

**TRANSPARENCY STATEMENT**  
**WASTEWATER PRICES IN SOUTH AUSTRALIA**  
**2004-05**



**Government  
of South Australia**



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2004-05

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WASTEWATER PRICING PROCESS IN SOUTH  
AUSTRALIA



**TRANSPARENCY STATEMENT — Part A**  
**WASTEWATER PRICES IN SOUTH AUSTRALIA**  
**2004-05**



**Government  
of South Australia**

South Australian Government  
June 2004



## Overview of the Transparency Statement

This Transparency Statement on wastewater pricing in South Australia complements the *Transparency Statement on 2004-05 Urban Water Pricing in South Australia*, tabled in Parliament on 1 June 2004. It aims to:

- provide greater transparency in the setting of wastewater prices
- document and report on the matters considered in the Government's 2004-05 wastewater pricing decision
- document the extent to which the Government's wastewater pricing processes have complied with Council of Australian Governments (CoAG) principles.

As foreshadowed in the Transparency Statement on 2004-05 urban water pricing, the Essential Services Commission of South Australia (ESCOSA) conducted an independent inquiry into the pricing processes and the adequacy of the application of CoAG principles.

A number of matters raised in ESCOSA's final report are also relevant to wastewater pricing, but time constraints prevented all of these matters being addressed in the Government's 2004-05 wastewater pricing decision. Nevertheless, the Government has endeavoured to address ESCOSA's findings in this Transparency Statement, particularly those issues that could be addressed in the short term and that are relevant to wastewater pricing.

In June 2004 the Government approved a 3.8% average increase in annual wastewater charges. The new rates were published in the South Australian Government Gazette on 30 June 2004. The Government considers that in reaching this decision, it has achieved a balance of economic efficiency, social justice and environmental issues, and complied with relevant CoAG principles to the extent possible at this time.

Similar to the Transparency Statement on 2004-05 Urban Water prices, the Government intends to refer this Transparency Statement on wastewater pricing to ESCOSA for an independent inquiry into the pricing processes and the adequacy of the application of the CoAG pricing principles. The Transparency Statement will assist ESCOSA with its independent inquiry.

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## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

### Abbreviations

|          |  |
|----------|--|
| AASB     | Australian Accounting Standards Board                          |
| APS      | accounting policy statement                                    |
| BOD      | biochemical oxygen demand                                      |
| CoAG     | Council of Australian Governments                              |
| CPA      | Competition Principles Agreement                               |
| CSO      | community service obligation                                   |
| DAFF     | dissolved air filtration and flotation                         |
| DHS      | Department of Human Services                                   |
| DTF      | Department of Treasury and Finance                             |
| DWLBC    | Department of Water, Land and Biodiversity Conservation        |
| EIP      | environmental improvement program                              |
| EPA      | Environment Protection Authority                               |
| ESCOSA   | Essential Services Commission of South Australia               |
| EBIT     | earnings before interest and taxes                             |
| EBITDA   | earnings before interest, taxes, depreciation and amortisation |
| GBE      | government business enterprise                                 |
| kL       | kilolitre (1000 litres)  |
| ML       | megalitre (1 million litres)                                   |
| n.a.     | not available  |
| NCC      | National Competition Council                                   |
| NCP      | National Competition Policy                                    |
| NECG     | Network Economics Consulting Group                             |
| p.a.     | per annum  |
| PNFC     | public non-financial corporation                               |
| ODV      | optimised deprival value                                       |
| OMA      | operating, maintenance and administrative                      |
| TER      | tax equivalent regime  |
| SA Water | South Australian Water Corporation                             |
| WACC     | weighted average cost of capital                               |
| WSAA     | Water Services Association of Australia                        |
| WWTP     | wastewater treatment plant                                     |

# 1 Introduction

## 1.1 Purpose

This document outlines the South Australian Government's 2004-05 wastewater pricing decision, the processes undertaken in reaching that decision, and the compliance of that decision with principles of the Council of Australian Governments (CoAG).

Many considerations are taken into account by the Government when reaching its decisions on wastewater pricing and urban water pricing.

Considerable information has recently been published on the Government's 2004-05 urban water pricing decision. The *Transparency Statement on 2004-05 Urban Water Pricing in South Australia* (Department of Treasury and Finance, 2004) has been tabled in Parliament, is available on the Department of Treasury and Finance's website<sup>1</sup> and brings together: extensive details of the Government's decision; a review of the Government's processes by the Essential Services Commission of South Australia (ESCOSA) which found "general compliance with CoAG principles (for the first such process)" (ESCOSA, 2004, p 54); and the Government's response to the ESCOSA report.

Given the commonality of issues in urban water and wastewater pricing, and the extensive reporting on urban water issues in the Transparency Statement on 2004-05 urban water pricing, this report on 2004-05 wastewater pricing is restricted to matters of particular relevance to wastewater pricing.

Some of ESCOSA's recommendations arising from its review of 2004-05 urban water pricing are also relevant to wastewater pricing. Where possible, additional information as recommended by ESCOSA (such as benchmarking of customer service standards and efficient business costs) has been included in this report. There has not, however, been sufficient time to fully address ESCOSA's longer term recommendations for Cabinet consideration of the 2004-05 wastewater pricing decision. It is intended that those recommendations will be taken into account in the 2005-06 water and wastewater pricing decisions.

ESCOSA will undertake an independent inquiry of the preparation of advice to Cabinet on its 2004-05 wastewater pricing decision and the compliance of that decision with CoAG principles.

This Transparency Statement on wastewater pricing will assist ESCOSA with that review. It will be published on the Government website [www.treasury.gov.au](http://www.treasury.gov.au).

## 1.2 Description of SA Water

The South Australian Water Corporation (SA Water) is established under the *South Australian Water Corporation Act 1994* and subject to the provisions of the *Public*

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<sup>1</sup> [http://www.treasury.sa.gov.au/water/trans\\_statemt.html](http://www.treasury.sa.gov.au/water/trans_statemt.html)

## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

*Corporations Act 1993*. Its primary functions as set out in the *South Australian Water Corporation Act 1994* are to provide services for the:

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

SA Water provides water and wastewater services to residential, retail and industrial customers throughout metropolitan and country South Australia. Most of its wastewater customers are in the Adelaide metropolitan area, but SA Water also provides wastewater services to: Stirling–Aldgate–Bridgewater–Heathfield, Gumeracha, the Upper Spencer Gulf cities, Murray Bridge, Mannum, Mouth Gambier, Naracoorte, Millicent, Port Lincoln, Victor Harbor, Angaston, Mount Burr and Nangwarry.

SA Water operates in accordance with its Charter (SA Water, 2003) prepared by the Treasurer and the Minister for Administrative Services following consultation with SA Water as required by the *Public Corporations Act 1993*.

SA Water also has a Customer Service Charter (SA Water, 2004), which outlines the standards of service that customers might expect from SA Water.

### **1.3 Structure of Transparency Statement**

In this Transparency Statement, Chapter 2 outlines the processes that have been followed in setting wastewater prices in South Australia for 2004-05 and in preparing the Transparency Statement. It also discusses the forthcoming referral to ESCOSA.

Chapter 3 outlines the CoAG Strategic Framework on wastewater pricing, how the National Competition Council (NCC) has interpreted these principles and the NCC's assessments of South Australia's compliance with the reform agenda.

Chapters 4 and 5 discuss the methodology adopted in setting wastewater prices in South Australia for 2004-05 and how this methodology conforms to the CoAG Strategic Framework.

Chapter 6 presents the Government's decision on wastewater prices to be implemented in 2004-05.

Chapter 7 presents the financial analysis supporting the 2004-05 wastewater pricing decision.

## 2 Processes

### 2.1 Introduction

This chapter outlines the processes undertaken by the Government in its 2004-05 wastewater price setting decision and the matters the Government considered in reaching that decision.

### 2.2 Institutional framework

One of the CoAG principles for institutional reform is that:

the roles of water resource management, standard setting and regulatory enforcement and service provision be separated institutionally (NCC, 1998, p 106).

As noted at the 1999 Tripartite Meeting<sup>2</sup>, the NCC indicated that separate Ministers would be an appropriate form of separation, although not the only form.

In accordance with this separation principle, the Minister for Administrative Services is responsible for SA Water providing water and wastewater services. The Minister for the Environment and Conservation and for the River Murray is responsible for water resource management policy.

The Competition Principles Agreement (11 April 1995) stated:

Prices oversight of State and Territory government business enterprises is primarily the responsibility of the State or Territory that owns the enterprise (NCC, 1998, p 15).

The Minister for Administrative Services, as the Minister responsible for SA Water, brings to Cabinet matters relating to wastewater price setting, including the methodology.

The Treasurer is generally responsible for considering the financial and economic implications of Government policy decisions. Accordingly, the Treasurer is responsible for budget deliberations and financial performance monitoring related to SA Water's functions. The Treasurer is also the Minister responsible for ESCOSA.

In June 2004, the Government, through Cabinet, approved 2004-05 wastewater prices.

Clause 2(3) of the Competition Principles Agreement (11 April 1995) also stated:

Parties will consider establishing independent sources of prices oversight where these do not exist (NCC, 1998, p 15).

Consistent with the intent of this agreement, the Treasurer is to refer an inquiry to ESCOSA of the 2004-05 wastewater price setting processes and the adequacy of the application of CoAG principles.

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<sup>2</sup> A meeting between representatives of senior officials, Committee on Regulatory Reform, Steering Group, Australian and New Zealand Environment and Conservation Council, and NCC on 14 January 1999.

## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

### Conclusion and Recommendation 1

The Government considers that it has separated the role of water resource management from the role of service provision at both ministerial and agency levels to the extent possible at this time.

The Government through the Cabinet process, and in accordance with the CoAG principles, makes wastewater pricing decisions.

### 2.3 Process for wastewater price setting

In March 2004, the Government approved the processes to be adopted, and the timeframes involved, for setting 2004-05 wastewater prices and for preparing this Transparency Statement. This document is included as Appendix 1.

In March 2004, the Government also noted a comparison of current wastewater price setting practices with CoAG principles and NCC assessments (Appendix 2) and endorsed a methodology for setting 2004-05 wastewater prices (Appendix 3). The methodology indicated that the Government, in reaching its decision, would take into account economic efficiency, equity and social policy, and environmental outcomes, within the context of National Competition Policy (NCP) obligations, CoAG principles and NCC assessments.

In June 2004, the Minister for Administrative Services brought a submission to Cabinet seeking an increase in 2004-05 wastewater prices, which applied the previously approved price setting methodology. The Government subsequently approved a 3.8% average increase in annual wastewater charges. Details of the decision are outlined in Chapter 6.

When reaching this decision, the Government, through Cabinet, considered the outcome of consultations with relevant agencies: Department of Water, Land and Biodiversity Conservation (DWLBC); Department of Human Services; Department of Treasury and Finance; Department of the Premier and Cabinet (NCP Implementation Unit); Department for Business, Manufacturing and Trade; Department for Environment and Heritage; and Office for Regional Development.

In accordance with the *Sewerage Act 1929*, wastewater rates to apply to SA Water wastewater customers in 2004-05 were gazetted in the South Australian Government Gazette on 30 June 2004.

### 2.4 Matters considered by Cabinet

In setting 2004-05 wastewater prices, the Government is required to consider the economic issues arising from the CoAG principles. The Government is also required to balance this consideration of economic efficiency against community benefit, equity, social justice, and environmental and regional matters.

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Consistent with the processes adopted for the 2004-05 urban water pricing decision, the Government explicitly addressed CoAG principles and NCP obligations in a more structured manner when setting 2004-05 wastewater prices. The CoAG principles were presented to Cabinet and were explicitly applied and detailed in a formal methodology.

### Conclusion and Recommendation 2

The Government considers that it has achieved a balance between economic efficiency and community benefits, equity, social justice and environmental and regional policies in its 2004-05 wastewater pricing decision and has complied with CoAG principles to the extent possible at this time.

The Government is responsible for achieving an appropriate balance between economic efficiency and broader community considerations in all its major policy decisions.

## 2.5 Transparency Statement

The Government has agreed to an inquiry by ESCOSA of the 2004-05 wastewater pricing process and the adequacy of the application of CoAG principles, specifically to address the level of transparency sought by the NCC.

### 2.5.1 Part A

Part A of the Transparency Statement (this document) documents and provides an overview of the processes and the application of the methodology in the Government's 2004-05 wastewater pricing decision, which is to be applied to SA Water's wastewater customers. This document also discusses how the wastewater pricing decision conforms to CoAG principles.

The Department of Treasury and Finance prepared this Transparency Statement on behalf of the Treasurer. Officers from the Department of the Premier and Cabinet, and DWLBC were consulted in its preparation. SA Water was consulted on factual accuracy and omissions.

### 2.5.2 Referral to ESCOSA

In accordance with Section 35 of the *Essential Services Commission Act 2002*, the Treasurer is referring an inquiry to ESCOSA of the 2004-05 wastewater price setting processes.

As outlined in the terms of reference (Appendix 4):

- (a) the Commission is to inquire into the processes undertaken in the preparation of advice to Cabinet, resulting in Cabinet making its decision on the level and

## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

structure of SA Water’s wastewater prices for 2004-05, with respect to the adequacy of the application of CoAG pricing principles

- (b) in undertaking this inquiry, the Commission is to consider the “*Transparency Statement - (Part A) Wastewater Prices in South Australia 2004-05*” dated June 2004
- (c) in considering the processes undertaken for the preparation of advice to Cabinet, the Commission is to advise on the extent to which information relevant to the CoAG principles was made available to Cabinet.

ESCOSA’s comments would become Part B of this Transparency Statement.



### **3 The CoAG Strategic Framework and NCC interpretations**

#### **3.1 Introduction**

In February 1994, CoAG endorsed the CoAG Strategic Framework for the efficient and sustainable reform of the Australian water industry. This chapter discusses the CoAG principles related to wastewater pricing and recent assessments of South Australia's achievement of those principles by the NCC.

#### **3.2 The CoAG Strategic Framework — 1994**

The CoAG Strategic Framework emphasises the principles of consumption-based pricing, full cost recovery, the removal or transparency of cross-subsidies, and the full disclosure of community service obligations (CSO), where services are provided to customers at less than full cost.

CoAG also agreed that water businesses should earn a real rate of return on the written down replacement cost of assets. The relevant clauses of the CoAG Strategic Framework are included in Appendix 5.

On 10 February 1997, the Prime Minister wrote to all Heads of Government agreeing to extend the CoAG water reform framework to include ground and storm/wastewater (NCC, 1998, p 110).

#### **3.3 The CoAG guidelines**

The Agriculture and Resource Management Council of Australia and New Zealand endorsed the Expert Group (1998) report and guidelines for the application of the CoAG Strategic Framework in future pricing determinations on 27 February 1998.

All Premiers and Chief Ministers subsequently endorsed the CoAG guidelines and comments<sup>3</sup> (Appendix 5). On the basis of the Expert Group's recommendations, the CoAG guidelines outlined the two core principles of:

- avoiding monopoly rents
- maintaining the ongoing commercial viability of the business.

The guidelines require that both principles should be based on efficient resource pricing and business costs and include taxes and tax equivalent regimes (TER) where appropriate.

##### **3.3.1 *Avoiding monopoly rents — maximum revenue outcome***

The principle of avoiding monopoly rents is consistent with the concept of full economic cost recovery. The CoAG guidelines stipulate that in order to avoid monopoly rents the water business should recover:

- efficient business costs

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<sup>3</sup> Noted at the Tripartite Meeting on 14 January 1999

## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

- taxes
- externalities
- provision for asset consumption
- the opportunity cost of capital — calculated using a WACC (weighted average cost of capital).

Therefore full economic cost recovery conceptually defines an upper bound for a water business's revenue generation — called the 'maximum revenue outcome'.

### **3.3.2 Ongoing commercial viability — minimum revenue outcome**

The principle of maintaining the ongoing commercial viability adopted in the CoAG guidelines indicates that a water business should recover, at least:

- efficient business costs
- externalities
- taxes or TERs
- interest cost on debt
- dividends (if any)
- provision for future asset replacement/refurbishment (using the annuity approach).

The principle of maintaining ongoing commercial viability therefore conceptually represents the lower bound for the business's revenue requirements — called the 'minimum revenue outcome'.

### **3.3.3 Transparency**

The CoAG guidelines also require transparency in determining prices, particularly for CSOs, contributed assets, opening value of assets, externalities (including resource management costs) and TERs.

## **3.4 Other principles incorporated in the CoAG Strategic Framework**

A number of other principles included in the CoAG Strategic Framework relate specifically to reform of the management of water resources and rural water services.

The principles most relevant to the Government decision on 2004-05 wastewater services, the subject of this Transparency Statement, have been selected.

### **3.4.1 Performance monitoring (Clause 6)**

CoAG approved the adoption of performance monitoring and international best practice as principles to be adopted to ensure efficient service delivery (ie an appropriate quality of service delivery at minimum cost). Performance monitoring is also relevant for assessing efficient business costs.

## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

### **3.4.2 Commercial focus (Clause 6)**

CoAG agreed that, subject to each jurisdiction's particular circumstances, water businesses should adopt a commercial focus by contracting out, corporatising or privatising.

### **3.4.3 Public consultation and education (Clause 7)**

CoAG agreed that the service provider should undertake public consultation before new initiatives are adopted. CoAG recommended the development of public education programs on water use and the benefits of reform.

### **Conclusion and Recommendation 3**

As a signatory to the Competition Principles Agreement and related reforms, the Government is committed to adopting the CoAG principles.

## **3.5 2003 NCP assessment of South Australian wastewater reform**

### **3.5.1 2003 NCP assessment**

In the 2003 assessment framework, the NCC expressed concern about the transparency of the price setting process and raised further issues about property based charges and the potential for cross-subsidisation (NCC, 2003a, pp 19–23).

### **3.5.2 2004 NCP assessment framework**

In the 2004 NCP Assessment Framework, the NCC indicated that the Transparency Statement should show that:

SA Water's 2004-05 water and wastewater prices satisfy the requirements of the CoAG water agreement and the pricing principles, particularly the requirements that prices are determined with reference to a revenue target for the business that is based on efficient resource and business costs, that dividends reflect commercial reality, and that there is appropriate transparency in pricing (including of any remaining cross-subsidies) (NCC, 2003b, p 29).

### **3.5.3 Conclusion**

Many of the issues raised by the NCC, such as efficient business costs and dividends, have already been discussed in the Transparency Statement on 2004-05 urban water pricing and ESCOSA's independent inquiry. ESCOSA's findings and comments from the NCC will continue to be addressed in this and future Transparency Statements, to the extent possible.

This Transparency Statement, by definition, focuses on the matters related to wastewater pricing.

## **4 Wastewater price setting methodology 2004-05 — revenue outcomes**

### **4.1 Introduction**

This chapter outlines the methodology adopted by the Government for setting wastewater prices in South Australia for 2004-05, with regard to CoAG principles and particularly maximum and minimum revenue outcomes.

The maximum and minimum revenue outcomes establish a revenue band within which the forecast target revenue (real), derived from the wastewater pricing decision, must lie. The actual values are reported in Chapter 7.

### **4.2 CoAG principles: Revenue outcomes and revenue target**

The CoAG principles on pricing of water related services are broad and generic. The CoAG Strategic Framework stated:

a prescriptive approach that can be universally applied is not practicable (NCC, 1998, p 111).

The methodology for setting wastewater prices in South Australia for 2004-05 is based on these general principles but, as the guidelines are not fully prescriptive, the Government has made some decisions on their detailed application.

Consistent with CoAG principles, the methodology is based on ensuring that the forecast target revenue lies between: maximum revenue outcome (ie the maximum revenue SA Water can earn while not earning monopoly profits); and minimum revenue outcome (ie the minimum revenue sufficient to ensure SA Water's ongoing commercial viability).

In this way a revenue target is established which is sufficient to support an appropriate standard of service based on efficient business costs.

### **4.3 Maximum revenue outcome, 2004-05 — Avoiding monopoly rents**

The maximum revenue outcome is calculated as the sum of:

- operating, maintenance and administrative (OMA) expenses
- return on assets — a real risk-adjusted return on assets
- depreciation — provision for asset consumption
- externalities
- taxes or TERs.

Each component of the maximum revenue outcome is discussed below. Estimates of the maximum revenue outcomes for 2002-03, 2003-04 and 2004-05, including the separate components identified above (except externalities which are reported in section 4.3.4), are reported in Chapter 7.

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### 4.3.1 *Operating, maintenance and administrative expenses*

Estimates of operating, maintenance and administrative expenses are a significant component of both maximum and minimum revenue outcomes. The CoAG guidelines require that these should be based on efficient business costs, defined as:

the minimum costs that would be incurred by an organisation in providing a specific service to a specific customer or group of customers (NCC, 1998, p 113).

Competitive market pressure should result in efficient business costs. However, in the case of monopoly service providers, benchmarking is often used as a means of establishing and promoting an appropriate standard of service at least cost.

#### *Competitive tendering*

Competitive tendering is a form of ‘competition *for* the market’, which in the absence of ‘competition *in* the market’ can achieve price and quality outcomes that are competitively efficient and low cost.

The CoAG Strategic Framework states that metropolitan water service providers should have a commercial focus, which jurisdictions might choose to achieve through contracting out, corporatisation or privatisation (NCC, 1998, p 107).

Where possible, SA Water competitively tenders for contracts for services or supplies in order to promote efficient resource allocation.

SA Water has contracted, by competitive tender, for services relating to electricity, chemicals, operational and service charges, and for materials, services and supplies. Table 1 outlines SA Water’s estimated wastewater operational, maintenance and administration costs (including labour) for 2003-04.

SA Water’s costs in meeting the required environmental standards are difficult to separately identify, for example splitting capital and operational expenditure on the Bolivar treatment plant into the proportion of costs attributable to improvements in wastewater treatment, disposal, recycling of water and reuse of bio-solids. Consequently, these costs have been internalised and are not separately disclosed in Table 1. For further information on SA Water’s externalities see section 4.3.4.

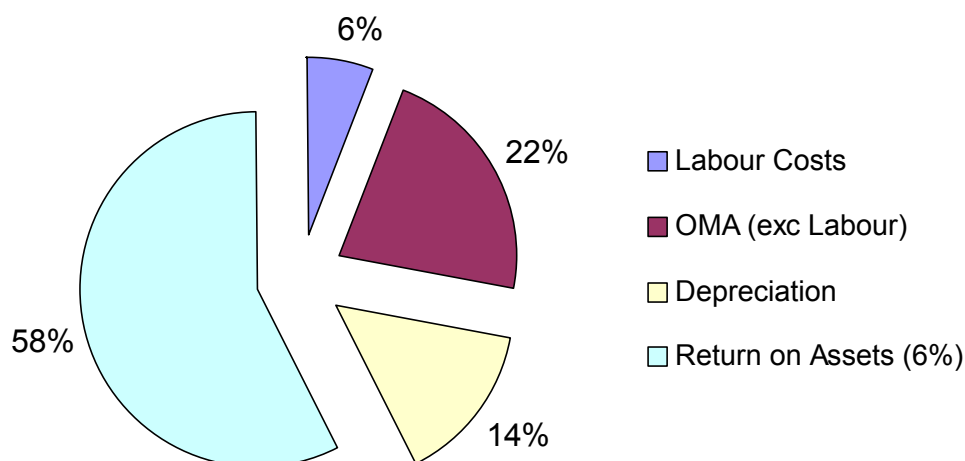
Approximately 78% of all SA Water’s wastewater operational, maintenance and administrative expenditure (ie non labour costs) are subject to competitive tendering arrangements.

Figure 1 describes SA Water’s maximum revenue outcome (6% WACC) for wastewater in 2003-04.

## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

**Table 1: SA Water’s wastewater operating costs for 2003-04**

|  | Metropolitan  |            | Country       |            | Total         |            |
|--|---------------|------------|---------------|------------|---------------|------------|
|  | (\$'000)      | %          | (\$'000)      | %          | (\$'000)      | %          |
| Labour costs                                       | 10,560        | 18         | 5,246         | 42         | 15,806        | 22         |
| Electricity  | 4,471         | 8          | 728           | 6          | 5,199         | 7          |
| Chemicals  | 5             | 0          | 107           | 1          | 112           | 0          |
| Operational and service contracts                  | 30,705        | 53         | 1,550         | 12         | 32,255        | 45         |
| Materials and other costs                          | 12,666        | 22         | 4,993         | 40         | 17,659        | 25         |
| <b>Operational, maintenance and administration</b> | <b>58,407</b> | <b>100</b> | <b>12,624</b> | <b>100</b> | <b>71,031</b> | <b>100</b> |



**Figure 1: SA Water’s maximum wastewater revenue outcome 2003-04**

The percentages in Figure 1 indicate that SA Water’s maximum revenue outcome (6% WACC) for wastewater for 2003-04 of \$253 million comprises:

- \$182 million attributable to the underlying asset values (ie return on assets and depreciation), which are valued at competitive contract costs
- \$55 million attributable to operational, maintenance and administration costs (excluding labour cost), which are subject to competitively tendered contracts
- \$16 million attributable to labour costs.

SA Water’s most significant contract is the United Water International contract to manage Adelaide’s water and wastewater systems. This 15-year contract, entered into in 1997 following a competitive tender process, has provision for pricing reviews to reset the fixed-price component every five years.

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In its final report, ESCOSA supported the analysis in the Transparency Statement on 2004-05 urban water pricing that competitively tendered contracts for managing water and wastewater services suggest that SA Water's business costs are efficient (ESCOSA, 2004, p 21).

Furthermore, ESCOSA stated:

Discussions held with SA Government during this review identified that the negotiations for the second 5-year period of the United Water International contract did require that the new UWI charges to SA Water reflect competitive prices, having regard to national and industry-specific productivity trends (ESCOSA, 2004, p 21).

### *Benchmarking*

Benchmarking generally involves both costs and service standards. The CoAG Strategic Framework adopted the principal of interagency benchmarking in order to monitor the performance of service providers and promote the achievement of international best practice (NCC, 1998, p 107).

The NCC indicated that active participation in national benchmarking by the Water Services Association and the Australian Water Association would demonstrate compliance with the CoAG Strategic Framework (NCC, 2001, p 130).

In its final report, ESCOSA found that *WSAAfacts*<sup>4</sup> data was appropriate for comparing the performance of SA Water to other major metropolitan service providers. However, it also found that additional detail for both metropolitan and country operations would be required to demonstrate that SA Water's costs are efficient.

The ability to achieve future substantial cost economies is somewhat limited because the current substantial degree of competitive tendering delivers efficient business costs for those aspects of SA Water's costs that are open to competition for the market. Further reductions in business costs must not jeopardise customer service standards. An appropriate balance needs to be achieved.

An analysis of SA Water's standards of customer service and operational efficiency, based on *WSAAfacts* data, is presented in Appendix 6.

From Appendix 6 it is apparent that, in comparison to the other service providers, SA Water is providing a high level of services. This is illustrated by the following examples:

- Table 19: Average wastewater break or choke repair time (hr)
- Table 21: Percent of wastewater treated to a tertiary level
- Table 24: Percent of water recycled
- Table 25: Percent of bio-solids reused

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<sup>4</sup> *WSAAfacts* is a national benchmarking publication, endorsed by the NCC, to which all Australian water service providers submit cost details.

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SA Water is also a leading service provider in terms of environmental standards and has significantly improved its level of environmental services, such as the level of treatment of the wastewater and reuse of wastewater and bio-solids.

WSAAfacts indicates that SA Water's service performance has generally improved since 1997. The exception is an increase in the average time for a telephone customer to be connected to an operator. This was due to an increase of 15% in call numbers, arising, in large part, from water restrictions, the introduction of the River Murray Levy and other initiatives addressing the drought (eg rebates for various water efficient appliances). Even with this effect, service performance was better than the average for all other water and wastewater service providers.

However, SA Water appears to be significantly behind other selected service providers in the number of property connection sewer breaks and chokes per 1000 properties. The reasons for this apparently poor result are currently being examined.

Interestingly most of the other service providers' performance deteriorated in 2002-03, in the benchmarks of wastewater reticulation and property connection breaks and chokes per 1000 properties; wastewater overflows per 100 km, and average connection time to telephone operators (see Appendix 6).

SA Water is one of if not the most efficient operator in terms of wastewater operating and total costs per property. There is no clear indication that all other significant service providers are decreasing their costs over the reporting period. In fact, over the last three years most providers have indicated that their operating and total costs per property have increased.

The value of SA Water's operating expenditure is reported in Chapter 7, Table 12.

### Conclusion and Recommendation 4

The Government considers that SA Water has a commercial focus and, in particular, due to the significant level of competitive tendering used by SA Water, has generally achieved efficient business costs for wastewater services.

#### 4.3.2 Return on assets

The CoAG Strategic Framework requires that a water business earn a real risk adjusted return on the written down replacement cost of assets using a WACC. The value of the asset base and the WACC are key parameters in determining the return on assets that, in turn, form a significant proportion of the maximum revenue outcome.

The issues that have arisen in the application of this CoAG principle are:

- valuation of assets
- the asset base—rolling forward estimate



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- contributed assets
- WACC.

Each of these aspects of the estimated return on wastewater assets has been treated in the same manner as in the Government's decision on 2004-05 urban water pricing.

### *Valuation of assets*

The CoAG guidelines require:

The deprival value methodology should be used for asset valuation, unless a specific circumstance justifies another method (NCC, 1998, p 112).

In its final report on 2004-05 urban water pricing, ESCOSA stated:

SA Water has employed an approach consistent with the requirements of the CoAG guidelines and has had the outcomes independently verified through (in part) comparison with outcomes for a peer water utility (Hunter Water Corporation) (ESCOSA, 2004, p 16).

The valuation of SA Water's land, buildings and infrastructure assets is based on the fair value method, to comply with Accounting Policy Statement 3: *Valuation of Non-Current Assets* and AASB 1041: *Revaluation of Non-current Assets*.

The value of SA Water's asset base, including wastewater assets, is reported in Chapter 7, Table 10 and Table 11.

### **Conclusion and Recommendation 5**

|  |
|--|
| <p>The Government considers fair value to be equivalent to the deprival value method, required by the CoAG guidelines.</p> |
|--|

### *Rolling forward of the asset base*

The CoAG guidelines do not include detailed specifications on the rolling forward of the asset base, relating to SA Water's infrastructure assets, plant and equipment.

The rolling forward of the wastewater asset base is consistent with the method used in the Transparency Statement on 2004-05 urban water pricing except that SA Water, for simplicity, has applied zero inflation to additional capital expenditure. The effect of this is immaterial. (Previously, half of the additional, annual capital expenditure was inflated. The effect of this change on the asset base is less than 0.05% in 2004-05).

### *Contributed assets*

Contributed assets comprise customer contributions, for construction of a new main, and subdividers contributions.

The CoAG guidelines require that the treatment of contributed assets is transparent when determining prices.

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Consistent with professional accounting standards, contributed assets are included in the asset base and recognised as revenue when SA Water gains control of the asset. This revenue is included in forecast target revenue.

While acknowledging that the treatment of contributed assets in the urban water pricing decision was compliant with CoAG guidelines, ESCOSA did not consider that this was sufficient and stated:

More effective compliance with the CoAG principles will be achieved when the contributed assets are valued (or a best estimate is determined), and removed from the regulatory asset base... (ESCOSA, 2004, p 17).

ESCOSA expressed concern that contributions have been occurring over a considerable period of time and could represent a significant portion of the asset base (ESCOSA, 2004, p 17).

The Government is currently reviewing the treatment of contributed assets for water and wastewater pricing purposes. The significant issues include:

- whether to remove contributed assets from the asset base, as recommended by ESCOSA
- whether to include contributed assets in the asset base and provide some offsetting mechanism to account for the contribution (Queensland Competition Authority approach)
- the treatment of revenue from contributed assets
- an appropriate treatment for asset replacement/refurbishment of contributed assets.

### Conclusion and Recommendation 6

The Government considers that the current treatment of contributed assets is consistent with CoAG guidelines.

The Government intends to develop an appropriate treatment of contributed assets for inclusion in the 2005-06 Urban Water and Wastewater Pricing Transparency Statement.

### *WACC*

The CoAG guidelines require that the maximum revenue outcome should include an opportunity cost of capital based on a WACC.

In its final report on 2004-05 urban water pricing, ESCOSA stated that the inclusion of an opportunity cost based on a range of pre-tax real WACC of between 6% and 8% complies with the CoAG guidelines. However, it said, at the very least a narrower range of WACC should be determined based on an efficient suppliers' benchmark, and further details of the WACC calculations should be included in the Transparency Statement.

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The Commission believes that, although compliant with the CoAG pricing principles requirement to include an opportunity cost, the Transparency Statement does not provide sufficient information on WACC (ESCOSA, 2004, p 36).

In 2002, Leadenhall consultants, for SA Water, estimated a regulatory pre-tax real WACC for SA Water at 6%, and a hurdle rate for SA Water's internal purposes at 8%. The conclusion with regards to a regulatory WACC was based on the WA Independent Gas Pipelines Access Regulator's view on the Proposed Access Arrangement, Dampier to Bunbury Natural Gas Pipeline, 2001. Leadenhall considered the risk structure for monopoly gas and electricity suppliers could be considered to be similar to a water distribution monopoly, such as SA Water. However, with the passage of time this benchmark should now be reviewed. An appropriate WACC would be resolved by assessing the appropriateness of each element of the WACC and the issues concerning the choice of those elements, such as franking credits, credit rating, the risk-free rate, market premium and capital structure.

Given these uncertainties, a single WACC for SA Water has not been determined at this stage. In the meantime, it has been resolved to use two WACCs, one at an upper level (8%) and one at a lower level (6%). Accordingly, the Government considered two estimates of maximum revenue outcome: one using 8% pre-tax real and the other using 6% pre-tax real.

The Government is currently reviewing SA Water's WACC.

Estimates of the maximum revenue outcome based on pre-tax real WACCs of 8% and 6% are included in Chapter 7.

### Conclusion and Recommendation 7

The Government considers that the inclusion of an opportunity cost of capital based on a pre tax real WACC is consistent with CoAG guidelines.

The Government intends to develop an appropriate WACC for inclusion in the 2005-06 Urban Water and Wastewater Pricing Transparency Statement, as proposed by ESCOSA.

#### 4.3.3 Depreciation — Provision for asset consumption

The CoAG guidelines require that the maximum revenue outcome includes the provision for asset consumption (or depreciation).

ESCOSA stated that using the straight-line approach to estimate depreciation included in the maximum revenue outcome complies with the CoAG guidelines. Nevertheless, ESCOSA considered that the method of calculation and amount of depreciation should be included in the Transparency Statement.

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SA Water has estimated depreciation on all assets, including contributed assets, in the maximum revenue outcomes on a straight-line basis, as in the 2004-05 urban water pricing decision. The method of calculation is consistent with Accounting Policy Statement 7: *Depreciation of Non-Current Assets* and AASB 1021: *Depreciation*.

Infrastructure, buildings, plant and equipment and other assets are depreciated using the straight-line method over their estimated useful lives of 5 to 160 years. The useful lives of assets are reviewed annually and have been assessed as follows:

**Table 2: Useful life of SA Water’s assets**

| <b>Asset</b>                  | <b>Years</b> |
|-------------------------------|--------------|
| Water and sewer assets        | 7–160        |
| Water and sewer leased assets | 40–50        |
| Buildings                     | 50           |
| Other                         | 5–50         |
| Plant and equipment           | 5–15         |

The method of depreciation has regard to the underlying nature of the assets and their expected use in SA Water operations. Work in progress is not depreciated until assets are completed and have been commissioned for operation.

The depreciation amount is reported in Chapter 7, Table 12.

### **Conclusion and Recommendation 8**

The Government considers that the inclusion in the maximum revenue outcome of estimated depreciation, based on the straight-line method, is consistent with CoAG guidelines, as confirmed by ESCOSA.

#### **4.3.4 Externalities**

The identification and measurement of externalities is a difficult issue and the subject of rigorous methodological and empirical debate in Australia.

The NCC confirmed that externalities have been:

defined by CoAG for water pricing as the environmental and natural resource management costs attributable to and incurred by water businesses (NCC, 2003b, p 11).

ESCOSA stated:

The inclusion of externalities costs that are “both attributable to and incurred by” SA Water in the Transparency Statement is compliant with the CoAG Principles (ESCOSA, 2004, p 32).

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The independent Environmental Protection Authority (EPA) is responsible for setting the environmental standards SA Water is required to meet for processing and disposing of wastewater.

SA Water's costs in meeting environmental requirements are difficult to separately identify but are included in both the maximum and minimum revenue outcomes. This includes payments by SA Water to the EPA as licence fees. In 2002-03 those payments amounted to \$990,000, with fees increasing by around 10% per annum. The fees are currently applied as fixed charges but could be based on pollutant load in future. This is a matter for the EPA to address.

An Environmental Enhancement Levy on sewer rates was introduced to accelerate the implementation of projects (environmental improvement programs (EIP)) as agreed between SA Water and the EPA, which will minimise environmental impacts and meet legislative requirements. The levy, which is effectively 8.6% of total wastewater rate revenue, will raise \$20.5 million in 2004-05. Projects so far partially funded by the Environmental Enhancement Levy are listed in Table 3.

**Table 3: Projects funded by the Environmental Enhancement Levy**

|  |   |
|--|---|
| Glenelg Wastewater Treatment Plant (WWTP) EIP        | MFP Waste Management Study Metro Adelaide             |
| Bolivar WWTP DAFF                                    | Sludge management plan                                |
| Bolivar WWTP odour/nutrient reduction                | Patawalonga gross pollution trap screen               |
| Queensbury diversion EIP                             | Coastal reclaimed wastewater plan                     |
| Port Adelaide WWTP EIP                               | Aldinga sewerage scheme                               |
| Christies Beach WWTP EIP                             | Inland reclaimed wastewater plan                      |
| Glenelg/Port Adelaide WWTP land disposal sludge main | Country WWTP upgrade marine environment               |
| Gumeracha WWTP nutrient reduction                    | Port Lincoln WWTP                                     |
| Aldinga WWTP   | Barossa Valley winery waste                           |
| Myponga WWTP nutrient reduction                      | Bolivar sludge transfer system                        |
| HIAT woodlot   | Bolivar WWTP stabilisation lagoons                    |
| Mannum effluent disposal                             | Rustlers Gully sewer                                  |
| Murray Bridge effluent disposal                      | Noarlunga township sewers                             |
| Hahndorf WWTP upgrade & nutrient removal             | Whyalla WWTP land based disposal & infiltration study |
| Glenelg WWTP effluent treatment                      |   |

*\*DAFF dissolved air filtration and flotation*

All wastewater and trade waste is now fully processed to acceptable environmental standards set by the EPA. These costs are included in OMA costs.

**Conclusion and Recommendation 9**

All wastewater management costs attributable to and incurred by SA Water have been included in the estimated maximum revenue outcome, consistent with CoAG guidelines.

**4.3.5 Tax equivalent regime**

The CoAG guidelines require that taxes or TERs should be included in the estimated maximum revenue outcome.

ESCOSA stated:

In the Commission’s view, the Transparency Statement includes TER and is compliant with the CoAG Principles (ESCOSA, 2004, page 45).

As in the 2004-05 urban water pricing decision, the pre-tax approach to estimating the required return on assets has been adopted. The inclusion of a pre-tax return on assets in setting the maximum revenue outcome removes the requirement to include a separate allowance for income TERs.

The TER amount is reported in Chapter 7, Table 12.

**Conclusion and Recommendation 10**

The South Australian Government considers that the use of a pre-tax required rate of return on assets is consistent with the CoAG Strategic Framework and removes the need to include a separate allowance for income TER in the maximum revenue outcome.

**4.4 Minimum revenue outcome, 2004-05 — Maintaining commercial viability**

The minimum revenue outcome aims to estimate the necessary revenue requirement to meet the business’s current and ongoing responsibilities and liabilities, and to ensure its ongoing commercial viability.

The minimum revenue outcome is calculated as the sum of:

- operating, maintenance and administrative expenses — efficient business costs
- the provision for future asset refurbishment/replacement (estimated by the projected depreciation expense)
- dividends
- interest costs on debt

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- externalities
- taxes and TERs.

Each component of the minimum revenue outcome is discussed below. Estimates of the minimum revenue outcomes for 2002-03, 2003-04 and 2004-05, including the separate components identified above (except externalities which are reported in section 4.3.4), are reported in Chapter 7.

### ***4.4.1 Operating, maintenance and administrative expenses — Efficient business costs***

The determination of efficient business costs has been discussed in section 4.3.

### ***4.4.2 Provision for future asset refurbishment/replacement***

The CoAG guidelines states:

An annuity approach should be used to determine the medium to long term cash requirements for asset replacement/refurbishment where it is desired that the service delivery capacity be maintained (NCC, 1998, p 112).

In its final report on urban water pricing, ESCOSA indicated that the straight-line depreciation method is likely to be significantly different from an annuity estimate of the provision for future asset refurbishment/replacement sufficient to maintain the ongoing service capacity of the water business. ESCOSA stated:

SA Water should establish estimates for annuity based provisions for asset replacement/refurbishment and report this in the next Transparency Statement (ESCOSA, 2004, p 29).

However, as acknowledged by ESCOSA, the information necessary to adopt the annuity approach does not currently exist.

The Government proposes to expedite the development of an appropriate annuity-based estimate of the provision for asset refurbishment/replacement in the minimum revenue outcome. In the interim, SA Water has continued to use the forecast depreciation expense, based on the straight-line depreciation method, as a broad estimate of the expenditure required to maintain the asset base in the minimum revenue outcome.

## **Conclusion and Recommendation 11**

The Government intends to develop an annuity based estimate of the provision for asset refurbishment/replacement for inclusion, to the extent possible, in the 2005-06 Water and Wastewater Pricing Transparency Statement, as proposed by ESCOSA.

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### 4.4.3 Dividends

The CoAG guidelines suggest that dividends, if any, should be included in the minimum revenue outcome and that:

dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome (NCC, 1998, p 112).

In its final report ESCOSA expressed concern that the 2004-05 Transparency Statement on urban water pricing outlined the Government's contributions policy rather than its actual dividend policy, and had not addressed the 'commercial realities' test.

The Network Economics Consulting Group (NECG) report commissioned by the NCC and highlighted by ESCOSA, stated:

It would therefore appear that one objective of government dividend policies is to increase the gearing levels of Water GBEs [Government Business Enterprises] by repatriating equity through 'dividends' or 'special dividends', and requiring the GBE to use debt to fund the resulting capital shortfall (Network Economics Consulting Group, 2002, p 4).

It also noted, with regard to dividends exceeding revenue profits:

In effect, it could be argued that this is a form of capital restructuring by stealth. This is because that portion of the dividend sought to be extracted that exceeds revenue profits in the relevant trading period, if not funded from retained earnings must be funded by debt (Network Economics Consulting Group, 2002, p 12).

The report also stated:

Where a water business already has high gearing and a low interest cover ratio, as some do, the practice of paying 100% + of net profits as dividends could create financial risks including solvency risks (Network Economics Consulting Group, 2002, p 22).

The Government's current Dividend Policy is contained within the Government's broader Contribution Policy.

In accordance with the Contribution Policy, SA Water is to provide 55% of its free cash from operations (ie earnings before interest, tax, depreciation and amortisation (EBITDA)) less that level of capital expenditure agreed with the Treasurer as necessary to maintain the ongoing business operation of SA Water. The first call on this contribution to the Government is SA Water's tax equivalent payments (eg 30% of before tax profit), with the remainder paid to the Government as dividends.

Table 4 provides financial data on SA Water from 1998-99 to 2002-03.



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**Table 4: SA Water’s financial data**

| Ratio                              | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03# | TOTAL<br>over 5 years |
|------------------------------------|---------|---------|---------|---------|----------|-----------------------|
| Total borrowings (\$m)#            | 1122    | 1182    | 1211    | 1194    | 1229     |                       |
| Change in borrowings (\$m)#        | –       | 60      | 29      | –17     | 35       | 107                   |
| Capital spend#                     | 104     | 100     | 102     | 107     | 124      | 537                   |
| Operating profit before tax (\$m)# | 180     | 197     | 208     | 223     | 258      |                       |
| Dividend (\$m)#                    | 144     | 175     | 135     | 137     | 165      | 757                   |
| Dividend payout ratio#             | 116.4   | 123.5   | 95.5    | 84.6    | 89.7     |                       |
| Debt to total assets*              | 17.5    | 17.8    | 20.0    | 19.5    | n.a.     |                       |
| Cost recovery (revenue/expenses)*  | 193.0   | 197.3   | 190.5   | 191.5   | n.a.     |                       |
| Interest cover ratio (times)*      | 3.0     | 3.2     | 3.2     | 3.5     | 4.2      |                       |
| Current ratio*                     | 86.9    | 62.2    | 97.3    | 97.0    | n.a.     |                       |
| Cash balances (\$m)#               | 0.56    | 0.44    | 0.97    | 1.38    | 1.60     |                       |

\* Sourced from Productivity Commission’s *Financial Performance of Government Trading Enterprises, 1997-98 to 2001-02*, page 205. Productivity Commission data is based on *Government Finance Statistics*, Australian Bureau of Statistics.

n.a. not available.

# Sourced from SA Water. Annual capital spend includes payment for construction and purchase of infrastructure assets, plant and equipment and payment for investments as per statement of cashflows.

SA Water’s capital expenditure for the period 1998-99 to 2002-03, totalled \$537 million. However, its borrowings for the same period only increased by \$107 million. This indicates that SA Water’s capital expenditure was only partially financed by debt, and that either operating profits or retained earnings (or funding from levies, such as the EIP) financed the majority of the capital expenditure. Even so there were sufficient profits and cash available to pay dividends, with no necessity to increase debt to total asset levels.

The NCC has previously indicated that it considers the Corporations Law requirement that dividends be paid out of profits (including accumulated profits) to be a reasonable interpretation of the CoAG principle regarding dividends (NCC, 2003c, p 6.6). The Government has not breached this requirement and it is not the intention of the current Government to engage in any form of capital restructuring by stealth.

In response to the concern about high dividend payout ratios, Table 4 indicates that SA Water does not have a high debt to total assets ratio, nor a low interest coverage ratio. The interest cover and current ratios and the level of cash balances have improved over the period, which indicates a reduction in the risk of insolvency. Furthermore, the Productivity Commission noted that although the current ratios (which indicate the ability of a GBE to meet short-term liabilities) of most water

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businesses are below 100, the reasonably stable cash flows (as indicated by the stable cost recovery ratios) suggest that low current ratios can be sustained (Productivity Commission, 2003, p 165).

Further, as SA Water is a Government owned enterprise, it is subject to Government requirements including ministerial and Cabinet controls of its budget and capital expenditure, and has a legislative Government guarantee.

While the Government considers that the dividends paid by SA Water are consistent with commercial realities, the Government acknowledges that it would be more appropriate to develop a separate dividend policy that can be clearly identified as being consistent with commercial realities and with competitive neutrality principles.

The Government is currently reviewing its Dividend Policy for all South Australian public non-financial corporations (PNFCs), including SA Water. This review is part of the ownership structure review, which also covers capital structure and CSO policies. The Government expects to have a new Dividend Policy finalised in the second half of 2004.

Dividend estimates for the minimum revenue outcome are outlined in Chapter 7, Table 12.

### **Conclusion and Recommendation 12**

The Government considers that the level of dividends anticipated to be paid by SA Water in 2004-05 is based on commercial realities and, hence, does not contravene CoAG principles.

The Government intends to develop an appropriate, separate, Dividend Policy for inclusion, to the extent possible, in the 2005-06 Urban Water and Wastewater Pricing Transparency Statement, as proposed by ESCOSA.

#### **4.4.4 Interest cost on debt**

Interest expenses are included in the estimation of the minimum revenue outcome, consistent with the CoAG guidelines, as confirmed by ESCOSA.

#### **4.4.5 Externalities**

The estimate of externalities in the minimum revenue outcome is the same as for the maximum revenue outcome (see section 4.3.4).

#### **4.4.6 Tax equivalent regime**

Accrual tax expenses are included in the estimated minimum revenue outcome, consistent with the CoAG guidelines, as confirmed by ESCOSA.

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### 4.4.7 *Conclusion*

The CoAG guidelines are not, by design, prescriptive. As in the 2004-05 urban water pricing decision, the Government has adopted similar interpretive decisions on the detailed application of the CoAG principles for maximum and minimum revenue outcomes, taking into account SA Water's particular circumstances, more recent accounting standards and interstate regulatory determinations.

In April 2004, ESCOSA provided the Treasurer with its final report on the 2004-05 urban water pricing process. As the Government acknowledged in Part C of the Transparency Statement in response to ESCOSA's final report (tabled in both Houses of Parliament on 1 June 2004) further work is required for South Australia to fully comply with its NCP obligations. Full compliance is required by December 2004. In the limited time available, the Government has incorporated a number of ESCOSA's recommendations into the wastewater pricing methodology, particularly regarding the provision of further information on depreciation, dividends, income tax and efficient business costs.

The maximum and minimum revenue outcomes define a revenue band within which the forecast target revenue, as set by the Government's 2004-05 wastewater pricing decision, must lie.

The ownership structure of all South Australian PNFCs, including capital structures, dividends and CSO policies, is currently being reviewed. Other matters, such as the treatment of contributed assets, the estimation of an annuity-based provision for asset refurbishment/replacement and an appropriate WACC for pricing purposes, are also being investigated.

### **Conclusion and Recommendation 13**

The methodology adopted for this 2004-05 wastewater pricing decision is consistent with that previously used in the 2004-05 urban water pricing decision.

The Government considers that its methodology is generally consistent with CoAG principles for estimating the maximum and minimum revenue outcomes. However, some remaining technical issues will be addressed in the 2005-06 water and wastewater Transparency Statements.

## **5 Wastewater price setting methodology 2004-05 — Efficient resource pricing**

### **5.1 Overview**

This chapter outlines the methodology adopted by the Government for setting wastewater prices in South Australia for 2004-05 by applying efficient resource pricing principles.

The wastewater pricing structure aims to promote efficient allocation of wastewater resources by sending appropriate economic signals to customers and ensuring that the forecast target revenue lies within the outcome band described in Chapter 4.

### **5.2 Current pricing structure for wastewater services**

SA Water's current wastewater pricing structure is based on two different types of dischargers.

For a small number of large trade waste dischargers (ie less than 50), charges based on the volume and pollution load of their discharges can be justified. Charges are also incurred on the property value of the land being serviced by SA Water.

For other customers, wastewater pricing is based solely on property value.

### **5.3 Consumption based pricing**

The CoAG obligations require the adoption of pricing regimes based on the principles of consumption-based pricing. Specifically urban water services are required to adopt charging arrangements for water services:

comprising an access or connection component together with an additional component or components to reflect usage where this is cost-effective (NCC, 1998, p 104).

In setting an appropriate supply and usage charge for natural monopoly infrastructure services, the Expert Group and regulators consider that an appropriate balance is required that does not encourage customers to 'bypass' the network and does encourage the efficient use of resources.

The NCC has recently noted:

Charging on a consumption basis for wastewater services provided to households and small commercial consumers is generally not efficient (NCC, 2003b, p 14).

One reason for this view is that the volume of wastewater discharge has little impact on the cost of operating and maintaining a sewerage system. Most of the costs of providing and operating a sewerage system relate to fixed costs incurred when the system is established, irrespective of the quantity of wastewater subsequently discharged.

SA Water has estimated that for a typical household the avoidable cost imposed by the household is approximately \$25 (ie less than 10% of the average charge paid by

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households (\$383 in 2003-04)) and therefore, in the case of wastewater, relatively insignificant.

A significant issue is that the introduction of usage charges may provide an incentive for unregulated diversion of sewage away from the sewer, increasing the risk to public health and the environment. The fundamental reason for a sewerage system is to ensure public health and health regulations control the use of septic tanks and other sewerage treatment processes.

Another problem is the close correlation of the volume of wastewater discharge with the number of people in a household. Thus charges based on the volume of wastewater discharge will increase wastewater charges for large families/households, relative to other households, even though the avoidable cost is only marginally different from a single person household.

### ***5.3.1 Measuring difficulties***

Notwithstanding the issues of fixed costs versus avoidable costs, there are considerable difficulties in measuring wastewater volumes and loads, and substantial obstacles that make usage charges inappropriate for most customers.

For most customers there are no cost effective ways of measuring the volume of waste discharge to the sewer. Where usage charges have been applied elsewhere, they have been linked to water consumption, not the actual quantity of flow discharged to the sewer.

Further, the volume of discharge, even if it could be measured at a reasonable cost, provides no indication of the associated pollution load, which is more relevant than volume in assigning SA Water's avoidable cost. Pollution load cannot currently be measured cost effectively at the domestic or commercial level.

### ***5.3.2 Water consumption as a proxy***

Some jurisdictions use water consumption as a proxy for a usage charge for wastewater discharge. The Government considers that using water as a proxy for the volume of wastewater discharge creates a number of problems and issues:

- The component of metered water use that contributes to wastewater discharges (ie in-house water use) is thought to be relatively unresponsive to price compared to outside water use (SA Water, 2000, p 21).
- A reduction in the volume of in-house water use does not necessarily result in a reduction in pollutant loads and might merely result in more concentrated waste (SA Water, 2000, p 25).
- Water already has a significant usage charge associated with it. Providing another level of usage charge on water is a very indirect method of influencing the volume of wastewater and would thus reduce the transparency of the two charging regimes.
- Approximately 50% of residential water use on average does not go to the sewer but this proportion varies substantially between individual customers. Systems have been devised elsewhere to make some allowance for outside use

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but there is a significant risk that properties with considerable outside water use will pay much more relative to those with little or no outside water use.

- Excessive diversion of water from the sewerage system on a wide scale could have undesirable impacts for system operations by reducing flushing capacity (SA Water, 2000, p 25).
- Reuse initiatives could be jeopardised because dilution of other waste would be reduced, thus increasing the level of salinity in the treated water (SA Water, 2000, pp 17-24).

Therefore, apart from a small number of very large dischargers, for whom special trade waste charging arrangements are appropriate, consumption based charges are not cost effective for the vast majority of customers.

Trade waste charges are discussed in section 5.4.3.

### Conclusion and Recommendation 14

The NCC is satisfied that South Australia is appropriately addressing its CoAG and NCP obligations on consumption based pricing of wastewater services (NCC, 2003c, p 6.9).

## 5.4 Cross-subsidies

The CoAG Strategic Framework requires that cross-subsidies ideally be removed in order to promote efficient pricing. However, where cross-subsidies are retained they should be made transparent.

The NCC has stated:

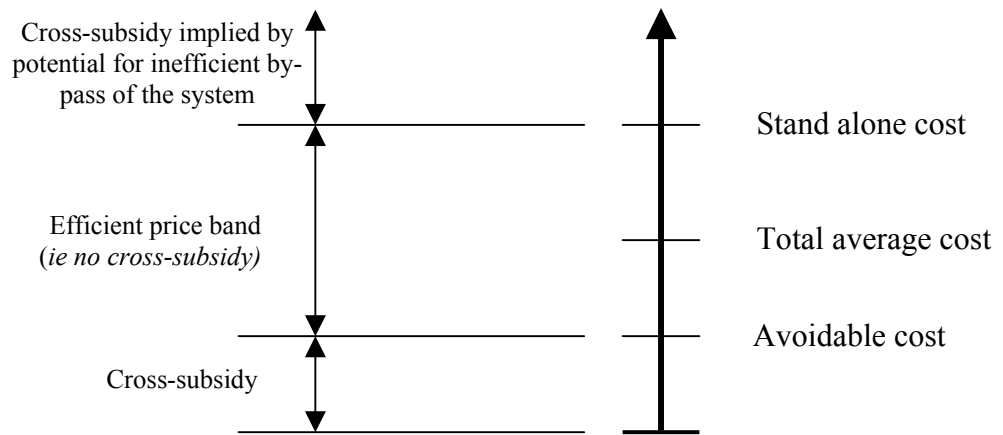
For the purposes of the framework a cross-subsidy exists where a customer pays less than long run marginal cost and this is being paid for by other customers. An economic measure which looks at cross-subsidies outside of a Baumol Band, which sets prices between incremental and stand alone cost, is consistent with the COAG objective of economically efficient water usage, pricing and investment outcomes (NCC, 1999, pp 594-5).

Figure 2 illustrates the NCC's methodology.

The tests for cross-subsidy as defined above are whether some users are paying:

- less than the avoidable costs they impose (long run marginal cost of servicing them) while others are paying more; and/or
- more than the full cost of servicing them on a 'stand alone' basis – ie with a dedicated system.

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**Figure 2: Access price**

To avoid cross-subsidies, pricing of the relevant service is required to ensure that all customers at least meet their marginal or avoidable costs (estimated to be around \$25 or less than 10% of the average charge paid by households) while the joint fixed costs are spread among the pool of customers by mechanisms (eg access charges) that take account of the benefits received or the ability to pay, provided that these charges do not exceed the stand alone cost which could promote inefficient bypassing of the system (ie rendering the existing assets surplus to requirements).

The standalone cost for a customer in an urban environment would be significant, particularly to provide a system with equivalent health and environmental standards to the wastewater system provided by SA Water. Most alternatives to the sewer system rely on households having enough area to accommodate some form of septic tank, and the associated discharge. Therefore, in a suburban environment, there are few, if any, systems that could be applied on a wide scale to provide the same health and environmental benefits as a wastewater system.

**5.4.1 Property based charges**

Historically, the sharing of the fixed costs has been achieved by the use of property based charges, which are currently the most readily available proxy for the ability of householders to pay. The Government also considers them to be the most appropriate, though there are other methods to allocate the fixed costs.

Table 5 provides information on SA Water’s revenue and the various categories of SA Water customers for 2002-03. It includes the property based charges paid by trade waste dischargers but not the usage charge based on volume and pollutant load. The table shows that the proportion of revenue that non-residential customers contribute to SA Water’s fixed costs is greater than the proportion of accounts held.

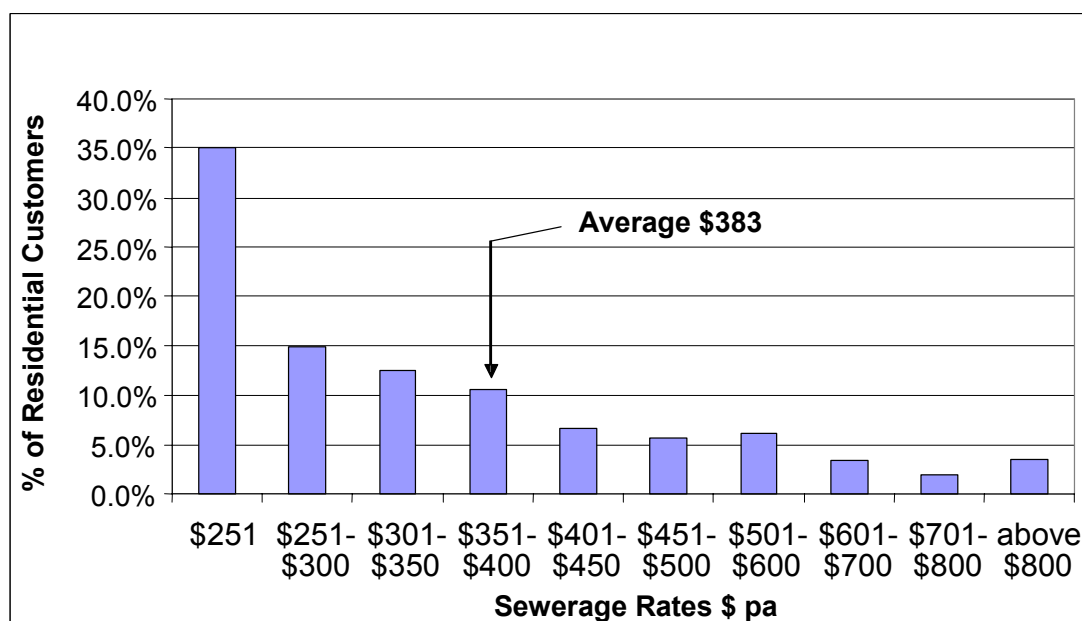
Table 5 also indicates that the average rates charge per non-residential account is significantly greater than per residential customer. However, a unit of account does not represent the volume or pollutant load of wastewater actually processed.

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**Table 5: Property based wastewater revenue by customer class 2002-03**

|                                     | Revenue      | No. of accounts | Proportion of revenue | Proportion of accounts | Rates charge per account |
|-------------------------------------|--------------|-----------------|-----------------------|------------------------|--------------------------|
|                                     | \$m          |                 | %                     | %                      | \$                       |
| <b>Residential</b>                  |              |                 |                       |                        |                          |
| Individual houses and home units    | 167.5        | 452,704         | 76.3                  | 89.7                   | 370.03                   |
| Other including flats, hostels      | 6.3          | 9,708           | 2.9                   | 1.9                    | 647.15                   |
| <b>Non-residential</b>              |              |                 |                       |                        |                          |
| Industrial                          | 3.5          | 2,515           | 1.6                   | 0.5                    | 1,381.48                 |
| Commercial including hotels, motels | 26.9         | 21,148          | 12.2                  | 4.2                    | 1,272.09                 |
| Other non-residential               | 15.4         | 18,863          | 7.0                   | 3.7                    | 818.93                   |
| <b>Total</b>                        | <b>219.6</b> | <b>504,938</b>  | <b>100</b>            | <b>100</b>             | <b>434.95</b>            |

The distribution of cost recovery from residential customers with properties classified as an individual house/duplex/home unit, based on 2003-04 rates (and hence property valuations), is provided in Figure 3.



*Note: Average calculated as total revenue divided by total number of customers*

**Figure 3: Sewerage rate distribution for residential customers 2003-04**

Figure 3 indicates that a small percentage of these residential customers are paying substantially more than the average residential customer (\$383). However, this group is still probably paying less than the standalone cost of installing their own sewerage treatment and disposal system to the appropriate health and environment standards. Additionally, a property based component in wastewater charges is considered currently the most readily available proxy for a customer’s ability to pay.



**Conclusion and Recommendation 15**

The Government considers that the current property based charges are the most appropriate on efficiency and equity grounds.

**5.4.2 Statewide pricing**

Statewide pricing is an important element of the Government's equity and social justice policy and regional policy.

The effect of this policy is that the average country (ie country township) customer's expenditure on wastewater services is intended, as far as possible, to be the same as the average Adelaide metropolitan customer's expenditure on wastewater services. This requires country customers to be charged at a higher property rate than Adelaide metropolitan customers due to the generally lower average property values in the country. Therefore, a surcharge of 26% on the property rate charged to Adelaide metropolitan customers applies to the country. Notwithstanding this surcharge, and a common minimum charge of \$251, in 2003-04 country customers, on average, paid 25% less than Adelaide metropolitan households.

Thus, a country customer's average expenditure on wastewater services provided by SA Water is less than the average expenditure on the services in metropolitan areas, even though the cost to SA Water of providing wastewater services in the country is higher, on average, than in the Adelaide metropolitan area.

Further, the Government provides SA Water with a CSO to ensure SA Water's rates of return are similar between Adelaide metropolitan and country areas. This recognises the extra costs of providing wastewater services in country areas and that the Government's statewide pricing policy places restrictions on SA Water's pricing regime.

The CSO to recognise the statewide pricing arrangements was \$10 million in 2003-04.

**Conclusion and Recommendation 16**

The Government considers that it has complied with the CoAG guidelines, in that the CSOs related to statewide pricing are transparently reported.

**5.4.3 Trade waste**

Unlike most customers whose avoidable costs are very minor, some customers have discharges to the system that do impose significant costs.

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The NCC has stated:

South Australia's fully volumetric water and wastewater pricing regimes, which are being phased in over five years from 2002-03, will achieve, by 2006-07, the CoAG objective of removing cross-subsidies that are not consistent with efficient and effective service, use and provision. The Council endorsed this transitional movement to fully volumetric pricing in previous NCP assessments (NCC 2003c, p 6.10).

It is estimated that over 7000 trade waste dischargers are contributing around 40% of the pollutant load to SA Water treatment plants and of them 48 dischargers account for over 90% of the load generated (ie 36% of the total). This distribution of pollution load confirms the appropriateness of a specific trade waste charge (based on volume and pollution load) on the highest 48 dischargers.

A broad based trade waste charge, applying to these highest dischargers, was introduced from July 2002, replacing earlier charging arrangements that applied to less than 20 major dischargers. The new charge is being phased in over five years and full charges will apply from July 2006.

The charges are being implemented as a condition of Industrial Trade Waste Discharge Permits negotiated with individual dischargers.

Key aspects of the arrangements are as follows:

- The charges *only apply to Category 3 Trade Waste Dischargers*, defined as having annual discharges that exceed any one of the following:
  - flow — 20 ML p.a.
  - biochemical oxygen demand (BOD) — 20 tonnes p.a.
  - suspended solids — 20 tonnes p.a.
- The charges are directly linked to total pollutant mass (as measured by BOD and suspended solids) and volume discharged and are based on charges in 2002-03 of:
  - flow — 3.4 cents per kL
  - BOD
    - for loading portion up to 1000 mg/L            17.8 cents per kg
    - for loading portion above 1000 mg/L        27.0 cents per kg
  - suspended solids — 20 tonnes p.a.
    - for loading portion up to 500 mg/L            16.2 cents per kg
    - for loading portion above 500 mg/L        24.0 cents per kg.
- The basic rates of these charges were determined to reflect avoidable costs imposed by trade waste discharges but include a 50% surcharge for high concentration flows.
- Property based sewerage rates continue to apply to the dischargers but a 50% discount on trade waste charges is provided to the maximum value of one-third of the property charge. This recognises that a proportion of the sewerage rate is intended to cover avoidable treatment costs imposed while at the same time providing incentive, at the margin, for dischargers to reduce trade waste discharge.

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- For existing dischargers facing increases in the trade waste charge over their previous charges, discounts are provided to manage the increases to the full application of the new charges. This discount was 80% in 2002-03, 60% in 2003-04, and will be 40% in 2004-05 and 20% in 2005-06. Full charges will apply in 2006-07.

The current transitional permits have a three-year term, which is in force until June 2005. The final step for phasing in the trade waste charge (20% transitional discount in 2005-06) and implementing the full charges (from July 2006) will occur under the permits to be negotiated for the three-year period starting July 2005.

The trade waste charges are indexed for the second and third years of the current permit and will be updated to reflect actual cost movements as part of the determination of the subsequent permits.

Full implementation of the charges for all Category 3 customers, based on predicted discharge levels, would have raised revenues of \$3.45 million in 2002-03. However, most dischargers received discounts as part of the phase-in arrangements. Two dischargers have pre-existing agreements with the Government that exempt them from payment of the new charges for the term of their agreements. A summary of the charges applied in 2002-03 is provided in Table 6.

Table 6 illustrates that some trade waste dischargers would be paying less than avoidable cost during the transition phase, for which SA Water receives a CSO. Once the transitional period is past and the discounts have been removed, most trade waste dischargers would be paying charges sufficient to cover their avoidable costs.

Nevertheless, one of the exempted companies, a large discharger, has an agreement with the Government which exempts them from the full charge until 2008.

The CSO payments are outlined in Table 7.

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**Table 6: Trade waste charges 2002-03 (Category 3 customers)**

|  | <b>Companies<br/>paying normal<br/>charges (46)</b> | <b>Exempted<br/>companies (2)</b> | <b>Total</b> |
|--|---|-----------------------------------|--------------|
|  | <b>\$m</b>  | <b>\$m</b>                        | <b>\$m</b>   |
| Property charge  | 0.59  | 0.02                              | 0.61         |
| Full trade waste charge<br>applicable (with no discount)         | 1.77  | 1.67                              | 3.45         |
| <i>Total (without discounts)</i>                                 | <i>2.36</i>   | <i>1.69</i>                       | <i>4.06</i>  |
| Discounts / exemptions   | 0.88  | 1.52                              | 2.41         |
| Trade waste charges paid (after<br>discounts / exemptions)       | 0.89  | 0.15                              | 1.04         |
| <i>Total (with discounts and<br/>including property charges)</i> | <i>1.48</i>   | <i>0.17</i>                       | <i>1.65</i>  |
| Trade waste CSO  | 1.04  | 1.67                              | 2.71         |
| Estimated avoidable cost<br>imposed by discharger                | 1.55  | 1.21                              | 2.76         |

**Table 7: Trade waste discharger CSO payments**

| <b>Trade waste dischargers</b> | <b>2002-03</b> | <b>2003-04</b> | <b>2004-05</b> | <b>2005-06</b> | <b>2006-07</b> |
|--------------------------------|----------------|----------------|----------------|----------------|----------------|
|                                | <b>\$m</b>     | <b>\$m</b>     | <b>\$m</b>     | <b>\$m</b>     | <b>\$m</b>     |
| Total                          | 2.71           | 2.61           | 2.37           | 2.15           | 1.84           |

**Conclusion and Recommendation 17**

The Government considers that consistency has been achieved with CoAG guidelines as any potential cross-subsidies arising from its wastewater pricing are addressed through trade waste agreements and CSOs (discussed in Chapter 6).

The transitional pricing arrangements shifting trade waste customers onto consumption based pricing over time is consistent with CoAG principles.

## **6 Wastewater pricing decision**

### **6.1 Overview**

The Government made its decision on 2004-05 wastewater prices by having regard to the NCP/CoAG framework and then selecting the preferred forecast revenue target, after giving due consideration to the trade-offs between economic efficiency and other policy considerations, such as equity and social justice policy, environmental policy and regional policy.

As discussed in this chapter, these other policy considerations had a significant influence on the Government's ultimate choice of where, within the maximum and minimum revenue outcomes, the 2004-05 potential revenue target would lie.

Thus, in accordance with Step 5 of the 2004-05 Wastewater Price Setting Methodology, the Government considered a number of potential revenue outcomes for the metropolitan and country water operations. These revenue estimates were then compared with the estimated maximum revenue outcomes (at 6% and 8% pre-tax real WACCs) and the minimum revenue outcome to ascertain whether or not they were within the revenue outcome band.

The Government also considered the pricing options associated with each potential revenue outcome in accordance with Step 6 of the methodology.

### **6.2 Environmental policy**

Efficient resource pricing would suggest that wastewater customers should receive a pricing signal about the environmental costs of discharging wastewater. There is a five-year transitional program in place whereby the highest 48 dischargers would meet the full cost of trade waste services by July 2006. Identifying and measuring all volume and pollutant load is difficult for other customers (eg residential and commercial customers). Ultimately, all wastewater is fully processed to acceptable standards. Processing costs are met by a combination of customer and Government funding (via CSOs).

### **6.3 Equity and social justice policy**

One of the most important considerations for the Government in setting 2004-05 wastewater prices is the extent to which all wastewater customers are capable of paying increased prices for the essential service of wastewater. These equity and social justice issues are vital and were at the forefront of the Government's 2004-05 wastewater pricing considerations.

The costs of other essential services have increased substantially and the Government does not want to unduly burden wastewater customers with price increases unless absolutely necessary.

## 6.4 Community service obligations

According to the CoAG Strategic Framework, CSOs are to be paid to the service provider where they are required to provide services to customers at less than full cost. The treatment of CSOs is also required to be transparently reported.

The Government considers that a CSO arises when a government specifically requires a public enterprise to carry out activities relating to outputs or inputs which the public enterprise would not elect to do on a commercial basis, and which a government does not require other operations in the public or private sectors to generally undertake or which a business would only do commercially at higher prices.

The categories of CSOs funded by the Government for wastewater activities, are:

- service charge exemptions
- trade waste
- country grants — pre-1999 assets (statewide pricing)
- post-1999 assets (new country investments).

Each category of CSO is addressed separately below. Some subsidies are also paid to SA Water. The CSO and subsidy payments for wastewater activities are reported in Chapter 7, Table 13.

### 6.4.1 *Service charge exemptions*

SA Water receives a CSO payment for providing service charge exemptions to certain customers, such as places of worship, charitable organisations and sporting clubs. The figure is an estimate of forgone payments, carried forward over time. Service charge exemptions total \$8.5 million per annum for water and wastewater.

### 6.4.2 *Tradewaste*

The CSO payments associated with the trade waste discharge are discussed in section 5.4.3. Table 7 outlines the value of the CSO.

### 6.4.3 *Statewide pricing and associated CSOs*

The Government's statewide pricing policy means that wastewater services are provided to some country locations at less than full cost.

It is the Government's view that statewide pricing delivers significant economic benefit to regional locations. It is an important element of the Government's regional policy, with further implications for equity and social justice policy.

Country grants are effectively a subsidy paid to SA Water for its non-metropolitan infrastructure assets. The CSOs are intended to equalise the rate of return on non-metropolitan assets to that of metropolitan assets and are funded where regional customers are paying less than the full cost of services.

The CSO for statewide pricing is provided in two ways.

Firstly, the statewide pricing CSO payments are based on a 1999 review in which all

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SA Water's existing non-metropolitan pre-1999 assets were valued according to 1997-98 values and a return on assets approach was used to calculate the CSO payments.

Secondly, the new investments CSO relates to non-commercial country infrastructure investments by SA Water after 1999.

### **6.4.4 Total CSO payments to SA Water**

SA Water's CSO obligations are funded separately and directly from the South Australian Government Budget. They are reported transparently in SA Water's Charter and the CSO payment to SA Water is disclosed in SA Water's Annual Report. Parliament is therefore advised of SA Water's CSO funding.

The relevant assets are incorporated into SA Water's asset base, which is adjusted as appropriate. Accordingly, CSO payments are included in the forecast target revenue for the 2004-05 wastewater pricing decision.

The CSO payments to SA Water for wastewater services for 2002-03, 2003-04 and 2004-05 are provided in Chapter 7, Table 13.

### **6.4.5 Review of CSO policy**

The Government, as part of its review of ownership structure for PNFCs, is currently reviewing its CSO policy. The review aims to adopt explicit guidelines for identifying, costing and funding CSOs in the future. The objective of the CSO policy review is to create a whole of government policy, with guidelines on how CSOs should be determined, priced and administered.

## **Conclusion and Recommendation 18**

The Government considers that it has complied with CoAG guidelines on CSOs in that they are transparently reported and funded from consolidated revenue.

In its consideration of 2004-05 wastewater prices, the Government resolved to maintain its existing regional policy. Accordingly, the CSO amounts for statewide pricing will continue to be administered and reported in the current manner, pending the outcome of the review of CSO policy.

## **6.5 The Government's 2004-05 wastewater pricing decision**

On 15 June 2004, the Government considered a number of options outlined in a Cabinet Submission presented by the Minister for Administrative Services, as the Minister responsible for SA Water.

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The submission was consistent with the methodology approved by the Government on 29 March 2004 and based on CoAG principles.

As part of the Government’s deliberations, relevant departments and agencies were consulted: DWLBC, Department of Human Services, Department of Treasury and Finance, Department of the Premier and Cabinet, Department for Business, Manufacturing and Trade, Department for Environment and Heritage, and Office for Regional Development.

The Government approved a 3.8% average increase in annual wastewater charges to apply to SA Water customers in 2004-05.

The resultant forecast target revenue (real) is considered to be consistent with the CoAG principles of avoiding monopoly profits and ensuring the ongoing financial viability of SA Water, as it was considered to be within the band of the maximum revenue outcomes (8% pre-tax real WACC) and the minimum revenue outcome. Revenue estimates and further discussion on the estimated forecast target revenue outcome are included in Chapter 7.

The approved increase in charges will result in a slight increase in 2004-05 wastewater revenue for SA Water over the estimate in the 2004-05 Budget.

The impact of the increase on the wastewater pricing structure is outlined in Table 8.

**Table 8: Comparison of the wastewater pricing structure**

| Description         | 2003-04    |              | 2004-05   |              |
|---------------------|------------|--------------|-----------|--------------|
|                     | *Rates (%) | Min (\$p.a.) | Rates (%) | Min (\$p.a.) |
| <b>Metropolitan</b> |            |              |           |              |
| Residential         | 0.1890     | 251          | 0.1574    | 261          |
| Non-residential     | 0.2110     | 251          | 0.1918    | 261          |
| <b>Country</b>      |            |              |           |              |
| Residential         | 0.2380     | 251          | 0.1998    | 261          |
| Non-residential     | 0.2660     | 251          | 0.2389    | 261          |

*\*Rates are the rate scale (or rate in the dollar) applied to property values to determine customers’ wastewater charges.*

*Note: Although property rates have fallen, property values have increased over the period.*

Country customers are charged at higher rates than Adelaide metropolitan customers (Table 8) with the intention that, as far as possible, country customers’ expenditure on their wastewater is the same as Adelaide metropolitan customers.

The higher country scales are a reflection of the lower average property values in country areas. Over time the average country customer’s expenditure on wastewater



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has decreased relative to Adelaide metropolitan customers. Cabinet has approved the removal of some of this discrepancy in 2004-05 in accordance with the Government's statewide pricing policies. More detailed discussion on the Government's statewide pricing policy is provided in section 5.4.2.

This realignment results in an average increase in charges of 4.8% for country regions and 3.7% for the Adelaide metropolitan region. Households in country regions currently paying above the minimum will see an actual increase of closer to 5.5% on average, as illustrated in Table 9.

The increase of 4% in the minimum charge from \$251 to \$261 per annum will affect 32% of metropolitan residential customers and 60% of country residential customers.

**Table 9: Wastewater charges for average residential property**

|              | Average<br>property value<br>(2003-04) | Charge<br>(2003-04) | Charge<br>(2004-05) | Change | Change |
|--------------|--|---------------------|---------------------|--------|--------|
|              | \$                                     | \$                  | \$                  | \$     | %      |
| Metropolitan | 199,000                                | 377                 | 391                 | 14     | 3.7    |
| Country      | 119,300                                | 284                 | 300                 | 16     | 5.5    |

For a household in an average valued property the wastewater charge will increase by approximately \$14 for metropolitan and \$16 for country regions (Table 9). The average charge to residential customers (ie total revenue divided by total number of customers) will increase from \$383 to \$398.

### Conclusion and Recommendation 19

The Government considers that the forecast target revenue is consistent with the CoAG principles of avoiding monopoly profits and ensuring the ongoing financial viability of SA Water, being within the band of the maximum and minimum revenue outcomes.

The Government's approach to 2004-05 wastewater pricing decision was influenced by equity and social justice policy and regional policy.

## **7 Financial analysis relevant to the 2004-05 wastewater pricing decision**

### **7.1 Introduction**

This chapter outlines some of the financial analysis that the Government reviewed in making its 2004-05 wastewater pricing decision and includes some up to date financial information. The chapter includes:

- Table 10: Adjusted infrastructure asset base (nominal)
- Table 11: Asset base (real)
- Table 12, Figure 4 and Figure 5: Comparison of revenue outcomes for SA Water — 2002-03 to 2006-07 (in real terms)
- Table 13: Estimated CSO payments to SA Water for wastewater services
- Table 14: Summary of estimated SA Water capital expenditure (in nominal terms)
- Table 15: Profits and distributions to the Government for SA Water and wastewater segment as at 2004-05 Budget (in nominal terms)
- Table 16: Summary of financial ratios for SA Water — 2003-04 and 2004-05.

Table 10, Table 11, Table 12, Figure 4 and Figure 5 include forecasts provided for the 2004-05 wastewater pricing decision. Table 13, Table 14, Table 15 and Table 16 are based on the final 2004-05 Budget. This information was not provided to the Government in the 2004-05 wastewater pricing decision, as it had already been provided as part of the budget process.

### **7.2 Maximum and minimum revenue outcomes**

The Government's methodology and the CoAG principles for setting wastewater prices require the calculation of a forecast target revenue below the estimated maximum revenue outcomes and above the estimated minimum revenue outcome (see Sections 4.3 and 4.4).

#### **7.2.1 Asset base**

Table 10 illustrates the approach adopted to calculate the estimated optimised asset base for total assets and wastewater assets. The opening balance for 1 July 2003 is based on the actual 30 June 2003 closing balance as reported in SA Water's 2003 Annual Report (SA Water, 2003, p 65). The information provided in Table 10 is based on nominal figures.

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**Table 10: Adjusted infrastructure asset base (in nominal terms)**

| <b>Year</b>              | <b>Opening balance<br/>(\$'000)</b> | <b>Additions*<br/>(\$'000)</b> | <b>Inflation#<br/>adjustment<br/>(\$'000)</b> | <b>Depreciation<br/>(\$'000)</b> | <b>Closing balance<br/>(\$'000)</b> |
|--------------------------|-------------------------------------|--------------------------------|---|----------------------------------|-------------------------------------|
| <b>Total assets</b>      |                                     |                                |   |                                  |                                     |
| 2003-04                  | 6,400,760                           | 251,165                        | 76,809  | -112,000                         | 6,616,734                           |
| 2004-05                  | 6,616,734                           | 165,478                        | 79,401  | -118,314                         | 6,743,300                           |
| <b>Wastewater assets</b> |                                     |                                |   |                                  |                                     |
| 2003-04                  | 2,350,836                           | 126,894                        | 28,210  | -36,428                          | 2,469,511                           |
| 2004-05                  | 2,469,511                           | 64,078                         | 29,634  | -38,481                          | 2,524,742                           |

\* These figures include expenditure on contributed assets (wastewater) of \$38.6 million (\$21.1 million) and \$47.9 million (\$22.7 million) respectively in 2003-04 and 2004-05.

# The inflation rate used was 1.2%, based on SA Water's general cost index, and is only applied against opening balance.

The resulting average asset base in real terms is presented in Table 11. To convert the nominal figures used in Table 10 to real figures for Table 11 it was assumed that the asset base is subject to an inflation rate of 1.2%. The average real asset figure (ie the asset base) is used to estimate the maximum revenue outcome.

**Table 11: Asset base (in real terms)**

| <b>Year</b>              | <b>Closing balance<br/>(nominal)<br/>(\$'000)</b> | <b>Closing balance<br/>(real)<br/>(\$'000)</b> | <b>Average real<br/>assets<br/>(\$'000)</b> |
|--------------------------|---|--|---|
| <b>Total assets</b>      |   |  |   |
| 2001-02                  | 6,038,878*  | 6,184,681                                      |   |
| 2002-03                  | 6,400,760*  | 6,477,569                                      | 6,331,125                                   |
| 2003-04                  | 6,616,734   | 6,616,734                                      | 6,547,152                                   |
| 2004-05                  | 6,743,300   | 6,663,340                                      | 6,640,037                                   |
| <b>Wastewater assets</b> |   |  |   |
| 2001-02                  | 2,217,926   | 2,271,475                                      |   |
| 2002-03                  | 2,350,836   | 2,379,046                                      | 2,325,260                                   |
| 2003-04                  | 2,469,511   | 2,469,511                                      | 2,424,278                                   |
| 2004-05                  | 2,524,742   | 2,494,805                                      | 2,482,158                                   |

\* Actual figures from SA Water's 2001-02 and 2002-03 Annual Reports

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**7.2.2 Revenue outcomes**

Table 12 displays the components of the estimated maximum revenue outcomes and the minimum revenue outcome and compares them with forecast target revenue. Forecast target revenue reflects the Government’s 2004-05 wastewater pricing decision of a 3.8% average increase in annual wastewater charges.

**Table 12: Comparison of revenue outcomes for SA Water — 2002-03 to 2004-05 (in real terms)**

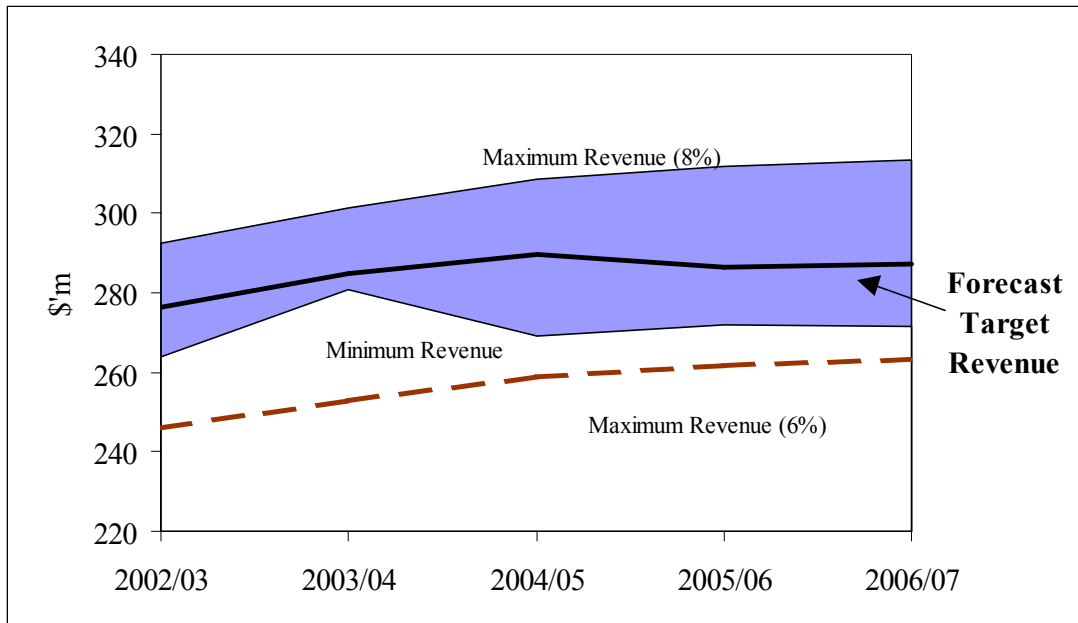
| Outcome  | Total assets   |                |                | Wastewater assets |                |                |
|--|----------------|----------------|----------------|-------------------|----------------|----------------|
|  | 2002-03        | 2003-04        | 2004-05        | 2002-03           | 2003-04        | 2004-05        |
|  | (\$'000)       | (\$'000)       | (\$'000)       | (\$'000)          | (\$'000)       | (\$'000)       |
| <i>Minimum revenue outcome</i>                         |                |                |                |                   |                |                |
| Operating expenditure                                  | 224,685        | 216,019        | 220,016        | 69,852            | 71,032         | 72,675         |
| Depreciation   | 113,080        | 112,000        | 115,428        | 36,779            | 36,428         | 37,543         |
| Interest   | 85,021         | 83,818         | 87,598         | 26,188            | 25,329         | 26,521         |
| Income tax allocation                                  | 76,089         | 76,661         | 77,875         | 40,680            | 44,390         | 43,551         |
| Dividend allocation                                    | 168,966        | 179,035        | 159,176        | 90,335            | 103,668        | 89,018         |
| <b>Minimum revenue outcome</b>                         | <b>667,841</b> | <b>667,532</b> | <b>660,094</b> | <b>263,833</b>    | <b>280,847</b> | <b>269,307</b> |
| <i>Maximum revenue outcome</i>                         |                |                |                |                   |                |                |
| Operating expenditure                                  | 224,685        | 216,019        | 220,016        | 69,852            | 71,032         | 72,675         |
| Depreciation   | 113,080        | 112,000        | 115,428        | 36,779            | 36,428         | 37,543         |
| Return on assets base                                  | 379,867        | 392,829        | 398,402        | 139,516           | 145,457        | 148,929        |
| <b>Maximum revenue (6% WACC)</b>                       | <b>717,633</b> | <b>720,848</b> | <b>733,847</b> | <b>246,146</b>    | <b>252,916</b> | <b>259,147</b> |
| Operating expenditure                                  | 224,685        | 216,019        | 220,016        | 69,852            | 71,032         | 72,675         |
| Depreciation   | 113,080        | 112,000        | 115,428        | 36,779            | 36,428         | 37,543         |
| Return on assets base                                  | 506,490        | 523,772        | 531,203        | 186,021           | 193,942        | 198,573        |
| <b>Maximum revenue (8% WACC)</b>                       | <b>844,255</b> | <b>851,791</b> | <b>866,647</b> | <b>292,652</b>    | <b>301,402</b> | <b>308,790</b> |
| <i>Forecast target revenue outcome</i>                 |                |                |                |                   |                |                |
| <b>Forecast target revenue: ie Government decision</b> | <b>691,461</b> | <b>674,361</b> | <b>694,416</b> | <b>276,461</b>    | <b>284,801</b> | <b>289,798</b> |

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The forecast target revenue lies between the maximum revenue outcome (pre-tax real WACC of 8%) and the minimum revenue outcome (Table 12).

Figure 4 and Figure 5 provide an illustrated comparison for 2002-03 to 2006-07 of maximum and minimum revenue outcomes against SA Water's forecast target revenue, for SA Water's wastewater operations and the total business, respectively.

SA Water has provided estimates for 2005-06 and 2006-07 to show the estimated long term effects of the price increase for 2004-05.



**Figure 4: Comparison of wastewater revenue outcomes for SA Water— 2002-03 to 2006-07 (in real terms)**

Figure 4 highlights two issues:

- the maximum revenue outcome using a 6% pre tax real WACC is less than the minimum revenue outcome
- the minimum revenue outcome shows a significant spike in 2003-04.

With regard to the first issue, SA Water is earning significantly higher rates of return on its wastewater operations than on its water operations (using the present allocation methodology). Nevertheless, SA Water's forecast target revenue of the total business lies below their respective maximum revenue outcomes using a 6% pre tax real WACC.

The 2003-04 minimum revenue outcome for wastewater spiked because dividends were allocated to the water and wastewater operations on the basis of operating profit and the profitability of these two operations diverged in 2003-04 and because total dividends increased in 2003-04.

## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

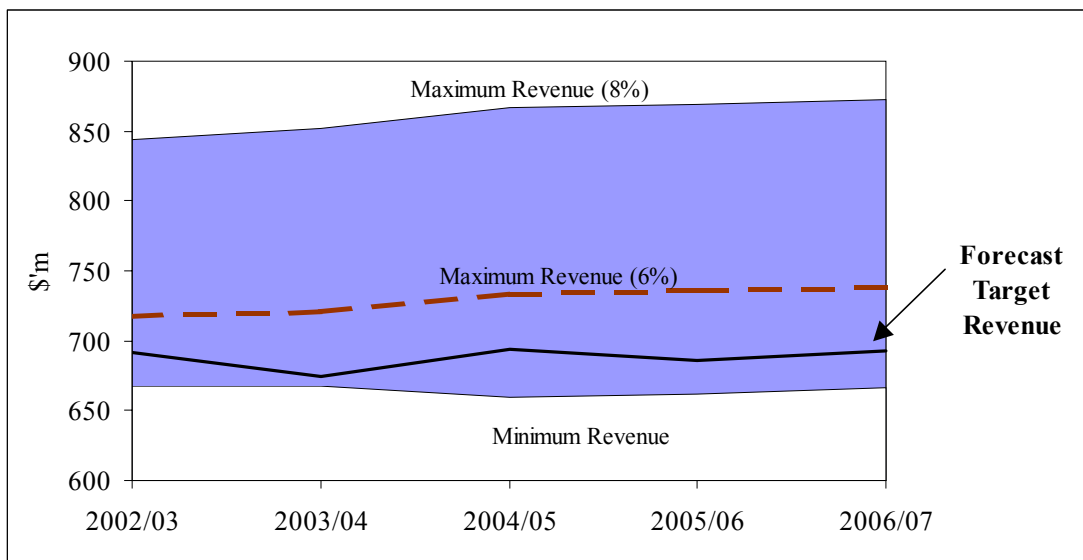
The divergence in operating profit between the two operations is due to:

- reduced water sales in 2003-04, due to the weather and water conservation measures, resulted in a (real) decline in the profitability of water operations
- an increase in the wastewater rate revenue and CSO payment for country wastewater operations, combined with a relatively small increase in the operating expenditure of the wastewater operations, resulted in a (real) improvement in the profitability of the wastewater operations.

The dividends paid to the Government increased in real terms in 2003-04, primarily due to a one-off special dividend of \$10 million, which was accrued in 2003-04<sup>5</sup>.

Figure 4 also illustrates that for the 2004-05 wastewater forecast target revenue to match the:

- wastewater maximum revenue outcome (8% WACC), SA Water would require an increase in real charges of 9.4% (or 12.2% in nominal terms)
- wastewater minimum revenue outcome SA Water would require a decrease in real charges of 7.5% (or 5.2% in nominal terms).



**Figure 5: Comparison of total revenue outcomes for SA Water— 2002-03 to 2006-07 (in real terms)**

Figure 5 highlights a reduction in total forecast target revenue in 2003-04 when water restrictions saw a reduction in water sales revenue of water operations. It also shows that, as required by the CoAG principles, SA Water’s forecast target revenue is between the minimum and maximum revenue outcomes.

<sup>5</sup> The special dividend arises from the pass-through of certain benefits provided by Riverland Water to SA Water in lieu of economic development obligations contained in its contract with SA Water for the construction and operation of water treatment plants.

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### 7.3 Community service obligations

The estimated CSOs and subsidies to SA Water for 2002-03 to 2004-05 for wastewater are provided in Table 13. The various CSOs are explained further in Chapter 6.

**Table 13: Estimated CSO payments and subsidies to SA Water for wastewater services**

| <b>CSO payments (in nominal terms)</b> | <b>Relevant agency</b> | <b>2002-03<br/>(\$m)</b> | <b>2003-04<br/>(\$m)</b> | <b>2004-05<br/>(\$m)</b> |
|--|------------------------|--------------------------|--------------------------|--------------------------|
| Service charge exemptions              | Human Services         | 5.7                      | 5.7                      | 5.7                      |
| Trade waste                            | DTED                   | 2.7                      | 2.6                      | 2.4                      |
| Statewide pricing/country operations   | PIRSA                  | 9.4                      | 9.4                      | 9.4                      |
| New country investments                | PIRSA                  | 0.7                      | 6.2                      | 7.4                      |
| <b>Total CSO (wastewater) payments</b> |                        | <b>18.5</b>              | <b>23.9</b>              | <b>24.9</b>              |

### 7.4 Capital expenditure

SA Water's estimated capital expenditure for 2004-05, in nominal terms, is presented in Table 14. The estimates are provided for SA Water as a whole and therefore include capital expenditure for the water and wastewater operations.

These estimates illustrate the Government's programs in the wine producing areas to Adelaide's north, improvements to the infrastructure assets in both metropolitan and regional areas, and the heightened awareness of security for major infrastructure due to Australian and international factors.

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**Table 14: Summary of SA Water’s estimated capital expenditure (in nominal terms)**

| <b>SA Water</b>  | <b>2004-05</b> | <b>Total</b>  |
|--|----------------|---------------|
|  | <b>\$’000</b>  | <b>\$’000</b> |
| <b>New works</b>   |                |               |
| <b>CSIS</b><br>Completion due 2007-08. Major upgrade of SA Water’s computerised customer information and billing system  | 300            | 19,300        |
| <b>Hindmarsh Valley dam safety</b><br>Rehabilitation work on the Hindmarsh Valley Reservoir to meet Australian National Committee Standards on Large Dams  | 3,189          | 3,836         |
| <b>Torrens system upgrade</b><br>Replace open channel aqueduct with a pipe system to transport water from the Torrens Gorge weir to Hope Valley reservoir  | 2,191          | 7,213         |
| <b>Works in progress</b>   |                |               |
| <b>Ancillary works Victor Harbor WWTP EIP</b><br>Completion due April 2005. Replacement of existing plant on a site remote from Victor Harbor with improved levels of treatment to reduce the level of nutrients discharged to the environment. The total project (\$32.6 million) includes ancillary works by SA Water of \$8.6 million and is partly delivered through a private sector provision arrangement. | 320            | 8,600         |
| <b>Whyalla EIP</b><br>New WWTP to be built in Whyalla to satisfy EPA requirements for nitrogen discharge into Spencer Gulf, through partial reuse of treated wastewater  | 11,084         | 14,360        |
| <b>Clare Valley water supply scheme</b><br>Provision of bulk water to the Clare Valley for agricultural use and a new reticulated supply to five townships   | 2,713          | 34,800        |
| <b>Meter replacement Stage 2</b><br>Second stage of the purchase and installation of 125,000 new meters and 14,000 additional meters to accommodate new services.  | 4,688          | 11,624        |
| <b>Bolivar high salinity</b><br>Transfer of wastewater to new treatment facilities at Bolivar WWTP to reduce discharge of nutrients to the marine environment  | 9,962          | 97,144        |
| <b>Eyre Peninsula water supply upgrade</b><br>Construction of a water desalination plant at Tod Reservoir to augment the Eyre Region water supply  | 5,212          | 25,200        |
| Other projects/programs for 2004-05 (approximately 350 individual projects, not separately reported)   | 90,521         |               |
| <b>Total SA Water</b>  | <b>130,180</b> |               |

*Source: SA 2004-05 Budget — Capital Investment Statement, page 43*



## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

### 7.5 Profit and its distribution

The estimated profits and their distribution for SA Water as a whole for the years 2003-04 and 2004-05 are provided in Table 15.

**Table 15: Profits and distributions to the Government for SA Water and wastewater segment as at 2004-05 Budget (in nominal terms)**

| Item                              | SA Water |          | Wastewater segment* |          |
|-----------------------------------|----------|----------|---------------------|----------|
|                                   | 2003-04  | 2004-05  | 2003-04             | 2004-05  |
|                                   | (\$'000) | (\$'000) | (\$'000)            | (\$'000) |
| <b>EBITDA #</b>                   | 443,832  | 478,679  | 200,430             | 215,518  |
| <b>Profit after tax</b>           | 172,204  | 190,598  | 94,377              | 102,804  |
| <b>Retained earnings</b>          | 115,706  | 143,085  | 65,757              | 80,295   |
| <b>Contribution to Government</b> | 255,796  | 243,125  | 145,372             | 136,434  |
| <b>Dividend</b>                   | 183,873  | 163,219  | 104,497             | 91,593   |
| <b>Income tax expense</b>         | 71,923   | 79,906   | 40,875              | 44,841   |

\* Based on SA Water allocation of revenue and expenditure by business segments

# Earnings before interest, tax, depreciation and amortisation

SA Water's contribution to the Government in 2003-04, which includes dividends and income tax expense, is higher than the contribution in 2004-05 due to a one-off accrued special dividend (see section 7.2.2).

The Actual dividends and income tax expense in 2003-04 are expected to be different from the Budget figures and will be reported in the 2005-06 Transparency Statement.

The estimated income tax expense is consistent with the Government's Policy on Competitive Neutrality.

### 7.6 Profitability and ongoing financial viability

Financial indicators of SA Water's ongoing financial viability, such as indicators of profitability and financial management, are provided in Table 16. They are consistent with the Productivity Commission's definitions of financial performance indicators.

**TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

**Table 16: Summary of financial ratios for SA Water — 2003-04 and 2004-05**

| <b>Financial ratios</b>                                  | <b>2003-04</b> | <b>2004-05</b> |
|--|----------------|----------------|
| <b>Profitability</b>                                     |                |                |
| Return on assets (EBIT/avg total asset)                  | 5.0%           | 5.3%           |
| Return on equity (ops profit after tax/avg total equity) | 3.3%           | 3.6%           |
| <b>Financial management</b>                              |                |                |
| Interest cover times (EBIT/gross interest expense)       | 3.8            | 4.0            |
| Debt to equity (total borrowings/total equity)           | 25%            | 26%            |
| Dividend payout ratio (dividend/ ops profit after tax)   | 107%           | 86%            |

These financial indicators demonstrate improved profitability and a strong interest cover ratio. Additionally, the dividend payout ratio is declining and there is a low debt to equity ratio.

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## **Appendices**

**TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

**Appendix 1: Processes to set 2004-05 wastewater prices and develop/approve Transparency Statement<sup>6</sup>**

| <b>Week Commencing</b> | <b>Milestone (Key milestones bolded)</b>  |
|------------------------|---|
| 8/3/04                 | <b>Methodology Cabinet submission to Minister (12/3/04).</b>  |
| 15/3/04                | Minister forwards Methodology submission to Cabinet (18/3/04).<br>Draft Cabinet submission for pricing decision to agencies for comment. (19/3/04)  |
| 22/3/04                |   |
| 29/3/04                | <b>Cabinet endorses the methodology for setting sewerage prices for 2004/05.</b><br><br>Cabinet also endorses the processes for preparing a Transparency Statement via a parallel Treasury and Finance submission.<br>Cabinet submission seeking price decision to Minister (2/4/04). |
| 5/4/04                 | <b>Minister forwards submission seeking price decision to Cabinet (8/4/04).</b>   |
| 12/4/04                |   |
| 19/4/04                | <b>Cabinet considers 2004/05 Sewerage Pricing submission – approves level and structure of structure of sewerage rates to be subsequently implemented by Minister</b> (when sufficient 04/05 property valuation data is available).   |
| 26/4/04                |   |
| 3/5/04                 |   |
| 10/5/04                |   |
| 17/5/04                |   |
| 24/5/04                | <b>Minister approves sewerage rates consistent with Cabinet pricing decision. Rates released as part of Budget announcements*</b>   |
| 31/5/04                | Treasury and Finance work on finalising Transparency Statement commences  |
|                        |   |

\* The timeframes foreshadowed in this schedule are superseded. The Government considered the sewerage pricing submission in mid June. The above schedule foreshadowed approval and release of the actual property rates in the week commencing 24/5/04. However, property valuation data was not available at that

<sup>6</sup>

## **TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

stage. The actual rate in the dollar to be applied to property values was published in the Government Gazette in the last week in June, consistent with previous practice (ie when there is greater certainty about final 04/05 property valuations for the total customer base).

## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

### Appendix 2: Comparison of current wastewater price setting practices with CoAG principles and NCC assessments

In February 1994, CoAG endorsed the *CoAG Strategic Framework* for the efficient and sustainable reform of the Australian water industry, and agreed to its implementation over a five to seven year period. The CoAG Strategic Framework relating to water resource policy is incorporated into the Compendium of National Competition Policy Agreements (ie the Water Resource Policy). On 10 February 1997, the Prime Minister wrote to all Heads of Government agreeing to extend the CoAG water reform framework to include ground and storm/waste water (NCC 1997 (Compendium), pg 110).

In general Clause 3 (a)) of the NCP Agreements requires:

“... adoption of pricing regimes based on the principles of **consumption based pricing, full cost recovery** and desirably the removal of **cross-subsidies** which are not consistent with efficient and effective service, use and provision. Where cross-subsidies continue to exist, they be made transparent...that where service deliveries are required to provide water services to classes of customer at less than full cost, the cost of this be fully disclosed and ideally be paid to the service deliverer as a **community service obligation (CSO)** “.

Other relevant clauses of the CoAG Strategic Framework are outlined in the first column of the table below. Column two provides the NCC's interpretation of the 1994 CoAG Strategic Framework for water reform as detailed in its 2001 NCP Assessment of South Australian Water Reform. Column three provides the current practices of SA Water and comments from the NCC's 2003 assessment are included in column four.



**TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

| <b>CoAG (1)</b>  | <b>NCC Interpretation (1)</b>  | <b>SA Pricing Practices - Wastewater</b>  | <b>NCC Assessment (2003)</b>  |
|--|--|---|---|
| <p><b>Urban Water Pricing (Clause 3 (b))</b><br/>                     "...adoption by no later than 1998 of charging arrangements for water services comprising an access or connection component together with an additional component or components to reflect usage where this is cost-effective;"</p> <p>Expert group to report on asset valuation methods and cost-recovery definitions</p> <p>"That supplying organisations, where they are publicly owned, aiming to earn a real rate of return on the written down replacement cost of their assets, commensurate with the equity arrangements of their public ownership;"</p> | <p><i>Consumption Based Pricing</i></p> <p>Two part tariffs (comprising a fixed access component and a volumetric cost component) where cost-effective.<br/>                     Charges based on property values do not necessarily reflect cost of services.</p> | <p><i>Consumption Based Pricing</i></p> <p>Cabinet approves SA Water prices on the recommendation of the responsible Minister. Legislation requires that prices be gazetted by 31 July each year.</p> <p>Sewerage charges for most customers have a single charge based on property values. A minimum charge of \$251 generally applies.</p> <p>The policy of statewide pricing, supported by CSOs, ensures that country customers pay no more on average than metropolitan customers. A differential property rate applies between metropolitan and country customers to compensate for the lower property values, on average, in the country.</p> <p>Major trade waste discharges</p> | <p><i>Consumption Based Pricing</i></p> <p>"The Council is satisfied that South Australia is appropriately addressing consumption-based pricing obligations relating to water and wastewater services."</p> |

**TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

| <b>CoAG (1)</b>  | <b>NCC Interpretation (1)</b>   | <b>SA Pricing Practices - Wastewater</b>   | <b>NCC Assessment (2003)</b>   |
|--|---|--|--|
| <p><b>Guidelines for the Application of Clause 3 and Expert Group Recommendations (2)</b></p> <ol style="list-style-type: none"> <li>1. “Prices will be set by a nominated jurisdictional regulator (or equivalent) who, in examining full cost recovery as an input to price determination, should have regard to the principles set out below.</li> <li>2. The deprival value methodology should be used for asset valuation unless specific circumstances justify another method.</li> <li>3. An annuity approach should be used to determine the medium to long term cash requirements for asset replacement/refurbishment where it is desired that the service delivery capacity be maintained.</li> <li>4. To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or TERs (tax equivalent regime), provision for the cost of asset consumption and cost of capital, the latter being calculated using a WACC.</li> </ol> | <p align="center"><i>Full Cost Recovery</i></p> <p>Jurisdictions will need to demonstrate that... providers are recovering costs consistent with the agreed guidelines and CoAG commitments.</p> <p>Vertically integrated operators should ensure processes are in place to establish the contribution to total cost of major functional areas such as headworks, bulk water, reticulation and retail</p> | <p>face a two-part charge. The fixed component is based on property rates and a variable component is based on avoidable costs of that customer. Currently pricing arrangements are in transition; as such discounts apply to trade waste customers until 2006-07.</p> <p>Trade waste charges are not included in the current pricing review, given the current, 3 year, permits continue until 2005-06.</p> <p align="center"><i>Full Cost Recovery</i></p> <p>SA Water uses Fair Value method to value assets, which is subject to independent triennial review. The Fair Value method is considered equivalent to Deprival Value.</p> <p>A review of the weighted average cost of capital (WACC) was undertaken in 2001-02 by Leadenhall Australia.</p> | <p align="center"><i>Full Cost Recovery</i></p> <p>An important element of CoAG principles is requirement that prices be set to achieve an appropriate revenue target based on efficient resource and business costs. Elements that determine the revenue target and the target’s connection with prices should be made clear.</p> |

**TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

| <b>CoAG (1)</b>  | <b>NCC Interpretation (1)</b>   | <b>SA Pricing Practices - Wastewater</b>   | <b>NCC Assessment (2003)</b>  |
|--|---|--|---|
| <p>5. To be viable, a water business should recover, at least the operational, maintenance and administrative costs, externalities, taxes or TERs (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement (as noted in (3) above). Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome.</p> <p>6. In applying (4) and (5) above, economic regulators (or equivalent) should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific arrangements may justify transition arrangements to that level.</p> <p>7. In determining prices, transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, and tax equivalent regimes.”</p> | <p>services.<br/>Information on methodologies for asset valuation and provision for asset consumption as well as information on the treatment of taxes and tax-equivalent regimes (TERs), externalities, dividends and return on capital.</p> | <p>Performance Statement agreed by the Minister and Treasurer requires a target return on investment of 6 %.</p> | <p>NCC considers that economic regulation of SA Water by ESCOSA is the preferred approach.</p> <p>NCC considers that SA has not demonstrated compliance with CoAG pricing principles.</p> <p>SA Government’s commitment to produce annual transparency statements on water and wastewater pricing and the proposed terms of reference are sufficient for the 2003 Assessment.</p> <p>Transparency Statement should provide evidence that pricing satisfies CoAG principles. ESCOSA should have full opportunity to comment. ESCOSA’s report should be included in the published Transparency Statement.</p> |

**TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

| <b>CoAG (1)</b> | <b>NCC Interpretation (1)</b>   | <b>SA Pricing Practices - Wastewater</b>   | <b>NCC Assessment (2003)</b>  |
|-----------------|---|--|---|
|                 | <p><i>Externalities</i><br/>Council will consider a proxy for environmental externalities as the costs of mitigating environmental problems.</p> <p><i>Cross-subsidies/CSOs</i><br/>The objectives and size of all cross subsidies should be identified and transparently reported.<br/>Cross-subsidies should ideally be removed or replaced with a transparent CSO.<br/>CSOs should be clearly defined,</p> | <p><i>Externalities</i><br/>Whilst not specifically recognised on bills, the fixed annual service charge incorporates a levy for environmental works. Initially introduced in 1990, the levy is nominally 11.4% comprising 1.4% for funding of Department of Environment, Heritage and Aboriginal Affairs environmental initiatives with the remainder directed to funding SA Water environmental improvement projects.</p> <p><i>Cross-subsidies/CSOs</i><br/>Significant subsidies in the country and for trade waste customers are made transparent through CSOs.</p> | <p><i>Externalities</i><br/>SA has no mechanism for transparently reporting how externalities are factored in to prices.<br/>SA should provide information on how it transparently accounts for and reports on externalities in the price setting process.</p> <p><i>Cross-subsidies/CSOs</i><br/>Potential cross-subsidies remain while trade waste charges are introduced. These cross-subsidies should be reported transparently.</p> <p>The NCC “will look for South Australia to identify and report</p> |

**TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

| <b>CoAG (1)</b> | <b>NCC Interpretation (1)</b>  | <b>SA Pricing Practices - Wastewater</b>  | <b>NCC Assessment (2003)</b>   |
|-----------------|--|---|--|
|                 | <p>have an explicit public benefit objective, and be transparently reported and consistent with CoAG pricing reforms.</p> <p><i>Dividends</i></p> <p>As per Corporations Law, dividends should only be paid out of profits (accumulated retained profits plus current year's profits).</p> | <p><i>Dividends</i></p> <p>The South Australian Government's current dividend policy is not based on dividends alone, but on a total contributions target (eg dividends and the income tax equivalent) of 55% of free cash from operations, (Earnings Before Interest, Tax, Depreciation and Amortisation) EBITDA less that level of capital expenditure agreed with the Treasurer as necessary to maintain the ongoing business operations of the Corporation.</p> <p>SA Water is to report dividend paid to government as a proportion of after tax profit in annual reports.</p> | <p>remaining cross-subsidies and the CSOs provided by SA Water in the annual transparency statements”</p> <p><i>Dividends</i></p> <p>SA's dividend policy of “55 % of EBITDA may result in dividends consistently in excess of 100% of after tax profits which could have unintended impacts on the business's capital structure and financial resources.... exacerbated by lack of independent regulation of prices and service quality”.</p> <p>SA should publish the rationale for level of dividend paid.</p> <p>Cabinet involvement might reduce commercial focus and compromise separation of water regulation from service provision.</p> |

**TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

| <b>CoAG (1)</b>   | <b>NCC Interpretation (1)</b>   | <b>SA Pricing Practices - Wastewater</b>   | <b>NCC Assessment (2003)</b>   |
|---|---|--|--|
|   |   | <p>Noted that Cabinet processes of determining the dividend consider the long-term focus of SA Water.</p> <p>SA Water’s capital structure and the SA Government’s dividend policy for PNFC’s is under review.</p>  |  |
| <p><i>Institutional role separation</i></p> <p>6 (c) “...as far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision be separated institutionally;”</p> <p>6 (d)”that this occur, where appropriate, as soon as practicable, but certainly no later than 1998;”</p> | <p><b>January 1999 Tripartite Meeting</b> – separate Ministers would be an acceptable form of separation.</p> <p>If regulator and service provider are responsible to same Minister, Council requires information on how potential conflict of interest has been effectively addressed.</p> <p>Clause 2 of CPA gives implicit support to desirability of independent regulators for independent prices oversight.</p> | <p>The water resource manager (DWLBC) is separate from the service provider.</p> <p>DHS monitors water quality service standards.</p> <p>EPA monitors environmental standards.</p> <p>Performance Statement agreed by Minister and Treasurer includes customer service standards.</p> <p>Cabinet approves prices.</p> <p>DTF has oversight of SA Water’s commercial performance.</p> | <p>SA has not imposed independent oversight of pricing and service standards. Lack of transparency makes it difficult to be confident SA Water’s actions are consistent with CoAG’s principles.</p> <p>NCC looking for proposed annual Transparency Statements on water and wastewater pricing to address the extent of separation of decision making on pricing and service delivery matters.</p> |

**TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

| <b>CoAG (1)</b>  | <b>NCC Interpretation (1)</b>   | <b>SA Pricing Practices - Wastewater</b>  | <b>NCC Assessment (2003)</b>   |
|--|---|---|--|
| <p><b>Performance Monitoring and Best Practice</b><br/>6 (e) "The need for water services to be delivered efficiently as possible...with service providers seeking to achieve international best practice;"</p>  | <p>Active participation in benchmarking systems such as WSAA.</p>   | <p>SA Water participates actively in national urban water industry performance monitoring and its rolling benchmarking program. Also participates in other ad hoc benchmarking projects to inform specific performance improvement initiatives.</p> | <p>SA Water is participating in WSAA performance monitoring processes.</p>                       |
| <p><i>Commercial Focus</i><br/>6 (f) "that the arrangements in respect of service delivery organisations in metropolitan areas in particular should have a commercial focus, and whether achieved by contracting out, corporatised entities or privatised bodies this be a matter for each jurisdiction to determine in the light of its own circumstances;"</p> | <p>Appropriate structural and administrative responses to CPA obligations regarding legislation review, competitive neutrality and structural reform.</p> | <p>SA Water is a statutory corporation under the <i>Public Corporations Act 1993</i>. SA Water complies with SA Competitive Neutrality Policy Statement.</p>  | <p>No comment.</p>   |
| <p><i>Consultation prior to change</i><br/>7(a) "...public consultation by government agencies and service deliverers where and/or new initiatives</p>   | <p>Council will examine extent and methods of public consultation, with particular regard to pricing, allocations and water trading.</p>                  | <p>Consultation was undertaken in major reviews. (eg Sewerage Pricing in South Australia – Discussion Paper 2000)</p>   | <p>Transparency Statement could demonstrate compliance with public consultation obligations.</p> |

**TRANSPARENCY STATEMENT – WASTEWATER 2004-05**

| <b>CoAG (1)</b>  | <b>NCC Interpretation (1)</b>  | <b>SA Pricing Practices - Wastewater</b>   | <b>NCC Assessment (2003)</b>  |
|--|--|--|---|
| <p>are contemplated involving water resources;”<br/>                     “that where public consultation processes are not already in train in relation to recommendations 3(b), 3 (d), (4) and (5) in particular, such processes will be embarked upon;”</p>  |  |  |   |
| <p><i>Public Education Programs</i><br/>                     7 (c) “that jurisdictions individually and jointly develop public education programs in relation to water use and the need for, and benefits from, reform:”<br/>                     7(d) “that responsible water agencies work with education authorities to develop a more extensive range of resources materials on water resources for use in schools;”<br/>                     7(e) “that water agencies should develop individually and jointly public education programs illustrating the cause and effect relationship between infrastructure performance, standards of service and related costs, with a view to promoting levels of service that represent the best value for money to the community.”</p> | <p>Evidence that agencies are working with education authorities.<br/>                     Council notes potential conflict of interest in service provider determining level of public education on water conservation.<br/>                     Council will examine measures used by jurisdictions to address the issue and programs offered by service provider as a good corporate citizen.</p> | <p>SA Water participates in various education programs with the community and education authorities.</p> | <p>Transparency Statement could demonstrate compliance with public education obligations.</p> |



## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

1. 2001 NCP Assessment/The 1994 CoAG Strategic Framework
2. Additional comments on terms used in the CoAG guidelines, which form part of the CoAG Strategic Framework, are included below.

### **Comment on guidelines for the Application of Clause 3 and the Expert Group’s recommendations.**

The reference to *or equivalent* in principles 1 and 6 is included to take account of those jurisdictions where there is no nominated jurisdictional regulator for water pricing.

The phrase *not including income tax* in principle 5 only applies to those organisations, which do not pay income tax.

*Externalities* in principles 5 and 7 means environmental and natural resource management costs attributable to and incurred by the water business.

*Efficient resource pricing* in principle 6 includes the need to use pricing to send the correct economic signals to consumers on the high cost of augmenting water supply systems. Water is often charged for through a two-part tariff arrangement in which there are separate components for access to the infrastructure and for usage. As an augmentation approaches, the usage component will ideally be based on the long-run marginal costs so that the correct pricing signals are sent.

*Efficient business costs* in principle 6 are the minimum costs that would be incurred by an organisation in providing a specific service to a specific customer or group of customers. Efficient business costs will be less than actual costs if the organisation is not operating as efficiently as possible.

**Appendix 3: Wastewater price setting methodology for 2004-05**

**1. Valuation of Assets**

For SA Water’s metropolitan and country sewerage businesses, determine the value of sewerage assets using fair value<sup>1</sup> methodology.

**2. Avoiding Monopoly Rents**

Establish SA Water forward estimates for 2004/05 of operational, maintenance and administrative costs, externalities, taxes or TER’s, provisions for asset consumption and for cost of capital based on the weighted average cost of capital.

**3. Ensuring Commercial Viability**

Establish SA Water forward estimates for 2004/05 of operational, maintenance and administrative costs, externalities, taxes or TER’s, dividends, interest payments on debt and provision for asset refurbishment/replacement<sup>2</sup>.

**4. Ensuring Prices are Based on Efficient Business Costs**

Consider the extent to which costs under 2 and 3 represent efficient resource pricing and business costs having regard to appropriate benchmarks and other factors. Adjust both estimates as necessary to determine measures of the maximum allowable revenue and minimum revenue for viability.

**5. Revenue Target**

Consider the level of revenue in 2004/05 for the metropolitan and country businesses based on existing price levels and policy settings including provision for agreed community service obligation revenues, in the context of the band of minimum and maximum revenue indicated under 4. Develop forecast target revenue options for 2004/05.

**6. Price Signals and Efficient Resource Allocation**

Consider any economic signals that might need to be provided by sewerage pricing and in particular whether the current structure of sewerage charges is consistent with efficient resource allocation. Consider any need for pricing options to involve separate components for “consumption” of sewerage services and access to the service.

**7. Pricing Options**

Determine pricing options for 2004/05, consistent with the forecast target revenue options under 5 while considering any scope for cross-subsidy and the need to manage the impact of price change for customers and the Government’s statewide pricing policies.

**8. Pricing Decision**

Cabinet to determine the preferred forecast target revenue and an appropriate pricing option taking into account the trade-offs between economic efficiency, social equity and environmental outcomes within the context of the NCP/COAG framework.

## TRANSPARENCY STATEMENT – WASTEWATER 2004-05

- Notes:**
1. The CoAG guidelines, based on the original “Expert Group” 1998 guidelines, stipulate that the deprival value method should be adopted for asset valuation “*unless specific circumstances justify another method*”. The South Australia Government Accounting Policy Statement, APS 3, now requires the fair value basis to be applied to the measurement of non-current assets and considers that, in the majority of cases, there will be no practical difference between the 30 June 2003 asset valuations using the ODV approach and the fair value method.
  2. Asset refurbishment/replacement to be based on a straight line basis of depreciation. Whilst the CoAG guidelines recommend an annuity approach, straight line depreciation is still used by some regulators interstate. Rigorous estimates of an annuity amount are not available and straight line depreciation should provide a reasonable approximation.

**Appendix 4: Terms of reference for referral to ESCOSA**

**NOTICE OF REFERRAL FOR AN INQUIRY INTO  
WASTEWATER PRICING PURSUANT TO PART 7 OF THE  
ESSENTIAL SERVICES COMMISSION ACT 2002**

**FROM:       The Hon Kevin Foley, Treasurer**

**TO:           The Essential Services Commission of South Australia**

**RE:           Wastewater Prices from 1 July 2004**

**BACKGROUND:**

1. Pursuant to section 35(1) of the *Essential Services Commission Act, 2002* (**the Act**), the Commission must conduct an inquiry into any matter that the Minister, by written notice, refers to the Commission.
2. The Act is committed to the Treasurer by way of *Gazettal* notice dated 12 September 2002 (p. 3393).
- 1     3. The South Australian Government proposes to publish a Transparency Statement each year on SA Water's water and sewerage prices. The Government has prepared its first Transparency Statement on wastewater prices (i.e. 2004/05).
4. The Transparency Statement links Cabinet's decision on wastewater prices to CoAG pricing principles, provides information on SA Water's financial performance in the context of pricing decisions and past and future expenditures, and addresses details of estimates of revenues, community service obligations, capital expenditure program, profit and its distribution.
5. SA Water is to meet the reasonable costs of the Commission in undertaking the inquiry.

## **REFERRAL:**

I, Kevin Foley, Treasurer, refer to the Commission the matter described in paragraph (a) of the Terms of Reference for inquiry, in accordance with those matters in paragraphs (b) and (c) of the Terms of Reference and subject to the Directions set out in this Notice.

## **TERMS OF REFERENCE:**

The following are the Terms of Reference for the inquiry referred pursuant to section 35(1) of the Act:

- (a) The Commission is to inquire into the processes undertaken in the preparation of advice to Cabinet, resulting in Cabinet making its decision on the level and structure of SA Water's wastewater prices for 2004-05, with respect to the adequacy of the application of CoAG pricing principles;
- (b) In undertaking this inquiry, the Commission is to consider the "Transparency Statement - (Part A) Wastewater Prices in South Australia 2004-05" dated June 2004;
- (c) In considering the processes undertaken for the preparation of advice to Cabinet, the Commission is to advise on the extent to which information relevant to the CoAG principles was made available to Cabinet.

## **REQUIREMENTS FOR INQUIRY:**

The following requirements are made pursuant to section 35(5) of the Act:

- (a) I require that the Commission undertake its inquiry and submit a Draft Report to both myself and the Minister for Administrative Services by no later than 30 September 2004;
- (b) I require that the Commission submit a Final Report on the inquiry to both myself and the Minister for Administrative Services by no later than 14 October 2004;
- (c) In conducting the inquiry, the Commission is not required to hold public hearings, public seminars or workshops but may receive and consider any written submissions as it thinks appropriate and it must advertise to call for written submissions to be lodged no later than 14 days from the date of publication of the Notice of Inquiry as required pursuant to section 36 of the Act;

- (d) If the Commission wishes to seek further information or guidance in relation to the conduct of this inquiry, it may contact the Director, Infrastructure, Microeconomic Reform and Infrastructure Branch, Department of Treasury and Finance.

**DIRECTIONS:**

The following direction is made pursuant to section 35(5)(f) of the Act:

I direct that in undertaking its enquiry the Commission must preserve the confidentiality of any information, material or documentation provided by Government to enable the Commission to undertake its enquiry and stamped “Strictly Confidential”.



Kevin Foley MP  
**TREASURER**

**Appendix 5: CoAG Strategic Framework**

**Relevant clauses of the CoAG Strategic Framework 1994**

In relation to water resource policy, CoAG agreed:

- 2 to implement a strategic framework to achieve an efficient and sustainable water industry comprising the elements set out in (3) ... below.
- 3 In relation to pricing:
  - (a) in general —
    - i. to the adoption of pricing regimes based on the principles of consumption-based pricing, full-cost recovery and desirably the removal of cross-subsidies which are not consistent with efficient and effective service, use and provision. Where cross-subsidies continue to exist, they be made transparent, ...;
    - ii. that where service deliverers are required to provide water services to classes of customer at less than full cost, the cost of this be fully disclosed and ideally be paid to the service deliverer as a community service obligation;
  - (b) urban water services —
    - iii. to the adoption by no later than 1998 of charging arrangements for water services comprising of an access or connection component together with an additional component or components to reflect usage where this is cost-effective;
    - iv. that in order to assist jurisdictions to adopt the aforementioned pricing arrangements, an expert group, on which all jurisdictions are to be represented, report to CoAG at its first meeting in 1995 on asset valuation methods and cost-recovery definitions, and
    - v. that supplying organisations, where they are publicly owned, aiming to earn a real rate of return on the written down replacement cost of their assets, commensurate with the equity arrangements of their public ownership;

Source: NCC, 1998, page 103–104



### **Guidelines for applying Section 3 of the Strategic Framework and Related Recommendations in Section 12 of the Expert Group Report**

1. Prices will be set by the nominated jurisdictional regulators (or equivalent) who, in examining full cost recovery as an input to price determination, should have regard to the principles set out below.
2. The deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method
3. An annuity approach should be used to determine the medium to long-term cash requirements for asset replacement/refurbishment where it is desired that the service delivery capacity be maintained
4. To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or TERs (tax equivalent regime), provision for the cost of asset consumption and cost of capital, the latter being calculated using a WACC.
5. To be viable, a water business should recover, at least, the operational, maintenance and administrative costs, externalities, taxes or TERs (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement (as noted in (3) above). Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome.
6. In applying (4) and (5) above, economic regulators (or equivalent) should determine the level of revenue for a water business based on efficient resource pricing and business costs.
7. In determining prices, transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, and tax equivalent regimes.

### **Terms requiring further comment in the context of these guidelines (these comments form part of the CoAG Strategic Framework)**

- The reference to *or equivalent* in principles 1 and 6 is included to take account of those jurisdictions where there is no nominated jurisdictional regulator for water pricing.
- The phrase *not including income tax* in principle 5 only applies to those organisations which do not pay income tax.
- *Externalities* in principles 5 and 7 means environmental and natural resource management costs attributable to and incurred by the water business.
- *Efficient resource pricing* in principle 6 includes the need to use pricing to send the correct economic signals to consumers on the high cost of augmenting water supply systems. Water is often charged for through a two-part tariff arrangement in which there are separate components for access to the infrastructure and for usage. As an augmentation approaches, the usage component will ideally be based on the long-run marginal costs so that the correct pricing signals are sent.
- *Efficient business costs* in principle 6 are the minimum costs that would be incurred by an organisation in providing a specific service to a specific customer or group of customers. Efficient business costs will be less than actual costs if the organisation is not operating as efficiently as possible.

*Source: NCC, 1998, page 112–113*

## **Appendix 6:        Benchmarking of service standards and business costs**

### **Introduction**

This appendix presents information regarding the benchmarking of service standards and business costs for SA Water.

SA Water participates in *WSAAfacts*, a national benchmarking publication, which is endorsed by the NCC.

SA Water also has its own internal performance standards, which are set out in its Customer Service Charter. A Performance Statement, as agreed with the Minister for Administrative Services and the Treasurer sets financial and service performance standards.

SA Water's service levels are also influenced by minimum environmental standards as set by the EPA respectively.

### **Comparability of service levels**

Information on SA Water's performance relative to interstate water and wastewater service providers is available from *WSAAfacts*. This is the only Australian-wide benchmarking publication to which all major Australian water service providers submit cost details.

However, due to the differences between service providers (eg climate and geographic conditions) and the different markets and legislative environments they operate, *WSAAfacts* warns against the use of its published information to make comparisons between service providers. While it may be possible for the information to be adjusted for these differences, *WSAAfacts* has not undertaken the necessary (and expensive) econometric analysis for the results to be directly comparable between the various water providers.

Another deficiency of *WSAAfacts* is that benchmarking is focused on metropolitan service providers, with only limited benchmarking of regional areas available. Therefore, SA Water only provides information to *WSAAfacts* concerning its Adelaide operations. Some limited benchmarking was undertaken for country regions up to 2001. Due to reduced Commonwealth funding, no benchmarking reports have been produced since then. There are currently no reliable sources of Australian-wide benchmarking for non-metropolitan urban water or wastewater services. Efforts are being made to reinstitute publication of this performance data in future.

In many cases, data sets across jurisdiction are incomplete. These shortcomings should be kept in mind for the following benchmark analysis.

WSAAfacts reviews the performance of 27 urban water utilities. This Transparency Statement provides information on the most relevant service providers:

- Sydney Water
- Brisbane Water
- Water Corporation (Western Australia)
- Melbourne Water, City West Water, South East Water and Yarra Valley Water, or Melbourne Consolidated (the consolidation of the three retailers and the wholesaler)
- ACTEW
- Power and Water (Northern Territory).

## System performance

### *Wastewater reticulation main breaks and chokes*

Table 17 reports on the number of wastewater reticulation main breaks and chokes as a proportion of the total number of properties serviced by the company. A reticulation main refers to part of a network of pipes designed to collect sewage from individual households.

**Table 17: Number of wastewater reticulation main breaks and chokes per 1000 properties**

|                               | 1997-98     | 1998-99    | 1999-00    | 2000-01    | 2001-02    | 2002-03    |
|-------------------------------|-------------|------------|------------|------------|------------|------------|
| Power and Water (NT)          | 6.8         | n.a.       | n.a.       | 3.0        | 1.6        | 2.0        |
| Water Corporation (WA)        | 4.0         | 3.7        | 4.1        | 3.8        | 3.5        | 3.8        |
| Brisbane Water                | 5.0         | 5.1        | 3.8        | 6.2        | 5.8        | 5.3        |
| SA Water                      | 9.6         | 8.1        | 6.5        | 5.9        | 5.8        | 7.1        |
| <b>Average all companies*</b> | <b>10.3</b> | <b>9.1</b> | <b>8.4</b> | <b>8.1</b> | <b>7.8</b> | <b>9.2</b> |
| Sydney Water                  | n.a.        | 12.0       | 9.2        | 10.2       | 9.8        | 11.9       |
| ACTEW Corporation             | 39.9        | 24.2       | 24.2       | 25.1       | 22.8       | 26.5       |
| Melbourne Consolidated        | n.a.        | n.a.       | n.a.       | n.a.       | n.a.       | n.a.       |

\* *Average of all 27 service providers*

SA Water's performance is around the median of the selected companies and has been consistently better than the average when compared with all the Water Services Association of Australia (WSAA) companies.

SA Water's performance showed a consistent improvement over the reporting period until last year, when all services providers, except Brisbane Water, reported an increase in breaks. According to SA Water, this across the board increase is likely to be related to the drought, particularly in areas where tree roots are a major cause of these problems.

### *Sewer breaks and chokes*

Table 18 reports on the number of breaks and chokes in the short sewer, which connects the main sewer to the customer sanitary drain.

**Table 18: Number of property connection sewer breaks and chokes per 1000 properties**

|                               | 1997-98     | 1998-99     | 1999-00     | 2000-01     | 2001-02    | 2002-03     |
|-------------------------------|-------------|-------------|-------------|-------------|------------|-------------|
| Power and Water               | n.a.        | n.a.        | n.a.        | 5.4         | 4.1        | 3.5         |
| Brisbane Water                | 2.6         | 3.1         | 2.2         | 2.9         | 2.9        | 3.7         |
| South East Water              | 5.0         | 7.1         | 6.3         | 5.5         | 4.7        | 6.4         |
| <b>Average all companies*</b> | <b>16.2</b> | <b>22.2</b> | <b>18.5</b> | <b>15.0</b> | <b>9.4</b> | <b>10.0</b> |
| ACTEW Corporation             | n.a.        | 113.2       | 110.8       | 96.5        | 10.0       | 11.7        |
| City West Water               | 17.1        | 16.5        | 9.8         | 9.5         | 8.6        | 12.6        |
| Yarra Valley Water            | 12.5        | 13.6        | 11.9        | 11.9        | 11         | 14.8        |
| SA Water                      | 43.7        | 39.6        | 35.1        | 32.1        | 31.5       | 35.1        |
| Sydney Water                  | n.a.        | n.a.        | n.a.        | n.a.        | n.a.       | n.a.        |
| Water Corporation             | n.a.        | n.a.        | n.a.        | n.a.        | n.a.       | n.a.        |

\* *Average of all 27 service providers*

While trending downwards until 2002-03, SA Water's results have been the poorest, although based on an incomplete dataset. Only the Northern Territory Power and Water Authority reported an improvement in performance in 2002-03.

SA Water is currently examining the reasons for the increase in sewer chokes in the mains and connections and why there is a significant difference between SA Water and other selected suppliers. The principal cause of chokes in the mains and connections in metropolitan Adelaide is the incursion of tree roots. It is believed that the major cause of the increase in 2002-03 was very dry weather, which resulted in drier ground conditions and increased tree root incursion.

### *Wastewater break or choke repair time*

Table 19 reports on the average time taken (in hours) to repair a main, from the time of arrival on site to restoration of full normal wastewater service. This does not include repair times relating to chokes, bursts and leaks in the property connection sewer.

**Table 19: Average wastewater break or choke repair time (hr)**

|                               | 1997-98    | 1998-99    | 1999-00    | 2000-01    | 2001-02    | 2002-03    |
|-------------------------------|------------|------------|------------|------------|------------|------------|
| ACTEW Corporation             | n.a.       | n.a.       | n.a.       | n.a.       | 0.6        | 0.5        |
| SA Water                      | n.a.       | n.a.       | 1.0        | 1.2        | 0.9        | 1.0        |
| Sydney Water                  | n.a.       | 2.0        | 1.5        | 1.6        | 1.2        | 1.2        |
| Power and Water               | n.a.       | n.a.       | 1.6        | 1.9        | 2.0        | 1.5        |
| Yarra Valley Water            | n.a.       | n.a.       | n.a.       | n.a.       | 1.3        | 1.7        |
| <b>Average all companies*</b> | <b>2.3</b> | <b>2.0</b> | <b>1.8</b> | <b>2.2</b> | <b>1.8</b> | <b>1.8</b> |
| South East Water              | 2.5        | 2.8        | 2.4        | 2.1        | 2.1        | 2.2        |
| Brisbane Water                | n.a.       | 2.5        | 2.6        | 2.6        | 2.8        | 2.7        |
| City West Water               | n.a.       | 4.2        | 4.0        | 4.2        | 2.0        | 3.0        |
| Water Corporation             | n.a.       | n.a.       | n.a.       | n.a.       | n.a.       | n.a.       |

\* *Average of all 27 service providers*

From the reported data, SA Water's results have been consistently best or next best of the selected companies and better than the average of all WSAA companies.

SA Water's performance has remained steady since it started reporting on this performance standard. The results for the other providers have been mixed, with only Sydney Water and South East Water reporting a consistent improvement in performance.

#### *Wastewater overflows*

Table 20 reports on untreated wastewater spills or discharges and escapes from the wastewater system (ie pumping stations, pipes, maintenance holes or designed overflow structures) to the external environment. It does not include overflows caused by a blockage in the property connection sewer or spills, discharges or overflows that escape to designed storages.

**Table 20: Number of wastewater overflows per 100 km**

|  | 1997-98     | 1998-99     | 1999-00     | 2000-01     | 2001-02     | 2002-03     |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Power and Water                          | n.a.        | n.a.        | n.a.        | 0.3         | 0.6         | 1.1         |
| Melbourne Consolidated Water Corporation | n.a.        | 14.2        | 12.5        | 10.6        | 5.8         | 5.5         |
| SA Water                                 | 15.1        | 16.7        | 12.3        | 11.5        | 12.2        | 14.2        |
| Brisbane Water                           | n.a.        | 23.8        | 11.7        | 29.0        | 16.0        | 19.5        |
| <b>Average all companies*</b>            | <b>26.7</b> | <b>24.6</b> | <b>18.8</b> | <b>32.5</b> | <b>32.8</b> | <b>34.7</b> |
| Sydney Water                             | 114         | 83.3        | 63.4        | 72.3        | 69.1        | 85.7        |
| ACTEW Corporation                        | n.a.        | n.a.        | n.a.        | 46          | 93.5        | 102.8       |

\* *Average of all 27 service providers*

SA Water's results have consistently been in the low to mid range of the selected companies and well below the average for all WSAA companies.

SA Water reported improvements in performance until 2001-02. The other selected providers have reported mixed results over the reporting period, although Melbourne Consolidated appears to be the only provider to have significantly improved its performance.

#### **Service delivery**

##### *Wastewater treated to a tertiary level*

Table 21 reports on the percentage of wastewater that is treated to the tertiary level. The table indicates that, in 2002-03, 81% of SA Water wastewater was treated to tertiary level, and hence, 19% of all wastewater collected was treated at primary or secondary level.

**Table 21: Percent of wastewater treated to a tertiary level<sup>7</sup>**

|                    | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 |
|--------------------|---------|---------|---------|---------|---------|---------|
| ACTEW Corporation  | 100     | 100     | 100     | 100     | 100     | 100     |
| Yarra Valley Water | 100     | 100     | 100     | 100     | 100     | 100     |
| SA Water           | 0       | 0       | 0       | 17      | 54      | 81      |
| Brisbane Water     | 0       | 37      | 36      | 53      | 67      | 76      |
| Water Corporation  | 0       | 0       | 0       | 0       | 14      | 40      |
| Sydney Water       | 14      | 11      | 19      | 12      | 17      | 22      |
| South East Water   | 2       | 7       | 13      | 12      | 6       | 8       |
| Power and Water    | 0       | 0       | 1       | 1       | 2       | 1       |
| City West Water    | 0       | 0       | 0       | 0       | 0       | 0       |

The degree to which wastewater is required to be treated is an important cost driver. There are significant cost differences in meeting primary, secondary and tertiary levels of treatment, with respect to both operating and capital expenditure.

Typically tertiary treatment, which includes biological nutrient removal plants, chemical dosing, enhanced pond treatment, reverse osmosis and filtration systems, is the most complex and sophisticated treatment level and, therefore, the most expensive to operate.

Of the selected companies only Yarra Valley Water and ACTEW Corporation treat more wastewater at the tertiary level than SA Water.

Up to and including 1999-2000, SA Water treated all of its wastewater in the metropolitan area at the secondary level. Since then and following requirements of the EPA, SA Water has gradually increased the proportion of treatment at tertiary level, resulting in increased treatment costs. It is expected that SA Water will be treating 100% of its wastewater to at least tertiary levels, by 2005-06.

A list of the projects undertaken by SA Water, resulting from the EPA's increased environmental requirements is provided in Chapter 4, Table 3.

Over the last three years, Brisbane Water has also significantly increased its percentage of wastewater treated to a tertiary level.

#### *Odour complaints*

Table 22 reports on customer service with regard to the degree of dissatisfaction in respect of odours from the wastewater system.

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<sup>7</sup> Percent of wastewater treated to a tertiary level is calculated by dividing the total volume of tertiary treated wastewater by the total volume of wastewater collected.

**Table 22: Number of wastewater odour complaints per 1000 properties**

|                               | 1997-98     | 1998-99     | 1999-00     | 2000-01     | 2001-02     | 2002-03     |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| ACTEW                         | n.a.        | n.a.        | n.a.        | n.a.        | 0.0         | 0.1         |
| South East Water              | n.a.        | n.a.        | n.a.        | n.a.        | n.a.        | 0.2         |
| Yarra Valley Water            | 0.4         | 0.4         | 0.3         | 0.2         | 0.2         | 0.2         |
| City West Water               | 0.3         | 0.3         | 0.3         | 0.3         | 0.3         | 0.3         |
| SA Water                      | 0.7         | 0.8         | 0.3         | 0.8         | 0.7         | 0.8         |
| <b>Average all companies*</b> | <b>0.98</b> | <b>0.86</b> | <b>1.00</b> | <b>1.00</b> | <b>1.05</b> | <b>0.95</b> |
| Sydney Water                  | n.a.        | 0.6         | 0.5         | 0.7         | 0.9         | 1.1         |
| Brisbane Water                | 0.8         | 1.0         | 1.0         | 0.4         | 1.2         | 1.1         |
| Water Corporation             | n.a.        | n.a.        | n.a.        | 1.4         | 1.6         | 1.6         |

\* *Average of all 27 service providers*

SA Water's performance is in the mid range of the selected companies and has consistently been better than the average for all WSAA companies.

SA Water's results show little change over the reporting period except for a drop in 1999-2000. Complaints have also remained relatively consistent over the reporting period for the other service providers.

#### *Connect time to telephone operator*

Table 23 reports on the mean time (in seconds) a telephone customer has to wait to be connected to an operator. It should be noted that this benchmark relates to the business as a whole and not just to wastewater services. The available data is, however, significantly incomplete.

**Table 23: Average connect time to telephone operator**

|                               | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 |
|-------------------------------|---------|---------|---------|---------|---------|---------|
| Sydney Water                  |         |         | n.a.    | n.a.    | 12.8    | 15.8    |
| Water Corporation             |         |         | 15.0    | 13.8    | 15.6    | 18.6    |
| Brisbane Water                |         |         | n.a.    | n.a.    | n.a.    | 21.0    |
| SA Water                      |         |         | 19.8    | 19.2    | 18.0    | 27.0    |
| <b>Average all companies*</b> |         |         | 17.4    | 72.0    | 29.2    | 32.3    |
| Melbourne Consolidated        |         |         | n.a.    | n.a.    | 43.0    | 49.0    |
| Power and Water               |         |         | n.a.    | n.a.    | n.a.    | n.a.    |
| ACTEW Corporation             |         |         | n.a.    | n.a.    | n.a.    | n.a.    |

\* *Average of all 27 service providers*

SA Water and Water Corporation are the only companies to report for all four years.

SA Water's results, which show a gradual improvement until last year, are in the median range of the selected companies. Until last year, the results were close to the best and marginally better than the average for all WSAA companies.

It is noted that SA Water has reported an increase in call traffic of 15% in 2002-03, due in large part to water restrictions, the introduction of the River Murray Levy and other initiatives addressing the drought (eg rebates for various water efficient

appliances). Even with this effect, service performance was better than the average for all other water and wastewater service providers.

Notwithstanding the slippage in call response times, SA Water's call centre is generally considered to have performed strongly for most of 2002-03, according to a survey conducted by Customer Service Benchmarking Australia Pty Ltd (SA Water, 2003, p 26). The survey reported on a range of indicators, with approximately 28 utilities across Australia taking part.

#### *Water recycled*

Another measure of efficiency in the provision of wastewater services is included in Table 24, which provides information about the amount (as a percentage) of all wastewater collected that is treated and actually used (ie recycled) by either the water business itself or a business supplied by the water business. This is also a significant measure of environmental performance.

**Table 24: Percent of water recycled**

|                               | 1997-98    | 1998-99    | 1999-00    | 2000-01    | 2001-02    | 2002-03    |
|-------------------------------|------------|------------|------------|------------|------------|------------|
| SA Water                      | 4.9        | 4.4        | 11.4       | 15.9       | 15.1       | 19.2       |
| Melbourne Consolidated        | n.a.       | 1.5        | 2.0        | 2.0        | 5.7        | 10.9       |
| ACTEW Corporation             | 4.0        | 5.0        | 4.6        | 4.6        | 5.5        | 7.3        |
| Water Corporation             | 0.8        | 3.2        | 3.2        | 2.9        | 3.8        | 4.1        |
| Brisbane Water                | 0.4        | 0.4        | 0.7        | 2.6        | 5.0        | 3.5        |
| Power and Water               | 4.0        | 2.4        | 2.2        | 4.5        | 3.9        | 3.5        |
| Sydney Water                  | 2.4        | 2.4        | 2.0        | 1.9        | 2.2        | 2.6        |
| <b>Average all companies*</b> | <b>1.2</b> | <b>1.1</b> | <b>1.4</b> | <b>1.9</b> | <b>1.9</b> | <b>2.4</b> |

\* *Average of all 27 service providers*

For the last four years SA Water was the best performer of the selected companies and better than the average for all WSAA companies. Of all other WSAA companies only Central Gippsland Water and Goulburn Valley Water recycle a greater proportion of their wastewater than does SA Water.

SA Water's reported results show a continuing increase in the percentage of water recycled for the six years. Of the other providers, only Melbourne Consolidated has reported a significant improvement in its performance, while a number of the other providers have reported minor improvements.

#### **Bio-solids reused**

Table 25 provides information on the level of reuse of bio-solids, a major product of wastewater treatment. Bio-solids are the stabilised organic solids derived from wastewater treatment processes. Reuse involves managing bio-solids safely and sustainably to beneficially use their nutrient, energy or other values. The dry weight of bio-solids reused may be greater than the dry weight of bio-solids produced if the business is also reusing existing stockpiles. This is both a significant efficiency and environmental performance measure.



**Table 25: Percent of bio-solids reused**

|                   | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 |
|-------------------|---------|---------|---------|---------|---------|---------|
| SA Water          | 48      | 67      | 168     | 154     | 158     | 144     |
| ACTEW Corporation | 100     | 100     | 100     | 100     | 100     | 100     |
| Sydney Water      | 99      | 99      | 97      | 99      | 99      | 100     |
| Brisbane Water    | 7       | 40      | 40      | 72      | 100     | 100     |
| Water Corporation | 100     | 91      | 71      | 70      | 86      | 98      |
| Melbourne Water   | 18      | 14      | 25      | 8       | 6       | 75      |
| Power and Water   | n.a.    | n.a.    | n.a.    | n.a.    | n.a.    | n.a.    |

SA Water has reported an increased level of bio-solids reuse from 1999-2000 when it began to reuse from its stockpile. Melbourne Water and Brisbane Water also improved their performance over the reporting period, although from a low base.

Three of the selected companies reuse all of their bio-solids. Of all WSAA companies, SA Water is the only company that reuses product from its stockpile.

### **Efficient business costs**

#### *Operational expenditure comparisons*

Of particular concern to the NCC was that the:

Water Services Association of Australia data for the period 1995-96 to 2000-01 show that SA Water's per unit operating costs appear to have remained about constant in real terms, unlike per unit operating costs in many other comparable urban water businesses, which declined over the same period (National Competition Council, 2003b, p 6.3).

*WSAAfacts* also reports on the cost of providing wastewater services. Again, these benchmarks are to be used with caution when comparing different providers, due to the differences between service providers (eg climate and geographic conditions), and the different markets and legislative environments applicable to each provider.

Table 26 details the operating cost per property for wastewater services in real dollars, for metropolitan service providers.

**Table 26: Operating cost per property for wastewater services (in real dollars)<sup>8</sup>**

|                               | 1997-98       | 1998-99       | 1999-00       | 2000-01       | 2001-02       | 2002-03       |
|-------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Melbourne Cons'd              | 143.14        | 135.96        | 117.62        | 110.28        | 106.93        | 100.07        |
| SA Water                      | 108.81        | 106.32        | 126.44        | 114.03        | 118.44        | 120.02        |
| Water Corporation             | 160.85        | 150.02        | 153.20        | 141.25        | 139.95        | 143.33        |
| Brisbane Water                | 125.82        | 140.64        | 148.94        | 132.55        | 176.84        | 186.31        |
| <b>Average all companies*</b> | <b>208.17</b> | <b>187.52</b> | <b>193.41</b> | <b>181.46</b> | <b>189.86</b> | <b>211.23</b> |
| ACTEW                         | 353.94        | 284.01        | 232.68        | 236.18        | 249.70        | 254.91        |
| Sydney Water                  |               | 271.81        | 263.23        | 233.21        | 270.92        | 260.69        |
| Power and Water               | 383.72        | 340.85        | 542.03        | 311.36        | 270.86        | 335.16        |

\* *Average of all 27 service providers*

Table 26 indicates that although SA Water's operating costs have fluctuated over the reporting period, they have trended upwards. The increase in operational costs is largely due to SA Water meeting higher environmental standards imposed by the EPA via Environmental Improvement Programs (EIPs). Table 3 list the projects that have resulted from this change and includes the commissioning of the Bolivar dissolved air flotation and filtration plant and associated sludge dewatering process, the Queensbury diversion, and the Christies Beach and Glenelg EIPs. Over the past 5 years, the 11% real cost increase in metropolitan wastewater fixed operating costs coincides with an 11% increase in the wastewater asset base.

As a result of the implementation of those environment projects, SA Water has reported substantial increases in:

- treatment of wastewater to a tertiary level (0% in 1999-2000 to 81% in 2002-03 and 100% by 2005-06) as reported in Table 21
- recycled water (4.9% in 1997-98 to 19.2% in 2002-03) as reported in Table 24
- reuse of bio-solids (48% in 1997-98 to 144% in 2002-03) as reported in Table 25.

Other factors affecting the operational costs of SA Water include:

- an increase in electricity contract prices paid from 2001-02 in the order of 20% which, to a certain extent have since reduced; an increase in the volume of electricity consumed in 2001-02 due to the Bolivar odour plant, which uses a significant amount of electricity, becoming operational in 2001 with its first full year of operations in 2001-02
- a review of SA Water's capitalisation policy in 2000-01 which resulted in costs previously capitalised being expensed.

<sup>8</sup> WSAAfacts Indicator Guidelines require that operating cost should, where possible or material, include the following: charges for bulk treatment/transfer of wastewater; items expensed from work in progress; salaries and wages and associated overheads; competitive neutral adjustments; materials/chemicals/energy; contracts; accommodation; and all other operating costs that would normally be reported. Operating costs should exclude all non-core business operating costs.

Table 26 also indicates that from 2000-01 to 2002-03 only Melbourne Consolidated has decreased its operating cost per property. SA Water had the second lowest percentage increase behind Western Australia's Water Corporation, even after significantly increasing the level of wastewater treated to a tertiary level.

Table 27 provides information on total cost per property in real dollars, for metropolitan service providers.

**Table 27: Total cost per property for wastewater supply services (in real dollars)<sup>9</sup>**

|                               | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 |
|-------------------------------|---------|---------|---------|---------|---------|---------|
| SA Water                      | 366.07  | 354.85  | 376.84  | 351.89  | 364.84  | 355.53  |
| Melbourne Cons'd              | 510.03  | 495.64  | 455.73  | 428.85  | 421.28  | 395.05  |
| Brisbane Water                | 565.74  | 425.29  | 435.5   | 408.72  | 443.14  | 429.47  |
| ACTEW                         | 619.40  | 530.46  | 472.33  | 458.97  | 450.83  | 449.37  |
| <b>Average all companies*</b> | 554.62  | 522.46  | 522.14  | 478.62  | 474.07  | 477.74  |
| Power and Water               | 636.94  | 705.64  | 773.15  | 631.32  | 486.62  | 545.21  |
| Sydney Water                  |         | 527.43  | 525.5   | 491.21  | 561.12  | 579.78  |
| Water Corporation             | 629.54  | 617.92  | 615.91  | 579.36  | 590.67  | 589.75  |

\* Average of all 27 service providers

Table 27 indicates that all providers, except Sydney Water, have shown a decrease in total costs per property from 1997-98 to 2002-03.

#### *Country areas performance comparisons*

For the three years up to 2001, WSAA and then the Australian Water Association produced a similar report to *WSAAfacts*, which covered country service providers (commonly referred to as non-major urban), with at least 10,000 but less than 50,000 connected properties.

The report covered 71 mid-sized water utilities in each state and territory except the ACT (Australian Water Association, 2001).

This report also promoted the use of the data to analyse trends over time for a specific utility. Like *WSAAfacts* it also cautions against the use of inter-utility comparisons due to:

substantially different operating environments and underlying cost drivers (Australian Water Association, 2001, p 4).

The differences in operating environments for country operations are more pronounced than in metropolitan areas. Any comparisons between country service providers are of very limited benefit.

Bearing in mind these limitations, SA Water provided data for three regional areas, Whyalla, Outer Adelaide (Barossa and Fleurieu) and Mount Gambier. Of the 56

<sup>9</sup> *WSAAfacts* indicator guidelines states that total cost include: operating costs; depreciation; and 4% return on written down replacement cost of assets.

utilities/systems benchmarked, the operating cost per property for wastewater services in Whyalla and Mount Gambier was ranked the lowest and second lowest per property in 2001, while Outer Adelaide was ranked 21st.

As the last report contained data for only four years, and the most recent report is three years old, it is not possible to obtain any trends or reach any conclusions from this specific data.