SA Water (acting prudently and efficiently); and
- would be passed through in a competitive market.

The Commission will assess materiality on a case-by-case basis rather than pre-set an arbitrary quantified threshold (either by percentage or discreet value), as a quantified threshold is likely to prove problematic. For example, were the Commission to adopt a dollar amount threshold before a pass-through would be considered, there might be an inequity in the exclusion of the impacts of an event just shy of that threshold. Further, in that circumstance, SA Water might have an incentive to inflate the costs related to the pass-through event so that the threshold was passed.

The materiality test to be adopted for this determination is that the occurrence of the event must have a material impact (positive or negative) on the costs incurred by SA Water in providing prescribed water and sewerage services, which would not have eventuated but for the occurrence of the event.

## 12.4 Draft Decision

### **Draft Decision**

The Commission will implement a pass through regime, limited to the following events:

- a change in legal obligation: that is, a new and legally binding obligation is placed on SA Water which exogenously and unavoidably impacts the costs of provision of retail services; and
- the occurrence of an “extraordinary” event: that is, an event which was unforeseen, or if foreseen, the occurrence and impacts of which could not be quantified or determined at the time of the determination, and which exogenously and unavoidably impacts the costs of provision of retail services,

and subject to the Commission’s determination of whether or not the event:

- is material;
- could not have otherwise been controlled by SA Water (acting prudently and efficiently); and
- would be passed through in a competitive market.

## 13. FORM OF REGULATION FOR RECYCLED WATER AND EXCLUDED SERVICES

As stated in Chapter 3, SA Water’s excluded services are to be subject to an alternative form of control than its direct services, such as pricing principles or price monitoring.

The Commission has also stated it will adopt a pricing principles/price monitoring approach to recycled water services, having regard to the NWI Pricing Principles, and the pricing arrangements applicable to other water and sewerage service providers.<sup>169</sup>

The Commission has no price regulation powers over non-regulated services.

### 13.1 SA Water’s Proposal

In its RBP, SA Water distinguished between two types of water recycling activities (with distinctly different purposes and proposed direct control service classifications for each (see Table 13-1)). In each case, revenues from the activities would not be included in the Commission’s revenue caps, but would be offset against the costs of those activities. SA Water did not propose specific forms of control for these services.

**Table 13-1: SA Water’s proposed classification of water recycling activities**

RECYCLING ACTIVITY	PURPOSE	SA WATER’S PROPOSED CLASSIFICATION
Wastewater recycling schemes	Treat and dispose of effluent consistent with Environmental Protection Authority (EPA) requirements at least cost	Direct control sewerage service
Stormwater reclamation demonstration sites	Assess stormwater reclamation as a water supply source	Direct control water service

Similarly, SA Water did not propose specific forms of control for its excluded services.

### 13.2 Issues raised in Submissions

The Commission did not receive any comments regarding the form of control for SA Water’s recycled water services, excluded services, or non-regulated services. Each of these service classifications is discussed below.

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<sup>169</sup> Essential Services Commission of South Australia, *Economic Regulation of SA Water’s Revenues – Statement of Approach*, July 2012, page 30; available at <http://www.escosa.sa.gov.au/library/120713-EconomicRegulationOfSAWatersRevenue-StatementOfApproach.pdf>

### 13.3 Commission's Consideration – Recycled Water

The Commission considers the costs of providing a recycled water scheme to be part of the costs of providing direct control services, where SA Water can demonstrate that the scheme:

- is a prudent and efficient means of addressing environmental (discharge) obligations;
- forms part of a least-cost mix of diversified water sources needed to achieve required security of supply; or
- is driven by the need to trial new technologies, with the aim of achieving more efficient means of delivering a secure supply of water<sup>170</sup>.

In the above cases, any revenues derived directly from the provision of recycled water should be used to offset the costs of providing those schemes.

The Commission accepts SA Water's proposed treatment of recycled water services, as it is consistent with the Commission's criteria above. Further detail on the form of control to apply to these services is discussed below.

#### 13.3.1 Pricing Principles

After the Commission released its Statement of Approach and Guidance Paper, the Treasurer issued an Initial Pricing Order,<sup>171</sup> which states that the Commission must adopt or apply the NWI Pricing Principles<sup>172</sup> where relevant (refer to clause 3.1 of the Pricing Order). The Commission has also released a Discussion Paper on a pricing principles and price monitoring framework for service providers other than SA Water.<sup>173</sup>

Taking the above matters into account, the Commission has determined that, for this regulatory period, SA Water must comply with the NWI Pricing Principles for Recycled Water and Stormwater Use (refer to Table 13-2).

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<sup>170</sup> Essential Services Commission of South Australia, *Review of SA Water's Prices 2013/14 - 2015/16 Guidance Paper*, February 2012, p.4; available at [http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices\\_2013-16-GuidancePaper.pdf](http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices_2013-16-GuidancePaper.pdf)

<sup>171</sup> SA Government, *Water Industry Act 2012 (Section 35) Pricing Order*, 24 September 2012; available at Appendix A of this Draft Revenue Determination.

<sup>172</sup> NWC, *National Water Initiative Pricing Principles*, April 2010; available at <http://www.environment.gov.au/water/publications/action/pubs/nwi-pricing-principles.pdf>

<sup>173</sup> Essential Services Commission of South Australia, *Proposed Price Regulation for Water and Sewerage Service Providers other than SA Water*, July 2012; available at <http://www.escosa.sa.gov.au/library/120713-PriceRegulationNonSAWater-DiscussionPaper.pdf>

**Table 13-2: NWI Pricing Principles for Recycled Water and Stormwater Use<sup>174</sup>**

**Principle 1: Flexible regulation**

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

**Principle 2: Cost allocation**

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

**Principle 3: Water usage charge**

Prices to contain a water usage (i.e. volumetric) charge.

**Principle 4: Substitutes**

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

**Principle 5: Differential pricing**

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

**Principle 6: Integrated water resource planning**

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

**Principle 7: Cost recovery**

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

**Notes:**

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

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<sup>174</sup> NWC, *National Water Initiative Pricing Principles*, April 2010, page 16; available at <http://www.environment.gov.au/water/publications/action/pubs/nwi-pricing-principles.pdf>

**Principle 8: Transparency**

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

**Principle 9: Gradual approach**

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

The Commission notes SA Water's RBP proposal to allocate costs to recycled water beneficiaries according to the drivers of the schemes. SA Water has provided information to the Commission indicating that all of its recycled water schemes (other than the Glenelg to Adelaide Pipeline (**GAP**) and its three stormwater recycling schemes) are driven by EPA requirements, and are least-cost methods of treatment and disposal of sewerage. The GAP scheme was driven by water security requirements and stormwater recycling schemes are trials of new technology. As a result, SA Water has included the costs of all of these schemes under direct control services, subject to a revenue offset.

Whilst the Commission has not undertaken a detailed review of the costs of each of these schemes, or the tariffs charged by SA Water for these services<sup>175</sup>, it is satisfied that the principles adopted by SA Water are consistent with a number of these NWI Pricing Principles. It has also satisfied itself that SA Water has categorised its schemes into the appropriate drivers, consistent with the Guidance Paper.

Further compliance with the NWI Pricing Principles will arise from SA Water's adherence to the Commission's price monitoring regime, which will complement the pricing principles framework.

### 13.3.2 Price Monitoring

Price monitoring is a light-handed form of price regulation whereby the regulator observes changes in prices and other aspects of the regulated business, such as costs. Most price monitoring regimes place a strong emphasis on facilitating commercially negotiated outcomes and information transparency, with recourse to a dispute resolution process.

There are several regulatory options by which an economic regulator could monitor prices. These options are not mutually exclusive and could be implemented in hybrid forms. These options include:

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<sup>175</sup> On 14 December 2012, the Minister for Water announced that the cost of using reticulated recycled water will be reduced from 1 July 2013, following a review into charges by SA Water and the State Government. SA Government news release available at <http://www.sawater.com.au/NR/rdonlyres/01245A54-6BAB-432A-ADFA-5F904DE96C1A/0/MedRelRecycledWaterPriceRed.pdf>.

- ***Ad hoc price monitoring*** – where the regulator reviews the pricing outcomes and may choose to intervene at its own discretion during the regulatory period, possibly in response to customer complaints or evidence of market power being misused;
- ***Set period price monitoring*** – where the regulator commits to reviewing the behaviour of service providers, market developments and effectiveness of the regime at the end of the regulatory period, to examine whether or not an alternative form of regulation is warranted; or
- ***Trigger price monitoring*** – where the regulator may intervene if certain trigger points are breached (e.g. above-CPI price increases), and the information provided by the regulated business does not adequately justify the real price increase.

The Commission considers that the design of an effective price monitoring framework must enable the Commission to meet its statutory objective of protecting the long-term interests of South Australian consumers, and must be underpinned by a set of “best practice” regulatory principles.

The Commission notes that NERA Economic Consulting (**NERA**) and the Northern Territory Utilities Commission (**NTUC**) have identified several implementation principles that they believe should underpin the operation of a price monitoring regime. These principles are presented in Table 13-3.

**Table 13-3: Implementation Principles of Price Monitoring**

<b>NERA ECONOMIC CONSULTING<sup>176</sup></b>	
<b>Transparency</b>	The method for monitoring prices should be known, conclusions (where made) or further action should be based on observations and results of monitoring activities (where not confidential) should be published.
<b>Flexibility</b>	The regime should be sufficiently flexible to allow the monitoring body to report on areas of concern (e.g. barriers to entry may not be considered substantial at the beginning of a monitoring regime and therefore not reported but this may change over time).
<b>Timeframe</b>	Price monitoring should not be indefinite. NERA refers to the Productivity Commission's recommendation that price monitoring should, preferably, be for a three year period or less, or five years in exceptional cases.
<b>Non-intrusive</b>	Price monitoring should not be intended as a form of price control or entail unwarranted intrusion into the operation of businesses.
<b>Not costly to administer or comply with</b>	Reporting requirements should not be overly onerous on the businesses being monitored.
<b>NORTHERN TERRITORY UTILITIES COMMISSION<sup>177</sup></b>	
<b>Consistency</b>	Information must be disclosed on a consistent basis to allow meaningful comparison over time and against benchmarks.
<b>Relevance</b>	Published information must be relevant to meet stakeholders' need.

<sup>176</sup> NERA Economic Consulting, *Assessment of Price Monitoring in Australia, A Briefing Note to the AEMC*, 14 December 2007, page 9; available at <http://www.aemc.gov.au/Media/docs/Price%20Monitoring%20in%20Aust%20-%20NERA-a1f11f34-04b9-40b4-b1d3-372bb117c4e1-0.pdf>

<sup>177</sup> Northern Territory Utilities Commission, *Review of Options for the Development of a Retail Price Monitoring Regime for Contestable Electricity Customers – Issues Paper*, February 2010, page 23; available at <http://www.utilicom.nt.gov.au/PMS/Publications/Issues%20Paper-Review%20of%20retail%20price%20monitoring%20regime-Final.pdf>



The Commission concurs with both NERA and the NTUC that these principles are critical to the effectiveness of a price monitoring regime, and that they are relevant in the context of the South Australian water industry. The key features of the Commission's proposed price monitoring framework have been developed on this basis.

The Commission believes that a proper information disclosure arrangement is essential to informing consumers about the terms and conditions of supply, facilitating competition in the relevant markets, and enabling the Commission to perform its regulatory functions effectively.

The Commission also believes that consistency between regulatory regimes is important, to minimise confusion to customers. In developing its reporting obligations framework for SA Water, the Commission has kept a high degree of consistency with the reporting frameworks for other water and sewerage service providers.<sup>178</sup>

There are two main elements to the Commission's information disclosure arrangements for SA Water; 'public information disclosure' and 'regulatory reporting requirements'.

#### **13.3.2.1 Public Information Disclosure**

SA Water will be required to maintain a 'pricing schedule' and an accompanying 'pricing policy statement', to demonstrate how the NWI Recycled Water Pricing Principles have been applied in determining those prices. Further, SA Water must provide, at the request of a customer, a copy of these documents.

The requirement to make such information available serves two purposes. First, it enhances the level of price transparency, by allowing customers to better understand how prices have been developed, helps in making informed consumption decisions and, where possible, provides a reference point to compare prices against other service providers or alternatives (e.g. rainwater harvesting for non-potable purposes). Second, it has the effect of facilitating competition, by allowing potential new entrants to assess the viability of entering the relevant market.

#### **13.3.2.2 Regulatory Reporting Requirements**

There are two regulatory reporting requirements under the Commission's price monitoring framework for SA Water. Both apply on an annual basis.

First, SA Water is required to provide the Commission with an up-to-date copy of its pricing schedule and accompanying pricing policy statement, and provide information on factors underpinning price movements.

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<sup>178</sup> ESCOSA, *Economic Regulation of Intermediate and Minor Retailers of Water and Sewerage Services – Draft Price Determination and Consumer Protection Framework*, February 2013; available at <http://www.escosa.sa.gov.au/library/130206-EconomicRegulation-IntermediateMinorRetailersWaterSewerageServices.pdf>

The provision of such information assists to monitor price movements and market outcomes, which are important to the transparency and accountability of a price monitoring regime. Furthermore, this information enables the Commission to gain insights into the relative price movements between different regulated service providers.<sup>179</sup>

The Commission intends to monitor prices for SA Water using a hypothetical bill approach (refer to Table 13-4). Again, this is consistent with the Commission’s Draft Determination for other retail water and sewerage service providers.

**Table 13-4: Price Monitoring – Hypothetical Bill Approach**

RETAIL SERVICE	PRICE MONITORING APPROACH
<b>Recycled Water</b>	<p>A hypothetical annual bill approach in which prices are monitored prices by examining how the different charges would translate into individual bills. This approach examines the sensitivity of the results to different assumptions about usage.</p> <p>The following consumption profiles will be used for calculating the hypothetical annual residential bills:</p> <ul style="list-style-type: none"> <li>Vacant property or properties with no recycled water meters (no recycled water usage)</li> <li>Low user (20 kL/annum)</li> <li>Medium user (80 kL/annum)</li> <li>High user (150 kL/annum)</li> </ul> <p>The hypothetical annual bill approach would also differentiate the proportion of the bills that is being attributed to fixed and variable charges.</p>

The Commission recognises that there may be some instances in which the proposed consumption profiles are different to the actual consumption profiles (for example, due to differences in customer types). Given these complexities, the Commission is interested to explore whether or not different consumption profiles should be adopted for different customer types (i.e. commercial and residential). Whilst the Commission recognises that such an approach may not fully address the concern over reasonableness of the consumption profiles under the proposed hypothetical annual bill price monitoring approaches, it should at least provide a basis for meaningful comparison between different customer types.

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<sup>179</sup> The Commission’s Draft Price Determination for Intermediate and Minor Retailers of Water and Sewerage Service includes a similar requirement from those entities. Document available at <http://www.escosa.sa.gov.au/library/130206-EconomicRegulation-IntermediateMinorRetailersWaterSewerageServices.pdf>

The Commission encourages members of the community to provide comment on the following matters:

- Are the proposed consumption profiles for recycled water reflective of the average consumption profile of those consumers?
- If not, what consumption profiles should be used?

Second, SA Water is required to provide 'regulatory accounts' that include information on its regulated services, including recycled water and excluded services (see section 13.4). These accounts will need to be prepared in accordance with the Australian Accounting Standards, and audited under the Australian Auditing Standards.

The provision of regulatory accounts serves several purposes, including:

- Detecting potential misuse of market power, particularly in respect of recycled water services and excluded services, where prices will be regulated in a light-handed manner. The regulatory accounts will indicate the level of cost recovery/profitability of those services;
- Identifying the financial performance of the regulated business. SA Water must provide regulatory accounts to the Commission in accordance with clause 11 of its retail licence; and
- Informing future regulatory decisions, particularly subsequent price/revenue determinations to be made by the Commission.

In general, the Commission require the regulatory accounts to:

- fairly state, on a disaggregated basis, those revenues and costs of the regulated business segment, or segments, that the Commission requires to be disclosed; and
- provide an understanding of the basis on which the general purpose financial statement has been disaggregated.

The Commission will develop draft guidelines for release at the time of its Final Determination, outlining the information required for financial performance reporting. The Commission will work collaboratively with SA Water, to ensure that the exact nature of information required will both enable the Commission to perform its regulatory function, and minimise compliance costs for SA Water.

### *13.4 Commission's Consideration – Excluded Services*

SA Water has numerous miscellaneous fees and charges, reflecting a wide range of services that it provides to customers. SA Water provided the Commission with a comprehensive list

identifying those services that it considers to be excluded services.<sup>180</sup> With respect to these services, the Commission flagged in its Statement of Approach and Guidance Paper that these services would be subject to an alternative, lighter handed, form of control (e.g. pricing principles or price monitoring).

In its Guidance Paper, the Commission stated that it would determine which services were excluded services by having regard to the extent to which competition exists for those services, and the extent to which the services can be attributed to all customers, or a broad class of customers.<sup>181</sup> In general, excluded services are those provided to specific customers, and the cost of such services should therefore be recovered through specific charges to those customers (or potential customers), rather than being costs paid for by all customers through tariffs. SA Water's proposed list of excluded services is consistent with the Commission's views.

SA Water's RBP did not contain any further proposals on the treatment of these services.

One significant example of an excluded service is developer/customer-driven system augmentation. Augmentation charges exist in a limited number of designated areas across the state where development activity (e.g. new land divisions) is proposed or ongoing, and water/sewerage infrastructure either does not exist, or does not have sufficient capacity to accommodate the new development. These charges are calculated on an individual site basis, and are reflective of the upstream/downstream reinforcement required to service the completed development.

Augmentation charges remain in place, subject to annual review using a suitable Australian Bureau of Statistics (**ABS**) construction cost index, until the development is deemed to be completed. Currently, no rebates are given if further development occurs, beyond that which was envisaged when the augmentation charges were initially set.

However, SA Water has advised the Commission that it is currently carrying out a comprehensive review of its augmentation policy, with stakeholder consultation planned for February 2013.

### 13.4.1 Pricing Principles

The effect of the Treasurer's Pricing Order means that SA Water's pricing practice for excluded services must be compliant with the NWI Pricing Principles, where relevant. The Commission notes that five principles, in particular, directly relate to SA Water's excluded services, as included in the RBP (Table 13-5).

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<sup>180</sup> SA Water, *Regulatory Business Proposal 2013*, October 2012, Attachment D.1; available at [http://www.escosa.sa.gov.au/library/121011-D1\\_SAWaterExcludedServices.pdf](http://www.escosa.sa.gov.au/library/121011-D1_SAWaterExcludedServices.pdf)

<sup>181</sup> Essential Services Commission of South Australia, *Review of SA Water's Prices 2013/14-2015/16 Guidance Paper*, February 2012, page 4; available at [http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices\\_2013-16-GuidancePaper.pdf](http://www.escosa.sa.gov.au/library/120207-ReviewOfSAWatersPrices_2013-16-GuidancePaper.pdf)

**Table 13-5: NWI Pricing Principles Relevant to SA Water's Excluded Services**

**Setting Developer Charges (Principles for Urban Water Tariffs: Principle 8)**

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

*Notes:*

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

**Capping Developer Charges (Principles for Urban Water Tariffs: Principle 9)**

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

**Revenue from Developer Charges (Principles for Urban Water Tariffs: Principle 10)**

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

**Cost Recovery for New Capital Expenditure (Principles for Recovery of Capital Expenditure: Principle 1)**

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

- a) a return of capital (depreciation of the RAB) and return on capital (generally calculated as rate of return on the depreciated RAB); or
- b) a renewals annuity and a return on capital (calculated as a rate of return on an undepreciated asset base (ORC)).

**Differential Water Charges (Principles for Urban Water Tariffs: Principle 7)**

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

*Notes:*

- ii. Differential pricing may be achieved by upfront contributions, including developer charges.*

However, these principles on their own provide insufficient guidance on an appropriate basis for setting excluded services prices. For example, a number of the principles only apply to

developer charges and not to other excluded services, and sewerage services are precluded from the NWI Pricing Principles.

As the majority of these excluded services are provided for the sole benefit of the recipient, the Commission believes the principle of user pays should apply. That is, the beneficiary should pay the full efficient cost of the service, and other customers (who do not benefit from the service) should not be required to contribute to the cost of the service through tariffs.

As these excluded services are provided under differing circumstances (e.g. geographical location and the extent and design of infrastructure required), prices should be set having regard to those different costs. The Commission acknowledges that, for minor, miscellaneous services, the cost of identifying individual costs and implementing unique prices may outweigh the associated economic efficiency benefits, which might justify universal pricing for those services. Any pricing principle applicable to these services, therefore, must be sufficiently flexible to reflect the different circumstances in which these services are being provided.

The Commission acknowledges the complexities associated with charging for many of these services, and that some customers of these services may not fully appreciate how charges are derived. It is, therefore, important that customers of these services are able to understand how charges are calculated, and applied, through transparent information provided by SA Water.

In light of the above, the following principles are proposed for SA Water's excluded services (in addition to the NWI Pricing Principles, if relevant):

- Principle 1: Where a service is provided for the sole benefit of the recipient, the beneficiary should pay the full efficient cost of the service, and other consumers should not be required to contribute to the cost of the service.
- Principle 2: Where a service is provided to a distinct group of customers (e.g. trade waste audits are provided to trade waste customers only), prices to a customer should reflect the incremental cost of supplying the service to the customer, and a reasonable allocation of the fixed costs of providing the service, where relevant.
- Principle 3: Prices should reflect the efficient cost of the particular service provided, although in circumstances where the cost of implementing differentiated prices to different customers is likely to outweigh the benefits, non-differentiated prices can be implemented.
- Principle 4: SA Water must be able to provide transparent information to customers on how the costs for these services have been calculated, or are to be applied, and must be able to support its position in the event of a dispute.

SA Water's existing fees and charges structure and methodologies for excluded services have been developed over many years. The Commission is aware that it is likely that not all of the

current fees and charges are fully cost reflective, and that some level of cross-subsidy may exist, both between activities, and with other parts of the SA Water business.

For the purposes of this Draft Revenue Determination, the Commission does not propose to take a direct role in setting or approving fees and charges for excluded services, and will instead rely on these principles.

Furthermore, the Commission will take into account the need for a transition towards greater cost reflectivity of SA Water's various fees and charges, which is a key pricing principle, over the initial regulatory period.

#### *13.4.2 Price Monitoring*

Similar to the Commission's price monitoring regime adopted for recycled water services, the Commission will require SA Water to maintain a pricing schedule, and an accompanying pricing policy statement, for its excluded services, to demonstrate how the NWI and Commission's pricing principles (if applicable) have been applied in determining those prices. As with the recycled water services, SA Water must provide, at the request of a customer, a copy of these documents for customers of its excluded services, and provide these to the Commission annually.

SA Water has published rates for a range of water and sewerage connections, alterations, and system augmentation activities. These rates cover activities at both existing allotments and new land divisions, covering both individual connections and land developers.

For most connections and alterations activities, charges are based on market rates for the work, with an annual external tendering process establishing a schedule of contractor rates across a range of connections related activities. SA Water then applies overheads to these rates to cover its operating costs.

For most services, rates are currently signed off annually by the Minister and become applicable from 1 July of each year. Changes to rates for a limited number of SA Water services are determined by the business internally and approved by SA Water's Board.

#### *13.4.3 Dispute Resolution*

Notwithstanding the presence of principles that address transparency on how costs have been calculated, or are to be applied, there is the potential for disputes over fees and charges to occur from time to time. Developer/augmentation fees are often relatively large when compared with other retail water and sewerage services, and often include multiple parties (e.g. Local and State Governments, developers, the public and SA Water). Therefore, the potential for disputes to arise, from this group of fees and charges, is high.

The Commission will investigate the development of a dispute resolution framework specifically for developer/augmentation charges, following the release of this Draft Determination, in consultation with SA Water, industry, and the public.

### 13.5 Commissions Consideration – Non-Regulated Services

The Commission has no price regulation powers for non-retail water or sewerage services. Therefore, if it accepts SA Water’s proposed list of non-regulated services, the Commission will not have any price regulation powers for these services during the initial regulatory period.

SA Water’s proposed list of non-regulated services is consistent with the interpretation of the *Water Industry Act 2012*, and with previous guidance provided by the Commission. The Commission accepts SA Water’s proposal in this regard. Furthermore, the Commission is satisfied that appropriate adjustments have been made in SA Water’s RBP for the removal of non-regulated services (e.g. the removal of electricity costs associated with Murray Darling Basin Commission related services).

### 13.6 Draft Decision

#### Draft Decision

**The Commission adopts price monitoring and pricing principles for SA Water’s recycled water services and excluded services, as summarised in Table 13-6.**

***Table 13-6: Form of Price Regulation for SA Water’s Services***

<b>SERVICE</b>	<b>PRICING PRINCIPLES</b>	<b>PRICE MONITORING</b>
<b>Direct – Recycled</b>	NWI Pricing Principles 1-9 of <i>Recycled Water and Stormwater Use</i>	Maintain and submit to the Commission annually: <ul style="list-style-type: none"> <li>• Pricing Schedule</li> <li>• Pricing Policy Statement</li> <li>• Hypothetical Bill</li> <li>• Regulated Accounts</li> </ul>
<b>Excluded</b>	Commission’s Excluded Service Pricing Principles 1-4  NWI Pricing Principles (where relevant)	Maintain and submit to the Commission annually: <ul style="list-style-type: none"> <li>• Pricing Schedule</li> <li>• Pricing Policy Statement</li> <li>• Regulated Accounts</li> </ul>
<b>Non-regulated</b>	No Price Regulation	No Price Regulation



# Appendix A. Initial Pricing Order

## WATER INDUSTRY ACT 2012 (SECTION 35)

### PRICING ORDER

#### FOR THE REGULATORY PERIOD 1 JULY 2013 – 30 JUNE 2016

Pursuant to s35(4) of the *Water Industry Act 2012 (the Act)*, the Treasurer hereby issues the following pricing order (**this Order**):

#### 1. INTERPRETATION

1.1 Where a term used in this Order is defined in the Act, it has the meaning given in the Act.

1.2 In this Order, unless the contrary intention appears:

*determination* means a determination of the Commission under s35 of the Act and Part 3 of the *Essential Services Commission Act 2002 (the ESC Act)* made in respect of retail services;

*drinking water retail service* means a retail service constituted by the sale and supply of water of a quality fit for human consumption;

*initial regulatory period* means the three year period commencing 1 July 2013;

*NWI Pricing Principles* means the National Water Initiative Pricing Principles 2010 agreed by Australian governments as the basis for setting water prices / charges in their jurisdictions, as amended or replaced from time to time;

*NWI Principles for Recovering the Costs of Water Planning and Management Activities* means the Principles for recovering the costs of water planning and management activities which form part of the NWI Pricing Principles, as amended or replaced from time to time;

*NWI Principles for the Recovery of Capital Expenditure* means the Principles for the recovery of capital expenditure which form part of the NWI Pricing Principles, as amended or replaced from time to time;

*NWI Principles for Urban Water Tariffs* means the Principles for urban water tariffs which form part of the NWI Pricing Principles, as amended or replaced from time to time;

*sewerage retail service* means the sale and supply of sewerage services for the removal of sewage.

#### 2. APPLICATION

2.1 This Order is to take effect from the date that it is signed.

2.2 Part 3 of this Order is to apply to any determination.

2.3 Part 4 of this Order is to apply to a determination in respect of the following retail services for the initial regulatory period:

2.1.1 drinking water retail services provided by SA Water;

2.1.2 sewerage retail services provided by SA Water,

(such services referred to in Part 4 of this Order as 'a relevant service' or 'the relevant services').

### **3. ADOPTION OF NWI PRICING PRINCIPLES**

- 3.1 The Commission must adopt or apply the NWI Pricing Principles (other than the Principles for Recovering the Costs of Water Planning and Management Activities) when making a determination, to the extent that those, or any of those, principles are relevant to the determination in question.
- 3.2 In the case of a determination to which Part 4 of this Order applies, clause 3.1 applies subject to Part 4 of this Order.

### **4. SA WATER DRINKING WATER AND SEWERAGE RETAIL SERVICES**

- 4.1 The Commission must adopt or apply the following parameters, principles or factors when making a determination to which this Part applies:
- 4.1.1 The initial regulatory period must be adopted as part of the determination.
- 4.1.2 The determination must only determine the revenue which may be derived from the provision of such services.
- 4.1.3 The determination must determine separate revenue controls for drinking water retail services and sewerage retail services.
- 4.1.4 In respect of each relevant service, the determination may apply either a revenue cap control, an average revenue control, or a combination of both of those forms of revenue control.
- 4.1.5 The determination must not establish, or require the establishment of, a revenue control for a relevant service based on customer class or location.
- 4.1.6 The determination must include a mechanism which allows for the adjustment of the allowable revenue to be derived where the Commission determines there to be a relevant and material variation between forecast and actual rates of water consumption or sewerage connections.
- 4.1.7 The determination must adopt or apply the NWI Principles for the Recovery of Capital Expenditure, subject to the following:
- 4.1.7.1 the determination must adopt the initial regulated asset base for SA Water as at 1 July 2013 to be specified by the Treasurer in a subsequent pricing order issued under s35 of the Act;
- 4.1.7.2 the determination must allow SA Water to recover the efficient cost of assets to be acquired over the course of the initial regulatory period which are required to support activities that SA Water is required to provide in accordance with a direction under s6 of the *Public Corporations Act 1993*;

4.1.7.3 for the avoidance of doubt, the Commission must only adopt or apply Principle 6 of the NWI Principles for the Recovery of Capital Expenditure in relation to contributed assets that SA Water acquires after 1 July 2013.

4.1.8 The determination must adopt or apply Principle 1 of the NWI Principles for Urban Water Tariffs, subject to the following:

4.1.8.1 in relation to costs relating to externalities (including water planning and management), the determination must only allow SA Water to recover such costs as are attributable to and payable by SA Water in accordance with the law, including a direction under s6 of the *Public Corporations Act 1993*;

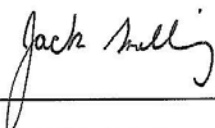
4.1.8.2 the determination must allow SA Water to recover such costs (less any relevant contributions to such costs that it receives) that are attributable to activities that SA Water is required to provide in accordance with a direction under s6 of the *Public Corporations Act 1993*, and are either:

(i) specified in the relevant direction, or if not so specified,

(ii) determined by the Commission to be efficient.

## 5. VARIATION

5.1 This Order may be varied by a subsequent pricing order issued under s35 of the Act.



**JACK SNELLING M.P.**  
Treasurer

Date: 24 September 2012

## Appendix B. Service Standards to Apply to SA Water during 2013/14 – 2015/16

**Best Endeavours:** The licensee is required to apply a *best endeavours* approach to meeting the service standard targets set in this Schedule.

Service Standards	Target
<b>1. Telephone responsiveness</b>	
Percentage of telephone calls answered within 30 seconds	85%
<b>2. Complaint responsiveness</b>	
Percentage of written complaints that do not require investigation responded to within 10 business days	95%
Percentage of complaints where an investigation is required responded to within 20 business days	95%
<b>3. Drinking water quality complaint responsiveness</b>	
Percentage of Priority 1 complaints responded to within 1 hour (Adelaide metropolitan and regional)	99%
Percentage of Priority 2 complaints responded to within 2 hours (Adelaide metropolitan and regional)	95%
Percentage of Priority 2 complaints responded to within 12 hours (Adelaide metropolitan and regional)	99%
Percentage of Priority 3 complaints where further action is required and the customer is contacted within 2 hours to negotiate attendance within 24 hours (Adelaide metropolitan and regional)	99%
<b>4. Timeliness of connection</b>	
Percentage of standard water connections installed, within 25 business days of application processed and fees received	95%
Percentage of non-standard water connections installed, within 35 business days of application processed and fees received	95%
Percentage of standard sewer connections installed, within 30 business days of application processed and fees received	95%
Percentage of non-standard sewer connections installed, within 50 business days of application processed and fees received	95%
<b>5. Timeliness of processing trade waste applications</b>	
Percentage of trade waste applications processed within 10 business days	99%
<b>6. Timeliness of attendance at water breaks, bursts &amp; leaks</b>	
Percentage of Priority 1 complaints attended within 1 hour:	

Service Standards	Target
<ul style="list-style-type: none"> <li>• Adelaide metropolitan</li> <li>• regional</li> </ul> Percentage of Priority 1 complaints attended within 2 hours: <ul style="list-style-type: none"> <li>• regional</li> </ul>	99% 95% 99%
Percentage of Priority 2 complaints attended within 5 hours (Adelaide metropolitan and regional) Percentage of Priority 2 complaints attended within 12 hours (Adelaide metropolitan and regional)	95% 99%
<b>7. Timeliness of water service restoration</b>	
Percentage of Category 1 events restored within 5 hours: <ul style="list-style-type: none"> <li>• Adelaide metropolitan</li> <li>• regional</li> </ul> Percentage of Category 1 events restored within 12 hours: <ul style="list-style-type: none"> <li>• regional</li> </ul>	99% 95% 99%
Percentage of Category 2 events restored within 5 hours: <ul style="list-style-type: none"> <li>• Adelaide metropolitan</li> <li>• regional</li> </ul> Percentage of Category 2 events restored within 18 hours: <ul style="list-style-type: none"> <li>• regional</li> </ul>	99% 95% 99%
Percentage of Category 3 events restored within 12 hours (Adelaide metropolitan and regional)	99%
<b>8. Timeliness of sewerage service restoration</b>	
Percentage of Category 1 events restored within 5 hours (Adelaide metropolitan and regional)	99%
Percentage of Category 2 events restored within 5 hours (Adelaide metropolitan and regional) Percentage of Category 2 events restored within 18 hours (Adelaide metropolitan and regional)	95% 99%
Percentage of Category 3 events restored within 12 hours (Adelaide metropolitan and regional) Percentage of Category 3 events restored within 24 hours (Adelaide metropolitan and regional)	95% 99%
Percentage of partial loss events restored within 18 hours (Adelaide metropolitan and regional) Percentage of partial loss events restored within 36 hours (Adelaide metropolitan and regional)	95% 99%

Service Standards	Target
<b>9. Timeliness of sewerage overflow attendance</b>	
Percentage of inside building overflows attended within 1 hour (Adelaide metropolitan and regional)	99%
Percentage of outside building overflows attended within 2 hours (Adelaide metropolitan and regional)	99%
Percentage of external overflows attended within 4 hours (Adelaide metropolitan and regional)	99%
<b>10. Timeliness of sewerage overflow clean up</b>	
Percentage of inside building clean ups completed within 4 hours following restoration of service (Adelaide metropolitan and regional)	99%
Percentage of outside building (on property) clean ups completed within 6 hours following restoration of service (Adelaide metropolitan and regional)	95%
Percentage of outside building (on property) clean ups completed within 15 hours following restoration of service (Adelaide metropolitan and regional)	99%
Percentage of external (e.g. road or footpath) clean ups completed within 8 hours following restoration of service (Adelaide metropolitan and regional)	95%
Percentage of external (e.g. road or footpath) clean ups completed within 15 hours following restoration of service (Adelaide metropolitan and regional)	99%

## Appendix C. Minister's Direction to SA Water (draft)

### DIRECTIONS TO THE SOUTH AUSTRALIAN WATER CORPORATION

#### PURSUANT TO SECTION 6 OF THE PUBLIC CORPORATIONS ACT 1993

#### BACKGROUND:

1. Pursuant to section 6 of the *Public Corporations Act 1993*, and sections 6 and 7(2)(f) of the *South Australian Water Corporation Act 1994*, the South Australian Water Corporation (SA Water) is subject to control and direction by its Minister, and has the functions conferred on it by its Minister.
2. The *South Australian Water Corporation Act 1994* is committed to the Minister for Water and the River Murray (the Minister) by way of *Gazettal* notice dated 21 October 2011 (p. 4289).
3. The *Water Industry Act 2012* provides for the regulation of prices for water and sewerage retail services by declaring the water industry to constitute a regulated industry for the purposes of the *Essential Services Commission Act 2002*, and providing for the Essential Services Commission of South Australia (the Commission) to make a determination under the *Essential Services Commission Act 2002* regulating prices, conditions relating to prices, and price-fixing factors for such retail services.
4. In making such a determination, the Commission must comply with the requirements of any pricing order issued by the Treasurer under s35 of the *Water Industry Act 2012*.
5. The Treasurer has, on 24/09/2012, issued such a pricing order (the Initial Pricing Order) which applies to, amongst other things, a determination in respect of drinking water and sewerage retail services provided by SA Water for the three year period commencing 1 July 2013 (the initial regulatory period).
6. As part of the Initial Pricing Order, the Treasurer has required that any determination of the Commission in respect of such services allow SA Water to recover:
  - (a) the efficient cost of assets to be acquired over the course of the initial regulatory period which are required to support activities that SA Water is required to provide in accordance with a direction under s6 of the *Public Corporations Act 1993*;
  - (b) the costs of externalities (including water planning and management) as are attributable to and payable by SA Water in accordance with the law, including a direction under s6 of the *Public Corporations Act 1993*;

- (c) such costs (less any relevant contributions to such costs that it receives) that are attributable to activities that SA Water is required to provide in accordance with a direction under s6 of the *Public Corporations Act 1993*, and are either:
  - (i) specified in the relevant direction, or if not so specified,
  - (ii) determined by the Commission to be efficient.

7. The Minister considers it appropriate, in the interests of transparency, to direct SA Water to:

- (a) provide certain services, in addition to the services it is required to provide pursuant to s7 of the *South Australian Water Corporation Act 1994*, and the Charter for SA Water;
- (b) purchase renewable energy or renewable energy certificates for the purpose of operating the Adelaide Desalination Plant;
- (c) maintain State-wide pricing in respect of the drinking water and sewerage retail services it provides to customers; and
- (d) continue to contribute to water planning and management charges,

the costs of which may be recovered by SA Water in accordance with the terms of the Initial Pricing Order.

**DIRECTION:**

I, Paul Caica, Minister for Water and the River Murray, direct SA Water to purchase or provide the following services, facilities and contributions until further notice, subject to and in accordance with the following provisions:

**A. Emergency Management Services**

Emergency engineering functional services as required for compliance with the State Emergency Management Plan prepared by the State Emergency Management Committee under the *Emergency Management Act 2004*, up to the following cost in each financial year of the initial regulatory period:

2013-14	2014-15	2015-16
\$517 000	\$531 000	\$545 000

The South Australian Government will make the following contributions to SA Water in relation to such costs in each financial year of the initial regulatory period:

2013-14	2014-15	2015-16
\$517 000	\$531 000	\$545 000

**B. Government Radio Network Services**



Services required for SA Water's ongoing connection to and participation in the South Australian Government Radio Network, up to the following cost in each financial year of the initial regulatory period:

2013-14	2014-15	2015-16
\$520 000	\$533 000	\$546 000

The South Australian Government will make the following contributions to SA Water in relation to such costs in each financial year of the initial regulatory period:

2013-14	2014-15	2015-16
\$520 000	\$533 000	\$546 000

### C. Save the River Murray Levy Administration Services

Administration of the Save the River Murray Levy in accordance with s93 of the *Water Industry Act 2012*, up to the following cost in each financial year of the initial regulatory period:

2013-14	2014-15	2015-16
\$60 000	\$60 000	\$60 000

The South Australian Government will make the following contributions to SA Water in relation to such costs in each financial year of the initial regulatory period:

2013-14	2014-15	2015-16
\$60 000	\$60 000	\$60 000

### D. Fluoridation Services

Services required for:

- (i) the continuation of the fluoride dosing program in metropolitan Adelaide and the existing country fluoride dosing installations;
- (ii) the construction and operation of any new fluoride dosing installations;

as recommended or agreed by or on behalf of the Chief Executive, Department for Health and Ageing, from time to time.

### E. Purchase of renewable energy for the Adelaide Desalination Plant

SA Water must purchase energy derived from renewable resources, and/or applicable renewable energy certificates (RECs), for the purposes of the operation and maintenance of the Adelaide Desalination Plant and associated infrastructure sufficient to maintain South Australia's commitment at clause 17 of the *Implementation Plan for Augmentation of the Desalination Plant (100 gigalitres per annum)*, *National Partnership Agreement on Water for the Future*.

### F. State-wide Pricing Facility

SA Water must set tariffs for the provision of the drinking water and sewerage retail services it provides on the basis of State-wide pricing i.e. the tariffs or tariff components for such services must be the same, or result in a similar outcome, for all customers in an equivalent class irrespective of the customer's location.

The South Australian Government will make the following contributions to SA Water in each financial year of the initial regulatory period in order to support the lowest levels of State-wide tariffs possible:

(i) in relation to SA Water's drinking water retail services

2013-14	2014-15	2015-16
\$67 416 713	\$67 416 713	\$67 416 173

(ii) in relation to SA Water's sewerage retail services

2013-14	2014-15	2015-16
\$40 162 827	\$40 162 827	\$40 162 827

#### **G. Water Planning and Management Charges Contribution**

SA Water must make the following contributions to the Department for the Environment, Water and Natural Resources in each financial year of the initial regulatory period in order to support water planning and management activities.

2013-14	2014-15	2015-16
\$16 710 000	\$17 128 000	\$17 556 000

**Paul Caica**  
**MINISTER FOR WATER AND THE RIVER MURRAY**

January 2013





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